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### **REPORT ON CONDITION**

#### OF

## WOMAN AND CHILD WAGE-EARNERS IN THE UNITED STATES

IN 19 VOLUMES

### VOLUME XIV: CAUSES OF DEATH AMONG WOMAN AND CHILD COTTON-MILL OPERATIVES

Prepared under the direction of CHAS. P. NEILL Commissioner of Labor By ARTHUR R. PERRY, M. D.

WASHINGTON GOVERNMENT PRINTING OFFICE 1912

# WOMAN AND CRILD WIGO ARGEN

### IN THE SENATE OF THE UNITED STATES,

June 15, 1910.

Resolved, That the complete report on the condition of woman and child wage-earners in the United States, transmitted and to be transmitted by the Secretary of Commerce and Labor in response to the act approved January twenty-ninth, nineteen hundred and seven, entitled "An act to authorize the Secretary of Commerce and Labor to report upon the industrial, social, moral, educational, and physical condition of woman and child workers in the United States," be printed as public document.

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CHARLES G. BENNETT, Secretary.

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### LETTERS OF TRANSMITTAL.

### DEPARTMENT OF COMMERCE AND LABOR, OFFICE OF THE SECRETARY, Washington, August 21, 1912.

SIR: In partial compliance with the Senate resolution of May 25, 1910, I beg to transmit herewith a report showing the results of a study of the causes of death among woman and child cotton-mill operatives.

This report has just been completed and is the fourteenth section of the larger report on the investigation carried on in accordance with the act of Congress approved January 29, 1907, which provided "That the Secretary of Commerce and Labor be, and he is hereby, authorized and directed to investigate and report on the industrial, social, moral, educational, and physical condition of woman and child workers in the United States wherever employed, with special reference to their age, hours of labor, term of employment, health, illiteracy, sanitary and other conditions surrounding their occupation, and the means employed for the protection of their health, person, and morals."

The remaining parts of the general report are being completed as rapidly as possible and will each be transmitted at the earliest practicable moment.

Respectfully,

BENJ. S. CABLE, Acting Secretary.

Hon. JAMES S. SHERMAN, President of the Senate, Washington, D. C.

> DEPARTMENT OF COMMERCE AND LABOR, BUREAU OF LABOR,

Washington, August 21, 1912.

SIR: I beg to transmit herewith Volume XIV of the Report on Woman and Child Wage-Earners in the United States, which relates to the causes of death among woman and child cotton-mill operatives. This is the fourteenth section of the report of the general investigation into the condition of woman and child workers in the United States, carried on in compliance with the act of Congress approved January 29, 1907. The field work of the investigation which fur-

nished the material for the report, as well as the preparation of the report, is the work of Arthur R. Perry, M. D. The work has been carried on under the direction and immediate supervision of Chas. H. Verrill.

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I am, very respectfully, Chas. P. NEILL,

CHAS. P. NEILL, Commissioner.

The SECRETARY OF COMMERCE AND LABOR, Washington, D. G.

### INTRODUCTION AND SUMMARY.



### INTRODUCTION AND SUMMARY.

### INTRODUCTION.

### PURPOSE OF THE INVESTIGATION.

This study was undertaken to secure the most accurate information obtainable respecting the death hazard to males and females incident to work in cotton mills, as compared with the corresponding hazard among individuals of like age who are not cotton-mill operatives. This was sought not from an abstract interest in death rates, but because accurate mortality statistics of a given occupation constitute the only indisputable evidence as to the healthfulness or unhealthfulness of that occupation to the persons engaged in it.

It is necessary to emphasize the word accurate in the above statement, for the published statistics are sometimes so misleading as wholly to disguise the real situation. Thus, this investigation disclosed the fact that in the country's largest cotton manufacturing city not even one-half of the females who had died two years or less after quitting cotton-mill work were recorded upon the official death certificates as having been cotton operatives.<sup>a</sup> Yet it should be little less than obvious that those who die within so short a period after leaving the work at which they have spent perhaps ten, twenty, or even more years must certainly be included, just as individuals long retired from mill work should be excluded (excepting possibly mill veterans), if knowledge of the death hazard to cotton operatives is to be gained.

When such inaccuracies can be avoided or corrected the death rate, as a means of determining the healthfulness of a given pursuit, has marked advantages. In any given industrial establishment the question of how many of its employees are in poor health or debilitated can not be satisfactorily determined, owing to fallibility in judgment even of the most careful and intelligent investigators. On the other hand, the number of deaths occurring annually among the employees of that establishment can be determined with absolute accuracy. Moreover, the present study shows that in actual practice the total number of such decedent operatives, even for a period as long as three years, is determinable with close approximation to accuracy.

<sup>&</sup>lt;sup>a</sup> The proportion of female operatives whose connection with the mill was thus ignored on the death certificates was 51 per cent both in 1907 and in the three-year period 1905-1907.

<sup>49450°-</sup>S. Doc. 645, 61-2, vol 14-2

Statements, therefore, as to the proportional prevalence of ill health or debility within an establishment can be at best only fallible opinion, whereas the prevalency of deaths within that establishment is an ascertainable and incontrovertible fact.

But until the deaths occurring among the workers engaged in a given industry are correctly registered, every assertion as to the extent of debility among the employees runs the risk of being unfairly discredited by the quotation from official sources of occupational mortality statistics which may be grossly inaccurate.

It may, for example, happen that owing to a frequent failure to record upon a death certificate the industrial occupation of the decedent, a specified industry is accredited with a most incorrectly low death rate. If, then, an investigator reports an extreme prevalence of ill health or debility among the employees of that industry, its defenders may complacently cite its low death rate as the strongest possible presumptive evidence that the investigator is in error, and that an industry which shows so small a proportion of deaths among those engaged in it must also be comparatively free from the ill health or debility which almost invariably precedes death. Under such circumstances the burden of proof is thrown upon the investigator who might reasonably and logically be called upon to explain how the degree of ill health which he claims existed among the workers could be harmonized with the low death rate certified to by official records, and until he could meet this challenge it was simply a waste of time for him to attempt any search into the causes of the ill health he believed to be so prevalent.

But if, on the other hand, an industry's death hazard can be correctly established beyond all legitimate controversy, and if, when so established, it shows a higher death rate within specified age groups than exists among similar age groups of wage earners outside of the industry, then the position is reversed and the presumption becomes almost irrestibly strong that poor health, as well as death, is more common among its employees than among the general population.

In the present study, for instance, when accurate mortality statistics for the country's chief cotton manufacturing city were collected it was found that among female cotton operatives in the three age groups 15 to 24 years, 25 to 34 years, and 35 to 44 years, the average annual deaths from tuberculosis per 1,000 were respectively two and one-quarter times, two and a half times, and five times as numerous as among women of the same age groups outside of the cotton industry. The female operatives in the first of these groups comprised one-half, in the second, one-third, and in the third, onefourth of the total female population of the city within the specified age groups, so that the high death rate from tuberculosis can not be ascribed to any peculiar and limited factors which might affect a small number, but must be taken as characteristic of the industry. Moreover, in each of the specified age groups there was a similar though smaller excess in the death rates from nontuberculous causes among female operatives as compared with the corresponding death rates among the female nonoperative population. It is evident that when the established death rates make such a

It is evident that when the established death rates make such a showing as the above, if any investigator should declare, after due research, that debility was extraordinarily common among female cotton operatives as compared with female nonoperatives of the same age, the burden of disproving his assertion would be clearly placed upon the cotton industry. Or, if this could not be done, it would then be incumbent upon the industry either to show that this excessive prevalence of ill health and extraordinarily high mortality among its female operatives was due to causes not connected with the cotton manufacturing industry, or else to accept the responsibility for these highly undesirable conditions.

Hence, accurate determination of the death rates of an industry, occupation, or trade, by sex and age groups, is necessarily a preliminary, and logically the first step in arriving at any basic conclusions as to the physical condition of the persons therein engaged.

In the nature of things any opinion as to the healthfulness of an industry based upon an inspection or even a physical examination of its employees is open to serious question. Such an inspection can deal with only a fraction of the employees in the industry, and there can be no certainty that this fraction is really typical of the whole. The inspection can not possibly be continuous, and if it is conducted on more than one day changes materially affecting the results may occur between its beginning and its completion. Moreover, unless the group concerned is too small to be at all indicative, the inspection must be made by several persons perhaps differing widely in judgment and discernment. If, therefore, such an investigation should indicate, among the employees of any industry, the prevalence of a physical condition really incompatible with the correct mortality averaged for a term of years, the health opinions thus unaccordant with death-rate facts would logically be discredited. But if such opinions are in accord with the death-rate facts, then both the opinions and any deductions made from them gain enormously in credibility.

In other words, conclusions as to the healthfulness of a given industry based upon observation of the living can never be more than opinions, and can never, therefore, discredit accurately computed death rates. But correct occupational death rates, computed by sex and by age groups, furnish an excellent test for such conclusions and are especially useful in detecting those ill-founded statements which seem peculiarly liable to indefinite reproduction in print and in speech.

The primary object of this study, then, was to secure essentially accurate age group death rates for the great cotton manufacturing industry, half or more of whose total employees regularly are females. A second and very practical purpose was to point out the true underlying or basic factors or agencies to which the debility or impaired health which must usually precede death may reasonably be ascribed.

From the practical standpoint, interest would seem to attach far less to the officially designated causes of death—the so-called diseases—than to the debilitating factors of which the diseases may be only the final manifestations. For early recognition of such debilitating and disease-producing factors may render it possible either to remove them or to make them harmless by increasing the physical resistance of the prospective victim, who, knowing his danger, may take suitable means to avoid it. Prophylactic or disease-preventing efforts are infinitely more useful than curative ones. But for the prevention of debility, disease, and premature death, knowledge of their basic causes is obviously an essential prerequisite.

### METHOD OF SECURING DATA.

To attain these two objects—the correct mortality by age groups in the cotton manufacturing industry and a knowledge of the underlying debilitating factors which might explain this mortality—a personal inquiry was undertaken concerning each individual aged 10 years or over who within a three-year period had died from specified diseases or causes within specified cotton manufacturing cities. This inquiry was made at the late home of the decedent and nearly always from a relative who furnished information also as to the decedent's family, habits, occupational, and conjugal experiences, exposure to communicable diseases, and other personal facts of possible significance in explanation of his death. Moreover, the investigator personally inspected the premises and made note of certain hygienic conditions which might have had some effect upon the decedent's general health, or might themselves have been numbered among the debilitating factors which led up to his death.

### METHOD OF ESTIMATING SIGNIFICANCE OF CONTRIBUTORY CAUSES OF DEATH.

There are certain circumstances or experiences, common but not inevitable accompaniments of living, which may be active factors in the causation of both disease and death. Such, for instance, are (1) ignorance; (2) bad air, whether germ laden, dusty, humid, or chemically impure; (3) bad food, that is, ill chosen, ill cooked, or ill chewed; (4) bad or alcoholic drink; (5) bad personal, sexual, or apartment hygiene; (6) long labor and short sleep; (7) occupational stress (hurry and worry); (8) scant income, whether through thriftlessness, misfortune, or low wages; (9) accompaniments of the conjugal condition, such as childbirth and dependents; (10) overwork or nonresiliency from fatigue. These or some of these conditions might be encountered in the life history of any decedent, but as there are no data by age groups of the actual prevalence of such conditions,-it was impossible to obtain, through age group death rates any precise idea of their effect in shortening life. Throughout this study, therefore, it has been assumed tentatively that the significance of any such condition as a causative factor of death is established by the frequency with which it was found to have occurred as an antecedent of the deaths studied.

For example, the following study shows that in Fall River 29 per cent of the decedent female cotton operatives had had tuberculous relatives, while only 21 per cent of the decedent male operatives had had similarly afflicted relatives. In accordance with the above principle it has therefore been tentatively assumed that tuberculous kindred have more influence as a causative factor of deaths among female than among male operatives.

Again, the economic importance of any factor or group of factors is measured fundamentally by its longevity effect; i. e., its effect on the duration of life. In this study it has been tentatively assumed that this effect is shown by the rare occurrence of a given factor in the life history of young decedents, or conversely by its frequent occurrence in the life history of those who attained a high average age before death.

For instance, it was found that in Fall River, during the three years covered by this study, four-fifths (79 per cent) of the total number of deaths from tuberculosis among the female population aged 10 years or over occurred in the age period 15 to 44, while of the deaths in the same age and sex group from pneumonia and cancer only 29 per cent of the first and 24 per cent of the second occurred in the age period 15 to 44.

In other words, tuberculosis had a far more marked antilongevity effect in this group than either of the other diseases. But this period is that of the greatest industrial importance. It is evident, then, that so far as this section of the population is concerned, tuberculosis, which finds its greatest number of victims in the period of chief industrial activity, is economically far more important than pneumonia and cancer, which find their victims principally among those whose industrial effectiveness is either waning or practically at an end.

Basically each life experience is bad in proportion to the extent that it shortens life. It is only, therefore, by a comparison of the ages at death of individuals whose lives were characterized by specified experiences that the relative effectiveness of these experiences in ending life can be determined. Thus, the disease tuberculosis as a force inimical to longevity can by this method be measured with fair accuracy by the years lost through its fatal activity. Through the readily ascertainable number of productive years blotted out a fairly close estimate can be made of the financial loss which tuberculosis occasions to the family, to industry, and to the community and to the State through its interruption of life in the early or childbearing period.

This method of reaching conclusions as to the physical condition of a specified class of individuals by a comparison of death rates has been so seldom used and differs so radically from the customary method that the main points of variance between the two modes of investigation seem to need some preliminary consideration.

The two methods may be respectively defined as the inspection method and the death-rate method. Under the first method a careful inspection is made of as many as possible of those engaged in a given industry and from the prevalence of ill health or disease among them conclusions are drawn as to the healthfulness of that pursuit. By the second method, the death rate among those engaged in a given industry is accurately determined for a period sufficiently long to exclude the effect of temporary disturbances, and from a comparison of this death rate with that prevailing in similar age and sex groups outside of the industry conclusions are drawn as to the healthful or nonhealthful character of the industry.

### ADVANTAGES OF THE DEATH RATE METHOD OVER THE INSPECTION METHOD.

First of all, the two methods differ widely in the sharpness with which their basic terms may be defined. For the term death has a precise significance and is unqualifiable; whereas the term debility, ill health, or disease is inexact and qualifiable. Moreover, the unit of the one measure, death, is a demonstrable fact, while the unit of the other, ill health, may not be susceptible of demonstration. The one is absolute, the other only relative. And finally death is fixed and unchangeable, whereas ill health is variable.

Thus the death-rate method, as applied, for instance, in this study to the cotton industry, starts with a sharply defined fact—the death within a given period of a specified number of the group under consideration. The inspection method, on the other hand, starting with what is more or less a matter of opinion and judgment—the statement that at a given date so many of the group under consideration were in poor health—brings in a second element of uncertainty when it attempts to define the degree of ill health existing among those affected. Secondly, the death-rate method has a great advantage over the inspection method in the possibility it offers of isolating a given life experience—as, for example, cotton mill working or tuberculous infection, from other life experiences or circumstances, and for determining its relative probable power for harm, or antilongevity effect. It is evident that for this purpose the unit of the death-rate method an individual dead—is worth immensely more than is the unit of the inspection method—an individual debilitated, ill, or diseased.

For when it is said that a given number of individuals at a certain age are in ill health or diseased, it is impossible to say how much injury any one of them has suffered or will suffer from the ill health or disease by which he is affected. His physical condition is the result of a number of factors acting in combination. It might conceivably be possible to learn every one of these factors, but as there is no way of measuring definitely the amount of harm they have accomplished in combination, there is evidently no way of determining the amount of harm for which each is responsible. Together they have brought about a general condition known as ill health, or perhaps some specific condition such as tuberculosis or typhoid, but the inspection method affords no way of learning what either the general or the specific condition means in years of life sacrificed or industrial efficiency lost.

But when it is stated that a given number of individuals of a designated age have died, it is evident that each one of them has suffered the greatest total physical injury to which any individual of that age is susceptible. The factors which have produced death at the specified age undoubtedly differ widely from case to case in number, in identity, and in individual harmfulness, but in every case their combined effect has been the same—death within a specified age period. Knowing, therefore, their combined effect, it becomes possible to determine with some degree of accuracy the relative degree of harmfulness of each factor.

If it were possible to learn every factor contributory to each case of death, the effectiveness of the death-rate system obviously would be increased. Unfortunately in the present state of vital statistics allowance must always be made for a group of unreported factors in any summary of the factors influencing longevity. It is admitted that the inclusion of this group interferes with the accuracy of the conclusions reached, but it is believed that suggestive and valuable comparisons are possible, in spite of the presence of this disturbing element. Moreover, it is felt that this report will have rendered no inconsiderable service if it calls attention to the number and possible significance of the unreported factors whose omission from present mortality data seriously impairs their usefulness. An added advantage of the death-rate method is that it has to do the more with malign influences. Students of prophylactic or preventive medicine should find analyses of life experiences and circumstances of the dead, rather than the sick, the more prolific in conclusive results or disclosures concerning the basic laws of health.

Moreover, in the matter of expediency the death-rate method has other decisive advantages. In the first place, a study of the facts given in death certificates, followed up by careful inquiry among the decedents' friends and relatives, is perhaps quite as likely to bring to light important intimate data respecting age, personal habits, and the nature of the illness as would be a similar inquiry made of an invalid himself. The one may be likened to a post-mortem dissection of the subject's life experiences, the other to a vivisection of them. hampered by the subject's active or passive opposition. It not infrequently happens that when a physician, in order to form a correct idea of a patient's condition, questions him as to possible undesirable or discreditable past experiences, the inquiries elicit only evasive or misleading replies, and sometimes are met with absolutely false answers; and this even when the patient is paying for the advice which must be based in part on his answers. It is not likely that the unsolicited inquiries of an investigator would meet with a more candid response. But a decedent's relatives or acquaintances do not seem to feel the same degree of sensitiveness, and speak freely of facts about which he might have resented any question. As a matter of fact in the present investigation those questioned manifested a very general spirit of cooperation, answering inquiries fully and willingly, even when they trenched on delicate ground.

Again, as regards the expediency of the two methods, it is to be remembered that the concededly diseased-the class with whom the inspection method must deal-comprise but a fraction of those who are really diseased, and that there is no practicable way of determining what this fraction actually is. Some of those who are really in poor health are themselves unconscious of it; while some of those allegedly diseased are not really diseased at all. Hence, it is impossible to learn the exact number of unhealthy or diseased individuals within any designated unit of place or time; or, in other words, it is impossible to determine with precision the prevalence of ill health, i. e., the number of persons diseased among each 1,000 of a specified population. On the other hand, it has been both possible and practicable to determine the precise prevalence of fatalities within New England industrial communities, and there seems no reason to doubt that the methods used in this investigation would be equally successful within all so-called "registration" cities; that is, cities in

### INTRODUCTION AND SUMMARY.

which an official statement must be filed regarding each decedent before interment or other disposition of the body may be made.

Moreover, even if it were possible to learn by inspection the number per 1,000 of a given population who at a given time were ill, debilitated, or diseased, the knowledge would be of little value unless it were possible to repeat the inspection so often that the average or typical number could be obtained. The amount of work-involved in this process would render it absolutely out of the question to obtain these results by the inspection method, whereas by the death-rate method the same results for decedents are easily obtainable. For example, in Fall River during the years 1905, 1906, and 1907, the total deaths of individuals aged 10 years or over averaged three per day. To obtain an exact correlative of this statement concerning the average daily cases of illness would have necessitated recording each day for three years absolutely all of the newly sick within the same age group-a task which obviously would have been impracticable, even could satisfactory definition and identification of the basic unit, an individual "sick," have been made.

And finally, the death-rate method excludes the possibility of bias on the part of the investigator, since he deals with all the deaths occurring within a given community during a given period. In the inspection method, on the other hand, since it is impossible to deal with the whole number of the ill, debilitated, or diseased, the investigator must necessarily select those whom he is to study, and no matter how earnestly he strives to make his selected group typical, there is always the possibility that its representative character may be compromised by some unconscious bias or some defect of judgment on his part. By the one method each and every case of death occurring within the specified place and period is included in the study; by the other method only a fraction of the cases of ill health occurring within the specified place and period can be included, and while the investigator may entertain a pious hope that this fraction is typical of the whole he can never be sure that it is really so.

To summarize, it may be said that for determining the healthfulness of a given industry the death-rate method, of which the basic unit is an individual dead, is preferable to the inspection method, of which the basic unit is an individual in ill health, on two principal grounds:

### I. POTENTIAL UTILITY.

(1) In discovering the prevalence of the condition inquired into, since death is a definite and unchanging state about which there can be no question, while ill health is a vaguely defined state which may at any time merge either into death or into good health. In other words, its boundaries are at once ill defined and shifting.

(2) In determining the relative importance of antilongevity causes, because the several factors which, combined, bring about the definite condition, death, are more easily isolated and measured as to their comparative harmfulness than is the case with the factors which, combined, bring about the indefinite condition, ill health. And also because the study of a completed life is apt to reveal a greater number and variety of morbific influences and experiences than will be found in the study of a life of the same length that is as yet unfinished.

#### II. INHERENT EXPEDIENCY.

(1) In discovering the prevalence of the condition inquired into, because as its basic units can be absolutely identified it is possible to make a complete enumeration of them for a given community during a given period, whereas it would be practically impossible to make an equally complete enumeration of all the cases of ill health occurring in the same community during the same period.

(2) In determining antilongevity causes, because it includes the causes leading up to each and every death occurring in the given community during the given period, and is therefore at once more inclusive and fairer than the inspection method, which can only cover the causes producing ill health in a selected number of the cases existing on a given day within the given community.

And, finally, the history of a case in which the antilongevity factors have worked out their full effect—in other words, the history of an individual dead—evidently affords a more complete field for studying those factors than the history of a case in which those forces are still at work. In the latter case we know that these forces will at last cause death, but we do not know how long it will take them to do so, and consequently can not estimate what degree of harm they have already worked. In the one case we are dealing with a complete, in the other with an incomplete, history, and the advantages of the first for purposes of study are obvious.

### PROBLEMS TO BE SOLVED.

It is evident that in any study of antilongevity factors there are four steps to be taken, or four problems to be solved. First, the typical character of the group selected for study must be established. Second, in the case of each unit of this group, the experiences must be selected which would naturally have had an effect in shortening life—the antilongevity factors. Third, a determination must be made of the degree of harm wrought by these combined factors. The number of years by which the given individual's life fell short of the reasonable expectation of life for a person of his age may be taken as the measure of this harm. And, finally, there is the prob-
lem of assigning their respective shares of this aggregate harm to the various factors which have brought it about.

Some outline of the logical steps by which, in practice, the attempt has been made to solve these problems by the death-rate method, as contrasted with the inspection method, may bring out more strongly their radical differences and may also bring out their relative practical value in attaining correct conclusions concerning the physical condition and the causes thereof of any specified industrial or municipal community.

#### LOCALITIES AND PERIOD COVERED.

First, as to the typical character of the group selected for detailed examination. In the death-rate method as used in this study it was assumed that the complete mortality data of 1905, 1906, and 1907. a period selected as covering the three years nearest the date on which this investigation was begun, constituted a fair sample of the mortality data of all recent years, and that therefore certain conclusions could be safely based upon these data. Of course, data covering eight or ten years would be far more conclusive than those for three years, but it was felt that in communities of the size of those studied conclusions could be drawn with a reasonable degree of safety from the complete statistics of the three-year period. As these data were collected for each and every case of death of persons aged 10 years and over occurring within the designated period and communities, it is evident that the basis of the study is a far more complete and typical group of cases than could possibly be secured by the inspection method.

Starting with the general assumption that the complete mortality data for 1905, 1906, and 1907 would be fairly indicative of the mortality data for any recent years, the specific induction was made that the mortality data for these three years in the cotton-manufacturing cities-Fall River, Mass., Manchester, N. H., and Pawtucket, R. I.-would be a fair sample of the mortality data of any of the communities including numerous cotton operatives within any recent one-year or three-year period. Moreover, since these three cities contain nearly one-third of the aggregate cotton operatives within the States of Massachusetts, New Hampshire, and Rhode Island, a second induction was that the mortality data of the cotton operatives of these cities for a three-year period would be a fair sample of the mortality data of the total cotton operative population in these three States for one year. This induction, it must be admitted, is somewhat less reliable than the first, but is not without justification.

Moreover, since these three cities contained about one-sixth (16.2 per cent in 1900) of the total cotton-operative force of the United States, a third induction was that the mortality data of these three cities for three years would be no very unfair sample of the total mortality data of the country's entire cotton-manufacturing industry for a period of between five and six months.

Again, it is estimated that Fall River alone employs nearly onetenth a of all the cotton workers of the country. Hence, the fourth induction tentatively drawn is that the mortality data of this single city represents by no means unfairly the mortality data of the more than a quarter million of actual cotton-mill operatives in the country.

Granted that the data in question are, as has been above assumed, fairly representative of the mortality statistics for the whole cotton industry, it is evident that the prevalence of death among cotton operatives, i. e., their death rate, can be very easily determined from it. But to gather by the inspection method a body of data from which the prevalence of ill health among the cotton operatives of the country might be deduced with an equal probability of reaching correct results would require a practically impossible amount of work. The mortality data collected covered all the deaths occurring among approximately one-sixth of the cotton operatives of the country during a period of three years, or one thousand and ninety-five days. This may be looked upon as equivalent to the deaths occurring among the total cotton operative force during a period one-sixth as long, or one hundred and eighty-two days. To secure equally conclusive evidence of the prevalence of ill health, the whole operative body would have to be examined daily for nearly six months for new cases of ill health, which is clearly impracticable, or else some fraction of them would have to be examined daily through a proportionately longer period, which is hardly more feasible.

Another very marked advantage of the death rate method as used in this study is the opportunity it offers for comparison between occupational groups, or between those in one occupation group and the general population. Thus, in the present case, concurrently with the investigation into the underlying causes of death among cotton operatives, a corresponding investigation was conducted into causes of death among the nonoperative decedents within the same age period. To show the value of such comparative statistics in investigating health and longevity problems, let it be supposed that the data so collected show two groups of married female decedents of

<sup>a</sup> In 1908, according to the report of the mill superintendents, there were in Fall River 25,158 workers employed strictly in the manufacture of cotton. In the United States in 1905 the number of cotton-mill operatives was placed at 310,458 (Census Bulletin 74), but these figures included all who were on the cotton-mill pay rolls, such as engineers, machinists, firemen, watchmen, yardmen, truckmen, and teamsters. If due allowance is made for these classes it is judged that those really exposed to the conditions peculiar to cotton manufacture number about a quarter of a million. essentially equal physical and mental hereditary endowments and of essentially similar life experiences, except that those of one group were engaged in cotton-mill work for the fifteen years next but two preceding death, while those of the second group were engaged in housework at home for the same period. Let it be further supposed that each of these decedents had been exposed to tuberculous infection through a consumptive member of her family, and that all-died of tuberculosis, the cotton-working group at the average age of 30, the home-staying group at the average age of 40 years. These contrasting occupational groups might then be said to constitute a vital experiment—infection—performed under conditions, i. e., vital experiences, seeming to differ in but one material circumstance, the conditions of work. The difference of ten years in length of life might logically, therefore, be attributed to that one circumstance.

The surest inductions drawn from the present study are those concerning the effect in shortening life, which may legitimately be ascribed to the occupation factor, cotton-mill working, and to the infection factor, tuberculosis, within a certain specified population.

As has already been stated, the population classes which have the highest mortality from nonsenile causes offer the most promising field for study, as they furnish a larger number of decedents and therefore presumably offer a greater number and variety of antilongevity forces than would be revealed by a similar inquiry into causes of death among classes having a lower mortality. Accordingly, in this study into the causes of death among woman and child cottonmill operatives, attention has been especially directed to the classes showing the highest mortality from presenile causes.

# REASONS FOR SELECTION OF LOCALITIES AND PERIOD COVERED.

New England was selected as the general field of the study, both because it has more accurate death records than other localities in which cotton manufacturing is carried on, and because it has long been the leading cotton manufacturing section of the country. As the limits set for the investigation did not permit covering all New England, Fall River, Mass., Manchester, N. H., and Pawtucket, R. I., were selected for study. Each of these is the largest cotton manufacturing city within its respective State, and the three are sufficiently alike in racial and industrial composition to be comparable. All three are situated within a circle with a radius of 50 miles, which included within its circumference in 1900 about one-half of the cotton man facturing industry of the whole country, so that if that industry possesses any characteristic features they should be found fully developed in these cities. Fall River, moreover, is the country's largest cotton manufacturing city, employs approximately one-tenth of the

total number of actual cotton workers a in the whole country, and contains racial groups nearly equal in size drawn from four different European peoples or races. For all these reasons it was felt that these cities offered an unusually good field for studying conditions characteristic of the cotton manufacturing industry.

### COMPARATIVE STUDY OF SELECTED GROUPS AND CLASSES.

The age period, 15 to 44 years, was selected for special intensive study because it represents a period of full industrial activity during which the death rate would normally be low. It is customary to present vital statistics by age groups of ten years. If this period from 15 to 44 years, inclusive, be divided into these customary groups of years, the death rates are sufficiently similar to justify considering the three together as a single age group characterized throughout by a low mortality.

A second reason for choosing this age period for special study lies in the fact that more than one-half the entire population is found within its limits, so that it presents a wider field for study than a more limited age group could do. Moreover, for a study of causes of death among cotton operatives, this group presents unique advantages, since more than four-fifths (85 per cent) of the entire operative population is included within it. Also within its limits are found threefourths (76 per cent) of the entire number of tuberculous deaths of individuals aged 10 years and over, nearly three-fourths (73 per cent) of the whole operative mortality from all causes, and fully nine-tenths (91 per cent) of the entire operative deaths from tuberculosis. For all these reasons this age period was considered to demand special, intensive study.

In regard to sex, as the investigation was primarily into causes of death among woman and child cotton-mill operatives, special attention, naturally, has been given to the study of female decedents as compared with the corresponding classes of male decedents.

At a very early stage of the investigation it became evident that the Irish in each age, sex, and occupation group almost without exception presented a higher death rate than any other race or people. This difference was so marked that the inclusion of the Irish in any tabulations of the aggregate population proved likely to cause erroneous and exceedingly misleading results. In the following tabulations, therefore, data will be given for three groups—the Irish, the non-Irish, and the total population.

<sup>&</sup>lt;sup>a</sup> The term "actual cotton workers" is used to distinguish those regularly exposed to conditions peculiar to the manufacture of cotton from those who, although on the pay roll of a cotton mill, met only such conditions as they would have found anywhere else. Thus, an engineer or fireman works under the same conditions in a cotton mill as elsewhere, and so do yardmen, truckmen, teamsters, and others.

Cotton-mill work was selected for special investigation because it employs a larger number of women and children than any other industry, because it exhibits a deplorably high female death rate, and because it, more frequently perhaps than any other large industry, subjects its workers to inhalation of irritant vegetable dust, which in the underfed and overworked is especially conducive to bronchitic, asthmatic, and tuberculously infectious pulmonary diseases.

And, finally, tuberculosis was selected for special intensive study because it was found to be the most prevalent ultimate or immediate cause of death within the age period 15 to 44, which comprised onehalf the total population and four-fifths of the operative population of the cities selected for study.

Moreover, to bring out the facts more clearly, a method of comparison has been adopted. The present report, therefore, presents the results of a special intensive study into the basic antilongevity causes existent in the years 1905, 1906, and 1907 among (1) persons resident in Fall River, Mass., as compared with those in Fall River, Manchester, and Pawtucket combined; (2) persons aged 15 to 44 years as compared with the aggregate aged 10 years and over; (3) females as compared with males; (4) the Irish race or people as compared with the aggregate non-Irish races or peoples; (5) cotton operatives as compared with those not employed in cotton manufacturing; and (6) persons who ultimately fell victims to tuberculosis, as compared with those whose debility or casualty culminated in nontuberculous forms of death.

#### SUMMARY.

As a result of these comparisons the following points seem to be clearly established:

I. The effect of cotton operative work upon health, as reflected in the death rate, differs widely between the sexes. For the thirty-year age period from 15 to 44, in which the great majority of the operatives are found, the death rates of males and females in the general population are almost identical, the male rate being 6.19 and the female rate 6.18. A comparison of the death rates of male and female nonoperatives shows the rate for males to be 22 per cent in excess of that for females (male rate, 6.48; female rate, 5.31). When, however, the comparison is confined to the death rates of operatives the female rate shows an excess of 33 per cent over the male (male rate, 5.74; female rate, 7.63) despite the younger ages of the female operatives.

II. In the age groups within which operatives and nonoperatives are fairly comparable, female operatives have a decidedly higher death rate than nonoperatives. This is most marked in respect to tuberculosis, the death rate of female operatives from this cause being in general more than twice that of nonoperatives, and in some of the race and age groups running up to many times as high. Thus, in the age groups 15 to 24 years, 25 to 34 years, and 35 to 44 years, the death rates from tuberculosis per 1,000 were, respectively, two and one-fourth times, two and one-half times, and five times those among women of the same age groups outside the cotton industry.

III. An examination of different factors which might affect the death rate, especially from tuberculosis, such as native or foreign birth, tuberculous kindred or intimates, overcrowding, sanitary condition of homes, etc., fails to show any such massing of unfortunate conditions among the female operatives as would explain their unvaryingly higher death rate.

Hence it seems impossible to escape the conclusion that operative work is prejudicial to the health of females, that the combination of operative work with matrimony is especially harmful, and that, while the general hazard of the female operative is greater than that of the nonoperative, she is in most danger from tuberculosis. Whether the harmful effects of operative work are greater than those of other industrial employments, and whether they inhere in cotton textile work as a whole or are due to certain occupations carried on within the mills, are questions for further investigations to answer. This has established the fact of the high mortality among female cotton operatives and of their special susceptibility to tuberculosis.

In considering the real significance of these conclusions, weight must be given to the character of the death records on which they are based. This study has clearly established that such records, as at present made out, can not safely be used as the basis of mortality studies without investigation of their accuracy. Two conspicuous errors or defects were discovered, the first relating to the decedents' occupation and the second to the cause of death.

1. The official records contained many and serious errors as to the occupation of the decedent. This was especially the case where females were concerned. In Fall River more than one-half of the female decedents for the period covered who were found to have been cotton-mill operatives were not so recorded. On the other hand, one-seventh of the group recorded as operatives were found on investigation not to have been cotton-mill operatives. Among the male decedents of Fall River for the three years studied 28 per cent of those who were proved to have been cotton operatives were recorded on the death certificate as having followed some other occupation, while one-third of those recorded as operatives could not properly be included among cotton workers. The effect of such inaccuracies upon any study of occupational mortality is obvious.

2. In regard to the cause of death the certificates were found to err in two ways; in some cases the cause was described by a misleading or absolutely false term, and in others one of two contributory factors was arbitrarily assigned as the cause, with no mention of the other, which might have been equally or even more important.

In the cases studied the effect of the first of these errors was to reduce materially the death rate both from tuberculosis and from parturition. In a number of cases in which the physician's certificate gave some such equivocal cause of death, as bronchitis or hemorrhage, or some terminal condition, such as bronchopneumonia or heart failure or debility, the history of the case when studied showed almost beyond question that tuberculosis had been the real cause. Occasionally physicians who had signed such certificates would admit that they were designediy misleading, but defended the practice as excusable on account of the exasperating delay or, especially if the policy had been in force only one or two years, the refusal of some insurance companies occasionally to pay the amounts for which the deceased had been insured if tuberculosis was the cause of death. More than 40 of these "variant" cases were found in Fall River alone.

The second practice, that of assigning arbitrarily one of two equally important factors and ignoring the other as a cause of death, was observed, for example, in cases of tuberculosis complicated with parturition. In one city investigation disclosed that 24 deaths of females, the cause of which had been officially given as tuberculosis, had been complicated with parturition. In such cases parturition is evidently an important contributory factor, yet the method of reporting the cause of death conceals even the fact of its existence. The relation between the two causes is hidden, and the degree to which married life increases or may increase the tuberculosis hazard of females is rendered doubtful.

In dealing with inaccurate statements of the decedent's occupation, it was deemed safe to correct the record whenever investigation established beyond question its inaccuracy. In regard to errors of the other class, it was felt that at least in this initial investigation the physician's official statement must be taken, in spite of serious grounds for doubting it. Some errors of the first kind may have escaped detection; all of the second kind have been accepted. The conclusions reached in the investigation, therefore, certainly understate the facts as to the death rates of female operatives, the mortality from tuberculosis, and the special hazard of married women.

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# CHAPTER L

# SCOPE AND METHOD OF INVESTIGATION.



# CHAPTER I.

### SCOPE AND METHOD OF INVESTIGATION.

#### PLACES AND YEARS COVERED BY THE INVESTIGATION.

In order that the mortality figures on which the following study is based might not be affected by local peculiarities or temporary variations, six cotton cities—three in the North and three in the South were visited and data collected covering a period of three years. The cities selected in the North were Fall River, Mass., Manchester, N. H., and Pawtucket, R. I.; in the South, Augusta, Ga., Atlanta, Ga., and Raleigh, N. C. Unfortunately, the data obtainable in the Southern cities was so incomplete that it was impossible to carry out the original design and make a comparative study of operative mortality in the two sections. The study is therefore based upon the figures from the three New England cities only. On page 50 and in table 59 are shown the data gathered in the Southern and Northern figures.

The years covered were 1905, 1906, and 1907. Data were collected for decedents within the New England cities during these years, and these data have been presented in various comparisons, the data for one year being contrasted with the data for the whole three years and the data for one city during the three-year period with the data for three cities during one year.

Throughout the study the attempt has been made to accord every influence its due weight and to present facts, not opinions.

The primary purpose of the study was to gain full information upon such points in the occupational and personal history of every decedent operative as might bear upon his length of life, the immediate cause of his death, and any contributory causes thereof. Naturally such information could be gained only from the relatives, friends, and acquaintances of the decedents, but the difficulty of discovering these acquaintances and gaining this information increases greatly as the death of a given worker grows more remote. In the Northern cities this difficulty has been much increased by the progressive infusion into the operative body of South Europeans, because relatives and acquaintances of these decedents are sometimes undiscoverable. Everywhere, without exception, mill authorities gave all the assistance possible, sometimes even detailing an employee to prosecute inquiries among the foreign workers supposed to have been acquainted with a decedent concerning whom knowledge was sought. This disposition to cooperate was manifested among people generally, both in and out of the mills, in practically every place studied.

Naturally, therefore, as this inquiry was begun late in 1907, that current year was selected for special study everywhere except in Manchester, N. H. In that city, by mistake, the copyists transcribed the death certificates of 1905, the first year of the period, instead of the last, and the error was discovered too late, it was judged, to be corrected without occasioning unwarrantable delay. This makes the "one-year period" presented in the following tables 1905 for Manchester, while for Fall River, Mass., and Pawtucket, R. I., it is 1907.

This explanation seems necessary, because in Manchester, as was later noted, the total deaths from tuberculosis in 1905, according to the census figures, slightly exceeded those for either 1906 or 1907. The total deaths, however, of persons aged 10 years and over in Manchester in 1905 are but one more than in 1907 and number 33 less than in 1906.

In Fall River, Mass., and Pawtucket, R. I., on the other hand, the year 1907 registers the highest total number of deaths, both from tuberculosis and from all causes, of any of the three years considered, though only a little higher than would normally be expected from the natural population increase.

These variations appear to be only such as might be expected from year to year, and it is believed that the figures shown for the one-year period approximate with reasonable closeness to normal conditions for the several cities considered.

#### AGE PERIOD COVERED.

Ten years and over was selected as the age period to be covered. The lower limit was selected partly that every possible operative decedent might be included—for the study does not cover any locality in which children under 10 may legally begin work—and partly that the age groupings in the following tables might coincide with those of the census and mill tabulations of population.

#### **REASONS FOR SELECTING CITIES.**

In 1906, the middle year of the three-year period studied, the aggregate population of Fall River, Manchester, and Pawtucket was officially estimated at 218,914, or nearly a quarter of a million people. Of these, Fall River had practically one half and of the other half Manchester and Pawtucket had, roughly, two-thirds and onethird, respectively. In the aggregate the three cities had 38,448 cotton-mill operatives, of whom a trifle less than two-thirds (65 per cent) worked in Fall River, about two-ninths in Manchester, and one-ninth in Pawtucket. Thus the city with one-half the aggregate population had two-thirds of the total number of cotton-mill operatives.

Each of these cities is the leading cotton-manufacturing center of its State, and together they have almost a third (30 per cent) of the whole number of cotton operatives within the three States. These States in turn include more than two-thirds (68 per cent)<sup>a</sup> of all cotton-mill operatives in the Northern States and over two-fifths (42 per cent)<sup>a</sup> of those for the whole United States.

# SCOPE OF DATA.

The method of securing the data has already been described (p. 20). As the mortality period covered was three years and as the cities studied included practically one-third of the cotton operatives of Massachusetts, New Hampshire, and Rhode Island, it follows that the mortality statistics here given will roughly represent the deaths among all the cotton operatives of the three States for a period of one year. This fact and the additional fact that the deaths herein enumerated are complete for the cities and the periods specified entitle the conclusions of the following study to a weight which otherwise could not be accorded them in view of the comparatively small number of cases on which they are based.

# SMALL UNITS NOT NECESSARILY A BAR TO CONCLUSIVENESS.

For it must be constantly borne in mind that however small the basic number in this study may be, still it is approximately representative of all the deaths occurring among two-fifths (42 per cent) of all the cotton operatives of the country for a period of one year; a closer approximation to all deaths for twelve consecutive months among cotton operatives in the States doing two-thirds of the cotton manufacturing of the North, the actual facts for cities doing about a third of the cotton manufacturing of the North derived from an investigation known to be complete for one year, and nearly so for three years; and finally the proved data for one large city employing two-thirds of the cotton operatives in the three selected cities for periods both of one year and of three years.

# ITEMS TABULATED.

The facts obtained have been tabulated with varying degrees of completeness according to their importance. The following items have been tabulated for each city separately and for all three cities combined both for a period of one year and for the whole three-year period: (1) The number of deaths; (2) the causes of death as given on the official certificates; (3) the age of decedents; (4) their color;

a Census Bulletin 74 (1905).

(5) sex; (6) race, as determined by birthplace of father; (7) occupation; (8) period out of employment before death; (9) hygienic condition of late abode; (10) conjugal condition; (11) season of the year in which death occurred.

A score of other personal data concerning the decedent which may have borne some causative relation to length of life have been tabulated under six classifications—color, sex, cause of death, industry and specific occupation, period out of employment before death, and race—for each city and for the combined three cities for the threeyear period, but not for the one year.

For most of the personal statistics, however, only two comparisons are made. Either the Fall River data for one year are contrasted with the Fall River data for three years, or else the statistics of Fall River for three years are compared with those of the combined three cities for one year. Either of these comparisons in the similarity of their resulting percentages is usually sufficient to demonstrate basic conditions.

It is believed that the repeated comparisons which every statistical item thus undergoes in the numerous tabulations and classifications tends to lessen the importance of adventitious and incidental factors, and to bring inherent and basic elements into greater prominence. If a given factor makes its appearance in only one city, or in only one tabulation of the items gathered from one city, there is reason for looking upon it as the result of some local and strictly limited cause; while the more frequently it appears in the various classifications and tabulations, the greater the reason for looking upon it as of basic significance.

#### DEFINITION OF TERMS.

In the course of this study the writer visited personally the places of death of all tuberculous decedents, of all Southern operative decedents, and of nine-tenths of the Northern decedent operatives included in the following tables. This is important chiefly in that the point of view is practically constant wherever in these pages reference is made to operative or to tuberculous decedents.

The term "decedent" within the scope of this inquiry is limited to persons aged 10 years and over dying within the limits of the city considered. Some tentative researches undertaken in Fall River indicated that as regards tuberculosis, at least, the figures thus gathered did not tell anything like the whole story. Repeatedly the writer's attention was called to instances of tuberculous decedents mill operatives until they were no longer able to work—who shortly before death had gone to their homes in Canada, the Azores, or southern Europe in the hope that their native climate and former manner of living might restore them to health, or failing that, that they might at least find burial in the land of their birth. These cases, of course, were not included in the mortality statistics of the cotton mill city in which, presumably, they had contracted the tuberculous disease which proved fatal to them within a few months after their leaving it.

Except solely in the case of nontuberculous deaths that were coincident with childbirth, the term "fatal disease" wherever used in this study means the "cause of death" as stated in the official death certificate signed by the physician last attending the deceased. These certificates are filed with the State authorities in the North and with the city authorities in the South. In both sections the transcripts used were made through State and city officials, and except for occasional slight discrepancies between the total cases published and those transcribed for this investigation, the basis of this study is the officially published number of deaths.

The term "cotton operatives" is used to mean only those persons, from overseers down to scrubbers, whose work had been such as to expose them many hours daily to the processes or hygienic conditions peculiar to a mill that manufactures cotton wadding, cloth, yarn or thread. Office clerks, machinists, carpenters, engineers, firemen, watchmen, and yard men, though on a cotton mill pay roll, are not included in the operative class, and neither are the employees of bleacheries, dye works, and printeries.

The term "cotton operative" has been still further restricted by limiting it to those who were either working in a cotton mill up to the time of death, or who had left it not more than two years before death. This arbitrary limit was fixed upon after consultation with eminent medical men as being probably well within the period during which the effects of mill influences, even if latent while the decedent was in the mill, might yet be considered beyond question as having borne a causative relation to his death. In the course of this study many facts were elicited showing resemblances, sometimes almost to identity, between the class just outside the two year limit and the operative class. It was felt that this fact gave a strong indication that the two-year limit erred, if at all, on the side of conservatism, and that possibly a limit of three or even four years, or the inclusion of nearly lifelong cotton-mill workers retired through age, would have been fairer.

Three other classes were established among the decedents: "Fiveyear operatives," comprising former operatives who had given up cotton mill work more than two but less than six years before their death; 'ex-operatives," comprising those who had not worked in a cotton mill for at least six years before death; and "never operatives," comprising both those who were not known to have worked in a cotton mill, and those of whom it was definitely known that they had never done such work. The length of time employed in the mill, although it has been tabulated for the several classes, has not been taken into account in defining the term operative.

For the information of readers who may not be entirely satisfied with the restricted definition of the term "operative," as here used, to such decedents only as had died within two years after quitting the cotton mill, the table below is presented. It shows that among the decedents the number of those who had formerly been engaged in cotton-mill work but had left the mill more than two years before death was almost equal to the number of those classed as operatives.

NUMBER AND PER CENT OF TOTAL MILL WORKERS DYING FROM EACH SPECIFIED CAUSE WHO HAD BEEN OUT OF MILL EACH SPECIFIED PERIOD JUST PRECEDING DEATH, FALL RIVER, MANCHESTER, AND PAWTUCKET, 1905 TO 1907.

	Number	of decedent	s from—	Per cent.			
Occupation classification and time out of mill before death.	Tuber- culous causes.	Nontuber- culous causes.	All causes.	Tuber- culous causes.	Nontuber- culous causes.	All causes.	
OPERATIVES.	_						
Out of mill before death: Less than 2 weeks. 2 and under 8 weeks	9 8 43 85 105 69	$132 \\ 106 \\ 86 \\ 59 \\ 105 \\ 66$	141 114 129 144 210 135	2 2 9 18 23 15	11 9 7 5 9 6	9 7 8 9 13 8	
Total, 2 years and under	319	354	873	69	47	54	
5-YEAR OPERATIVES.					1 - 1		
Out of mill before death: Over 2 and under 4 years 4 and under 6 years	20 33	39 76	59 109	4 7	3 7	3 7	
Total, over 2 and under 6 years	53	115	168	11	10	10	
EXOPERATIVES.							
Out of mill before death: 6 and under 11 years 11 and under 16 years 16 and under 26 years 26 years and over	47 25 15 5	132 91 140 133	179 116 155 138	10 6 3 1	11 8 12 12	11 7 10 8	
Total, 6 years and over	92	496	588	20	43	36	
Grand total	464	1, 165	1, 629	100	100	100	

For such readers as may think that length of service in cottonmill work should be the guiding principle in the definition of the term "operative," the next table is furnished. This shows for the decedents, classified according to time out of mill work before death, the number of years employed in cotton mills. It will be seen from this table that more than half of those excluded from the "operatives" group under the definition of "operatives" as used in this report were persons who had been in cotton-mill work for 10 years or more. NUMBER AND PER CENT OF ALL DECEDENTS WHO HAD BEEN EMPLOYED IN COTTON MILLS EACH SPECIFIED NUMBER OF YEARS, FALL RIVER, MANCHESTER, AND PAW-TUCKET, 1905 TO 1907.

to an a start of the	Number of decedents.				Per cent.			
Years employed in cotton mills.	Opera- tives (out of mill not over 2 years).	Out of mill over 2 and un- der 6 years.	Out of mill 6 years and over.	Total.	Opera- tives (out of mill not over 2 years).	Out of mill over 2 and un- der 6 years.	Out of mill 6 years and over.	Total.
Under 2 years. 2 and under 4 years. 4 and under 6 years. 6 and under 10 years. 10 and under 16 years. 16 and under 26 years. 26 years and over.	97 115 121 153 104 136 109	5 12 17 35 23 30 31	17 43 72 137 64 102 85	119 170 210 325 191 268 225	12 14 15 18 12 16 13	3 8 11 23 15 20 20	3 8 14 26 12 20 17	8 11 14 21 13 18 15
Total Years employed not reported	835 38	153 15	520 68	1,508 121	100	100	100	100
Grand total	873	168	588	1,629				.0

# RELIABILITY OF INFORMATION SECURED.

Owing to the fact above mentioned, that tuberculous operatives showed a tendency to return to their early homes when they were no longer able to work, it is probable that for all the cities studied the number of operative decedents is slightly understated. It is quite certain that there is no overstatement of the number, because no decedent has been classed as an operative unless a definite statement to this effect was made by an informant whose name is on record. The statement on which the classification is based included not only the fact that the decedent had been a cotton operative, but also the name of the mill in which he had been employed, usually, also, the specific occupation at which he had worked, and always the fact that he had been employed at such mill work within a specified period, not exceeding two years, before his death.

It is obvious that evidence so specific and detailed would not probably be manufactured, especially as the informant had no inducement to misrepresent the facts in either direction. During the course of the investigation an incidental proof was obtained of the general accuracy of the information gained. The inquiry was begun in Fall River. Five months after its data had been secured a change in the scope of the investigation made it necessary to record certain additional data concerning female decedents, which could only be obtained by revisiting the earlier informants.

In this reinvestigation, several hundred persons were questioned a second time on points on which they had first given information five months earlier, yet in only two cases was their testimony found to differ from the original statement in any important particular. In one of these cases the length of time the decedent had been out of the

mill before death was given as five instead of two years, while the other case was the exact reverse, a decedent being changed from the "five-year operative" into the operative class. The two errors thus offset one another, and the totals of the two classes remained unchanged. The result of this second canvass seems rather convincing proof that the informants made their statements as accurate as their memories permitted and that there is no probability of an overstatement of the number of operative decedents.

However, in regard to the accuracy of the number of deaths recorded, and their correct apportionment among the various causes of death, it is practically certain both that the death rate from all causes is incorrectly low and that the death rate from tuberculosis is still further below the correct figures. The general death rate is affected by the fact already mentioned that persons who have contracted disease in a given place not infrequently die elsewhere, and hence do not figure in the death returns of that particular city. course, this fact would influence the death rate of any specified city in two ways; some who might properly be called its own people would die elsewhere, while others who really belonged elsewhere would die within its limits. In the New England cities under consideration, however, each of which contained a large foreign element, there were clear indications that the number of residents dying elsewhere far exceeded the number of nonresidents included in their death lists.

As this tendency to go back to a former home either in search of health or for the sake of dying amid familiar scenes is particularly manifest among tuberculous patients, the death rate from tuberculosis would naturally be more seriously affected than the general death rate from this cause. In addition to this there seemed reason to believe that the tuberculosis rate was further diminished by inaccurate statement of the cause of death on the official certificate. At least in a very considerable number of cases a marked variance was found between the apparently superficial cause of death certified to by the physician and the probable basic cause suggested by the history of the decedent's illness as reported by relatives.

For example, in a number of cases in which the physician's certificate gave some such equivocal cause of death as bronchitis or hemorrhage, or some terminal condition, such as chronic pneumonia or heart failure or debility, relatives of the decedent testified that for a year before death the decedent had had a bad cough, had become extremely emaciated, had suffered from night sweats, had had one or several hemorrhages of bright blood, and was the second or third in the family who had "died of consumption" within the last few years. Such testimony as to matters of simple fact seems to be entitled to credence, and should at least be recorded for future reference. In some cases the evidence as to the real nature of the disease was even stronger, as when, for instance, a mother in describing her daughter's fatal illness mentioned that the doctor in attendance had told her that the malady was "consumption" and that he could do little else than ameliorate some of the more immediately distressing symptoms. Testimony of this kind was not infrequent. In two of these "variant" cases, moreover, there were histories of bacteriological sputum examinations, returns from both of which were said to have been positive, i. e., to have shown that the sputum contained the bacilli or germs characteristic of tuberculosis.

Three out of every five of these variant cases had lost on an average more than two members of their families from tuberculosis; nearly a quarter of them had had from one to four hemorrhages; and the average duration of the cough for all the series was fifteen months. One spooler girl whose sister had died the previous year of tuberculosis, and who herself had become greatly emaciated after a year's cough, while on her way home from the cotton mill one night succumbed to a fatal attack of hemorrhage. Her death certificate reported "hemorrhage of the stomach" as the cause of death.

The question of course arises why the true cause should be so often ignored or misleadingly reported on the death certificate. Some persons are sensitive as to the existence of a case of tuberculosis in their family, and would seriously object to having such a cause entered in a certificate. The knowledge that this feeling is common may affect the physician even in cases where no such prejudice exists. But apparently by far the most effective cause is the attitude of some of the insurance companies which may delay payment of policies of decedents officially certified as having died from tuberculosis, and which furthermore also not uncommonly refuse to insure the family of such a decedent.

The effect which this attitude might have is shown by the fact that in a group of over 40 of these variant cases in a given city, threefourths of the decedents had carried life insurance policies, ranging in amount from \$65 to \$650, and aggregating for the whole group over \$6,000. In two of these cases the insurance company refused to pay the claims, and no lawsuits to force payment were instituted.

Physicians when interrogated about these variant cases occasionally admitted that the certificates were designedly misleading, but justified them on the ground that only thus could the decedent's family secure promptly the amount they were justly entitled to from the insurance companies. It was a common practice, they said, for insurance agents to represent to a person whom they were trying to persuade to take a policy that in case of death the face of the policy would be paid promptly and in full, but in actual practice, if the decedent's cause of death were officially given as tuberculosis—a disease concededly often of years duration—the company occasionally would hold up settlement of the claim until satisfied that no intentional concealment of disease constituting fraud had been practiced by the insured in his application for insurance—an exasperating delay coming at a time of exhaustion and bereavement, when the small amount an industrial policy usually calls for is needed at once.

Moreover, these physicians defended such "variant" certificates not only as being equitable but as keeping within the bounds of truth, because they said the irritation caused by the tubercle bacillus in the lung bronchi unquestionably was a bronchitic inflammation and hence a bronchitis, while the irritation caused by the tubercle bacillus in the lung tissue itself, in that it resulted in variously sized consolidations or pneumonic areas, could justifiably be called pneumonia.<sup>a</sup>

Whatever may be thought of this reasoning, there is no doubt that on account of these misleading certificates the death rates for tuberculosis, as given in the following pages, are distinctly lower than the real facts would show.

In addition to these two inaccuracies in the death rates, which it was impossible to correct, it was found that a strict adherence to the decedent's occupation as given on the death certificate would result in very serious error. Fortunately it was possible to correct this error to a considerable degree. For, while it was felt that at least in this initial study the physician's official statement of the cause of death<sup>b</sup> must be accepted, no matter how seriously its accuracy might be doubted, no such weight was attached to the statement of the decedent's occupation, this being a matter on which the physician's professional training would have no bearing and of which neither he nor the hurried and oftentimes careless undertaker probably had personal knowledge. When, therefore, an informant's statement as to the occupation of a given decedent differed from that in the death certificate, the former was taken as authoritative.

The errors of the death certificates as to occupation were both of omission and commission; persons who were really cotton-mill operatives were not so recorded, and others were put down as operatives who had either never worked in a cotton mill or who had not done so for more than two years preceding death.<sup>c</sup> The former error was the more common among female and the latter among male decedents.

<sup>&</sup>lt;sup>a</sup> A like disingenuousness was encountered in a State medical official's certificate, in which hemorrhage was assigned as the sole cause of death of an individual whose throat upon investigation was found to have been cut from ear to ear.

<sup>&</sup>lt;sup>b</sup> Except as to deaths from childbirth in which only questions of fact were involved.

<sup>&</sup>lt;sup>c</sup> A considerable part of this error is due to the vague use of the term "operative," which is frequently employed on death certificates with nothing to show whether the person concerned worked in cotton or woolen mills, in dye works, bleacheries or printeries, or in shoe, cigar, or hat factories.

The extent of these errors was accurately determined in Fall River for the whole three-year period, while in the other two cities it was determined for tuberculous decedents for the three-year period and for nontuberculous decedents only for the one-year period. The Fall River figures, therefore, show most conclusively the seriousness of the misapprehension which would be caused by using the official certificates without further investigation.

In Fall River, both for the one-year and for the three-year period, more than one-half (51 per cent) of the female decedents who were found to have been cotton-mill operatives were not so recorded. On the other hand, one-seventh of the group recorded as operatives in the three-year period were found on investigation not to have been cotton-mill operatives.

Among the male decedents of Fall River, for the three-year period, 28 per cent of those who were finally classed as cotton operatives were recorded on the death certificate as following some other occupation, while one-third of those recorded as operatives could not properly be included among cotton workers.

The effect of these errors differed with the sexes, the errors of commission being larger among the males, while those of omission predominated among the females. Thus the recorded number of male operative decedents in Fall River for the three-year period was 309. Of these 103 were found not to have been cotton operatives, while 81 who on their death certificates were assigned to other occupations had really been cotton operatives. The real number of male operative decedents, therefore, was 309-103+81, or 287; in other words, the group as recorded was larger by 22 than the facts justified.

The recorded number of female operative decedents in Fall River, on the other hand, for the three-year period was 171. Of these oneseventh, or 24, were found not to have been cotton operatives, while 152 who were recorded as having other or no occupations were really cotton operatives. The corrected number of female operative decedents, therefore, was 171-24+152, or 299—that is, the group as recorded was too small by 128.

At the present time, therefore, even in the registration States, which are reputed to gather their vital statistics most carefully, the official death records fail to indicate even approximately how many woman cotton operatives die each year, although cotton manufacturing is the foremost industry of the chief of these States and half the workers in it are women.

That knowledge of the true mortality statistics of an occupation is an absolute prerequisite to an intelligent formulation of adequate remedial measures seems perfectly obvious. Whether such measures are taken from individual initiative or from legislative compulsion in either case accurate information is indispensable, both as to the total and the relative number of operatives who annually die in representative cotton manufacturing cities, together with the actual and the proportionate frequency with which the several causes of death occur in the same typical cotton-mill centers among operatives as contrasted with like aged noncotton workers.

Since the group of male operative decedents was too large only by 22, while the group of female operative decedents was too small by 128, it is evident that the whole number of recorded operative decedents was too small by 106, and that the use of the uncorrected records would have given an operative death rate considerably below the reality.<sup>*a*</sup>

As all decedents 10 years of age or over in Fall River for the full three-year period were investigated, the occupational data have been fully corrected. In Manchester and Pawtucket all decedents 10 years of age or over for one year were investigated, and also all tuberculous decedents and all recorded as operatives for the whole threeyear period. Hence all tuberculous operatives were found and, if not already recorded as operatives, were added to that group. Also all those incorrectly recorded as operatives were discovered and excluded from the operative group. But those nontuberculous decedents who were really operatives though not so recorded were not discovered, excepting, of course, those who died during the one year for which full investigation was made. Hence the number of operative decedents in Manchester and Pawtucket for the threeyear period is admittedly too low, and the error affects the figures for the combined three cities for the three-year period.

To summarize: The occupational data for Fall River are correct for both periods and all classes. The occupational data for Manchester and Pawtucket are correct for all classes for the one-year period and for tuberculous decedents for the three-year period also. For nontuberculous decedents, however, the number of operatives is too small, an error which affects all combinations involving the data for three years of either one or both of these cities.

<sup>a</sup> Of the 103 who were incorrectly recorded among the male operative decedents one-fifth belonged to the five-year operative class and one-third to the exoperative class, thus leaving almost one-half who had never worked in cotton mills. Of the 24 female decedents incorrectly recorded as operatives one-half were five-year operatives and one-fourth were exoperatives, leaving only one-fourth who had never been cotton operatives, although they might have worked in other mills.

# SUMMARY FOR NEW ENGLAND CITIES.

The following table shows for the three New England cities the estimated population aged 10 years and over in 1906, and the deaths, by sex and occupation, on which this study is based:

NUMBER OF DECEDENTS, AGED 10 YEARS AND OVER, FROM TUBERCULOUS AND FROM NONTUBERCULOUS CAUSES IN FALL RIVER AND IN THREE NEW ENG-LAND CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), BY SEX AND OCCUPATION.

	Males.		Ferr	ales.	Both sexes.	
	Opera- tives.	Nonoper- atives.	Opera- tives.	Nonoper- atives.	Opera- tives.	Nonoper- atives.
. FALL RIVER.						
Population, 10 years and over, 1906	13,010	27, 325	12, 148	33, 183	25, 158	60, 508
Deaths, 1 year: Tuberculous Nontuberculous	40 78	56 346	47 70	39 409	87 148	95 755
Total	118	402	117	448	235	850
Deaths, 3 years: Tuberculous Nontuberculous	94 193	152 945	112 187	108 1, 163	206 380	260 2,108
Total	287	1,097	299	1,271	586	2,368
THREE NEW ENGLAND CITIES.		-				
Population, 10 years and over, 1906	18, 731	62, 195	19, 717	72, 218	38, 448	134, 413
Deaths, 1 year: Tuberculous Nontuberculous	53 121	127 823	78 101	102 945	131 222	229 1,768
Total	174	950	179	1,047	353	1,997
Deaths, 3 years: Tuberculous Nontuberculous	130 293	355 2,301	189 261	279 2, 795	319 554	634 5,096
Total	423	2,656	450	3,074	873	5, 730

# SUMMARY FOR SOUTHERN CITIES.

In the Southern cities a complete investigation was made concerning all female decedents registered either as tuberculous or as operatives during the three years 1905, 1906, and 1907. Of the male decedents only those of the principal city registered as operatives were similarly studied.

Hence, in the Southern cities studied tuberculous female decedents are the only class for whom complete data was obtained. Among them a certain number, really cotton operatives, though not so registered, were discovered and added to the list of operatives. No search was made for similarly unregistered operatives among those who died from other causes, and hence the number of tuberculous operatives for that section, although accurate, has probably been somewhat disproportionately augmented.

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# 50 CAUSES OF DEATH AMONG COTTON-MILL OPERATIVES.

The number of tuberculous operative decedents is accurate in the South for females, but for nontuberculous operative decedents the number as given in the mortality statistics of the several cities was taken without correction. Therefore, in all probability the general death rate for operatives in the South is considerably too low.

The following table gives the totals involved in the several groups of Southern decedents, classified as to sex, occupation, and disease:

NUMBER OF DECEDENTS, AGED 10 YEARS AND OVER, FROM TUBERCULOUS AND FROM NONTUBERCULOUS CAUSES IN AUGUSTA AND IN THREE SOUTHERN CITIES (AUGUSTA, ATLANTA, AND RALEIGH), BY SEX, 1905 TO 1907.

	Males.		Fem	ales.	Both sexes.	
	Opera- tives.	Nonoper- atives.	Opera- tives.	Nonoper- atives.	Opera- tives.	Nonoper- atives.
AUGUSTA, GA.						
Deaths, 3 years: Tuberculous Nontuberculous	9 32	142 (a)	23 23	123 (a)	32 55	265 1, 464
Total	41		46		87	1,729
THREE SOUTHERN CITIES.					-	
Deaths, 3 years: Tuberculous. Nontuberculous.	16 41	592 (a)	28 23	612 (a)	44 64	1,204 (a)
Total	57		51		108	

. Not reported.

Owing to the incompleteness of the statistics obtained in the South, this study has been based upon the data for the three New England cities, and no attempt has been made to determine the relative mortality of the different occupation classes or the importance of the different causes of death in the southern cities. Attention is called, however, to the relative prevalence of tuberculosis in the two sections, as shown by the following table:

PER CENT OF DEATHS IN EACH SPECIFIED CLASS DUE TO TUBERCULOSIS, NEW ENGLAND CITIES AND SOUTHERN CITIES COMPARED, 1905 TO 1907.

and the second	Per cent of deaths in each class due to tuberculosis.					
Deaths of-		Augusta, Ga.	3 New England cities.	3 south- ern cities.		
Male operatives	33 37	22 50	31 42	28 55		
Total operative deaths	35	37	37	41		
Male nonoperatives	14 9		(a) (a)			
Total nonoperative deaths	11	15	(a)	(a)		

a Not reported.

As mentioned before, the data concerning male operative deaths in the South are too inaccurate for a valid comparison between the figures for the two regions, but those for the female operatives dying of tuberculosis may safely be used. It appears from the above table that the proportion of tuberculous deaths among female operatives is larger in the southern than in the northern cities studied, exceeding the northern proportion in one case by 35 and in the other by 31 per cent. Consequently, the conclusions reached in the following pages as to the prevalence of tuberculosis among female operatives in the New England cities studied would probably apply with even greater force to female operatives in the South, and in all probability present a situation prevailing very generally among women in the cotton industry throughout the country. The comparison between the figures for the Northern and Southern cities seems to indicate that if. as applied to female operatives in general, the conclusions reached in this study are inaccurate, their error lies in the direction of under rather than of over statement.



# CHAPTER II.

# MORTALITY IN THE AGE GROUP 15 TO 44.



# CHAPTER II.

# MORTALITY IN THE AGE GROUP 15 TO 44.

# REASONS FOR SELECTION OF GROUP.

While this study as a whole deals with causes of death affecting the total population 10 years of age and over, the age group 15 to 44 has been singled out for special consideration. Since it is customary to compare death rates only within periods not exceeding a decade, the selection of so long a period first demands explanation. This is found in the fact that the death rates of the different classes to be considered show in general the same relation for any five or ten year period within the thirty years that they show for the period as a whole. This is true whether the comparison is between the rates for operatives and nonoperatives of the same sex or between the rates for males and females within the same occupation group. This point will be discussed more fully hereafter. It is mentioned here only to prevent possible misunderstanding.

Three principal reasons led to the selection of this group for special study: First, the massing of cotton operatives within its limits renders its selection desirable in order that the comparisons between operatives and nonoperatives may be valid; second, this is the period in which tuberculosis is most fatally active, and since tuberculosis is the most important cause of death among female operatives, it is evident that this age group is especially suitable for detailed study in an investigation into the causes of death among female operatives; and third, the freedom of the group from the complications of either infancy or age renders it possible to trace the effect of a specified cause upon death rates far more easily than can be done in the higher age groups, in which the influence of advancing years seriously affects the mortality. Each of these reasons deserves some consideration.

First, as to the massing of the cotton operatives within this age group, the following table shows how largely they are included within its limits:

PERCENTAGE DISTRIBUTION, BY AGE PERIODS, OF OPERATIVE AND NONOPERA-TIVE POPULATION OF EACH SEX 10 YEARS OF AGE AND OVER, 1906.

	Ма	les.	Females.	
Age group.		Nonop- erative.	Opera- tive.	Nonop- erative.
Fall River:   10 to 14 years.   15 to 44 years.   45 years and over.	2.2 79.9 17.9	18.2 58.0 23.8	1.9 91.0 7.1	15.6 56.1 28.3
Total	100.0	100.0	100.0	100.0
8 cities: 10 to 14 years	1.8 79.7 18.5	15.8 60.3 23.9	1.5 90.1 8.4	13.7 58.9 27.4
1. U bal	100.0	100.0	100.0	100.0

Evidently the age distribution of the operatives differs so widely from that of the nonoperatives that no valid comparison can be drawn between their death rates unless allowance is made for this divergence. Take, for instance, the female population of Fall River. Only 7.1 per cent of the operatives are over 44, while 28.3 per cent of the nonoperatives are above this age. But above 44 the death rates increase rapidly owing to the effect of advancing years. If, therefore, the death rate of female operatives be compared with the death rate of female nonoperatives, the real relation will be obscured by the higher death hazard among the older groups of nonoperatives. The same situation prevails among the male operatives.

Within the age group 15 to 44, on the other hand, comparisons between the two classes may be made with safety, since the group includes a sufficient proportion of both the operatives and the nonoperatives to be representative of the two classes, and neither is affected by the high mortality of the upper age groups.

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The second reason for the selection of this group, i. e., the special activity of tuberculosis within its limits, needs little discussion. Of the whole number of deaths from tuberculosis among the total population aged 10 years and over, the following percentages occurred within the age group 15 to 44:

PER CENT OF DEATHS FROM TUBERCULOSIS IN AGE PERIOD 15 TO 44 YEARS OF TOTAL DEATHS FROM TUBERCULOSIS IN TOTAL POPULATION 10 YEARS OF AGE AND OVER.

	Males.	Females.	Both sexes.
Fall River, 3 years	73	79	76
	74	83	78

Among the cotton operatives the proportionate prevalence of tuberculosis is even more marked. Of the total tuberculous deaths among cotton operatives aged 10 years and over, the following percentages occurred within the age group 15 to 44:

PER CENT OF DEATHS FROM TUBERCULOSIS AMONG COTTON OPERATIVES IN AGE GROUP 15 TO 44 YEARS OF TOTAL DEATHS FROM TUBERCULOSIS AMONG COTTON OPERATIVES 10 YEARS OF AGE AND OVER.

	Males.	Females.	Both sexes.
Fall River, 3 years	88	94	91
3 citles, 1 year	84	94	90

It is evident that a study of tuberculosis, especially among females and operatives, may properly be based, in the main, on the data for this age group.

The third reason for selecting this group is its freedom from the disturbing influences of infancy and age, as a consequence of which the death rates reflect the effect of a given cause, such as occupation, more clearly than when they are complicated by the factor of advancing years.<sup>a</sup>

<sup>a</sup> The five years from 10 to 14, which are equally free from this complication, were not included because in the cities studied the number of operatives under 14 was practically negligible.

The comparative freedom of this group from the mortality due to age is clearly shown in the following table:

DEATH RATES AND PER CENT OF TOTAL POPULATION AND OF TOTAL DEATHS IN EACH 10-YEAR AGE GROUP, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET).

	Deaths	Per cent of—	
Age group and locality.	of 1906 popula- tion.	Popula- tion (1906).	Total deaths.
Under 10:			
Fall River	48.22 46.25	$\frac{22}{21}$	53 47
10 to 14:	0.10	10	
3 cities	2.12 2.70	10 9	1
15 to 24: Fall Direct	4.09	20	
3 cities.	4.08	20	5
25 to 34: Fall River	6 70	17	6
3 cities.	8.02	17	7
35 to 44: Fall River	8,61	14	6
3 cities.	9.35	14	ž
45 to 54: Fall River	14.80	9	7
3 cities.	15.88	9	7
55 to 64: Fall River	35.19	5	10
3 cities	36.68	6	10
Fall River	74.25	3	13
3 cities	91.28	4	16
Total, all ages:	10.05		
Fall River	19.95 20.65	100	100
Matal 10 works and even			
Fall River.	11.49	78	47
3 cities	13.59	79	53
Total 15 to 44:			
Fall River	6.18 7.21	51 51	16 19
		51	

It may assist in impressing upon the mind these age-group differences in the death hazard to notice that up to middle life—44—the death rate, beginning in the youngest industrial age group, 10 to 14, at approximately 2 per 1,000, increases in each 10-year age group approximately by 2; and that thereafter, from 45 years onward, each 10-year group has roughly double the death rate of the preceding one. That is, the sudden rise in the death rate presumably attributable to advancing years does not affect this period, and the highest rate for any one of these three decades is low as compared with the rate for any two decades within this period are relatively small as compared with the difference between the rates for any decade within the period and any decade without it, so that for the period as a whole the death rate may be regarded as both relatively low and relatively uniform. Some additional reasons were of weight in the selection of this particular group. One of the factors which must be considered in order to account adequately for the mortality within an industry is the nationality or race of its workers. At present, however, there are no data available showing the age distribution of the population by race, but only figures showing how the entire population of all ages is divided racially. Therefore, in computing the death rates of the several races or peoples by age groups, it has been tentatively assumed that the proportional race distribution of the total male and the total female population within any specified age group is identical with that which the census shows exists in the race distribution of the aggregate male and the aggregate female population of all ages. In other words, it has been assumed, for instance, that the English, aged 10 to 14, form the same proportion of the whole 10 to 14 age group that the English of all ages form of the population of all ages.

This assumption undoubtedly involves some error. Among the long-established immigrant races, such as the English and Irish, the error is probably slight. They have been here long enough to have both children and old people in fair proportion among their numbers. But for the French, Portuguese, and newer immigrants generally a different condition prevails. The old and the young alike are apt to stay at home, and the immigrants are largely young adults, i.e., somewhere within the age group 15 to 44. For the newer immigrants, therefore, the racial death rates can probably be more accurately computed, by age, within this group which contains neither the very young nor the old, than they could be if this assumption were applied throughout the whole population of all ages. For the longer established races, on the other hand, it is evident that the nearer a specified age group approaches in size the total population, the smaller will be the degree of error from this assumption. Therefore, the selection of the group 15 to 44, which includes over half of the total population, will probably give the minimum of error in race death rates.

Again, this particular group not only furnishes the great majority of deaths from tuberculosis, but a majority of all deaths among cotton operatives occur within its limits. Of deaths from all causes among operatives aged 10 years and over, the following proportions occurred within the age group 15 to 44 years:

PER CENT OF DEATHS FROM ALL CAUSES AMONG COTTON OPERATIVES, IN AGE GROUP 15 TO 44 YEARS, OF TOTAL FROM ALL CAUSES AMONG COTTON OPERATIVES 10 YEARS OF AGE AND OVER.

and the state of t	Males.	Females.	Both sexes.
Fall River, 3 years.	62		73
Three cities, 1 year.	60		71

Although these percentages are not so large as those for tuberculous deaths they are quite sufficient to establish the fact that this age period is fairly representative of the aggregate operative deaths.

And, finally, the size of the numbers necessarily involved in the vital statistics of an age group covering 30 years adds conclusiveness to the results obtained. When the mortality data of one city and of three cities for one year and for three years all present certain features, this quadruple accord furnishes a strong presumption that these are really basic facts, even though the groups from which in each case the data have been drawn might be small. But when the same accord appears in data based upon groups including over half the population, the inference as to the basic character of the facts thus disclosed becomes irresistibly strong.

The characteristics of the age group 15 to 44, which determined its selection for detailed description, may be thus summarized:

1. It includes more than four-fifths of the operative population and can, therefore, be more fairly used than any other age group for comparisons between operative and nonoperative mortality.

2. Nearly three-fourths of the entire operative deaths, more than three-fourths of the entire fatal tuberculosis among persons aged 10 years and over, and fully nine-tenths of the whole number of operative deaths from tuberculosis occur within its limits. Therefore, it is especially suitable for intensive study in an investigation of causes of death among cotton operatives.

3. It is a composite of smaller groups so resembling each other in hazard to life that it may legitimately be looked upon as a single age group with a comparatively low death rate throughout. Hence, comparisons may fairly be made within its limits which would not be possible within a group including such diversities in death rates as appear, for instance, between those for persons aged 25 to 34 and those for persons aged 55 to 64.

4. It is probable that the application to this age group of the census percentages of the race distribution of the entire population gives a smaller error in the estimated racial death rates than would be the case with any other age group.

5. Finally, in the number of individuals involved, this group, including more than half of the total population, possesses decided advantages over other age groups for statistical analysis.

# MORTALITY WITHIN THE COMPONENT FIVE-YEAR AGE GROUPS OF AGE PERIOD 15 TO 44.<sup>a</sup>

As has already been said, the variations in the death rates for the five-year age groups within this thirty-year period are relatively small as compared with the differences between death rates for any five or ten year age group within the period, or for the period itself as a whole, and for any of the higher age groups including an equal number of years. Nevertheless, if the comparison be confined to the death rates of these component five-year age groups, without reference to rates prevailing outside of the period, considerable differences appear. Moreover, the massing by sex and occupation differs from group to group, the relative importance of tuberculous and nontuberculous causes of death varies, and in the subdivisions by sex and occupation the death rates, especially from tuberculosis, instead of increasing steadily from beginning to end of the period, show a tendency to fluctuate. In discussing the mortality of the group as a whole, it is necessary to bear in mind these variations, and consequently it seems advisable to preface the consideration of conditions in the age group 15 to 44 by a brief statement of conditions in each of its component five-year age groups.

It may be well to premise that the conditions prevailing in these separate groups rarely differ from those in the whole thirty-year period in such a way as to affect seriously the relative death rates of the several classes. Any exception to this general statement will be noted.

# MORTALITY IN AGE GROUP 15 TO 19.

The per cent of the total population and of total deaths in the age group 15 to 19 which are in each sex and occupation class, and the death rates per 1,000 population in each sex and occupation class, are shown in the following table. The deaths and the death rates are given separately for tuberculous and nontuberculous decedents.

PERCENTAGE DISTRIBUTION OF POPULATION AND OF DEATHS AND DEATH RATES PER 1,000 POPULATION FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, BY SEX AND OCCUPATION GROUPS, AGE GROUP 15 TO 19, FALL RIVER, 1905 TO 1907.

	Percentage distribution of population and of deaths.						
Cause of death.	Males.				Number		
	Oper- atives.	Nonoper- atives.	Both classes.	Oper- atives.	Nonoper- atives.	Both classes.	lation and of deaths.
Population	20	28	48	26	26	52	11, 552
Deaths: Tuberculous Nontuberculous	22 27	18 20	40 47	40 32	20 21	- 60 53	50 76
Total	25	19	44	35.	21	56	126
	Death rate per 1,000 population.						
Tuberculous	1.60 3.04	0.93 1.55	1.21 2.17	2. 23 2. 68	1.10 1.75	1.66 2.21	
All causes	4.84	2.48	2 38	4 01	2.85	3 87	

[For importance of this age group compared with total males and females, see p. 69.]

MORTALITY BY SEX.—Females outnumber the males slightly, forming 52 per cent of the total group. They furnish a larger proportion of the total deaths than their numerical excess warrants, 56 per cent of the deaths within the group having occurred among the females. An examination of the table shows that the female death rate in each occupation group and from each group of causes was higher than that of the males in the corresponding group, with the single exception of the rate from nontuberculous causes among operatives, in which the males lead. In this case the hazard of the males exceeded that of the females by 13 per cent. In the other groups the excess of female hazard varies from 6 per cent to 39 per cent.<sup>a</sup>

MORTALITY BY OCCUPATION.—Although the cotton operatives form but 46 per cent of this age group, they furnish 60 per cent of the total deaths. This greater hazard of the operatives appears in varying degrees among males and females from both tuberculous and nontuberculous causes of death. This is the only age group in which the death hazard of males from nontuberculous causes is greater among operatives than among nonoperatives.

MORTALITY BY CAUSE OF DEATH.—Tuberculosis was responsible for two-fifths of the deaths in this age group (50 out of 126). About one-third of the entire mortality of males, operatives and nonoperatives alike, is chargeable to tuberculosis, while of the whole death hazard of the females this disease is responsible for a trifle over twofifths—43 per cent.

# MORTALITY IN AGE GROUP 20 TO 24.

The per cent of the total population and of total deaths in the age group 20 to 24 which are in each sex and occupation class, and the death rates per 1,000 population in each sex and occupation class are shown in the following table. The deaths and the death rate are given separately for tuberculous and nontuberculous decedents.

a For details see Tables 9 to 16.
PERCENTAGE DISTRIBUTION OF POPULATION AND OF DEATHS AND DEATH RATES PER 1,000 POPULATION FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, BY SEX AND OCCUPATION GROUPS, AGE GROUP 20 TO 24, FALL RIVER, 1905 TO 1907.

	Percentage distribution of population and of deaths.									
Cause of death.		Males.	-		Females.					
	Oper- atives.	Nonoper- atives.	Both classes.	Oper- atives.	Nonoper- atives.	Both classes.	lation and of deaths.			
Population	19	25	44	28	28	56	10,778			
Deaths: Tuberculous Nontuberculous	27 18	19 27	46 45	39 33	15 22	54 55	59 88			
Total	22	24	46	35	19	54	147			
			Death rate	per 1,000 j	population.					
Tuberculous Nontuberculous	2. 61 2. 61	1. 39 3. 02	1.92 2.84	2. 51 3. 17	0. 99 2. 08	1.75 2.63				
All causes	5. 22	4. 41	4.76	5.68	3.07	4.38	•••••			

[For importance of this age group compared with total males and females, see p. 69.]

MORTALITY BY SEX.—The above table shows that while females constitute an even larger proportion—56 per cent—of this group than of the preceding, they do not furnish quite their proportionate number of deaths, only 54 per cent of the total deaths coming from their number. In other words, in this group as a whole the death hazard for females is slightly less than that for males, and this holds true also for each of the subgroups, except in the case of nontuberculous deaths among operatives. Here the females show an excess of 21 per cent, an excess sufficient to bring the death rate for the whole group of female operatives slightly above that for male operatives.

MORTALITY BY OCCUPATION.—In general, operatives have a distinctly higher death rate than nonoperatives of the same sex. The only exception to this general relation is found among the males dying of nontuberculous causes, where the nonoperative exceeds the operative hazard by 16 per cent.

MORTALITY BY CAUSE OF DEATH.—As in the preceding group, a trifle over two-fifths of the total mortality was due to tuberculosis. Thirty-nine out of 84 operative, and 20 out of 63 nonoperative deaths were officially assigned to this cause.

## MORTALITY IN AGE GROUP 25 TO 29.

The per cent of the total population and of total deaths in the age group 25 to 29 which are in each sex and occupation class, and the death rates per 1,000 population in each sex and occupation class are shown in the following table. The deaths and the death rates are given separately for tuberculous and nontuberculous decedents. PERCENTAGE DISTRIBUTION OF POPULATION AND OF DEATHS AND DEATH RATES PER 1,000 POPULATION FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, BY SEX AND OCCUPATION GROUPS, AGE GROUP 25 TO 29, FALL RIVER, 1905 TO 1907.

	Percentage distribution of population and of deaths.									
Cause of death.	-	Males.			Number of popu-					
	Oper- atives.	Nonoper- atives.	Both classes.	Oper- atives.	Nonoper- atives.	Both classes.	lation and of deaths.			
Population	17	29	46	19	35	54	10,108			
Deaths: Tuberculous Nontuberculous	12 13	20 28	32 41	40 19	28 40	68 59	65 97			
Total	13	25	38	27	35	62	162			
			Death rate	per 1,000 p	population.					
Tuberculous Nontuberculous	1.57 2.56	1.45 3.02	1.50 2.85	4.53 3.13	1.71 3.69	2.70 3.50				
All causes	4.13	4.47	4.35	7.66	5.40	6.20				

[For importance of this age group compared with total males and females, see p. 69.]

MORTALITY BY SEX.—In this group females still form more than half of the population—54 per cent—but reversing the relation prevailing in the last group they show a considerably higher death rate than is found among the males. This excess appears among operative and nonoperative, tuberculous and nontuberculous decedents alike. This is the only one of the five-year age groups in which female nonoperatives reach the number of deaths corresponding to their population quota, and it is also the only group in which, as respects deaths even from nontuberculous causes, female operatives fail to exceed their population quota. (There is not even one exception to the general statement that they furnish a disproportionate number of the tuberculous deaths.) On the other hand, the males as a whole and in each subgroup furnish a smaller proportion of the total deaths than of the total population.

MORTALITY BY OCCUPATION.—Operatives show a greater liability to death from tuberculous causes than do nonoperatives. This extra hazard is especially marked among female operatives whose death rate from tuberculous causes exceeds that of the nonoperatives by 164 per cent. This excess is so large that it entirely outweighs the nonoperative excess in the death rate from nontuberculous causes, leaving the operative death rate from all causes among females 42 per cent higher than the nonoperative. Among males the operatives as a whole have a slightly lower death rate than nonoperatives, although the operatives show a slight excess (8 per cent) in the death rate from tuberculous causes. MORTALITY BY CAUSE OF DEATH.—This is the only age group in which more than one-half (52 per cent) of all operative deaths were officially attributed to tuberculosis. Among the female operatives practically three-fifths (59 per cent) of the total deaths were from this cause, a larger proportion than is found in any other of the fiveyear age groups under consideration. Among males without regard to occupation approximately one death in every three, and among females approximately two deaths in five were due to tuberculous causes.

## MORTALITY IN AGE GROUP 30 TO 34.

The per cent of the total population and of total deaths in the age group 30 to 34, which are in each sex and occupation class, and the death rates per 1,000 population in each sex and occupation class are shown in the following table. The deaths and the death rates are given separately for tuberculous and nontuberculous decedents.

PERCENTAGE DISTRIBUTION OF POPULATION AND OF DEATHS AND DEATH RATES PER 1,000 POPULATION FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES. BY SEX AND OCCUPATION GROUPS, AGE GROUP 30 TO 34. FALL RIVER, 1905 TO 1907.

States in	Percentage distribution of population and of deaths.											
Cause of death.		Males.	1.000	0.02	Number of popu-							
	Oper- atives.	Nonoper- atives.	Both classes.	Oper- atives.	Nonoper- atives.	Both classes.	lation and of deaths.					
Population	18	30	48	15	37	52	8,802					
Deaths: Tuberculous Nontuberculous	24 15	30 31	54 46	22 19	24 35	46 54	89 134					
Total	18	31	49	21	30	51	223					
		Death rate per 1,000 population.										
Tuberculous	4.46 4.24	3.36 5.10	3.77 4.78	4.91 6.39	2.19 4.90	3.00 5.35						
All causes	8.70	8.46	8.55	11.30	7.09	8.35						

[For importance of this age group compared with total males and females, see p. 69.]

MORTALITY BY SEX.—Although in the general population females still outnumber males, in this group for the first time they form less than half of the operative population. Both sexes furnish nearly the same proportion of the total deaths as of the total population, but the male death rate is slightly higher than the female. This male excess occurs wholly among the nonoperatives, as among operatives the female death rate is the higher.

MORTALITY BY OCCUPATION.—The operatives of each sex had a higher death rate than the nonoperatives, the only subdivision in

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which this general relation was reversed being that of the males dying from nontuberculous causes. The excess of operative hazard is particularly marked among temales, where the operative death rate is from tuberculous causes 124 per cent and from nontuberculous causes 30 per cent greater than the nonoperative rate.

MORTALITY BY CAUSE OF DEATH.—For both males and females the death rate from tuberculosis is higher in this group than in any other within the thirty-year period under consideration. Among the operatives as a whole, only the immediately preceding group shows a larger proportion of the total deaths due to tuberculosis, while no other group shows as high a tuberculous death rate among female nonoperatives.

In fact, at no other age were persons, except male nonoperatives, in Fall River in 1905, 1906, and 1907 so liable to die from tuberculosis as in this age group. For males the next most (and for nonoperative males the most) hazardous period as regards tuberculosis is the succeeding age group 35 to 39, whereas for females it is the preceding age group, 25 to 29.

## MORTALITY IN AGE GROUP 35 TO 39.

The per cent of the total population and of total deaths in the age group 35 to 39 which are in each sex and occupation class and the death rates per 1,000 population in each sex and occupation class are shown in the following table. The deaths and the death rates are given separately for tuberculous and nontuberculous decedents.

PERCENTAGE DISTRIBUTION OF POPULATION AND OF DEATHS AND DEATH RATES PER 1,000 POPULATION FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, BY SEX AND OCCUPATION GROUPS, AGE GROUP 35 TO 39, FALL RIVER, 1905 TO 1907.

	Percentage distribution of population and of deaths.									
Cause of death.		Males.			Number of popu-					
	Oper- atives.	Nonoper- atives.	Both classes.	Oper- atives.	Nonoper- atives.	Both classes.	lation and of deaths,			
Population	20	29	49	13	38	51	7, 898			
Deaths: Tuberculous Nontuberculous	22 9	45 40	67 49	19 18	14 33	33 51	63 134			
Total	13	42	55	18	27	45	197			
the second second second	Death rate per 1,000 population.									
Tuberculous	3.05 2.62	3.99 7.70	3.62 5.69	3. 86 7. 71	1.00 4.90	1.74 5.62				
All causes	5.67	11.69	9.31	11.57	5.90	7.36				

[For importance of this age group compared with total males and females, see p. 69.]

MORTALITY BY SEX.—In this group the females furnish a decidedly smaller proportion of the deaths (45 per cent) than of the population (51 per cent). This is due entirely to the group of nonoperative females whose death rate and proportionate number of deaths from tuberculous causes are both strikingly small. Males show a much higher death rate from tuberculosis than females, and exceed the latter very slightly in death rate from nontuberculous causes. The male death rate from all causes combined reaches its maximum in this group, while the female rate shows a falling off from the figures reached in the five years preceding.

MORTALITY BY OCCUPATION.—This is the only group in which operatives furnish a smaller proportion (31 per cent) of the total deaths than of the total population, their representation in the latter being 33 per cent. The deficiency is found only in the group of male operatives dying of nontuberculous causes. Here the deaths are relatively so few while the deaths from the same causes among male nonoperatives are relatively so numerous as to make it seem not improbable that in spite of the investigator's efforts several nontuberculous decedents who were really operatives escaped identification as such, and are here set down as nonoperatives. Among females, however, the operative death rates show as usual an excess over those of nonoperatives.

MORTALITY BY CAUSE OF DEATH.—The number of deaths from tuberculosis is less than in either of the two groups immediately preceding, but is still larger than in the earlier groups. Deaths from other causes, however, are becoming so much more numerous than at the earlier ages that the proportion of deaths from tuberculosis (46 per cent) is smaller than in any preceding group. Here for the first and only time the male death rate from tuberculosis is larger among nonoperatives than among operatives. Excepting only the group of male operatives, nontuberculous causes show the higher death rate in all the subdivisions of this age period.

## MORTALITY IN AGE GROUP 40 TO 44.

The per cent of the total population and of total deaths in the age group 40 to 44 which are in each sex and occupation class and the death rates per 1,000 population in each sex and occupation class are shown in the following table. The deaths and the death rates are given separately for tuberculous and nontuberculous decedents. PERCENTAGE DISTRIBUTION OF POPULATION AND OF DEATHS AND DEATH RATES PER 1,000 POPULATION FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, BY SEX AND OCCUPATION GROUPS, AGE GROUP 40 TO 44, FALL RIVER, 1905 TO 1907.

[For importance of this age group comp	ared with total males and females, see p. 69.]
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in the second	Percentage distribution of population and of deaths.									
Cause of death.	Males. Females.									
1.0	Oper- atives.	Nonoper- atives.	Both classes.	Oper- atives.	Nonoper- atives.	Both classes.	lation and of deaths.			
Population	19	29	48	10	42	52	6,773			
Deaths: Tuberculous Nontuberculous	43 10	32 32	75 42	18 17	7 41	25 58	28 154			
Total	15	32	47	17	36	53	182			
		]	Death rate	per 1,000 j	population.					
Tuberculous Nontuberculous	3.20 4.00	1.52 8.47	2. 18 6. 73	2.35 12.22	0. 23 7. 38	0.66 8.34				
All causes	7.20	9.99	8.91	14.57	7.61	9.00	•••••			

MORTALITY BY SEX.—In this group females furnish a slightly larger proportion of the deaths than of the population, the undue proportion of deaths being found only among the operatives. The female death rate is higher here than in any preceding group, a fact which is due to the diminished female population at this age, since the number of female deaths—96—is exceeded both in the age group 25 to 29 and 30 to 34.

MORTALITY BY OCCUPATION.—The operatives who in this age group form only 29 per cent of the population furnish 32 per cent of the deaths. This excess occurs mainly among the tuberculous deaths, both male and female operatives having from this cause an enormously greater hazard than nonoperatives. Female operatives have higher death rates than nonoperatives from each group of causes, while male operatives fall below nonoperatives in hazard from nontuberculous causes.

MORTALITY BY CAUSE OF DEATH.—In this group there were but 28 deaths from tuberculosis, or less than one-sixth of the total number; that is, both absolutely and relatively, tuberculosis is a less important cause of death in this group than in any preceding five-year period. It is most prevalent among the male operatives, who furnish three-fourths of the total deaths from tuberculosis and whose death rate from this cause exceeds that of female operatives by 36 per cent. Among the female nonoperatives the hazard from tuberculosis becomes almost negligible, the death rate sinking to a lower figure—0.23—than is found in any other subgroup within the 30 years studied. The increase in the deaths from nontuberculous causes, however, brings up the death rate for females from all causes combined to 9, a higher figure than is shown in any preceding five-year period. Among males, however, the hazard from all causes is slightly less than in the age group 35 to 39.

## SUMMARY.

In order to present a comprehensive view of the variations within the 30-year period which have just been discussed, and in order also to show the relation between those in this group and in the whole population aged 10 years and over, several tables have been prepared giving the leading facts in condensed form.<sup>a</sup> The first shows the general distribution of the population and of the deaths, together with a comparison of the death rates for operatives and nonoperatives in each five-year age group.

#### NUMBER AND PER CENT OF OPERATIVES AND OF NONOPERATIVES, AND PER CENT OF TOTAL DEATHS OF MALES AND OF FEMALES IN EACH 5-YEAR GROUP, AND DEATH RATES PER 1,000 OF OPERATIVES AND NONOPERATIVES, FALL RIVER, 1905 TO 1907.

and the second		Popul	ation.		Per c total c	ent of leaths.	Death rates per 1,000.		
Age group.	Number. Per cer total			ent of cal.	0	° Non-	0	Non-	Per cent of excess of oper-
	Oper- atives.	Non- oper- atives.	Oper- atives.	Non- oper- atives.	atives.	oper- atives.	atives.	oper- atives.	atives over non- oper- atives.
MALES.									
10 to 14 years	291	4,985	2.2	18.2	1.0	3.0	3.44	2.21	56
15 to 19 years	$\begin{array}{r} 2,300\\ 2,042\\ 1,696\\ 1,571\\ 1,529\\ 1,250\end{array}$	3,227 2,647 2,980 2,679 2,339 1,968	17.7 15.7 13.0 12.1 11.7 9.6	11.8 9.7 10.9 9.8 8.6 7.2	11.1 11.1 7.4 14.3 9.1 9.4	2.2 3.2 3.6 6.2 7.5 5.4	4.64 5.22 4.13 8.70 5.67 7.20	2.48 4.41 4.47 8.46 11.69 9.99	$     \begin{array}{r}             87 \\             18 \\             - 8 \\             3 \\             -52 \\             -28 \\         \end{array}     $
Total, 15 to 44 years 45 to 54 years 55 to 64 years 65 years and over	10, 388 1, 619 574 138	15,840 2,940 2,092 1,468	79.9 12.4 4.4 1.1	58.0 10.7 7.7 5.4	62.4 15.0 14.6 7.0	$28.1 \\ 15.5 \\ 21.8 \\ 31.6$	5.74 8.85 24.39 48.31	6.48 19.27 38.08 78.79	-11 -54 -36 -39
Total, 10 years and over	13,010	27,325	100.0	100.0	100.0	100.0	7.35	13.38	-45
FEMALES.	The A								
10 to 14 years	232	5,161	1.9	15.6	.3	2.4	1.44	2.00	-28
15 to 19 years	2,9873,0521,9141,3571,037709	3,038 3,037 3,518 3,195 2,993 2,846	$\begin{array}{r} 24.6\\ 25.1\\ 15.8\\ 11.2\\ 8.5\\ 5.8\end{array}$	9.1 9.1 10.6 9.7 9.0 8.6	14.7 17.4 14.7 15.4 12.0 10.4	2.0 2.2 4.5 5.4 4.2 5.1	$\begin{array}{r} 4.91 \\ 5.68 \\ 7.66 \\ 11.30 \\ 11.57 \\ 14.57 \end{array}$	2.85 3.07 5.40 7.09 5.90 7.61	72 85 42 59 96 92
Totai, 15 to 44 years . 45 to 54 years . 55 to 64 years . 65 years and over .	$11,056 \\ 682 \\ 161 \\ 17$	18,627 4,464 2,904 2,027	91.0 5.6 1.3 .2	$56.1 \\ 13.5 \\ 8.7 \\ 6.1$	84.6 10.0 4.4 .7	23. 4 14. 8 24. 5 34. 9	$7.63 \\ 14.66 \\ 26.92 \\ 39.22$	5.31 14.04 35.70 73.01	44 4 -25 -46
Total, 10 years and over	12, 148	33, 183	100.0	100.0	100.0	100.0	8.20	12.77	-36

a See also Tables 36-40.

This table brings out very clearly the massing of the female operatives in the earlier age groups, where the death rates are normally low. Practically 50 per cent of the female operatives are found in the two groups aged 15 to 19 and 20 to 24 years, while only 18.2 per cent of the female nonoperatives are found in these age groups. This relative youthfulness of the operatives greatly increases the impressiveness of their high death rate. Of the female operative deaths 32.1 per cent occur between 15 and 25, during which period only 4.2 per cent of the female nonoperative deaths occur.

Comparing the death rates per 1,000 of operatives and nonoperatives, it will be seen that the greatest excess among the males, 37.1 per cent, is in the 15 to 19 year group. The importance of this group is indicated by the fact that it contains over one-sixth of all the male operatives. In the almost equally important group, 20 to 24 years, the excess is only 18.4 per cent, while in the other groups—except 10 to 14 years, which is not important for operatives or is not important.

Comparing the death rates per 1,000 of female operatives and nonoperatives, the greatest excess, 96.1 per cent, appears in the 35 to 39 year group, which contains approximately one-twelfth of all the female operatives. In the age group 40 to 44 the excess in the operative rate is 91.5 per cent, but the group is numerically less important, constituting only 5.8 per cent of all female operatives. In the most important age group, 20 to 24, which contains 25.1 per cent of all female operatives, the excess in the operative death rate is 85 per cent, and in the next most important group, 15 to 19 years, containing 24.6 per cent of the female operatives, the excess is 72.3 per cent.

The exceedingly large excess in the death rates of operatives over nonoperatives among the young workers (15 to 19 years) must be considered especially significant, for these groups contain large numbers, and represent a comparison of boys and girls who have been employed an average of two or three years with boys and girls of equal age, probably the greater part of whom had not been employed as wage earners.

Among male operatives the massing in the lower age groups is by no means so pronounced as among female operatives. One-third of the male operatives, however, as against about one-fifth of the nonoperatives, are found between 15 and 25, and 22.2 per cent of the operative deaths, as compared with 5.4 per cent of the nonoperative, occur between these ages.

## RELATIVE MORTALITY OF OPERATIVES AND NONOPERATIVES FROM TUBERCULOSIS.

The varying importance of tuberculosis as a cause of death among males and females, operatives and nonoperatives, and in the various age groups is readily seen when a comparison is made of the per cent of total deaths due to that cause. Such a comparison is made in the following table, the five-year age groups being used as in the table which has preceded.

TOTAL DEATHS FROM ALL CAUSES, AND NUMBER AND PER CENT OF DEATHS DUE TO TUBERCULOSIS FOR OPERATIVES AND NONOPERATIVES, BY SEX AND AGE GROUPS, FALL RIVER, 1905 TO 1907.

		Operativ	ves.		Nonopera	tives.		
Age group.	Total deaths,	Deaths fro	om tuberculosis.	Total deaths,	Deaths from tuberculosis.			
	all causes.	Number.	Per cent.	all causes.	Number.	Per cent.		
MALES. 10 to 14 years	3			33				
15 to 19 years	32 32 21 41 26 27	$     \begin{array}{r}             11 \\             16 \\           $	$\begin{array}{c} 34.4\\ 50.0\\ 38.1\\ 46.8\\ 51.2\\ 46.8\\ 53.8\\ 44.4\\ 49.1\\ \end{array}$	$ \left\{ \begin{array}{c} 24 \\ 35 \\ 40 \\ 68 \\ 82 \\ 59 \end{array} \right. $	9 11 13 27 28 9	37.5}33.9 31.4}33.9 32.5}37.0 34.2}26.2 15.3}26.2		
Total, 15 to 44 years 45 to 54 years 55 to 64 years 65 year, and over	179 43 42 20	82 7 5	45.8 16.3 11.9	308 170 239 347	97 28 15 12	31.5 16.5 6.2 3.5		
Total, 10 years and over. FEMALES.	287	94	32.8	1,097	152	13.9		
15 to 19 years. 20 to 24 years. 25 to 29 years. 30 to 34 years. 25 to 39 years. 35 to 39 years. 40 to 44 years.	44 52 44 46 36 31	20 23 26 20 12 5	$\begin{array}{c} 45.5\\ 44.2\\ 59.1\\ 43.5\\ 51.1\\ 33.3\\ 16.1\\ 25.4\end{array}$	$ \begin{array}{c}             31 \\             26 \\             28 \\             57 \\             68 \\             53 \\             65         \end{array} $	10 9 18 21 9 2	38.5 32.1/35.2 31.6/31.2 30.9/31.2 17.0/ 3.1/ 9.3		
Total, 15 to 44 years 45 to 54 years 55 to 64 years 65 years and over	253 30 13 2	106 6	41.9 20.0	297 188 311 444	69 17 10 4	23. 2 9. 0 3. 2 . 9		
Total, 10 years and over.	299	112	37.5	1, 271	108	8.5		

The foregoing table shows not only the greater importance of tuberculosis among operatives, but the relative diminution in its importance as a cause of death in the higher age groups where other causes are increasingly destructive. Both male and female operatives show a greater relative mortality from tuberculosis than nonoperatives, but the difference is much greater among females than among males. Among female nonoperatives it will be noted that the highest proportions of tuberculous deaths are found in the age groups 15 to 19 and 20 to 24, although such deaths are fewer than in the next two groups, the reason being, of course, that other deaths are numerous at these early ages. Among the female operatives of the same ages, deaths from other causes are much more numerous, and consequently, though the tuberculous deaths are twice or more than twice as numerous as among nonoperatives, the percentage they form of the total deaths is by no means proportionately greater.

## 72 CAUSES OF DEATH AMONG COTTON-MILL OPERATIVES.

## DEATH RATES, BY SEX AND OCCUPATION, FROM TUBERCULOUS, NON-TUBERCULOUS, AND ALL CAUSES.

A comparison of the death rate per 1,000 of operatives and of nonoperatives from tuberculosis and from all other causes, according to sex and five-year age groups is shown in the following table. A column which gives the per cent of excess of the operative over the nonoperative death rate assists in making the comparison.

COMPARISON OF DEATH RATES PER 1,000 POPULATION 15 TO 44 YEARS OF OPERA-TIVES AND NONOPERATIVES, BY SEX AND AGE GROUPS, FALL RIVER, 1905 TO 1907.

	т	uberculo	ous.	No	ntubercu	llous.	All causes.		
Age group.	Death rate per 1,000.		Per cent of excess of opera-	Death rate per 1,000.		Per cent of excess of opera-	Death rate per 1,000.		Per cent of excess of opera-
	Opera- tives.	Non- opera- tives.	tive over non- operative death rate.	Opera- tives.	Non- opera- tives.	tive over non- operative death rate.	Opera- tives.	Non- opera- tives.	tive over non- operative death rate.
MALES.	-				-15			-	
15 to 19 years 20 to 24 years 25 to 29 years 30 to 34 years 35 to 39 years 40 to 44 years	1.60 2.61 1.57 4.46 3.05 3.20	0. 93 1. 39 1. 45 3. 36 3. 99 1. 52	72 88 8 33 24 111	$\begin{array}{c} 3.\ 04\\ 2.\ 61\\ 2.\ 56\\ 4.\ 24\\ 2.\ 62\\ 4.\ 00 \end{array}$	1.553.023.025.107.708.47	$96 \\ -14 \\ -15 \\ -17 \\ -66 \\ -53$	4.64 5.22 4.13 8.70 5.67 7.20	2.48 4.41 4.47 8.46 11.69 9.99	87 18 - 8 3 -52 -28
Total, 15 to 44 years.	2.63	2.04	29	3.11	4.44	-30	5.74	6.48	-11
FEMALES. 15 to 19 years 20 to 24 years 25 to 29 years 30 to 34 years 50 to 39 years 40 to 44 years	2. 23 2. 51 4. 53 4. 91 3. 83 2. 35	1.10 .99 1.71 2.19 1.00 .23	103 154 165 124 285 922	2.68 3.17 3.13 6.39 7.71 12.22	1.75 2.08 3.69 4.90 4.90 7.38	53 52 15 30 57 66	4.91 5.68 7.66 11.30 11.57 14.57	2.85 3.07 5.40 7.09 5.90 7.61	72 85 42 59 96 91
Total, 15 to 44 years.	3.20	1. 23	160	4.43	4.08	9	7.63	5.31	44

The above table shows the variations in the death rates for the five-year groups which are hidden when the whole period of thirty years is considered as a unit. This effect is most liable to lead to misinterpretations in the death rates for male operatives and nonoperatives from all causes. In three of the five-year groups the operative exceeds the nonoperative rate, while in the other three the situation is reversed; the rate for the whole period is greater among nonoperatives than among operatives.

But when the causes of deaths are considered among the males, it is seen that the death rate per 1,000 from tuberculosis among operatives exceeds that among the nonoperatives, save in one age group, 35 to 39. The excess was most marked in the age group 40 to 44 and in the younger age groups, 20 to 24 and 15 to 19. Quite the opposite is shown in a comparison of death rates from nontuberculous causes, here, save in one age group, 15 to 19 years, the excess being uniformly on the side of the nonoperatives.

For the female operatives the death rate per 1,000 is in all groups and classes save one (nontuberculous deaths, 25 to 29 years) largely in excess of that for female nonoperatives. The rates, however, from tuberculosis show an extraordinary excess. Thus, in the important age groups, 15 to 19, 20 to 24, and 25 to 29, the excess in the tuberculous rate for female operatives is respectively, 102.7, 153.5, and 164.9. The rates from nontuberculous causes are in the most important age groups, 15 to 19 and 20 to 24, over 50 per cent in excess of those for nonoperatives. In considering the period 15 to 44 years as a whole, the massing of operatives in the youngest groups, where death rates would normally be low, must always be borne in mind. Were operatives, and especially female operatives, equally distributed among the age groups, the excess of the operative over the nonoperative death rate among females would be even greater than it is now and the nonoperative excess among males might disappear altogether.

As has already been pointed out, the death rates per 1,000 as usually computed do not furnish a perfectly accurate comparison of the death hazard for two classes of persons when the age group covered is a long one, as in the present group 15 to 44, unless the age distribution in the classes to be compared is precisely or approximately the same. When the age distribution differs considerably, a comparison of rates for the entire group is somewhat inaccurate in that it gives no recognition to the younger age composition of one of the classes. For a perfectly fair comparison, for example, between female operatives and female nonoperatives in the age group 15 to 44, the actual death rates found to prevail in the 5-year age groups in these two occupation classes should be applied to a population distributed in the same manner as to age. The effect of such a comparison may be seen in the following table, where for purposes of illustration such death rates have been applied to the Fall River female operative population 15 to 44 years of age.

COMPARISON OF DEATH RATES PER 1,000 FOR FEMALE OPERATIVES AND NONOPER-ATIVES IN AGE GROUP 15 TO 44 WHEN THE CONSTITUENT 5-YEAR AGE GROUPS ARE SIMILARLY DISTRIBUTED FOR THE TWO OCCUPATION CLASSES.

	Age group.		Average death per popul	e annual rates 1,000 ation.	A verage a tal dea populat tributed age as of fema tives, w rates as ceding of	nnual to- ths in a ion dis- i as to in case le opera- ith death s in pre- columns.	Average death 1;000 group with a tion di as to a case of f eratives	annual rate per in age 15 to 44 popula- stributed age as in emale op- s.	Excess of oper- 4 ative over non- operative (ad- justed) death rate per 1,000.		
		age in popula- tion.	Female opera- tives.	Female non- opera- tives.	Female opera- tives (actual).	Female nonoper- atives (com- puted).	Female opera- tives.	Female nonoper- atives.	Num- ber per 1,000.	Per cent of excess.	
15	to 19 years: Tuberculous Nontuberculous.		$2.23 \\ 2.68$	1.10 1.75	6.67 8.00	3.28 5.23	•				
	All causes	2,987	4.91	2.85	14.67	8.51					
20	to 24 years: Tuberculous Nontuberculous.		$2.51 \\ 3.17$	0.99 2.08	7.66 9.67	$3.02 \\ 6.35$					
	All causes	3,052	5.68	3.07	17.33	9.37				•••••	
2	to 29 years: Tuberculous Nontuberculous.		4.53 3.13	1.71 $3.69$	8.67 6.00	3.28 7.06					
	All causes	1,914	7.66	5.40	14.67	10.34					
30	to 34 years: Tuberculous Nontuberculous.		4.91 6.39	2.19 4.90	6.66 8.67	2.97 6.65					
	All causes	1,357	11.30	7.09	15.33	9.62					
3	to 39 years: Tuberculous Nontuberculous.		3.86 7.71	1.00 4.90	4.00 8.00	1.04 5.08					
	All causes	1,037	11.57	5.90	12.00	6.12					
4(	) to 44 years: Tuberculous Nontuberculous.		$2.35 \\ 12.22$	. 23 7. 38	1.67 8.66	. 17 5. 23		·····			
	All causes	709	14.57	7.61	10.33	5.40					
1	5 to 44 years: Tuberculous Nontuberculous.				35.33 49.00	13.76 35.60	3.20 4.43	$1.25 \\ 3.22$	$1.95 \\ 1.21$	156 38	
	All causes	11,056			84.33	49.36	7.63	4.47	3.16	71	

It will be seen from the foregoing table that when the death rates found to prevail in the 5-year age groups of the nonoperative population are applied to a population distributed as to age in the same manner as in the female operative population, the differences between operative and nonoperative death rates are increased. Thus, in the age group 15 to 44 the tuberculous death rate per 1,000 for female operatives was 1.95 in excess of that of female nonoperatives, the nontuberculous rate was 1.21 in excess, and the rate from all causes was 3.16 in excess, representing an annual excess for the entire female operative population of 35 deaths. The table which follows makes comparisons similar to those on page 72 of the tuberculous and nontuberculous death rates of females in relation to those of males for both the operative and nonoperative classes.

	r	ubercul	ous.	No	ntubercu	ilous.		All cause	es.
Age group.	Males.	Fe- males.	Per cent of excess of female over male death rate.	Males.	Fe- males.	Per cent of excess of female over male death rate.	Males.	Fe- males.	Per cent of excess of female over male death rate.
OPERATIVES.	101			- 01				TTA	11-3
15 to 19 years 20 to 24 years 25 to 29 years 30 to 34 years 35 to 39 years 40 to 44 years	$ \begin{array}{c} 1.60\\ 2.61\\ 1.57\\ 4.46\\ 3.05\\ 3.20 \end{array} $	$\begin{array}{c} 2.23 \\ 2.51 \\ 4.53 \\ 4.91 \\ 3.86 \\ 2.35 \end{array}$	$ \begin{array}{r}     39 \\     -4 \\     188 \\     11 \\     27 \\     -27 \\   \end{array} $	$\begin{array}{r} 3.04\\ 2.61\\ 2.56\\ 4.24\\ 2.62\\ 4.00 \end{array}$	2.68 3.17 3.13 6.39 7.71 12.22	$-12 \\ 21 \\ 22 \\ 51 \\ 194 \\ 206$	4.64 5.22 4.13 8.70 5.67 7.20	4.91 5.68 7.66 11.30 11.57 14.57	6 9 86 30 104 102
Total, 15 to 44 years.	2.63	3.20	22	3.11	4.43	42	5.74	7.63	33
NONOPERATIVES.						-			
15 to 19 years 20 to 24 years 25 to 29 years 30 to 34 years 35 to 39 years 40 to 44 years	$\begin{array}{r} .93 \\ 1.39 \\ 1.45 \\ 3.36 \\ 3.99 \\ 1.52 \end{array}$	$1.10 \\ .99 \\ 1.71 \\ 2.19 \\ 1.00 \\ .23$	$ \begin{array}{r}     18 \\     -29 \\     18 \\     -35 \\     -75 \\     -85 \\ \end{array} $	1.553.023.025.107.708.47	1.75 2.08 3.69 4.90 4.90 7.38	$ \begin{array}{r} 129 \\ -31 \\ 22 \\ -4 \\ -36 \\ -13 \end{array} $	2.48 4.41 4.47 8.46 11.69 9.99	2.85 3.07 5.40 7.09 5.90 7.61	$ \begin{array}{r} 15 \\ -30 \\ 21 \\ -16 \\ -50 \\ -24 \end{array} $
Total,15 to 44 years.	2.04	1.23	-40	4.44	4.08	- 8	6.48	5.31	-18

COMPARISON OF DEATH RATES PER 1,000 POPULATION 15 TO 44 YEARS OF MALES AND FEMALES, BY OCCUPATION AND AGE GROUPS, FALL RIVER, 1905 TO 1907.

In the nonoperative class it will be seen that the death rates for females are in most age groups below those of males. The groups 15 to 19 and 25 to 29 are exceptions, but here the excess for females is not great. For the group 15 to 44 as a whole the female death rate is 18 per cent below that of males.

In the operative class, the death rates of females are in all age groups in excess of those of males, increasing to an excess of 104.1 per cent and 102.4 per cent in the groups 35 to 39 and 40 to 44.

The significance of these comparisons should not be overlooked. The death rate of females, which outside of the cotton industry is considerably more favorable than that of males, in this industry in the period 35 to 44 is more than double that of males, and in the entire 15 to 44 group is one-third higher.

If the death rates from tuberculosis only are compared, among the operatives the female rates for ages 15 to 44 are 21.7 per cent in excess of those of males, an excess being found in all groups except 20 to 24 and 40 to 44, and rising to 188.3 per cent in the important age group 25 to 29. Among nonoperatives, on the other hand, the death rates for females are 39.7 per cent below those of males, the female rate being in excess in only two groups, 15 to 19 and 25 to 29.

In similar manner the female death rates from nontuberculous causes are in excess among the operatives, being about double those of males between 35 and 44, and slightly lower among the nonoperatives, the same tendency appearing in most of the age groups. Wherever in the following tables the death rate of a given class by periods of one year and three years, respectively, for Fall River and the combined three cities is not accordant, it has been assumed for reasons already stated <sup>a</sup> that the figures for the combined three cities for three years best represent the present basic conditions as regards tuberculosis, and that the percentage of excess in death rate of operatives, excepting tuberculous operatives, is best represented by the figures for Fall River for three years.

## MORTALITY IN AGE GROUP 15 TO 44, SHOWING DEATHS FROM TUBER-CULOUS, NONTUBERCULOUS, AND ALL CAUSES.

## MORTALITY, BY SEX.

Table 18 gives for the localities and periods studied full details as to the distribution of the population and of the deaths, by sex, occupation, race, and cause of death, together with the death rates for each class.<sup>b</sup> Table 19 gives the same distribution by percentages; but, in place of the detailed death rates, gives for each class the percentage by which the death rate of one sex exceeded that of the other. Two facts stand out with especial clearness from these tables:

I. In the population as a whole the male death rate shows a very slight excess over the female, alike from tuberculous and nontuberculous causes. The only exception to this is in Fall River, where for the three-year period the female death rate from nontuberculous causes shows a slight excess over the male.

II. Female operatives show an equally uniform, but much more marked excess in death rates over the male operatives, the only exception to this general condition appearing in the figures of the three cities for one year, where the male operative death rate from all causes shows an excess of 2 per cent over the female.

#### DEATHS FROM TUBERCULOSIS.

Table 19 shows that while female operatives as a whole have a distinctly higher mortality from tuberculosis than male operatives, their relative hazard differs widely from race to race. Taking the figures for the combined three cities for three years as typical, it will be seen that among the Irish, the Americans, and the French

<sup>&</sup>lt;sup>a</sup> See Introduction, p. 27.

<sup>&</sup>lt;sup>b</sup> The death rate of the Irish in each sex and occupation group, in each locality, and for each period studied is so much higher than that of any other race, or of all races combined that its inclusion tends to obscure the relative hazard, from a given cause, of the various subdivisions of the other races. Throughout this discussion, therefore, the tables have been so constructed that the death rate of any race, or of any subdivision of any race may easily be compared with the corresponding rate, either for all races or for all non-Irish races.

Canadians the excess of the female death rate is high, varying from 23 per cent to 49 per cent; that among the English and the "Other races" the difference is so slight as to be negligible, while for the operative population as a whole it rises to 36 per cent.

An examination of the death rates in Table 18 shows that the slight excess of English female over male operatives is due to an unusually low death rate from tuberculosis among the females. Among\_the "Other races," on the other hand, while the female operatives have a low rate from tuberculosis, the male rate is fairly high.

Among the nonoperatives the situation is exactly reversed, the males as a whole showing a considerably higher death rate from tuberculosis (excess 51 per cent) than the females. The variations in the different race groups are more marked, however, than among the operatives. Again, taking the figures for the three cities for three years as representative, it is seen that the Irish male nonoperatives show by far the highest excess (151 per cent) over the females in their tuberculous death rate; next come the English with an excess of 82 per cent, the Americans with an excess of 66 per cent, and the "Other races" with 25 per cent excess, while the French Canadians depart from the orderly sequence by showing a female excess of 51 per cent. This is due to the combination of an unusually high rate among the females and a rather low rate among the males.

Finally, taking the total population, operatives and nonoperatives combined, it is seen that in the population as a whole the male hazard from tuberculosis exceeds the female, that this male excess is large among the Irish, smaller and exactly the same for the Americans and English, and very small for the "Other races," while among the French Canadians the females suddenly come to the front with an excess hazard of 54 per cent. For the total group the male excess is only 13 per cent; in other words, the hazard to life from tuberculosis for all races is about one-eighth greater for males than for females.

#### NONTUBERCULOUS CAUSES.

Considering first the deaths of operatives from nontuberculous causes it will be seen that in Fall River, both for one and for three years, females had a considerably higher death rate than males, while the three cities combined for one year show a very slight excess in the male rate.<sup>a</sup> As in one of these, Manchester, the one year was 1905, it is quite possible that some decedents who were really operatives, though not so described on their death certificates, were not

<sup>a</sup> As has been mentioned in the introduction, the study of the cities other than Fall River for the three-year period probably failed to identify as operatives some of the decedents from nontuberculous causes who really belonged to that class, and hence their figures are omitted here. They showed, however, that the female operative death rate from nontuberculous causes exceeded the male by 18 per cent. identified as cotton workers, and that this departure from the prevailing situation may be due to this irregularity.

Taking the figures for Fall River for three years as representative, it will be seen that for the operative population as a whole the female hazard is 42 per cent greater than the male,<sup>a</sup> but that among the different races the relation varies. Among the Irish the female excess is so small as to be negligible—only 1 per cent—among the Americans the males show an excess of 10 per cent, among the English the female excess is 66 per cent, among the French Canadians 56 per cent, and among the "Other races" 60 per cent.

The Irish and the Americans show a marked likeness to one another and a marked dissimilarity to the other races in this respect. It is to be noted that in both races the males have a death rate from nontuberculous causes very much higher than the average rate for males of all races, while the female death rate shows but a comparatively slight excess over the average death rate for females of all races.

Among the nonoperatives, on the other hand, the death rate from nontuberculous causes is greater among males than females. Taking Fall River for three years as the type, the males show this excess in every race group except the Americans, where the females show an excess of 61 per cent, and the French Canadians, where the female excess is 5 per cent.

In the population, operatives and nonoperatives combined, the difference between the sexes in mortality from nontuberculous causes is not marked. Fall River for one year shows a male excess of 23 per cent, for three years a female excess of 8 per cent, and the three cities for one year a male excess of 22 per cent. Within the race groups the excess is sometimes among the males, sometimes among the females, according to the city and period selected. The Irish and the "Other races" are the only groups showing a constant male excess.

#### ALL CAUSES COMBINED.

Taking, first, the operatives, it will be seen that in general the female death rate exceeds the male by from 14 to 33 per cent, and that of the different race groups the Americans are alone in showing a male excess in each locality and for each period.

If the figures for Fall River for three years be regarded as representative, it will be seen that the death hazard to female operatives as a whole from all causes is about one-third greater than that to male operatives, in spite of the fact that the average age of the females is younger than that of the males. Looking at the two groups of death causes separately, the hazard to female operatives is plainly greater from nontuberculous causes than from tuberculous. Comparing the

#### CHAPTER II.-MORTALITY IN AGE GROUP 15 TO 44.

separate race groups with the whole operative population, the English and the other races show almost the same excess of hazard to females as prevails in the whole class, the French Canadians show a considerably larger excess (54 per cent), among the Irish the female excess sinks to 5 per cent, and among the Americans the males show an excess of 22 per cent.

Among the nonoperatives, taking the group as a whole, the males show an excess of hazard over the females ranging from 22 to 58 per cent. On the whole, this male excess is more marked among those dying of tuberculosis than among those whose death was due to other Taking Fall River for three years as a type, the males have causes. an excess of 22 per cent. The Americans do not conform to this, showing a female excess of 24 per cent, and neither do the French Canadians, who have a female excess of 5 per cent. The other race groups show a male excess-16 per cent among the other races, 47 per cent among the English, and 71 per cent among the Irish. The Irish have much to do with the result for the total group of nonoperatives dving from all causes. It will be noticed that among the non-Irish races the excess of the male over the female death rate from all causes is only 6 per cent. The most important factors in bringing the corresponding excess from all races up to 22 per cent are the enormous excess of the death rate from tuberculosis (187 per cent) of the Irish male over female nonoperatives, and their smaller, but still considerable, excess (71 per cent) from nontuberculous causes.

Finally, taking the whole operative and nonoperative population and including deaths from all causes, the death rates are as follows:

	Opera	atives.	Nonope	eratives.	Total population.			
	Males.	Females.	Males.	Females.	Males.	Females.	Both sexes.	
Fall River: 1 year 3 years	6. 93 5. 74	8, 59 7, 63	7. 89	4.99	7.51	6. 33 6. 18	6. 89 6. 18	
3 cities: 1 year	7. 10	8.11	8. 05	6. 14	7. 78	6. 72	7. 21	

DEATH RATES FROM ALL CAUSES, AGE GROUP 15 TO 44, FOR OPERATIVES AND NONOPERATIVES, BY SEX, FALL RIVER AND THREE CITIES (FALL RIVER, MAN-CHESTER, AND PAWTUCKET).

The excess hazard among operative females offsets the excess hazard of nonoperative males to such an extent that for the whole population the death hazard of the two sexes is nearly equal, the males, however, showing a slight excess.

Taking Fall River for three years as a type, among the Irish the male death rate shows an excess over the female of 38 per cent, among the Americans there is a female excess of 13 per cent, among the English a male excess of 10 per cent, among the French Canadians a

female excess of 26 per cent, and among the other races a female excess of 4 per cent. It is apparent that here, also, the high mortality of the Irish males has much to do with the slight excess of male hazard in the general population.

The variations in the relative mortality of the sexes are summarized in the following table:

Cause of death.	Fall River, 1 year.	Fall River, 3 years.	3 cities, 1 year.	3 cities, 3 years.	
OPERATIVES: FEMALE EXCESS.					
Tuberculosis	25 23	$\begin{array}{c} 22\\ 42 \end{array}$	37 a 2	36 18	
All causes combined	24	33	14	26	
NONOPERATIVES: MALE EXCESS.					
Tuberculosis	57 59	66 9	36 29		
All causes combined	58	22	31		
OPERATIVES AND NONOPERATIVES COMBINED: MALE EXCESS.					
Tuberculosis	$\begin{array}{c} 12\\ 23\end{array}$	16 b 8	5 22		
All causes combined	19	(°)	16		
"Male excess. b Female excess. c	Less than	one-half of	1 per cent.		

PER CENT OF EXCESS IN DEATH RATES PER 1,000 FROM SPECIFIED CAUSES OF ONE SEX OVER THE OTHER.

It is apparent that, with one single exception, female operatives show a higher mortality than male operatives in every place and from tuberculous and nontuberculous causes of death alike; that male nonoperatives everywhere show a higher, and with one exception a much higher, death rate than female nonoperatives; and that in the general population males have a somewhat higher death rate than females.

#### MORTALITY, BY RACE.

In considering the data relating to this subject, it is necessary to bear in mind the lack of accurate information as to the age distribution of the foreign-born population and the possibility of error arising from the assumption that each race has the same representation in each age group that it has in the population as a whole. Whatever error, however, arises from this assumption is probably at a minimum in this 15 to 44 age group. Also the degree of error involved in the assumption can hardly be sufficient to affect the reliability of the basic tendencies disclosed by the following tables, though it may have some effect on the minor differences, especially if they appear only in one locality or one period.

Ignoring the question of sex and occupation, the following table shows what percentage each race formed of the total population and what proportion of the total deaths came from its ranks. PERCENTAGE DISTRIBUTION IN AGE GROUP 15 TO 44 YEARS OF POPULATION AND OF DEATHS, BY RACE, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET).

	All non- Irish races.	Irish.	Ameri- can.	Eng- lish.	French Cana- dian.	Other races.	Number of popu- lation and of deaths.
FALL RIVER.							55,911
Percentage of population Percentage of deaths:	82	18	18	22	27	15	
1 uperculous—	. 66	24	0	17	97	12	147
3 years	67	33	9	16	28	14	354
Nontuberculous-	01	00					
1 year	74	26	15	15	30	14	. 238
3 years.	72	28	13	18	28	13	683
Total deaths-		~	10	1.0	00	14	207
1 year	71	29	13	10	29	14	1 027
THEFE CITIES	10	30		11	40	13	112 725
Percentage of population.	81	19	25	19	26	11	110,100
Percentage of deaths:	0.						
Tuberculous-							
1 year	63	37	11	14	27	11	281
3 years.	64	36	13	13	28	10	713
Nontuberculous-	70	07	10	10	00	11	F 20
Total deaths	13	27	19	10	28	11	532
1 year	69	31	16	15	27	11	813
	00	01	10	10			010

See Table 20.

The Irish, it will be observed, everywhere and for each period furnish a much larger percentage of the deaths than they do of the population, and this disproportion is especially marked in the deaths from tuberculosis. The American and the English nowhere reach the proportion of deaths which their representation in the population would justify, but come nearest to it in the deaths from nontuberculous causes. The French Canadians and the "Other races" both keep very near their population quota of deaths, the French rising a little above and the "Other races" falling a little below it.

The most striking feature in the table is the relatively large number of Irish deaths. The detailed tables, which follow, show that this proportionate excess is not a peculiarity of any one sex or occupation group, but seems characteristic of the race as a whole.

The facts for the different races are given in Table 18, with such fullness that they call for little comment. Comparing the hazard from tuberculosis for each race with the average tuberculous hazard of all races, it is apparent that the hazard to life from tuberculosis is by far the least for the Americans, among whom it reaches only one-half of the average for all races; then come the English, among whom it is only two-thirds of the all-races averages; then the group of "Other races," among whom it approaches very closely the average, but falls a trifle below; then the French Canadians, among whom also it comes very close to the average, but rises a trifle above it, and last of all the Irish, among whom it rises to almost double the hazard for all races combined.

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With regard to liability to death from nontuberculous causes, the races show exactly the same order. Taking the hazard of the whole 15 to 44 years' group as a standard, and comparing the hazard of each race group with this, it appears that the death rate from nontuberculous causes is lowest among the Americans, where it is only threefourths of the average for all races; then come the English, for whom the death rate is about four-fifths of the all-races average; then the "Other races" and the French Canadians, the former falling a little below and the latter rising a little above the average; and then the Irish, for whom the rate is about one-half greater than the rate for all races combined.

The operatives show a variation from this order, as among them the English, practically everywhere and from all causes, have a death rate considerably lower than either the rate for all races or the rate for any other race, and next to them comes the group of "Other races," whose death hazard is slightly below the average. These two variations in the operative group seem due to widely different causes. English, who have been long accustomed to cotton-mill work, appear to have become inured by experience to mill influences which to the other races are potentially harmful. Among the operatives of the "Other races," who are mainly the newer immigrants, it is probable that there is a massing in the lower age groups, since these newer races are apt to come over young and to go into the mills at once, if at all. Moreover, before they can enter the country they must pass a physical examination and be officially certified as of sound health. They are, therefore, a picked group, among whom a low death rate might naturally be anticipated.

These two exceptions, however, apply only to the operatives among the English and the "Other races." For the population as a whole, and for every subdivision except these two, the situation as to racial mortality may be thus summarized: Of all the races and peoples, the Americans exhibit considerably the greatest, and the Irish much the least, physical resistance to fatal influences, the former having been about one-third less and the latter about-two thirds more liable to die from all causes than the general population; the English were about one-quarter less liable to death than were the individuals of all races on the average; and finally the French Canadians exhibit slightly less and the "Other races" slightly more combative resistance to death than is shown by the average of individuals of all races.

#### OCCUPATIONAL MORTALITY.

Before considering Table 22 it may be well to mention again that in all mortality comparisons of operatives with nonoperatives the data for Fall River for three years contain probably the smallest margin of error, and whatever error exists is all in the direction of understatement of operative mortality. For female decedents, however, the occupational data for Fall River, for one year (1907) are probably more accurate than any other, since this information was gathered by one individual and within a shorter interval after the deaths occurred than was the case elsewhere. On the other hand, a period of one year may evidently be less typical than one of three years, and the year studied (1907) may have been not entirely normal in operative mortality. Hence, it is a matter for individual judgment to decide which the more nearly represents the cotton industry's true female mortality—an exceedingly close approximation to accuracy for only 365 consecutive days, or a probable understatement of such real mortality conditions for the much longer period of 1,095 consecutive days.

Table 22 shows the percentage distribution of population and of deaths by sex, race, and occupation groups, and also the percentage by which the death rates of one occupation group exceed those of the other.

Taking first the mortality from tuberculosis, it is apparent that if race be disregarded and the whole population considered, the death rate of the male operatives everywhere exceeds that of the male nonoperatives, the excess ranging from 14 to 29 per cent; if only the non-Irish races be considered the excess of the male operative over nonoperative death rate ranges from 51 to 86 per cent; if the race groups be considered separately, the Irish reverse the prevailing situation by showing a considerably higher death rate among male nonoperatives than among male operatives; among the English the death rates of the two classes are very nearly equal, the one-year period showing an excess among the nonoperatives, but the threeyear period giving the usual operative excess; and the three other race groups showing an excess, usually very large, of operative over nonoperative mortality.

Among females the operative death rate from tuberculosis, both in the population as a whole and in each race group, is very much higher than the nonoperative. The difference is least among the "Other races," whose operatives, as has already been noted, constitute a picked group as to probable health and youthfulness; and it is greatest among the Americans, where the operative excess is nowhere less than 300 per cent.

Turning to the nontuberculous causes of death, the table shows that both in the general population and in each race group, excepting only the Americans, the male nonoperatives have a considerably higher death rate than the operatives.<sup>a</sup> This nonoperative excess

<sup>&</sup>lt;sup>a</sup> This general statement is true not only of the period 15 to 44, but also of the component age groups within it, except the age group 15 to 24, in which the male operatives have a higher death rate than the nonoperatives from nontuberculous causes of death as well as from tuberculosis.

is greatest among the English, where it ranges from 120 to 204 per cent, and least among the French Canadians, where its range is from 16 to 43 per cent. Concerning the Americans it must be noticed that the operatives form but a very small proportion of their total male population between 15 and 45—only 12 per cent in Fall River and 9 per cent in the three cities combined. Consequently the operative excess among them has but little effect upon the general situation.

For females in Fall River the operatives regularly show a higher death rate from nontuberculous causes than do the nonoperatives, but in the three cities the nonoperatives show an excess. It is to be noted, however, that this nonoperative excess is not constant, the American and English operatives showing a higher death rate than nonoperatives of the same races. Moreover, a study of the component age groups shows that the nonoperative excess among the females of the three cities is confined to the age group 25 to 34, the other two decades showing the higher death rates for operative females which prevail elsewhere.

Turning to the deaths from all causes combined, the relative mortality of the male operatives and nonoperatives shows a marked difference according to whether or not the Irish are included. Among the aggregate non-Irish males, the great excess of the operative over the nonoperative death rate from tuberculosis more than outweighs the smaller excess of the nonoperatives from nontuberculous causes, and the operatives show a higher mortality from all causes than do the nonoperative. But if the Irish be included, their large excess of nonoperative over operative mortality reverses the situation prevailing among the rest of the population, and makes the operatives as a whole show a slightly lower mortality from all causes than do the nonoperatives. The relation is not a universal one, however, even among the non-Irish races, tor both the English and the "Other races" show a nonoperative excess.

Among females the death rate from all causes is considerably higher for operatives than for nonoperatives, and this relation is practically constant, the only exceptions being found among the French Canadians and the "Other races" of the three cities for one year.

# MORTALITY IN AGE GROUP 15 TO 44, SHOWING DETAILED CAUSES OF DEATH.

## PER CENT OF TOTAL DEATHS FROM EACH SPECIFIED CAUSE FALLING WITHIN AGE GROUP 15 TO 44.

Table 47 shows the distribution of the population and of deaths from specified causes among the various age groups in Fall River and in the three cities combined. The per cents are based on the figures for those 10 years old or over, and throughout the following discussion those under 10 years will be disregarded. Moreover, since there is but little difference between the relative distribution of deaths in Fall River during the three-year period and in the three cities for one year in order to avoid complexity the discussion will be based on the Fall River figures, except where some marked variation makes it necessary to refer to those for the three cities.

It will be noticed that practically two-thirds of the population— 65 per cent—falls within the 15 to 44 years age group, but that the proportion of deaths within the same age group differs widely according to the cause of death. Ignoring distinctions of sex and occupation, it will be seen that the deaths ascribable to parturition,<sup>a</sup> to tuberculosis, to all respiratory diseases, and to accident or violence all have a larger incidence in this young and active industrial age group than in any other group. The deaths from parturition, as might be expected, are almost exclusively here. The deaths from tuberculosis—76 per cent of the total deaths from this cause—are considerably in excess of the population quota of the group, while the deaths from all respiratory diseases fall below the population quota,<sup>b</sup> though coming close to it.

Diseases of the nervous and digestive systems, kidney diseases, all unclassified diseases, and all causes combined are represented in this group by about one-third of the total deaths due to each, while deaths from cancer and from impairment of the circulatory system fall considerably below this proportion.

Considering the distribution of deaths by sex, it will be seen that females depart from the average for the total population in having within this age group a smaller proportion of their deaths from apoplexy and casualty, and a larger proportion of their deaths from respiratory diseases other than tuberculosis, from heart disease, tuberculosis and cancer. Males, of course, have complementary variations in the opposite direction in their deaths from these same diseases.

Considering the matter by occupation, it is apparent that cotton operatives depart from the average distribution of deaths by having within this period a very much larger proportion of their deaths from each cause and from all causes combined. Among males this proportion is approximately twice and among females approximately three times as great as among the nonoperatives of the same sex.

<sup>&</sup>lt;sup>a</sup> See Tables 31, 32.

<sup>&</sup>lt;sup>b</sup> It must be remembered, however, that since officially designated causes of deaths of all adults are for the most part merely names of a worn-out condition of the several organs or systems of the body, and since such exhausted conditions are normally due to age only a minimum of what may be styled the terminal diseases will have occurred so early in life as the age period 15 to 44 years. Consequently, from most diseases the population quota of deaths can not be expected in this group.

Nonoperatives, of course, show a smaller proportion of deaths from each cause in this age group than prevails among the general population.

Concerning race, the Irish differ from the population as a whole in that in general a smaller proportion of their total deaths from each cause occur in this age group 15 to 44. In deaths from violence or accident, from cancer, and from nephritis they depart from this general relation, showing a larger proportion within these years than prevails in the general population.

Evidently any specified cause of disease is important just in proportion as it is active among the country's producers and its reproducers—its workers and its child bearers. And since the child bearers are almost wholly, and the workers very largely, found within the age group 15 to 44, the different causes of death challenge attention and call for remedial action in proportion to the share of their victims they draw from this group.

Hence the question of foremost importance to be answered concerning a specified disease or cause of death is not: "How many deaths are ascribable to it?" but, rather, "Are most of its deaths within age limits that embrace the bulk of the productive population?" If the answer to this question is in the affirmative, then the second natural question is as to whether the specified disease is the chief or one of the most prevalent causes of death within that age group. The first question is fully answered by the tables just given, and the second will be taken up in the following section.

# PER CENT OF DEATHS IN AGE GROUP 15 TO 44 DUE TO EACH SPECIFIED CAUSE.

Tables 29, 30, 33, and 34 show the number of deaths from each cause occurring within the age group 15 to 44 and the percentage the deaths from each cause comprise of the total deaths within the period. It is at once apparent that tuberculosis is far more fatally active within these years than is any other single cause of death. Regularly one decedent out of every three in this age group died of tuberculosis, while the next most prevalent cause, the group massed together as "Respiratory diseases other than tuberculosis," accounted for only one decedent out of every eight. Among operative deaths approximately one out of two were due to tuberculosis and among nonoperative deaths approximately one out of four. The Irish male nonoperatives rise considerably above the proportion for all nonoperatives, more than two-fifths of their deaths between 15 and 45 being from tuberculosis, while the American female nonoperatives sink decidedly below the nonoperative average, only about one-sixth of their deaths being from this cause.

Next to tuberculosis in fatal activity comes the group of other respiratory diseases, pneumonia being the most important of these. Taking the age group 15 to 44 as a whole, regularly one decedent in every eight dies from these diseases; among male nonoperatives this proportion rises to one in seven and among female nonoperatives sinks to 1 in 10. In general, the Irish show a higher death rate than the non-Irish from these diseases, the only exceptions to this generalization being the male operatives and female nonoperatives.

However inadequately tuberculosis is reported officially, the total tuberculous and nontuberculous respiratory causes of death will include nearly all the fatal cases of tuberculosis. The combined respiratory diseases account for not far from half of the total deaths in this age period; among operatives they are responsible for nearly three out of every five deaths, and among nonoperatives for two out of five deaths. For each sex as a whole, the proportion comes very close to that of the total population, but within the sex groups female nonoperatives show a lower, and male nonoperatives a higher percentage than prevails among nonoperatives as a whole. As regards race it appears that Irish males, whether operative or nonoperative, exceed, and Irish female nonoperatives fall below the proportions prevailing among the non-Irish races.

As regards accident or violence as a cause of death, the sexes show a marked disparity. Among males this ranks next in importance to tuberculosis and nontuberculous respiratory diseases, accounting for one death out of every ten, but among females it stands next to the bottom of the list, accounting for only one death in thirty-three. There is a decided racial difference in this respect, one death in every ten among Irish female nonoperatives being due to accident or violence, while among the non-Irish of the same class the proportion is about one in forty.

Parturition as a cause of death takes among the women of this group the place held by casualties among men, standing next to tuberculosis and to other respiratory diseases in the number of deaths for which it is accountable. One in ten of the female decedents of Fall River, aged 15 to 44 years, owed their death to parturition. This by no means fairly represents the hazards of childbirth, since not all females within these age limits were married, and not all who were married had been parturient. Twenty-four tuberculous deaths had occurred with childbirth as a complication; if these were counted among the deaths from parturition it would make that cause responsible for one out of every seven female deaths in this age group in Fall River—i. e., parturition would rank second only to tuberculosis in importance. As regards race, the Irish, both operatives and nonoperatives, showed a lower proportion of deaths from this cause than prevailed among the non-Irish. Diseases of the digestive system account for one death in eleven among the general population. This proportion does not vary to any great extent among the different subgroups, but on the whole males show a higher mortality than females from this cause.

## DEATHS FROM NEPHRITIS.

Nephritis, or kidney disease, ranks fourth in importance as a cause of death among the total population aged 15 to 44 years, being responsible for one death in every twelve. If the matter of race be ignored, this proportion is almost uniform throughout the various sex and occupation classes. From the standpoint of race, however, the Irish show a remarkable variation; among them nephritis holds the position held by nontuberculous respiratory diseases among the population in general-i. e., ranks next to tuberculosis in importance as a cause of death. The Irish in Fall River for three years showed a death rate from this cause which in each sex and occupation class was enormously larger than that of the corresponding class of the non-Irish. Among the Irish it was the officially certified cause of one death out of every seven or eight (according to the sex and occupation group) which occurred, while among the non-Irish only one in every twenty decedents was officially certified as having died from nephritis.

If the deaths from respiratory diseases be excluded, the peculiar liability of the Irish to nephritis becomes more strikingly apparent. Of the total deaths from nonrespiratory causes, nephritis is responsible among the Irish for 25 per cent, among the non-Irish for 10 per cent. The effect of this high rate among the Irish in bringing up the percentage of deaths from nephritis among the total population is shown in the following table:

PER C	ENT O	F TO	TAL M	ORTALIT	Y IN	AGE	GROU	P 15	TO	4 YI	CARS	FROM	NON-
RESP	IRATO	RY D	ISEASI	ES WHICH	H WAS	5 DUE	TO	NEPE	IRITI	S, BY	C SEX	AND	OCCU-
PATI	ON GR	OUPS	, FALL	, RIVER,	1905 7	CO 190	7.						

and the second second second	Ма	les.	Fem	Both sexes.	
Occupation.	Irish.	Non- Irish.	Irish.	Non- Irish.	All races.
Percentage distribution of total population:	-	-contractor			
Operatives. Nonoperatives.	3 5	$ \begin{array}{c} 16\\ 23 \end{array} $	4 6	15 28	38 62
Number of deaths from aggregate non-respiratory causes: Operatives.	22	58	31	82	193
Nonoperatives Number of deaths from nephritis:	51	117	58	145	371
Operatives. Nonoperatives.	4	7 11	11 11	10 13	32 50
Per cent of deaths from nonrespiratory diseases which was due to nephritis:	-				an mad
Nonoperatives.	17 29	12 9	35 19	12 10	17 13
Death rates from non-respiratory causes per 1,000 of each speci- fied population:			1.001		C ( ]
Nonoperatives.	4.87 6.45	2.18 2.95	4.28 5.94	3.17 3.14	3.01 3.59

## CHAPTER II.---MORTALITY IN AGE GROUP 15 TO 44.

The figures in this table need no comment beyond what has already been made, but attention may be called to the fact that though the Irish constitute rather less than one-fifth (18 per cent) of the total Fall River population aged 15 to 44, they furnished during the three years under consideration exactly one-half of the deaths from nephritis within the group.

## DEATHS FROM DISEASES OF DIGESTIVE, URINARY, CIRCULATORY, AND NERVOUS SYSTEMS.

Deaths in this age group due to diseases of the digestive, the urinary, the circulatory, and the nervous systems represent the effect of the wear and tear of living as expressed in prematurely worn out heart and arteries, digestive organs, kidneys, nerves, or brains. The following table shows the proportion of the deaths from nonrespiratory causes for which these "regional" conditions were responsible.

PER CENT OF TOTAL MORTALITY IN AGE GROUP 15 TO 44 YEARS FROM NON-RESPIRATORY DISEASES WHICH WAS DUE TO DISEASES OF THE DIGESTIVE, URINARY, CIRCULATORY, AND NERVOUS SYSTEM, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET).

ALTER - WITH	Sex.		Race.		Occur		
	Males.	Fe- males.	Irish.	Aggre- gate non- Irish.	Oper- atives.	Others (non- oper- atives).	Total.
Number of nonrespiratory deaths: Fall River, 3 years. 3 cities, 1 year. Per cent of deaths from non-repsiratory diseases	248 218	316 216	162 (a)	402 (\$)	193 104	371 330	564 434
which was due to four degenerative causes: Fall River, 3 years. 3 cities, 1 year. Death rates from all nonrespiratory causes per	63 66	51 55	65 (a)	(a)	58 63	55 59	56 60
1,000 population: Fall River, 3 years 3 cities, 1 year.	<b>3.</b> 15 <b>4.</b> 16	3.55 3.58	5.50 (a)	2.91 (a)	3.01 3.18	3.59 4.12	3.36 3.85

· Not reported.

There are two features of interest in this table: The comparative uniformity throughout the different sex, race, and occupation groups of the proportion of deaths due to these causes and the large proportion of the deaths ascribable to the wearing out or degenerating of these four systems.

#### SUMMARY.

The remaining causes of death hardly require separate discussion. Looking at the tables as a whole, it is evident that the deaths in the age period 15 to 44 are very nearly divided between respiratory and nonrespiratory causes. In the first group tuberculosis is overwhelmingly important, accounting for practically three-fourths of

the deaths (75 per cent in Fall River for three years, 74 per cent in the three cities for one year). In the other, or nonrespiratory, half of the gross mortality the wear and tear of living, represented by the nonfunctioning of the digestive, the urinary, the circulatory, and the nervous systems, account almost uniformly for more than one-half. This leaves four groups responsible for the remaining half of the deaths from nonrespiratory causes, viz: (1) Casualties, (2) parturition, (3) unclassified diseases, and (4) cancer. For males more deaths were ascribed to casualties and for females to parturition than to any other nonrespiratory cause.

## DEATH RATES IN AGE GROUP 15 TO 44 FROM SPECIFIED CAUSES.

In the preceding pages it has been shown, first, what proportion of the total deaths due to each cause occurred within the age group 15 to 44 and, second, what proportion of the deaths occurring within this age group were assignable to each cause. It now remains to consider the differences in fatal susceptibility to each cause of cotton operatives as compared with the rest of the population. This can best be shown by comparing the death rates of the different race, sex, and occupation groups, as given in Tables 29 and 30.

These tables do not need a great deal of comment. It will be remembered that respiratory diseases taken together accounted for nearly half the total deaths occurring in this group. The death rate from these combined diseases is 2.82. There is but little difference between the sexes in this respect, the rate for males rising a little above and that for females falling a little below the average for the whole population. Operatives exceed the average rate, males showing but a small excess, while among females the excess is very marked. Nonoperatives show correspondingly lower rates than the average. Table 30 shows that the Irish have an enormously higher death rate from these causes than prevails in the general population and that the non-Irish peoples fall below the general rates. The Irish excess is much more marked among males than females and reaches its maximum among the male nonoperatives, where, it will be remembered, the deaths from tuberculosis were most numerous. Among the non-Irish there is very little difference between the sexes in death rates from these causes, but as between operatives and nonoperatives the former show a considerable excess, which is found mainly among the females.

Concerning digestive diseases, which were responsible for 1 out of every 11 deaths in this age group, the only necessary comment upon the tables is that Irish males had double the hazard from this cause of Irish females and more than double the hazard of non-Irish males and that this hazard was one-fourth less for Irish than for non-Irish female operatives. It is also worthy of note that among the non-Irish females operatives had twice the death rate of nonoperatives from digestive diseases.

Concerning diseases of the nervous system, the only noteworthy variations from the general rate are the very low rate among Irish males and the high rate among Irish females, who show about twice the hazard of non-Irish females and five times the hazard of Irish males from this cause.

As regards mortality from cancer, it is seen that females were invariably much more liable to die from it than were the males of each class; female nonoperatives had a much greater cancer hazard than female operatives; and the female Irish of each occupation class had a greater hazard than the female non-Irish. Among females, indeed, there is a nonoperative and an Irish excess in death rate from cancer which can not be wholly accounted for even by the admittedly younger age of the operatives.

Concerning deaths from parturition, the tables show that this ranks third in importance as a cause of female deaths; that in the general population the hazard from this cause is decidedly greater to operatives than to nonoperatives, but that this general relation does not prevail among the Irish, where the nonoperatives have considerably the higher rate.

In these tables all deaths in which tuberculosis and childbirth are both factors have been classed as tuberculous. It is open to question whether they might not with equal propriety be classed as deaths from parturition, in which case the death rate from this cause would be materially increased. The following table shows for Fall River the number of deaths and the death rates, by occupation class, for parturition complicated with tuberculosis, for parturition without tuberculous complications, and for both causes combined.

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NUMBER OF DEATHS AND DEATH RATE PER 1,000 DUE TO PARTURITION WITH OR WITHOUT TUBERCULOUS COMPLICATIONS, BY AGE AND OCCUPATION GROUPS, FALL RIVER, 1905 TO 1907.

nin hered		Deaths from parturition.								
Age group and occupation.	Popula- tion.	Tubercul plica	ous com- tion.	No tube compli	erculous cation.	Total.				
deal and the P		Number of deaths.	Death rate per 1,000.	Number of deaths.	Death rate per 1,000.	Number of deaths.	Death rate per 1,000.			
15 to 29: Operatives Nonoperatives	7,953 9,593	11 2	0. 59 . 42	14 12	0.46 .07	25 14	1.05 .49			
Total	17,546	13	. 49	26	. 25	39	. 74			
30 to 39: Operatives Nonoperatives	2,394 6,188	38	1.67 .86	12 16	. 42 . 43	15 24	2.09 1.29			
Total	8,582	11	1.09	28	. 42	39	1.51			
40 to 44: Operatives Nonoperatives	709 2, 846			a 5	. 59	a 5	. 59			
Total	3, 555			a 5	. 47	a 5	. 47			
All ages, 15 to 44: Operatives Nonoperatives	11,056 18,627	14 10	. 78 . 59	26 a 33	. 43 . 18	40 a 43	1.21 .77			
Total	29, 683	24	. 66	a 59	. 27	a 83	. 93			

" Including 1 at 45 and 1 at 46 years.

The table shows clearly that if the deaths complicated with tuberculosis be added to those for which parturition alone appears as a cause, the death rate rises to 1.21 for operatives, 0.77 for nonoperatives, and 0.93 for the two classes combined. Childbirth has already been shown to be responsible for one-tenth of the total female deaths of Fall River in the age group 15 to 44; this makes it responsible for 15 per cent of such deaths. That is, among females parturition as a death factor is second only to tuberculosis. And, just as is the case with tuberculosis, deaths from this cause are largely preventable.

As a second important feature, the table shows that there is a decidedly higher death rate among operatives than among nonoperatives from parturition, and that the rate from parturition complicated with tuberculosis is enormously higher among the operatives.

Finally, as to race, it appears that deaths from parturition complicated with tuberculosis are relatively most frequent among the Irish, from parturition without such complication among the "Other races," while the highest death rate from both kinds combined is found among the Irish.

It is interesting to note concerning mortality from miscellaneous or unclassified causes that the hazard from these causes was precisely the same in Fall River during three years and in the three cities for one year—0.49 per 1,000 population. Females had a greater death hazard than males, and female nonoperatives than female operatives. And excepting Irish male nonoperatives, each occupation class of the Irish had a smaller death rate from these unclassified causes than had the corresponding class of the aggregate non-Irish.

Finally, an expected but none the less striking variation appears in the enormously greater liability of males than females in this age group to die from accidental or violent causes. This greater hazard of the males is invariable for all classes except the nonoperative Irish, among whom the females were considerably more liable to die from casualties than were the males. The Irish invariably showed a much higher death rate from this cause than the non-Irish.

It has been shown in the foregoing tables that in the age group 15 to 44, a group in which the great majority of operatives are massed, and in which, for operatives and nonoperatives alike mortality should be low, the operative death rate in each locality and for each period studied exceeds the nonoperative, a fact which appears to justify the inference that cotton operative work has an unfortunate influence on the health of those who follow it.

Considering the cotton operative group more closely, it is evident that the excess in their death rate is due to the females, as the male operatives have a lower death rate from nontuberculous causes and all causes combined than the nonoperatives. But this excess of the female death rate is peculiar to this group, as in the general population the male rate is slightly, and in the nonoperative population materially higher than the female.

As compared with others of their own sex, the female operatives in each locality showed a markedly higher death rate than the nonoperatives. This excess was most marked in the deaths from tuberculosis, though it appears also in the deaths from other causes (except in the rates for the three cities for one year, where the nonoperatives have a slight excess). In other words, female operatives show a susceptibility to tuberculosis not only much greater than nonoperatives display, but than they themselves exhibit to other causes of death.

This excess in the death rate of female operatives over nonoperatives is not a matter of age, since if there is any difference between the two classes, the operatives have a larger proportion in the lower age groups, and might therefore be expected to show the lower rate. Nor is it an accident of locality or time, since it appears in each place and for each period studied. Neither is it a matter of race. In regard to deaths from tuberculosis, each race in each locality and for each period shows a higher—and generally a very much higher rate among operatives than among nonoperatives. In deaths from nontuberculous causes, the Irish twice, the French Canadians once, and the "Other races" once show a nonoperative excess, and in deaths from all causes combined, the French Canadians once and the "Other races" once show a nonoperative excess. But these exceptions are too few to affect the general situation.

The earlier part of this section seems to establish the facts that cotton operatives in general have a higher death rate than nonoperatives, that female operatives have a higher death rate than male operatives, and a decidedly higher rate than female nonoperatives. And, further, that the excess of their death rate over that of the female nonoperatives is not an accidental or local matter, but is practically constant for every locality and every period, for each race and for both tuberculous and nontuberculous causes of death.

Considering next the causes of this high mortality among female operatives, it became evident that tuberculosis was by far the most important, accounting by itself for somewhat more than two-fifths of the deaths of female operatives (42 per cent in Fall River for three years, 51 per cent in the three cities for one year). Next to tuberculosis came other respiratory diseases, responsible for about one-eighth of the deaths of female operatives, and childbirth, responsible for one-tenth, despite the fact that more than half the operatives are unmarried. These three causes together accounted for practically two-thirds of the female operative deaths, the other third being divided among eight different causes.

## CHAPTER III.

## MORTALITY IN THE GROUP 10 YEARS OF AGE AND OVER.



## CHAPTER III.

## MORTALITY IN THE GROUP 10 YEARS OF AGE AND OVER.

## MEASURE OF ANTILONGEVITY FORCES.

Within the age group 15 to 44 it is possible to estimate the relative importance of a given cause of death by the number of its victims per 1,000 of the population-that is, by its death rate-without too close consideration of the precise age at which life ended. For within that age group all should be in full strength and vigor, and any death occurring in that age group is in a sense premature, a destruction of potentialities of service to the State for years to come. But in the general population a different situation prevails, and the death rate from a given cause will not alone show its real importance. Thus among the females 10 years of age and over of Fall River, the death rate from tuberculosis is 1.09, and the death rate from senility is 0.75. It is self-evident that the difference between these two rates is no measure of the difference in real importance of the two causes, since senility as a cause of death is effective only among the aged or the worn out, while tuberculosis found four-fifths of its female victims in Fall River among those aged 15 to 44. Plainly, age at death is the important consideration in deciding upon the relative weight which should be assigned to the various causes of death.

Moreover, age at death is also important as furnishing a measure of the relative effect of various causes which may modify length of life. There are a number of experiences or accompanying circumstances of life which may have a decided effect upon its duration; such, for instance, as climate, diet, race, habits, occupation, and the like. So far as these favor or oppose longevity it is possible to compare them by means of a study of age at death or of age group death rates. It may be tentatively assumed that when such a circumstance is constantly found present at death it has some significance as a possible active factor in causing death—that is, constant incidence may be assumed to imply causative significance. But evidently the greater the age at death accompanied by a given factor, the less the effect of that factor in shortening life, and, conversely, the lower the age at death the more actively detrimental is that factor.

Take, for instance, such a factor as occupation, which obviously may have an effect upon longevity. If the average age at death of cotton operatives is less than that of nonoperative decedents from a

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disease, as tuberculosis, which roughly restricts the upper limits to an age group in which both occupation classes are roughly comparable, the fact furnishes at least a tentative implication that the occupation is inimical to long life, and the degree to which cotton operatives fall below the average age of nonoperative decedents may be looked upon as a rough measure of the effectiveness of such work as an antilongevity force.

The average age at death, however, can not safely be used except in connection with age group death rates. To illustrate: In Fall River and Pawtucket both for one year and three years the average age at death of the Irish is the same or slightly greater than that of the English, but it is not safe to judge from this fact that the living conditions of the two races are equally conducive to longevity. On the contrary, an examination of their respective death rates shows that the English were dying only one-half as fast as the Irish. This seeming anomaly is explained by the fact that while the two races had about the same number of deaths among the young and the old, the Irish had a large extra mortality in the medium age group. The latter decedents do not alter the average longevity, since each died very nearly at the average age at death of the whole group, but they strikingly increase the death rates for these middle years.

On the other hand, the death rate for all "10 years and over" is likewise incomplete and, considered by itself, may mislead. Two race or sex groups, for instance, may have the same death rates, yet the deaths of one may occur principally in youth, and those of the other may be largely among the high age groups. A wrong deduction, therefore, is always possible when considering an age group embracing a long period, unless the age at death and the death rate are considered together.

Further, it becomes apparent that even considered together death rates and average age at death do not give the full truth unless applied to a comparatively brief period. Take, for instance, the case of the English and Irish before cited, and suppose that the Irish death rate had decreased to the English figure but that their deaths had all, instead of most of them, occurred in the middle age group. Then for the total population aged 10 years and over the English and Irish death rates and average age at death would have been the same, yet the real meaning and economic effect of their deaths would have been vastly different. For among the English the deaths, occurring largely in the unproductive years at the extremes of life, would have been comparatively unimportant, whereas among the Irish the deaths, occurring within the period of greatest human efficiency—30 to 44 years—would have meant very serious economic losses.

In fact, the real significance of mortality statistics can be obtained only by considering death rates within a strictly limited period,
# CHAPTER III. --- MORTALITY IN AGE GROUP 10 YEARS AND OVER. 99

because when this is done there is no opportunity either for marked variations in the age distribution of the populations compared, or for any great difference in the value of the years lost by death. When a long period must be considered, the chance of error is lessened by studying both death rate and average age at death, but the results are at best unsatisfactory.

The average age at death, however, taken by itself may give instructive and valuable results when applied to the deaths from a disease like tuberculosis, almost all of which occurs in an age group of which the lower limit is approximately 15 and the upper 49 years.

Cotton-mill operatives, too, form an age group covering for females almost identically the same years as does tuberculosis, and covering for males 10 years longer. Age averages for the whole operative group, therefore, have value, though it must be borne in mind that their significance varies inversely with the size of the numbers constituting the extremes of the group, and with the length of the period included.

Tables 4, 61, 89, 90, and 91 give the average age at death, by sex and race, for the decedent cotton-mill workers of each city; for the aggregate noncotton working decedents of each city; for decedents of each specific mill occupation; and for each of twelve fatal disease groups.

No effort will be made to draw any deductions from these figures, which are inserted only for the purpose of giving a complete view of the sex, race, and occupational mortality.

# DISTRIBUTION OF POPULATION AND DEATHS, BY AGE.

The tables given in Chapter IV present full details of the age distribution in each of the three cities studied, but for the sake of convenience only the population of Fall River and of the three cities combined will be considered at present. For these, Tables 41 and 42 give the number and per cent which each ten-year age group forms of the total in each sex and occupation group in 1906.<sup>a</sup>

The most immediately striking feature of these tables is the similarity in the distribution by age of the population of Fall River and of the three cities combined. For the general population this similarity amounts almost to identity. In the subgroups the greatest difference is in the proportion of nonoperatives in the age group 10 to 14 years. Even here the difference is so small that for all the distribution may be considered the same.

As between males and females the age distribution is almost the same. The males show a slightly larger proportion of their number in the age group 10 to 14 years, which is offset by the next age group in which the females have a slightly larger proportion of their total number. Comparing operatives with nonoperatives it is evident that the operatives are massed in the younger adult groups, while the nonoperatives are distributed more evenly through the different groups. This, of course, was to be expected. In the communities studied legal restrictions make it inevitable that there should be comparatively few operatives under 15, while the effect of advancing years makes it certain everywhere that there will not be many in the older age groups.

The variation of the death rates with age requires little comment; naturally they are low among the youthful and high among the aged. It is worth noticing, however, that while the death rate from all causes, and from all nontuberculous causes, increases with a certain uniformity, the rate for each age period being higher than for the preceding period, the death rate from tuberculosis reaches its maximum in the age group 30 to 34 years (see Table 6), and thereafter falls off noticeably. And yet it is important to bear in mind that there is no enormous<sup>a</sup> difference in the liability to death from tuberculosis between one age and another, tuberculosis thus presenting a striking contrast to the rule that obtains respecting the nontuberculous causes of death.

# DISTRIBUTION OF POPULATION AND DEATHS, BY SEX.

In both Fall River and the three cities combined females form 53 per cent and males 47 per cent of the population. Table 41 shows that the male death rate from tuberculosis is decidedly higher than the female rate for the whole population, and is also with few exceptions higher in each of the age groups. The male death rate from nontuberculous causes is on the whole lower than the female rate. The male and female death rates from all causes are very nearly the same for the whole population, but in Fall River the males lead in four, and in the three cities in five of the seven age groups. On the whole there seems a tendency for the male death rate to exceed the female—a tendency which harmonizes with mortality statistics as observed elsewhere.

Among operatives this relation is very generally reversed. The death rate of female operatives from tuberculosis everywhere exceeds that of the male operatives; from nontuberculous causes it exceeds the male rate in eight of the fourteen age group comparisons, and from all causes combined it exceeds the male rate in nine cases out of four-

<sup>&</sup>lt;sup>a</sup> In the whole population of the three cities during 1905 to 1907 the liability to death from tuberculosis in the senile period, 65 years and over, per 1,000 of population, was 1.61, as compared with 3.19 that obtained as the hazard therefrom in its most active age period, 30 to 34. Thus the age at which fatal tuberculosis was commonest had only about double the death hazard from tuberculosis suffered even by the senile group.

teen. In other words, in the localities studied, the death rate of female operatives tends to exceed the death rate of male operatives as commonly as the male death rate in the general population tends to exceed that of the females.

If, instead of taking the age groups separately, the whole population be considered, Table 4 shows that both among the nonoperatives and in the general population the male death rate exceeds the female in each city studied, but that in regard to operative death rates Manchester offers a striking contrast to the other two. In both Fall River and Pawtucket the death rate of female operatives exceeds that of males, but in Manchester male operatives have a decided lead. Moreover, the death rate of the male operatives is higher, and of the female operatives lower, than in either of the other cities; that is, the mortality of male operatives is greater and of female operatives less in Manchester than in either Fall River or Pawtucket.

For the unusually high mortality among the males no explanation can be offered. Concerning the abnormal diminution of deaths among the female operatives, it may be noted that nearly threefourths (70 per cent) of all the Manchester female operatives were unmarried; that nearly one-half were French Canadians; that Manchester is only about a hundred miles from the Canadian border; and that the most prevalent disease among cotton-mill operatives tuberculosis—is notoriously of long duration.

Mention has already been made of the fact that cotton-mill operatives, and naturally unmarried females in particular, when stricken with a chronic disease such as tuberculosis, not infrequently die at their childhood homes outside the cotton-mill city in which they had lately been employed, and that thus they escape statistical enumeration as decedent operatives of that city. The facts noted above make it seem probable that in Manchester these unenrolled deaths would naturally be more numerous among the female than the male operatives, that they would also probably be more numerous than among the female operatives of the other two cities, and might easily in themselves account for the relatively low death rate of this classfor only a dozen deaths distributed through the three years would bring the relative mortality of the sexes among the Manchester operatives into harmony with that which prevails elsewhere. This explanation is not susceptible of proof from the data at hand, but nevertheless it is offered for consideration.

# DISTRIBUTION OF POPULATION AND DEATHS, BY OCCUPATION.

The following table shows the general distribution in 1906 of that part of the population engaged in manufacturing in the three cities studied:

#### NUMBER AND PER CENT IN EACH CITY OF MALES AND FEMALES 16 YEARS OF AGE AND OVER, AND OF CHILDREN ENGAGED IN COTTON MANUFACTURE, ALL OTHER MANUFACTURE, AND IN TOTAL MANUFACTURE, FOR FALL RIVER, MANCHESTER, AND PAWTUCKET.

[From Special Reports of Census Office, Manufactures, 1905, Part II, pp. 475, 642, 1012; and from data secured from cotton mills, 1908.]

	Population engaged in manufacture.								
		Nun	aber.	Per cent.					
City.	16 years of age and over.		Children		16 ye age an	ars of d over.	Chil- dren under		
	Males.	Females.	of age.	Total.	Males.	Fe- males.	16 years of age.	Total.	
Cotton manufacture, 1905: Fall River, Mass. Manchester, N. H. Pawtucket, R. I.	10,465 4,860 1,744	10,058 4,813 2,270	1,081 211 415	21,604 9,884 4,429	61 29 10	59 28 13	63 13 24	60 28 12	
Total	17,069	17,141	1,707	35,917	100	100	100	100	
All other manufacture, 1905: Fall River, Mass Manchester, N. H Pawtucket, R. I	4,013 4,942 4,760	1,059 2,625 2,510	160 128 355	5,232 7,695 7,625	29 36 35	17 42 41	25 20 55	26 37 37	
Total	13,715	6,194	643	20, 552	100	100	100	100	
Total manufacture, 1905: Fall River, Mass Manchester, N. H Pawtucket, R. I	14,478 9,802 6,504	11,117 7,438 4,780	1,241 339 770	26,836 17,579 12,054	47 32 21	48 32 20	53 14 33	48 31 21	
Total	30,784	23,335	2,350	56, 469	100	100	100	100	
Cotton manufacture, 1908: Fall River, Mass Manchester, N. H Pawtucket, R. I	12,451 3,918 1,549	11,372 4,852 2,499	1,335 258 214	25,158 9,028 4,262	69 22 9	61 26 13	74 14 12	65 24 11	
Total	17,918	18,723	1,807	38, 448	100	100	100	100	

The per cent which cotton-mill operatives form of the total manufacturing population in each of the three cities is shown in the following table; adults 16 years of age and over, by sex, and children under 16 years.

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PROPORTION OF TOTAL MANUFACTURING POPULATION EMPLOYED IN COTTON MILLS, 1905.

	Per cent cotton-mill employees form of total manufacturing population.							
City.		rs of age over.	Children under	Total.				
	Males.	Females.	16 years of age.					
Fall River, Mass. Manchester, N. H. Pawtucket, R. I	72 50 27	91 85 47	87 62 54	81 56 37				
<ul> <li>Total</li></ul>	. 55	73	73	64				

A striking point brought out by this table is the extent to which, especially in Fall River, the women who are industrially employed tend to be found in the cotton mills. In Fall River this industry almost monopolizes the females over 16 who take up manufacturing work, not quite 1 in 10 of them being found in other manufactures. Pawtucket is the only one of the three cities in which cotton manufacture does not take its dominant position. In that city the cotton mills employ less than one-half of the females and but little over onequarter of the males 16 years of age and over who follow manufacturing pursuits.

Another point of interest in the situation at Fall River brought out more clearly by the data furnished by the mills for 1908 than by the census figures of 1905, is the excess of males among the operatives. In both the other cities the males 16 years and over were in 1908 outnumbered by the females, who in Manchester furnished 55.3 per cent and in Pawtucket 61.7 per cent of the operatives 16 years of age and over, while in Fall River they formed only 47.7 per cent.

# SPECIFIC COTTON-MILL OCCUPATIONS.

From every cotton mill in each of the cities studied schedules were received, signed usually by the individual mill superintendents, giving the total number of distinctively cotton workers who were on the pay rolls early in 1908, and classifying them by sex, by age (under 16 or 16 years and over), by workroom where employed, and by the specific occupation or work performed by each. In Manchester and Pawtucket this enumeration was taken during the financial depression, but in Fall River was taken before it began. Apparently this made very little difference in the numbers reported. In one of the largest mills in Fall River a second report, to replace data then thought lost, was taken in the midst of the financial depression five months after the first enumeration, and showed a variance of less than a score from the aggregate total of the first report.

# 104 CAUSES OF DEATH AMONG COTTON-MILL OPERATIVES.

As a check upon the accuracy of these reports the figures so obtained were compared with those of the United States census of 1905 and with those collected by the Immigration Commission in 1909. In general the correspondence between these three sets of figures was very close, no differences appearing beyond what were fully accounted for by the difference in dates.

In Manchester, however, the number of operatives reported appears to vary in the sex totals of the different censuses more than it does in other cities investigated; possibly because cotton and woolen manufacturing, together with dyeing, bleaching, and finishing, are all carried on by the same corporation. In this city also the census figures for males are at marked variance with those given to the writer, doubtless because this study is dealing with strictly cotton operatives only, and not with the total pay-roll number of mill employees. These sex totals for Manchester are as follows:

NUMBER OF MALE AND OF FEMALE COTTON-MILL OPERATIVES IN MANCHESTER, N. H., AS REPORTED IN 1905 AND 1908.

Source of data.	Males.	Females.	Total.
United States Census of Manufactures, 1905.	4,966	4, 918	9,884
Special mill reports from pay rolls, 1908.	4,090	4, 938	9,028

An examination of the schedules gathered by the Immigration Commission in 1909 showed that 16.8 per cent of the male employees on the pay rolls of the Manchester mills did not belong to the class to which in this report the term cotton operative is confined; that is, though employed about cotton mills, they were not engaged in any of the processes peculiar to cotton manufacturing, and the conditions of their work were much what they would have been in any other kind of establishment. Assuming that the same rate prevailed in 1905, it would be necessary to deduct 834 from the census figures for males in order to get the number which might fairly be compared with the cotton operatives listed on the special reports in 1908. Making this deduction it appears that in 1905 there were 4,132 male cotton operatives as compared with 4,090 in 1908. In view of the period of depression in which the 1908 reports for Manchester were taken, this difference does not seem unreasonable.

Since there are practically no female mill employees (except possibly a few office clerks) to be excluded from the pay roll list given in the 1905 census of manufactures, it might be expected that the special mill reports of 1908 would approximate closely to the figures of 1905 as far as females are concerned, which is actually the case.

• This close correspondence of the figures of 1905 and those furnished by the special reports from the mills made in 1908 seems to furnish good assurance that the mill population figures herein used for computing the operative death rates of Manchester for the years 1905, 1906, and 1907 represent very closely the true operative population for that period.

The percentage distribution of all cotton operatives in the cities studied is shown by sex for each mill trade and for each workroom in Table 59.

### DISTRIBUTION OF POPULATION AND DEATHS, BY RACE.

Regarding the population of the three cities as one group, and classifying its members as to race by the birthplace of the father, it appears from Table 1 that the French Canadians and the Americans each constitute about one-quarter (26.2 per cent and 25 per cent, respectively), while the English with 18.9 per cent and the Irish with 18.6 per cent each account for nearly a fifth. Of the remaining tenth (11.3 per cent) the Portuguese, who are found only in Fall River, form something over a third; Germans and Scandinavians, who form a long established, thrifty colony in Manchester, are the next most important races, while Italians, Russians, Greeks, Poles, and Austrians are numerically important in the order mentioned.

In Fall River the Americans and Irish are practically equal in number, each forming less than one-fifth of the population (Americans 18.3 per cent, Irish 17.6 per cent). There is a local idea that the Irish are numerically preponderant in Fall River, due perhaps to the fact that many of the younger Americans are of Irish grandparentage. As a matter of fact, only the "Other races" have a smaller representation than the Irish in the Fall River population.

The French Canadians constitute the largest element of the Fall River population, forming 27 per cent, the English are 22.5 per cent, the Portuguese are 9 per cent, and the other miscellaneous races make up the remaining 6 per cent.

In Manchester the French Canadians are the most numerous, forming 35 per cent of the total population; the Americans form about one-third (31 per cent); the Irish are about half as numerous as the French Canadians (17 per cent); while the English, forming 9 per cent, and the "Other races" with 8 per cent of the population are relatively unimportant groups.

A third of the Pawtucket population are Americans, of whom a considerable proportion are of Irish grandparentage; the English and Irish are nearly equal, forming respectively 24 and 23 per cent of the population; the French Canadians, who form the largest group in both Fall River and Manchester, here form only 12 per cent, and the "Other races" only 8 per cent of the population.

It is evident that of the three cities Fall River not only has by far the largest population, but that this population is far more equally distributed among the five race groups than in either of the other cities. When to this is added the fact that by far the greater number of the workers of the community are engaged in the same industry cotton-mill work—it is evident that Fall River offers unusual advantages for a comparative study of the mortality of operatives and nonoperatives in the different race groups.

The population of the three cities combined shows 11,002 more females than males, females being the more numerous in each city studied. As a rule they form also the larger portion of each race group, but this rule finds an exception in the "Other races." Among these, as might be expected in a group composed in the main of newly immigrant races, the males are slightly the more numerous, constituting 51.1 per cent of the whole number. Among the Irish, on the other hand, the prevailing relation appears in an exaggerated degree, the females constituting 57.4 per cent of the total. The race groups of the different cities do not present any noticeable variations from the conditions prevailing in the combined poputation.

What is especially noteworthy, therefore, concerning race population is the basic fact that everywhere females constitute much the larger sex percentage of the total Irish population; and the less important basic fact that only in the composite group of "Other races" do males outnumber females.

# RACIAL DEATH RATES.

Turning to the mortality statistics of the different races, the most salient point is the high death rate of the Irish (see Tables 4 and 6). Except in Manchester, where their rate does not differ greatly from that of the other long resident races,<sup>*a*</sup> the death rate of the Irish from all causes is practically double that of any other race or of all non-Irish races combined. The following shows the death rates from all causes for the Irish and non-Irish:

DEATH RATE PER 1,000 POPULATION OF IRISH AND NON-IRISH RACES, BY CITIES AND SPECIFIED PERIOD.

City and period.	Death rate per 1,000 population.		
	Irish.	Non-Irish.	
Fall River: 1 year. 3 years. Manchester, 1 year. Pawtucket, 1 year. Three cities, 1 year.	24.15 22.29 17.46 27.60 23.17	10.22 9.20 12.41 12.88 11.40	

a Manchester presents another peculiarity in its Irish death rate. In the other two cities the Irish nonoperatives show a much higher death rate than the operatives, but in Manchester this relation is reversed, the operatives showing a much higher and the nonoperatives a much lower rate than elsewhere. An examination of the tables shows that this high death rate of the Irish reaches its maximum in the male sex, among whom startlingly high rates prevail in early mid-life (see Table 6), and that in the main the nonoperatives are responsible for the greater part of this excess mortality. In Fall River for three years the Irish male operatives show the higher mortality in the younger age groups, but with the group aged 35 to 39 years the nonoperatives come to the front with a death rate more than five times that of the operatives, and thenceforward the nonoperative excess is very large. In the three cities for one year the male nonoperatives show a large excess over the operatives, except in the age groups 25 to 29 years and 65 years and over. The excess is so marked in early middle life that the following table is given to show the comparative mortality of Irish operatives and nonoperatives of each sex compared with one another and with the non-Irish in the group aged 30 to 39 years.

NUMBER OF DEATHS AND RATE PER 1,000 POPULATION (1 YEAR AND 3 YEARS) OF IRISH AND NONJRISH MALE AND FEMALE OPERATIVES AND NONOPERATIVES IN THE AGE GROUP 30 TO 39 YEARS DYING FROM TUBERCULOUS AND NONTUBER-CULOUS CAUSES, FOR FALL RIVER, AND FOR FALL RIVER, MANCHESTER, AND PAWTUCKET COMBINED.

	Deaths from tuberculosis.		ths from nontubercu- lous causes.		To	otal.	Total
	Irish.	Non- Irish.	Irish.	Non- Irish.	Irish.	Non- Irish.	all races.
OPERATIVES.						•	
Fall River, 1 year:					-		
Number of deaths	5	10	4	5	9	15	24
Fall Diver 2 years	8.76	3, 95	7.00	1.98	15.76	5.93	7.74
Number of deaths.	11	24	12	20	23	44	67
Rate per 1,000	6.42	3.16	7.01	2.64	13.43	5.80	7.20
Three cities, 1 year:				10	10		
Rate per 1 000	7 68	4 01	7 68	2 86	15 26	6 97	36
Three cities. 3 years:	1.00	3.01	1.00	2.00	10.00	0.01	0.14
Number of deaths	13	32	18	29	31	61	92
Rate per 1,000	5.55	3.05	7.68	2.77	13.23	5.82	7.18
NONOPERATIVES							-
Fall Diver 1 years					-		
Number of deaths	11	8	16	10	97	97	54
Rate per 1,000.	15.45	1.86	22.47	4.41	37.92	6.27	10.76
Fall River, 3 years:							
Number of deaths	12 50	26	36	59	65	85	150
Three cities, 1 year:	15.58	2.01	10.85	4.07	30.45	0.08	9.90
Number of deaths.	25	17	33	47	58	64	122
Rate per 1,000	12.45	1.67	16.43	4.62	28.88	6.29	10.02
Three cities, 3 years:	20	E A					-
Rate per 1,000	9.96	1 77	•••••			•••••	•••••
1000 por 1,000111111111111111111111111111111111	0.00						
TOTAL OPERATIVES AND NONOPERATIVES.				-		-	
Foll River 1 vear					-		
Number of deaths	16	18	20	24	36	42	78
Rate per 1,000	12.47	2.63	15.59	3.51	28.06	6.14	9.61
Fall River, 3 years:			10				
Rate per 1 000	10 20	2 44	19 47	2 95	99 96	6 20	217
Three cities, 1 year:	10.09	40 23	10.21	0.00	aa. 00	0.23	0.91
Number of deaths.	31	- 31	39	57	70	88	158
Rate per 1,000.	11.12	2.27	13.97	4.17	25.09	6.44	9.61
Number of deaths	72	88			-	1	
Rate per 1,000	8.72	2.10					

MALES.

#### NUMBER OF DEATHS AND RATE PER 1,000 POPULATION (1 YEAR AND 3 YEARS) OF IRISH AND NON-IRISH MALE AND FEMALE OPERATIVES AND NONOPERATIVES, ETC.--Continued. FEMALES.

	Deaths from tuberculosis. Deaths from nontubercu lous causes		is from bercu- auses.	То	tal.	Total deaths,	
	Irish.	Non- Irish.	Irish.	Non- Irish.	Irish.	Non- Irish.	all races.
OPERATIVES.							
Fall River, 1 year:							
Number of deaths.	3 96	6 72	9 25	13	13 21	14 16	14 20
Fall River, 3 years:	0.00	0.12	. 0.20	1.01	10.11	11.10	11.00
Number of deaths Rate per 1,000	12 5,28	20	18	32 6.52	30	52	82
Three cities, 1 year:	10		10	10			
Rate per 1,000	7.88	5.11	7.88	5.83	15.76	30	12.47
Three cities, 3 years:	05	07		0.77	40	04	110
Rate per 1,000.	6.57	3.28	6.30	4.50	12.87	7.78	9.39
NONODEDATIVES							
Fall River 1 year			-				
Number of deaths.	4	7	4	24	8	31	39
Rate per 1,000 Fall River. 3 years:	4.54	1.32	4.53	4.52	9.07	5.84	6.30
Number of deaths.	10	20	20	71	30	91	121
Three cities. 1 year:	3.78	1.26	7.50	4.40	11.34	5.72	0.52
Number of deaths.	13	17	18	60	31	77	108
Three cities, 3 years:	5.70	1.49	7.90	0.28	19.00	0.77	7.91
Number of deaths	26	46					
Date per 1,000	3.00	1.00					
TOTAL OPERATIVES AND NONOPERATIVES.							
Fall River, 1 year: Number of deaths	7	18	11	37	18	55	73
Rate per 1,000	4.27	2.59	6.71	5.33	10.98	7.92	8.51
Fall River, 3 years: Number of deaths	22	40	38	103	60	143	203
Rate per 1,000	4.47	1.92	7.73	4.95	12.20	6.87	7.88
Number of deaths	23	31	28	76	51	107	158
Rate per 1,000	6.48	2.20	7.89	5.38	14.37	7.58	8.94
Number of deaths	51	73					
Rate per 1,000	4.79	1.72			•••••		
TOTAL, MALE	S ANI	FEM	ALES.		-		
OPERATIVES.							
Tell Diver 1 meet							
Number of deaths.	8	21	11	18	19	39	58
Rate per 1,000.	6.02	5.04	8.29	4.32	14.31	9.36	10.56
Number of deaths.	23	44	30	52	53	96	149
Rate per 1,000.	5.77	3.52	7.53	4.16	13.30	7.68	9.04
Number of deaths	16	28	16	26	32	54	86
Rate per 1,000 Three cities, 3 years:	7.80	4.49	7.81	4.17	15.61	8.66	10.38
Number of deaths.	38	59	42	66	80	125	205
Kate per 1.000	6.18	3.15	6.83	3.53	13.01	6.68	8.25

OPERATIVES.							
Fall River, 1 year: Number of deaths. Rate per 1,000. Foll Birgs 2 years:	8 6. 02	21 5.04	11 8.29	18 4.32	19 14.31	39 9.36	58 10.56
Rate per 1,000.	23	44	30	52	53	96	149
	5.77	3.52	7.53	4.16	13.30	7.68	9.04
Number of deaths	$\begin{array}{r}16\\7.80\end{array}$	28	16	26	32	54	86
Rate per 1,000.		4. 49	7.81	4.17	15.61	8.66	10.38
Number of deaths	38	59	42	66	80	125	205
Rate per 1,000	6.18	3.15	6.83	3.53	13.01	6.68	8.25
NONOPERATIVES.							-
Fall River, 1 year: Number of deaths. Rate per 1,000.	15 9.41	15 1.56	20 12.55	43 4.47	35 21.96	58 6.03	93 8.30
Number of deaths.	39	46	56	130	95	176	271
Rate per 1,000.	8.16	1.60	11.71	4.50	19.87	6.10	8.06
Number of deaths.	38	34	51	107	89	141	230
Rate per 1,000.	8.86	1.58	11.90	4.97	20.76	6.55	8.90
Number of deaths. Rate per 1,000.	86 6.69	100 1.55					

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NUMBER OF DEATHS AND RATE PER 1,000 POPULATION (1 YEAR AND 3 YEARS) OF IRISH AND NON-IRISH MALE AND FEMALE OPERATIVES AND NONOPERATIVES, ETC.-Concluded.

	Death tuberc	s from culosis.	Death nontu lous c	s from bercu- auses.	То	tal.	Total deaths,
	Irish.	Non- Irish.	Irish.	Non- Irish.	Irish.	Non- Irish.	all races.
TOTAL OPERATIVES AND NONOPERATIVES. Fall River, 1 year:							•
Number of deaths Rate per 1,000 Fall River, 3 years:	· 23 7.87	36 2.61	31 10.61	61 4.43	54 18.48	97 7.04	151 9.04
Number of deaths Rate per 1,000 Three cities, 1 year:	62 7.07	90 2.18	9.81	182 4.40	148 16.88	272 6.58	420 8.38
Number of deaths. Rate per 1,000. Three cities, 3 years:	54 8.52	62 2.23	67 10.57	133 4.79	121 19.09	195 7.02	316 9.26
Rate per 1,000.	124 6.52	1.91				•••••	

TOTAL, MALES AND FEMALES-Concluded.

Some suggestion of at least one cause of the excessive mortality among the Irish nonoperatives may be found in the fact that in one of the nonoperative occupations in Fall River, liquor dealing, over one-half (52.1 per cent) of all the bartenders had characteristically Irish names.<sup>a</sup> The death rate among Irish bartenders (the race of the decedents being determined by the birthplace of their fathers) for the three-year period was from tuberculosis, 40.10, and from all causes 52.63,<sup>b</sup> while among the non-Irish bartenders the rate from tuberculosis was 8.19, and from all causes 24.59—a rate which, though admittedly upon an unscientific population basis, is yet probably not grossly misleading.

There is an often quoted saying that sobriety in regard to alcohol is characteristic of bartenders. According, however, to the testimony of the friends and intimates of the Irish bartenders of Fall River who had died during the three years studied, the exceptions to this rule were so numerous as almost to establish its converse. Certainly they were sufficiently numerous to justify the belief that intemperance is a common debilitating cause of the prodigious death rate among Fall River bartenders, of whom the Irish form a large proportion.

But the bartender death rate is insufficient of itself to account for the excessive death rate of the male nonoperative Irish, and no explanation of it can be found in the data at present available. There seems no room for question, however, that for both operative and nonoperative Irish males the death rate was unfavorably affected by intemperate habits, and since the reports showed that such habits were more common among Irish decedents than among those of any other race,<sup>a</sup> some part of the high mortality of Irish as compared with non-Irish males may be explained by this cause.

The Irish females, though not showing such strikingly high death rates as the males, still have much higher rates than those prevailing among the females of the other race groups. This excess does not appear in the youngest groups where, indeed, the mortality among Irish females is less than that for all races combined,<sup>b</sup> but from twenty-five years onward the Irish lead in every age group, as well as in the total population 10 years old and over.

There is no information available to show whether any part of this excess mortality may be attributed to intemperance, since the inquiry into the alcoholic habits of decedents was not begun until after the schedules for female decedents had been filled out.

The occupational distribution of the races may throw some light upon the Irish female mortality. The following table, based upon the census of 1900 (Occupations, p. 560), shows the percentages of females of leading races in Fall River who were industrially engaged:

NUMBER AND PER CENT OF TOTAL FEMALE POPULATION 10 YEARS OF AGE AND OVER OF FEMALE WORKERS ENGAGED IN COTTON MANUFACTURE, OTHER MANU-FACTURE, AND IN ALL OTHER GAINFUL OCCUPATIONS, BY RACE, FOR FALL RIVER.

•		Female w	orkers	10 years of	f age ar	nd over eng	gaged in			
- 1 1		Manufao	cture.	•					(Total	
Race.¢	Ca	otton.	Oth	er than otton.	Other gainful All occupations. (Total.)		female popu- lation	Total female popu-		
Num- ber. Per cent of total fomale popula- tion 10 years of age and over.	Num- ber.	Per cent of total female popula- tion 10 years of age and over.	Num- ber.	Per cent of total female popula- tion 10 years of age and over.	Num- ber.	Per cent of total female popula- tion 10 years of age and over.	years of age and over.	lation, all ages.		
Irish, total number	2,728	29.3	1,046	11.3	1,108	11.9	4,882	<b>52.</b> 5	9,305	11,867
NON-IRISH.						1.1.1				
American English	390 3, 101	6.6 29.1	333 708	5.6 6.6	809 652	13.7 6.1	$1,532 \\ 4,461$	25. 9 41. 8	5,913 10,679	7,539 13,616
and French	4,324	32.3	905	6.8	442	3.3	5,671	42.4	13, 376	17,058
Portuguese Miscellaneous	607 225	28.5 15.9	123 66	5.8 4.6	68 93	3. 2 6. 6	798 384	37.5 27.1	2, 128 1, 417	2,715 1,808
Total	832	23.5	189	5.3	161	4.6	1,182	33. 4	3,545	4,523
Non-Irish, total number	8,647	25. 8	2, 135	6.4	2,064	6.1	12, 846	38.3	33, 513	42,736
Total, Irish and non- Irish	11,375	26.6	3, 181	7.4	3, 172	7.4	17,728	41. 4	42, 818	54,603

• For the figures concerning intemperance among decedents of each race, see pp. 142, 143.

b See rates for total female population by race and age groups, Table 6.

cAmerican means having both parents native; each specified other race means having either both parents born in the country indicated or one parent so born and the other parent native.

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This table shows that Irish females composed a considerably larger proportion of the women workers than the females of any other race, but that the proportion of Irish females engaged in cotton operative work was practically the same as that of the English, and smaller than that of the French Canadians. It is a reasonable inference that the large proportion of Irish females engaged in industrial pursuits may account for their correspondingly very high death rate, yet, unless it develops that they concentrate in the least healthful departments of the cotton mill, it must be tentatively assumed that cotton mill work is not immediately responsible for the excessive female Irish death rate.

This assumption is borne out by a comparison of the death rates of female operatives and nonoperatives of the several races. Irish females, after the age of 25 years, generally have a higher death rate than the non-Irish, but the discrepancy is less in the operative than in the nonoperative group. In other words, the influence of operative work, which in every race group raises the death rate of female operatives above that of nonoperatives, is less marked among the Irish than among the combined races. The following summary, drawn from Table 6, giving the death rates of Irish female operatives and nonoperatives compared with the corresponding rates for all races, shows how much more closely the death rates of the two classes of operatives approximate than do those of the nonoperatives.

DEATH RATES PER 1,000 FROM ALL CAUSES IN EACH SPECIFIED AGE GROUP OF IRISH AND OF ALL FEMALE OPERATIVES AND NONOPERATIVES, FOR FALL RIVER, 3 YEARS; AND FOR FALL RIVER, MANCHESTER, AND PAWTUCKET COM-BINED, 1 YEAR.

	Death r	ate per 1,00 female	0 from all es in—	causes of
Age group and race.	Fall Rive	r, 3 years.	Three citi	les, 1 year.
	Oper- atives.	Nonoper- atives.	Oper- atives.	Nonoper- atives.
10 to 14 years: Irish All races.	1.44	0.33 2.00	33. 33 6. 62	0.49 2.72
15 to 19 years: Irish. All races	5.67 4.91	2. 20 2. 85	1.90 4.02	2.20 4.17
25 to 29 years: 25 to 29 years:	3. 92 5. 68	<b>3.</b> 57 3. 07	6.36 7.63	2.98 3.58
Irish. All races. 30 to 34 years:	11.73 7.66	7.36 5.40	15.40 8.11	10.32 5.99
All races. 35 to 39 years: Irish.	10. 22 11. 30 17. 02	7.09 6.86	12.81 23.26	14. 55 7. 45 12. 05
All races. 40 to 44 years: Irish. All races.	11. 57 16. 99 14. 57	5.90 20.44 7.61	12.05 11.82 11.46	8.41 21.38 7.83
All ages, 10 to 44 years: Irish All races.	11.66 8.20	25. 54 12. 77	13.46 9.08	24.19 14.50
All ages, 15 to 44 years: Irish All races.	9.52 7.63	7. 99 5. 31	11.44 8.11	9.32 6.14

# 112 CAUSES OF DEATH AMONG COTTON-MILL OPERATIVES.

It will be noticed that in both Fall River and the three cities the excess of the Irish over the total death rate is greater among the nonoperatives than among the operatives, a situation which seems to indicate that the excessive mortality of Irish as compared with non-Irish females can not be ascribed to any peculiar effect of cottonmill work upon the Irish constitution.

No doubt some portion of the excess is due to the fact already referred to that a larger proportion of the Irish than of the non-Irish women who are not at work in the mills are engaged in other industrial work. From the table on page 110 it is easy to calculate that of the Irish female nonoperatives 32.8 per cent were engaged in gainful pursuits, while of the same class among the non-Irish only 16.8 per cent were so engaged.

A difference like this might well be reflected in the death rate, but after all there were only 16 per cent more of the Irish than of the other nonoperative females who were industrially engaged, and in the absence of definite proof it is incredible that this fraction could have been engaged in such exceedingly unhygienic pursuits as to account for the whole difference in the death rates of the nonoperative Irish females as compared with the same class in the aggregate female population. Another cause must be sought.

Such a cause is perhaps found in the prevalence of tuberculosis among Irish males. A consideration of the appendix tables already referred to shows that in Fall River for the three-year period the death rate among Irish males from tuberculosis is much higher than among the males of all races combined. Up to 20 years old this is not so, but thereafter for each age period the Irish have a higher tuberculosis rate than any other race or all races combined, and in some of the age groups, notably 30 to 34 and 35 to 39 years, their excess first becomes apparent in the age group 25 to 29 years, and thereafter it occurs constantly, ranging from double to four times the rate for the males of all races.

Since tuberculosis is a communicable disease, its occurrence in a family implies a distinct hazard for the women at home, upon whom naturally devolves the duty of caring for their tuberculously infected kindred. And since tuberculosis is peculiarly and excessively prevalent among Irish males, it follows that Irish females incur a greater risk from this cause than do the females of other races.

These two causes—the greater proportion engaged in industrial pursuits, and their greater exposure to tuberculous infection—may in part explain the high mortality among Irish nonoperative females. They do not suggest any explanation of the excessive death rate among Irish female operatives, which, while not as noticeable as among the nonoperatives, is still very high. Neither is the only

# CHAPTER III.---MORTALITY IN AGE GROUP 10 YEARS AND OVER. 113

cause suggested for the high male death rate among the Irish sufficient to account for the whole excess. The figures seem to show a racial tendency to high death rates among the Irish in the places and periods studied, for which the data at present available give no adequate explanation.

The death rates of the French Canadians, while not showing such marked peculiarities as those of the Irish, have some unusual features. Regarding the whole group 10 years of age and over, the females show a higher death rate than the males—9.06 for females, 8.45 for males—and this excess is found almost wholly among operative females from 20 to 44 years of age. The death rates for this class are abnormally high, in some of the 5-year age groups surpassing even the rates for the Irish female operatives. For the age group 15 to 44, within which the great majority of female operatives are found, the death rates of the Irish and the French Canadian female operatives are as follows:

DEATH RATES (1 YEAR AND 3 YEARS) IN THE AGE GROUP 15 TO 44 YEARS OF IRISH AND FRENCH CANADIAN FEMALE OPERATIVES, FOR FALL RIVER; AND FOR FALL RIVER, MANCHESTER, AND PAWTUCKET COMBINED.

	the local and the of the	Death female op	rate of peratives.	
	Age group and locality.	Irish.	French Cana- dian.	
Age group 15 to 44 years: Fall River, 1 year Fall River, 3 years Three cities, 1 year Three cities, 3 years		4.55 4.83 6.24 5.37	4.58 3.72 4.03 3.49	

This shows an approach in the rates of the two groups, but the real seriousness of the death rate among the French Canadians is better shown by comparing the rates for five-year periods, as in the following table:

DEATH RATES IN EACH SPECIFIED AGE GROUP OF IRISH AND FRENCH CANADIAN FEMALE OPERATIVES, FOR FALL RIVER, 3 YEARS.

	Death female of	rate of peratives.
Age group.	Irish.	French Cana- dian.
10 to 14 years	5. 67 3. 92 11. 73 10. 22 17. 02 16. 99	5. 51 6. 61 8. 20 16. 13 8. 75 20. 60
All ages, 10 to 44 years	11.66	8. 24

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This high death rate among their female operatives does not seem due to any racial peculiarity of the French Canadians, since it does not appear among the nonoperative females nor among the males of either occupation class to any noticeable extent. There is no information available to show that the French Canadians are massed in the less healthful occupations of the cotton mills, and no a priori reason for supposing that this is the case. Possibly some explanation may be found in the notoriously large families of the French Canadians. It may safely be assumed that practically every female operative, married or single, does housework at home in addition to her work in the mills. The large familes of the French Canadians would involve for the operative mother the strain of frequent maternity, and for the operative daughters a greater amount of work at home than would fall to the lot of unmarried operatives in smaller households. In both cases the debilitating effect of the extra strain involved would tend to increase the death rate of the operative females.

The composite group of "Other races" shows a death rate lower than the rate for all races combined, or than the rate for any other race group, and this holds true almost without exception for each sex and occupation group.<sup>a</sup> The fact that this group consists largely of the newer immigrant races, among whom both the very young and the old are scantily represented, and that necessarily only a comparatively brief time before death each must have been of approved health, probably accounts for this.

The Americans and the English do not, on the whole, present any striking variations from the figures of the general population.

# CLASSIFICATION OF FATAL DISEASES.

The causes of death, as certified to by the attending physician, have been classified into 12 groups, which, with the diseases included in each, are as follows:

I. TUBERCULOSIS.—As over 90 per cent of this disease is registered as pulmonary, and since autopsy of the seemingly nonrespiratory cases usually shows foci of tuberculosis in the lungs, and finally because to the pulmonary cases almost entirely is due the spread of the disease, all tuberculosis is herein treated in the aggregate as a wholly pulmonary disease.

II. NONTUBERCULOUS PULMONARY DISEASES.—These are pneumonia and broncho-pneumonia, empyema, asthma, pleurisy, etc.

III. HEART DISEASES.—Diseases of the heart wall and valves, embolism, and pericarditis.

IV. APOPLEXY.—Hemiplegia, "shock," and "paralysis" if decedent is aged 50 years or over; and all deaths from arterial disease;

<sup>&</sup>lt;sup>a</sup> Female operatives of the "Other races" show a slightly higher death rate than for the corresponding class of English, the rates being, respectively, 6.78 and 5.94.

moreover in the South, investigation of many deaths certified as "hemorrhage" proved them invariably to be apoplexy if the decedent was past middle life.

V. NEPHRITIS.—Chronic nephritis (Bright's disease), nonpuerperal uremia, acute nonpuerperal nephritis, calculi.

VI. DISEASES OF DIGESTION.—Diseases of the stomach, liver, and intestines including "intestinal obstruction" (though doubtless many of these latter cases resulted from malignant growths), appendicitis, typhoid fever, alcoholism.

VII. DISEASES OF THE NERVOUS SYSTEM.—Meningitis, insanity, and diseases of the nerves and spinal cord.

VIII. CANCER.—All malignant growths.

IX. PARTURITION.—Diseases of childbirth, including puerperal septicemia and puerperal nephritis (eclampsia). (Parturition complicated with tuberculosis is scheduled as tuberculosis only.)

X. UNCLASSIFIED DISEASES.—Diabetes, cystitis, ovarian tumor, hernia, shock from operation, peritonitis, rheumatism, malaria, and other nontuberculous microbic and infectious diseases, marasmus, "natural causes," general debility, and miscellaneous causes of death.

XI. SENILITY .- "Old age."

XII. ACCIDENT AND VIOLENCE.-Accident, suicide, and homicide.

The deaths and death rates from these causes are given for sex, race, and occupation groups in Tables 48 and 49. In order to show the relative importance of the leading causes of death, the deaths from tuberculosis are contrasted with deaths from all nontuberculous causes, and deaths from respiratory diseases are contrasted with deaths from nonrespiratory diseases.

A comparison of the death rates from these various causes for the whole population aged 10 years and over with the same rates for that part of the population aged from 15 to 44 years shows no noticeable differences, except such as would naturally arise from including a higher age group. Thus, in the population aged 10 years and over, senility is naturally a far more important cause of death than it could be in the younger group; cancer, heart disease, and apoplexy, all diseases of advancing years, account for a greater proportion of deaths, and tuberculosis loses some degree of its importance, being partially outweighed by the numerous deaths from other causes among the older groups.

On account of this similarity no discussion of the death rates for the population aged 10 years and over will be attempted. Instead the leading factors which may influence the death rate will be considered in some detail.

#### MORTALITY FROM TUBERCULOSIS.

#### GENERAL DISCUSSION.

The tables already referred to show that for operatives, both in the total population 10 years of age and over, and in the age group 15 to 44 years, tuberculosis is by far the most important cause of death. The relative liability to tuberculosis of the various classes within these two groups does not differ greatly. No age above puberty is even moderately exempt from it, but its greatest activity occurs within the thirty years from 15 to 44. In general, males show a slightly higher death rate from tuberculosis than females, the French Canadians being, however, a marked exception to this generalization. The Irish have the highest, and the Americans and English the lowest death rates from this disease. Cotton operatives have an enormously higher tuberculous death rate than nonoperatives, but among Irish males the situation is reversed. Some of the 5 and 10 year age groups comprised within the total population show minor differences when compared with the group 15 to 44 years. In general, however, conditions are so similar that the discussion of the incidence of tuberculosis given in the preceding sections of the age group 15 to 44 years may be taken as applying to the whole population 10 years of age and over.

Turning then from the incidence of tuberculosis, attention will be given to a series of factors which may to some degree explain its prevalence.

The tables to be used hereafter, except where otherwise stated, are based on the total population 10 years of age and over. Since the tuberculous decedents are distributed throughout all the component age groups, care must be taken when making comparison to contrast only such classes as have approximately equal age at death. Thus males may be legitimately compared with females of the same class (except as hereafter stated), and all operatives may be compared with all who died from tuberculosis, since the average age at death of these classes in not dissimilar, as the following table shows:

AVERAGE	AGE AT	DEATH	(FOR 3	YEARS)	OF	MALES	AND	FEM/	LES :	10 YEAR	S OF
AGE AND	OVER IN	I EACH	CLASSIF	ICATION	OF	DECEDI	ENTS,	FOR	FALL	RIVER,	AND
FOR FAL	L RIVER	, MANCH	ESTER,	AND PA	WT	UCKET (	COMB	INED.			

	Average age at death.				
Classification of decedents and locality.	Males.	Females.	Males and females.		
Operatives (decedent from all causes): Fall River. 3 cities. Tuberculous decedents (all occupations): Fall River. 3 cities.	40 40 37	32 32 31	36 36 34		
Total decedents: Fall River. 3 cities.	50 50	51 52	51 51		

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The immediate cause of tuberculosis is always the same—infection with the tubercle bacilli. But a strong, healthy organism may resist the infection or even overcome the disease after it has been established. Hence, usually in a case of fatal tuberculosis other causes beside the disease germ have been at work, undermining the patient's constitution, decreasing his resistant power, and directly or indirectly aiding the disease first to obtain a foothold, and then to accomplish its work with greater or less rapidity.

Since whatever tends to lower the general vitality may aid the development of tuberculosis, since inherited racial or personal characteristics may induce a greater or less susceptibility to the disease, since economic conditions may play an important part in its dissemination, and since personal and racial habits in regard to diet, housing, and general hygiene may be equally influential, it is evident that the list of factors possibly contributing to the causation of tuberculosis is a long one.

With most of these factors it is impossible to decide to what degree they are harmful. In the following pages some of the leading factors will be presented, and wherever the information available permits, their relative importance will be indicated or their connection with tuberculosis established. Often, however, while common sense and common experience suggest a connection the data which would prove it and measure its degree are lacking.

And first it may be well to take up two matters which, while they can not be called causes of tuberculosis, are often put forward as explanations of its prevalence among the operatives of the cities studied.

The first of these is an alleged tendency to migrate on the part of cotton operatives and a presumed exposure elsewhere to tuberculosis. Operatives, it was said, who were in an advanced stage of tuberculosis not uncommonly visited relatives in the particular city under discussion, and, dying there, swelled unfairly its operative death rate from tuberculosis, although they had never been employed in its mills.

In passing it may be said that the experience gained in this investigation does not tend to confirm this theory. Only three such cases were found among the decedent operatives of the three cities for the three-year period, while on the other hand at least a dozen instances were found in which persons, having contracted tuberculosis while working in the cotton mills of a specified city, had left the city for outside sanatoria or for their childhood homes, where they died soon afterwards.

To put the theory to the test of figures, however, inquiry was made as to the length of time the decedent had lived in the city of his death. In Fall River this information was gained for 92 per cent of the decedents for the three-year period. The following table shows the number and per cent by race of these decedents who had lived there for at least six years before death occurred:

NUMBER OF DEATHS OF MALES AND FEMALES OF EACH RACE, CLASSIFIED AS OPERATIVES AND NONOPERATIVES, DYING FROM TUBERCULOUS AND NONTUBER-CULOUS CAUSES, AND PER CENT RESIDENT AT LEAST 6 YEARS WITHIN THE CITY BEFORE DEATH, FOR FALL RIVER, 3 YEARS.

[This table represents 92 per cent of total deaths reported in the 3-year period; for the remaining 8 per cent length of residence was not reported.]

Per cent resident at least 6 years within Number of deaths. city before death. Classification. Other Total. Amer-Eng-Other All Amer Eng-Irish. French. Irish. French. ican. lish. races. ican. lish. races. races. **Operatives:** Tuberculous. Nontuberculous.. ..... Total ..... Nonoperatives: Tuberculous. Nontuberculous ... Total..... Total operatives and nonoperatives: Tuberculous Nontuberculous. Total ..... 114 1,221 

1	AT I	A	T.	T	C	
1	_	23		שו	2	•

FEMALES.											
5 11	16 42	39 57	39 54	13 17	112 181		94 79	95 95	87 91	31 29	<b>8</b> 5 84
16	58	• 96	93	30	293		83	95	89	30	84
15 217	10 214	32 392	23 205	17 75	97 1,103	73 88	80 87	97 94	74 72	47 45	77 84
232	224	424	228	92	1,200	87	87	94	72	46	83
20 228	26 250	71 449	61 259	30 92	209 1, 284	80 89	89 86	96 94	82 76	40 42	81 84
248	282	520	321	122	1,493	88	86	94	77	42	84
	5 11 16 15 217 232 20 228 248	5         16           11         42           16         58           15         10           217         214           232         224           20         26           228         250           248         282	5         16         39           11         42         57           16         58         96           15         10         32           217         214         392           232         224         424           20         26         71           228         250         449           248         282         520	5         16         39         54           16         58         96         93           15         10         32         205           232         224         424         228           20         26         71         61           228         250         449         259           248         282         520         321	5         16         39         39         13           11         42         57         54         17           16         58         96         93         30           15         10         32         23         17           217         214         392         205         75           232         224         424         228         92           20         26         71         61         30           228         250         449         259         92           248         282         520         321         122	5         16         39         39         13         112           11         42         57         54         17         181           16         58         96         93         30         293           15         10         32         23         17         17           217         214         392         205         75         1,103           232         224         424         228         92         1,200           20         26         71         61         30         209           228         250         449         259         92         1,284           248         282         520         321         122         1,493	5         16         39         39         13         112 <th< th="">           16         58         96         93         30         203            16         58         96         93         30         203            15         10         32         23         17         97         73           217         214         392         205         75         1,103         88           232         224         424         228         92         1,200         87           20         26         71         61         30         209         80           228         250         449         259         92         1,284         89           248         282         520         321         122         1,493         88</th<>	5         16         39         39         13         112         94           11         42         57         54         17         181	5         16         39         39         13         112          94         95           16         58         96         93         30         293          83         95           16         58         96         93         30         293          83         95           15         10         32         23         17         97         73         80         97           217         214         392         205         75         1,103         88         87         94           232         224         424         228         92         1,200         87         87         94           220         26         71         61         30         209         80         89         96           228         250         449         259         92         1,284         89         86         94           248         282         520         321         122         1,493         88         86         94	5         16         39         39         13         112         94         95         87           11         42         57         54         17         181          94         95         87           16         58         96         93         30         203          83         95         89           15         10         32         23         17         97         73         80         97         74           217         214         392         205         75         1,103         88         87         94         72           232         224         424         228         92         1,200         87         87         94         72           20         26         71         61         30         209         80         89         96         82           228         250         449         259         92         1,284         89         86         94         76           248         282         520         321         122         1,493         88         86         94         77	5         16         39         39         13         112

#### MALES AND FEMALES.

Operatives: Tuberculous Nontuberculous	11 22	35 105	62 103	67 98	29 40	204 368		80 86	92 93	85 92	55 27	83 84
Total	33	140	165	165	69	572		84	93	89	39	84
Nonoperatives: Tuberculous Nontuberculous	34 347	34 401	103 674	42 343	33 134	246 1,896	76 89	88 90	94 95	76 78	61 48	83 86
Total	378	435	777	385	167	2,142	88	90	95	78	50	86
Total operatives and nonoperatives: Tuberculous Nontuberculous	45 366	69 506	165 777	109 441	62 174	450 2, 264	82 90	84 89	93 94	82 81	59 43	83 86
Total	411	575	942	550	236	2,714	89	88	94	81	47	85

## CHAPTER III.---MORTALITY IN AGE GROUP 10 YEARS AND OVER. 119

Among the "Other races" comparatively a small proportion of the operative decedents had been in Fall River as long as six years before death. These decedents, it must be remembered, were largely Portuguese who were recent immigrants. Before coming to Fall River and entering the mills they had for the most part been agriculturists, so that their brief term of residence can not be ascribed to any operative characteristics.

Taking the operative group as a whole, the proportion who had been in the city at least six years (84 per cent) so nearly approaches the corresponding proportion of nonoperatives (86 per cent) that no theory as to the higher death rate of operatives can be based on the difference. Also, more than three-fourths of the tuberculous operative decedents had been in Fall River six years or more before death, a length of time which renders it very improbable that they had contracted the disease before coming there. There seems no statistical evidence, therefore, either that operatives are more migratory than nonoperatives, or that any considerable number of the operative decedents owed their fatal disease to conditions existing in some other city than Fall River.

Another reason often assigned for the prevalence of tuberculosis in the communities studied is the large proportion of the foreign born in the population. It is assumed either that the foreign born are peculiarly susceptible to tuberculosis or that the change to a new environment and unfamiliar industries affects them disastrously, or that their ways of living are unhygienic or at least so unsuited to New England conditions that they are largely responsible for the high tuberculous death rate.

It is true that the foreign born form a larger proportion of the tuberculous decedents  $^{\mu}$  than of the population, but it does not necessarily follow that they are disproportionately susceptible to tuberculosis. The table which follows shows that the proportion of the population in the age group 10 to 14 years is from two to five times as great among the native as among the foreign born. Moreover, the percentage of the total population found within each age group up to 24 years is greater among the native born, after which age it is greater among the foreign born.

<sup>a</sup> Combining the totals for males and females shown in the table on page 120 it is found that of the total population (82,367) of Pawtucket in 1905, 44,677, or 54.1 per cent, were foreign born, and of the total population (159,113) of the three cities, 80,274, or 50.5 per cent, were foreign born. As regards tuberculous decedents, Table 53 shows that in Fall River for 1 year 58 per cent and in the three cities for 1 year 52 per cent were foreign born.

# 120 CAUSES OF DEATH AMONG COTTON-MILL OPERATIVES.

#### NUMBER AND PER CENT OF NATIVE AND OF FOREIGN BORN POPULATION 10 YEARS OF AGE AND OVER IN EACH SPECIFIED AGE GROUP, BY SEX, FOR FALL RIVER, MANCHESTER, AND PAWTUCKET.

		Fall I (Census	River. of 1905.)		Manchester. (Census of 1900.)					
Sex and age group.	Nun	ıb <b>er.</b>	Per c	ent.	Nun	nber.	Per c	ent. For- eign born. 7. 24 10. 64 13. 28 14. 04 12. 19 18. 48 12. 15 18. 48 12. 5 6. 89 4. 25 . 14 100. 00 68. 63 24. 13		
	Native born.	Foreign born.	Na- tive born.	For- eign born.	Native born.	Foreign born.	Na- tive born.	For- eign born.		
Males:         10         to 14 years           15 to 19 years         20 to 24 years         20 to 24 years           20 to 24 years         30 to 34 years         35 to 44 years           35 to 44 years         35 to 44 years         35 to 44 years           45 to 54 years         36 to 34 years         36 to 34 years           55 to 64 years         36 to 34 years         36 to 34 years           55 to 64 years         36 to 35 years and over         10 known	$\begin{array}{r} 4.152\\ 3.367\\ 2.324\\ 1.882\\ 1.609\\ 2.094\\ 1.345\\ 662\\ 379\\ 34\end{array}$	921 1,947 2,184 2,614 2,477 4,719 3,039 1,901 1,130 1	$\begin{array}{c} 23.26\\ 18.87\\ 13.02\\ 10.54\\ 9.02\\ 11.73\\ 7.54\\ 3.71\\ 2.12\\ .19\end{array}$	$\begin{array}{r} 4.40\\ 9.30\\ 10.43\\ 12.49\\ 11.83\\ 22.54\\ 14.52\\ 9.08\\ 5.40\\ .01\\ \end{array}$	$1,718 \\ 1,447 \\ 1,252 \\ 1,193 \\ 1,008 \\ 1,678 \\ 1,144 \\ 651 \\ 537 \\ 57 \\ 57 \\$	743 1,091 1,362 1,440 1,250 1,896 1,318 707 436 14	$16.08 \\ 13.54 \\ 11.72 \\ 11.17 \\ 9.44 \\ 15.70 \\ 10.71 \\ 6.09 \\ 5.02 \\ .53$	$\begin{array}{c} 7.24\\ 10.64\\ 13.28\\ 14.04\\ 12.19\\ 18.48\\ 12.85\\ 6.89\\ 4.25\\ .14\end{array}$		
Total	17,848	20, 933	100.00	100.00	10,685	10, 257	100.00	100.00		
15 to 44 years	$11,276 \\ 2,420$	$13,941 \\ 6,071$	$63.18 \\ 13.56$	66.59 29.01	6, 578 2, 389	7, 039 2, 475		68.63 24.13		
Females:         10 to 14 years.           15 to 19 years.         20 to 24 years.           20 to 24 years.         30 to 34 years.           35 to 44 years.         35 to 44 years.           35 to 64 years.         55 to 64 years.           65 years and over.         Unknown.	4, 209 3, 592 2, 900 2, 301 1, 783 2, 350 1, 412 735 556 4	977 2,201 2,955 2,922 2,593 4,943 3,536 2,212 1,399 6	21.21 18.10 14.62 11.60 8.99 11.84 7.12 3.70 2.80 .02	4.11 9.27 12.44 12.31 10.92 20.82 14.89 9.32 5.89 .03	1,698 1,584 1,490 1,423 1,092 1,868 1,234 783 761 48	774 1,456 1,967 1,825 1,360 2,267 1,505 859 531 20	$14.17 \\ 13.22 \\ 12.44 \\ 11.88 \\ 9.11 \\ 15.59 \\ 10.30 \\ 6.54 \\ 6.35 \\ .40$	$\begin{array}{c} 6.16\\ 11.59\\ 15.66\\ 14.52\\ 10.82\\ 18.04\\ 11.98\\ 6.84\\ 4.23\\ .16\\ \end{array}$		
Total	19,842	23,744	100.00	100.00	11,981	12,564	100.00	100.00		
15 to 44 years. 44 years and over	$12,926 \\ 2,707$	$15,614 \\ 7,153$	$65.15 \\ 13.64$	65.78 30.13	7,457 2,826	8,875 2,915	62.24 23.59	70.63 23.21		

		Pawt (Census	ucket. of 1900.)		Total, 3 cities.			
Sex and age group.	Nur	nber.	Per	cent.	Nun	nber.	Per	cent.
	Native born.	Foreign born.	Na- tive born.	For- eign born.	Native born.	Foreign born.	Na- tive born.	For- eign born.
Males:           10 to 14 years.           15 to 19 years.           20 to 24 years.           25 to 29 years.           36 to 34 years.           35 to 44 years.           45 to 54 years.           55 to 64 years.           55 to 64 years.           65 years and over.           Unknown.	1,463 1,355 1,268 1,080 827 1,297 767 454 313 41	$\begin{array}{r} 247\\ 429\\ 643\\ 729\\ 802\\ 1,302\\ 937\\ 613\\ 366\\ 1\end{array}$	$16.50 \\ 15.29 \\ 14.31 \\ 12.18 \\ 9.33 \\ 14.63 \\ 8.65 \\ 5.12 \\ 3.53 \\ .46$	4.07 7.07 10.60 12.01 13.21 21.45 15.44 10.10 6.03 .02	7,333 6,169 4,844 4,155 3,444 5,069 3,256 1,767 1,229 132	1,911 3,467 4,189 4,783 4,529 7,917 5,294 3,221 1,932 16	19.61 16.50 12.95 11.11 9.21 13.55 8.71 4.72 3.29 .35	5.139.3011.2412.8412.1621.2514.218.645.19.04
Total	8,865	6,069	100.00	100.00	37, 398	37, 259	100.00	100.00
15 to 44 years	5,827 1.575	3,905 1,917	65.73 17.76	64.35 31.59	23,681 6,284	24, 885 10, 463	63.32 17.07	66. 78 28. 08
Females:         10 to 14 years.           15 to 19 years.         20 to 24 years.           20 to 29 years.         30 to 34 years.           35 to 44 years.         35 to 44 years.           35 to 54 years.         55 to 64 years.           55 to 64 years.         55 to 64 years.           55 to 64 years.         55 to 64 years.           55 to 64 years.         50 to 64 years.           56 years and over.         Unknown.	$\begin{array}{c} 1,528\\ 1,391\\ 1,379\\ 1,211\\ 889\\ 1,385\\ 874\\ 509\\ 431\\ 21\\ \end{array}$	237 476 789 829 796 1,358 1,019 717 486	$15.89 \\ 14.46 \\ 14.34 \\ 12.59 \\ 9.24 \\ 14.40 \\ 9.09 \\ 5.29 \\ 4.48 \\ .22$	3.53 7.10 11.76 12.36 11.87 20.25 15.19 10.69 7.25	7,435 6,567 5,769 4,935 3,764 5,603 3,500 2,027 1,748 73	$\begin{array}{c} 1,988\\ 4,133\\ 5,711\\ 5,576\\ 4,749\\ 8,568\\ 6,060\\ 3,788\\ 2,416\\ 26\end{array}$	$17.94 \\ 15.85 \\ 13.92 \\ 11.91 \\ 9.08 \\ 13.52 \\ 8.49 \\ 4.89 \\ 4.22 \\ .18$	$\begin{array}{r} 4.62\\ 9.61\\ 13.28\\ 12.96\\ 11.04\\ 19.92\\ 14.09\\ 8.80\\ 5.62\\ .06\end{array}$
Total	9,618	6,707	100.00	100.00	41, 441	43, 015	100.00	100.00
15 to 44 years		4,248 2,222	65.03 19.08	$\begin{array}{c} 63.34\\ 33.13 \end{array}$	26, 638 7, 368	28,737 12,290	64.28 17.78	66. 81 28. 57

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But it will be remembered that deaths from tuberculosis are almost lacking in the age group 10 to 14 years, and that the tuberculous hazard for both sexes alike reaches its maximum in the age group 30 to 34. In other words, in the age groups in which tuberculosis least often occurs, the foreigners are scantily and the native born numerously represented, while in the age groups in which tuberculosis is rife these proportions are reversed.

Of the total population aged 15 years and over, the foreign born form the following percentages:

PER CENT OF MALES AND FEMALES FOREIGN BORN IN TOTAL POPULATION 15 YEARS OF AGE AND OVER, FOR FALL RIVER, AND FOR FALL RIVER, MAN-CHESTER, AND PAWTUCKET COMBINED.

Locality	Per cent total p age and	n born in 15 years of	
Locality.	Males.	Females.	Males and females.
Fall River. Three cities	59.37 54.05	59. 29 53. 26	59.32 53.62

Of the total tuberculous decedents during the three-year period, the foreign born form the following percentages:

PER CENT OF TUBERCULOUS MALE AND FEMALE DECEDENTS WHO WERE FOR-EIGN BORN, FOR FALL RIVER, AND FOR FALL RIVER, MANCHESTER, AND PAW-TUCKET COMBINED, 3 YEARS.

	Per cent of tuberculous dece- dents who were foreign born.				
Locality.	Males.	Females.	Males and females.		
Fall River	64 55	56 52	60 54		

It appears, therefore, that if due regard be had to the age distribution of the two classes, the foreign born do not contribute an undue proportion of tuberculous deaths, and the prevalence of the disease can not be explained by a reference to their numbers.

Turning from these general explanations, attention will be given to a group of factors, frequently assigned as causes of tuberculosis, but of the relative importance of which no measurement can be attempted.

Prominent among these is ignorance. There can be no doubt that in many cases this constitutes a serious handicap to the individual who perhaps finds himself hampered from childhood with poor health or impaired vitality, due in the first instance to his parents' ignorance of how to treat a child and in the next to his own ignorance of how to treat himself. It is manifestly impossible, however, to say how extensively this cause operates and to what degree it is responsible for the tuberculous death rate.

Improper or insufficient diet, a poor physical equipment at the outset of life, untidy and unhygienic surroundings, undue indulgence in alcoholic drinks—these are factors, which, like ignorance, may be decidedly conducive to tuberculosis, but of which no definite statistical appraisement can be made from the data at hand. In regard to unhygienic surroundings it may be said that as far as the New England municipalities were concerned surroundings were good, the streets and alleys being generally clean, the water supply good, and the drainage usually satisfactory. Such building outrages as windowless rooms were almost nonexistent, these having been found in only five apartments of the thousands of decedents investigated. The household hygiene, however, was less satisfactory, a very considerable number of homes having been found which were so dirty and neglected as to be adjudged really a menace to health.

Table 79 shows the hygienic condition of the apartments formerly occupied by the Fall River female decedents. It will be seen that during the three-year period 46 per cent of the tuberculous, as against 27 per cent of the nontuberculous deaths took place in apartments of which the hygienic conditions were either bad or poor. Among the cotton operatives 53 per cent of the tuberculous as against 33 per cent of the nontuberculous deaths took place in such apartments. These figures seem to indicate a connection between unhygienic apartments and fatal tuberculousis, but more than this can hardly be said.

Previous ill health is another factor sometimes assigned as predisposing to consumption. It seems reasonable that it should have such an effect, but it is difficult to bring statistical proof of its influence. Table 64 shows that in general previous ill health had been more common among tuberculous than nontuberculous decedents, and among operatives than among nonoperatives; it also shows that the cases of previous ill health reported were more numerous among the male tuberculous and operative decedents than among the corresponding classes of females. It is perhaps significant that the percentage reported as undeveloped is in every case much larger among the tuberculous than among the nontuberculous of each sex and occupation class. The reports on this subject, however, were so unsatisfactory and so incomplete that no conclusions can be safely drawn.

# EFFECT OF TUBERCULOUS KINDRED AND INTIMATES.

Since tuberculosis is a communicable disease, tuberculous kindred may evidently play a part in the infection of those of their household. Hence Tables 54 to 58 have been prepared to show what proportion of each sex, race, and occupation class had such kindred, and whether this proportion is larger among those who died of tuberculosis than among those who died from any and all nontuberculous causes.

In considering these tables it must be borne in mind that the number of relatives, and hence the likelihood of having tuberculous relatives, is apt to increase for each person as he grows older. Therefore the average age at death of the different classes must be taken into consideration before conclusions can be safely drawn.

Comparing first the sexes, it appears that in the total population generally speaking a larger proportion of female than of male decedents had had tuberculous relatives. Among the tuberculous nonoperatives of Fall River, the males showed a larger proportion, but in the other subgroups females lead. The different races conform to this general rule, with the single exception of the Americans, among whom a much larger proportion of the male than of the female decedents had had tuberculous relatives.

If tuberculous kindred are a factor in the causation of fatal tuberculosis, it would be natural to expect that the sex which shows the highest death rate from tuberculosis would also show the largest proportion of decedents having such relatives. The Americans, the French Canadians, and the "Other races" conform to this expectation, but among the Irish and English no such conformity is found. In both, the males show a higher death rate from tuberculosis, and a smaller proportion of decedents having tuberculous kindred than the females.

The table already given (see p. 116) shows that the tuberculous and the operative decedents were approximately of the same average age at death, so that they may fairly be compared. They show the following proportions:

PER CENT OF OPERATIVE DECEDENTS AND OF TUBERCULOUS DECEDENTS HAVING TUBERCULOUS KINDRED, BY SEX, FOR FALL RIVER, AND FOR FALL RIVER, MAN-CHESTER, AND PAWTUCKET COMBINED.

Classification of decedents and locality.	Per cent	er cent having tuberculous kindred.				
A CONTRACTOR OF	Males.	Females.	Total.			
Operative decedents (all causes): Fall River. Three cities. Tuberculous decedents (all occupations): Fall River. Three cities.	21.3 20.6 40.2 40.2	29.1 30.9 43.6 42.3	25.3 25.9 41.8 41.2			

This shows a considerably larger proportion having tuberculous relatives among those who died of tuberculosis than among the operative decedents, who died from all causes. It is, however, an unsatisfactory comparison, since some of the tuberculous decedents were operatives, and some of the operative decedents were tuberculous. A more clear cut and definite comparison is that between tuberculous and nontuberculous operative decedents, which shows the following results:

PER CENT OF TUBERCULOUS AND OF NONTUBERCULOUS OPERATIVE DECEDENTS HAVING TUBERCULOUS KINDRED, BY SEX, FOR FALL RIVER, AND FOR FALL RIVER, MANCHESTER, AND PAWTUCKET COMBINED.

Classification of operatives and locality.	Per cent	Per cent having tuberculous kindred.				
	Males.	Females.	Total.			
Operatives dying from tuberculous causes: Fall River. Three cities. Operatives dying from nontuberculous causes: Fall River. Three cities.	41.4 37.7 11.4 13.0	44.6 49.7 19.8 17.2	43.2 44.8 15.5 14.9			

Here the difference is striking. The nontuberculous operatives averaged from 6 to 9 years older at death than the tuberculous,<sup>a</sup> which means that they had had a longer period for acquiring relatives, tuberculous and otherwise. The two groups were derived from the same racial, sex, and occupational conditions, yet in the one group there is only one case in which the proportion having tuberculous kindred falls below two-fifths, while in the other there is only one case in which it rises to practically one-fifth.

A comparison of tuberculuos operatives with tuberculous nonoperatives gives the following figures:

PER CENT OF TUBERCULOUS OPERATIVE AND OF NONOPERATIVE DECEDENTS HAVING TUBERCULOUS KINDRED, BY SEX, FOR FALL RIVER, AND FOR FALL RIVER, MANCHESTER, AND PAWTUCKET COMBINED.

Classification of decedents and locality.	Per cent	berculous	
	Males.	Females.	Total.
Tuberculous operatives: Fall River. Three cities Tuberculous nonoperatives: Fall River. Three cities.	41.4 37.7 39.5 41.1	44.6 49.7 42.6 37.3	43. 2 44. 8 40. 8 39. 5

There is no very marked difference in the two groups, though the average age at death is from three to eight years higher for the nonoperatives.

In general, among tuberculous decedents the proportion having tuberculous relatives ranges from two-fifths upward, rarely falling below 30 per cent, while among nontuberculous decedents the proportion is very much smaller, ranging down to 5 and 10 per cent.

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Turning to the average number of tuberculous relatives to each decedent, it appears that in general female decedents tended to have more such relatives than did the males. Including intimates as well as relatives, it appears, moreover, that among the kindred and intimates of decedent females a larger proportion were female than among the kindred and intimates of decedent males, excepting for nontuberculous male decedents. The following shows the degree to which this is true:

PER CENT OF TOTAL TUBERCULOUS KINDRED AND INTIMATES OF MALE AND FEMALE DECEDENTS OF EACH CLASSIFICATION WHO WERE FEMALES.

Obscification of decidents	Per cent of females amon tuberculous kindred an intimates of—					
Classification of decedents,	Male	Female	Total			
	dece-	dece-	dece-			
	dents.	dents.	dents.			
Tuberculous operatives	58	62	61			
	45	65	59			
Total operatives	52	64	60			
	54	59	57			

Among female operative and female tuberculous decedents, respectively, about a fourth and a fifth of the total tuberculous kindred and intimates were sisters and a sixth and a seventh were brothers; while among the corresponding male decedents, sisters constituted about a sixth and a fifth, and brothers about a fifth.

Of the tuberculous kindred of male decedents fathers formed a larger percentage than mothers, whereas the opposite was true for female decedents; and tuberculous wives constituted a materially larger proportion of the tuberculous kindred and intimates of decedent males than did tuberculous husbands of decedent females. This was most striking among tuberculous decedent males, though practically the same proportion of male as of female tuberculous decedents had been married (male, 58 per cent; female, 57 per cent).

It is scarcely safe to draw any conclusion from these tables beyond the very obvious one that there is much need of fuller data upon the question of the effect of tuberculous kindred in causing tuberculosis. But they do bring out clearly the fact that the proportion of decedents who have tuberculous kindred or intimates is much larger among tuberculous than among nontuberculous decedents of the same approximate age.

# EFFECT OF AGE.

Since tuberculosis is known to be of immediate germ origin, it might be expected that its greatest incidence would be found in those age groups in which the greatest proportion of the population is massed. Hence, since nearly two-thirds of the population of the localities studied are in the age group 15 to 44 years, at least a similar

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proportion of the tuberculous deaths should normally be found here also, and for the elder groups the deaths from tuberculosisshould be numerically less important. This is actually the case; a comparison of the number of deaths from tuberculosis in the two periods gives the following results:

NUMBER OF MALES AND FEMALES DYING FROM TUBERCULOSIS IN EACH SPECIFIED AGE GROUP, FALL RIVER, 3 YEARS, AND FALL RIVER, MANCHESTER, AND PAW-TUCKET COMBINED, 1 YEAR.

	Number of deaths from tuberculosis.			
Locanty and age group.	Males.	Fe- males.	Total.	
Fall River, 3 years:         15 to 44 years.           45 years and over.         5           Three cities, 1 year:         15 to 44 years.           15 to 44 years.         15	179 67 134	175 37 147	354 104 281	

But this dissimilarity in the number of deaths does not indicate anything like a corresponding dissimilarity in the hazard from tuberculosis, the falling off in the number of deaths being due to a decrease in population rather than to any great diminution of the risk from tuberculosis; indeed among males the age group 45 to 64 years shows a higher tuberculous death rate than the period from 15 to 44 years. The following table shows the comparative distribution of the population and of the tuberculous deaths among the great age groups, with the death rate from tuberculosis of each group:

PER CENT IN EACH AGE GROUP OF POPULATION 10 YEARS OF AGE AND OVER AND OF DEATHS FROM TUBERCULOSIS, WITH DEATH RATE FROM TUBERCULOSIS IN EACH GROUP, BY SEX, FOR FALL RIVER, 3 YEARS, AND FOR FALL RIVER, MANCHESTER, AND PAWTUCKET COMBINED, 1 YEAR.

and the second s	Per cent age gro	Death rate in each age	
Age group and locality.	Total popula- tion.	Total deaths from tuber- culosis.	from tuber- culosis (per 1,000 popula- tion).
10 to 14 years: Fall River, 3 years. 3 cities, 1 year.	13 13		
Fall River, 3 years. 3 cities, 1 year.	65 65	73 74	2.28 2.56
45 to 04 years: Fall River, 3 years. 3 cities, 1 year. 55 years and over:	18 18	22 21	2.54 2.57
Fall River, 3 years. 3 cities, 1 year.	4 4	5 5	2.49 2.27
10 years and over: Fall River, 3 years	100 100	100 100	2.03 2.22
45 years and over: Fall River, 3 years 3 cities, 1 year	22 22	27 26	2.53 2.51

MALES.

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#### PER CENT IN EACH AGE GROUP OF POPULATION 10 YEARS OF AGE AND OVER AND OF DEATHS FROM TUBERCULOSIS, ETC.—Concluded.

FEMALES.

		and the second states of the	
- man an a	Per cent age gro	in each up of—	Death rate in each age
Age group and locality.	Total popula- tion.	Total deaths from tuber- culosis.	group from tuber- culosis (per 1,000 popula- tion).
10 to 14 years: Fall River, 3 years. 3 cities, 1 year.	12 11	4 2	0.50 .39
10 to 44 years: Fall River, 3 years. 3 cities, 1 year.	66 66	79 83	1.97 2.44
Fall River, 3 years	18 18	15 12	$\begin{array}{c} 1.34\\ 1.36\end{array}$
Fall River, 3 years 3 cities, 1 year	4 5	2 3	.65 1.32
10 years and over: Fall River, 3 years 3 cities, 1 year	100 100	100 100	1.62 1.96
45 years and over: Fall River, 3 years 3 cities, 1 year	22 23	17 15	1.20 1.35
· TOTAL, MALES AND FEMALES.			
10 to 14 years: Fall River, 3 years. 3 cities, 1 year	13 12	2 1	0.25 .20
Fall River, 3 years. 3 cities, 1 year.	65 65	76 78	2.11 2.49
Fall River, 3 years	18 18	19 17	1.90 1.93
Fall River, 3 years. 3 cities, 1 year	45	3 4	1.46 1.73
10 years and over: Fall River, 3 years. 3 cities, 1 year.	100 100	100 100	1.81 2.08
45 years and over: Fall River, 3 years 3 cities, 1 year	22 23	22 21	1.82 1.89

For both sexes combined in Fall River the risk from tuberculosis in the age group 15 to 44 is 11 per cent greater than in the group aged 45 to 64, and 44.5 per cent greater than in the group aged 65 and over; while for the three cities, the age group 15 to 44 shows an excess over the other two groups, respectively, of 29 per cent and 43.9 per cent. These excesses are considerable, especially when account is taken of the greater vitality and resistant power which the younger ages should normally display. Nevertheless, they are not so great as the numerical disparity in the distribution of tuberculous deaths suggests, and the death rates may be taken to show a certain rough correspondence between the distribution of the population and of the tuberculous deaths.

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When shorter age groups are considered a number of variations from this general rule present themselves. The following table shows the most important of these:

PER CENT IN EACH AGE GROUP OF POPULATION 10 YEARS OF AGE AND OVER AND OF DEATHS FROM TUBERCULOSIS, WITH DEATH RATE FROM TUBERCULOSIS IN EACH GROUP, BY SEX, FOR FALL RIVER, 3 YEARS, AND FOR FALL RIVER, MANCHESTER, AND PAWTUCKET COMBINED, 1 YEAR.

	Males i	in each age	group.	Females in each age group.			
	Per çe	nt of—	Death	Per ce	nt of—	Death	
Age group and locality.	Total popula- tion.	Total deaths from tubercu- losis.	rate from tubercu- losis (per 1,000 pop- ulation).	Total popula- tion.	Total deaths from tubercu- losis.	rate from tubercu- losis (per 1,000 pop- ulation).	
10 to 14 years: Fall River, 3 years	13.1			11.9	3.6	0.50	
3 cities, 1 year	12.6	0.4	0.7	11.1	3.8	. 59	
Fall River, 3 years. 3 cities, 1 year.	13.7 12.9	8.1 7.4	$1.21 \\ 1.15$	$13.3 \\ 12.7$	13.6 11.5	$1.66 \\ 1.54$	
20 to 24 years: Fall River, 3 years 3 cities, 1 year	11.6 11.9	10.9 11.1	1.92 1.87	$13.5 \\ 13.3$	14.6 15.1	1.75 1.93	
25 to 29 years: Fall River, 3 years	11.6	8.5	1.50	12.0	20.0	2.70	
30 to 34 years: Fall River, 3 years.	10.5	19.5	3.77	10.1	18.6	3.00	
3 cities, 1 year	9.6	19.4	3.62	8.9	9.6	2.76	
3 cities, 1 year	9.7	13.4	2.76	9.1	10.0	1.87	
Fall River, 3 years. 3 cities, 1 year.	8.0 7.9	8.6 10.3	2.18 2.61	7.8 7.9	$\begin{array}{c} 3.1\\ 5.0\end{array}$	.66 1.06	
45 to 54 years: Fall River, 3 years 3 cities, 1 year	11.3 11.6	14.2 13.8	2.56 2.37	$     \begin{array}{r}       11.1 \\       11.5     \end{array} $	10.5 9.2	1.49 1.35	
55 to 64 years: Fall River, 3 years	6.6	8.1 9.1	2.50	6.8 6.9	4.6	1.09	
65 years and over: Fall River, 3 years.	4.0	5.0	2.49	4.6	1.8	. 65	
o cities, i year	4.0	4.0	1.80	5.0	4.4	1.40	
10 years and over: Fall River, 3 years 3 cities, 1 year	100. 0 100. 0	100.0 100.0	2.03 -2.00	100. 0 100. 0	100. 0 100. 0	1.62 1.70	

From the very beginning the sexes show a marked difference. For both, the most resistant period is adolescence, 10 to 14 years, but whereas the tuberculous deaths in this period are an almost negligible quantity among males, they are an appreciable factor among females. A considerably larger proportion of the female than of the male tuberculous deaths occur between ten and thirty years of age; for the five-year period, 30 to 34, the two proportions are somewhat similar, although the males lead, and thereafter the male proportion is larger, often considerably so, in each age group. Half of the tuberculous deaths of females (51.8 per cent in Fall River, 49.4 per cent in the three cities) had taken place before the decedents were 30, while less than one-third of the male tuberculous deaths had occurred by that age (27.5 per cent in Fall River, 30 per cent in the three cities).

For both sexes the five-year period 30 to 34 shows a higher tuberculous hazard than any other, the next highest being for females the preceding and for males the following five years. After 30, however, the male death rate from tuberculosis is steadily larger than the female, often exceeding it by more than 100 per cent. In old age, 65 years and over, the difference is especially marked.

Age apparently plays a more important part in connection with tuberculosis among women than among men. For some reason (not improbably overwork) it is plainly a disease of the young among women, while among men it is far more evenly distributed throughout the different ages.

It does not follow that because a certain age period shows few deaths officially ascribed to tuberculosis that it is really comparatively free from the disease. Take, for instance, the period 65 years and over, which shows a low mortality from tuberculosis. It seems not implausible that the necessarily weakened heart and usually shallower respiration of the aged involve the presence of a lung tissue unresistant to tubercle bacilli. The multiplication of these germs, by clogging and destroying the lung tissue, would place more and more work upon the senile heart, which would then be less and less able to repair adequately the natural tissue waste or to assist effectively in its elimination.

Under such conditions the pneumococcus, the germ characteristic of pneumonia, may often claim the tuberculous subject as its victim, without acknowledgment of the aid rendered by its insidious forerunner, consumption. A tuberculous infection of the aged, in its resultant effect upon the heart or kidneys, may be likened to the weakening effect upon such a person of a severe injury. In either case the consequent added strain put upon heart, lungs, or kidneys would hasten a death that officially would be usually ascribed to heart disease, pneumonia, or chronic nephritis (Bright's disease).

Although there is thus reason to suspect that at least a part of the apparent immunity of age from tuberculosis is fallacious, it is impossible in the present state of our knowledge of causes of death to form any estimate of the extent to which tuberculosis, not officially identified as such, aids in swelling the death rate. Could this unacknowledged effect be traced, it is entirely possible that the mortality fairly attributable to the disease might be very closely approximated to the distribution of the population in the different ages. In the absence of such exact data, however, it is not possible to say much more than that the period of adolescence, and in a less degree

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the period of age, seem relatively free from tuberculous hazard; that among women tuberculosis is disproportionately common in the years under 30; and that among men it is more evenly distributed through early and middle life.

# EFFECT OF BAD AIR.

Air may be rendered unfit for breathing through a chemical change in its composition due to inclusion within it of the combustion products of respiration, heating, and illumination; or through a physical change by becoming superheated or laden with moisture or mineral, vegetable, or animal dust, including dried sputum teeming with tubercle bacilli; or through various combinations of these factors. Naturally, the better ventilated a room is, the less probability there is of the air being affected in any of these ways.

In the majority of cases it was not possible to gain satisfactory information concerning the degree to which decedents had been exposed to bad air. Table 82 shows the facts as far as they could be gathered for Fall River for the three-year period. It will be noticed that for both males and females, cotton operatives and nonoperatives, the proportion of decedents from ill-ventilated abodes was greater among the tuberculous than among the nontuberculous, which seems at least to suggest a connection between tuberculosis and poor home ventilation. However, as only about one-third of the decedents (33 per cent of the males, 27.2 per cent of the females) were reported as occupying ill-ventilated apartments, too much weight must not be given to these figures.

A somewhat similar conclusion is indicated by a comparison of the average number of rooms occupied by the decedents' families with the average number of persons in these families. The facts necessary for this comparison were obtained for 96 per cent (1,506) of the female decedents of Fall River. Making the above comparison, the following results are obtained:

AVERAGE NUMBER OF ROOMS PER PERSON AMONG IRISH AND NON-IRISH FEMALES CLASSIFIED AS OPERATIVES AND NONOPERATIVES DYING FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, FALL RIVER, 3 YEARS.

~	Average number of rooms per person among female decedents in Fall River, 3 years.									
Race.	Operatives.			Nonoperatives.			Operatives and non- operatives.			
	Tuber- culous.	Non- tuber- culous.	Total.	Tuber- culous.	Non- tuber- culous.	Total.	Tuber- culous.	Non- tuber- culous.	Total.	
Irish Non-Irish	1.0 .9	1.0 1.0	1.0 .9	1.0 1.0	1.2 1.2	1.2 1.2	1.0 .9	1.2 1.2	1.1	
All races	.9	1.0	1.0	1.0	1.2	1.2	1.0	1.2	1.1	

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With the single exception of the Irish operatives, the tuberculous decedents had invariably had less room space than the nontuberculous, i. e., they had suffered from greater overcrowding, and as a consequence their chance of securing good air had probably been less. The exception in the case of the Irish operatives is probably more apparent than real, as they lived far more numerously than did the non-Irish in old houses where the rooms were small and the sanitary arrangements bad.

Another suggestion of the effect of overcrowding and consequent bad air is given in the following table, showing the dwelling of 1,459 (exclusive of 111 or 7 per cent unreported) female decedents of Fall River for three years:

AVERAGE NUMBER OF APARTMENTS PER DWELLING AMONG IRISH AND NON-IRISH FEMALES CLASSIFIED AS OPERATIVES AND NONOPERATIVES DYING FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, FALL RIVER, 3 YEARS.

	Averag	e numbe	er of apa	rtments Fall	per dwe River, 3	lling am years.	ong fem	ale deced	lents in
Race.	0	perative	s.	No	noperati	ves.	Opera o	tives and perative:	i non-
	Tuber- culous.	Non- tuber- culous.	Total.	Tuber- culous	Non- tuber- culous.	Total.	Tuber- culous.	Non- tuber- culous.	Total.
Irish Non-Irish	4.0 5.0	4.2 4.4	4.1 4.6	3,0 3,9	3.5 3.4	3.5 3.3	3.8 4.4	3.6 3.4	3.6 3.6
All races	4.7	4.3	4.4	3.8	3.3	3.4	4.2	3.5	3.6

The general conclusions suggested by this table and the explanation of the apparent exception presented by the tuberculous Irish are the same as for the preceding table.

The figures cited have shown that a larger proportion of tuberculous than of nontuberculous decedents are known to have occupied ill-ventilated apartments; that a greater degree of crowding had existed within the apartments of the tuberculous than of the nontuberculous decedents; and that these apartments had generally been in buildings housing a larger number of families than was the case with the apartments of the nontuberculous. None of these items is conclusive, but combined they afford at least a presumption that there was a connection between poor air in the home and tuberculosis.

#### EFFECT OF OPERATIVE WORK.

A very brief examination of the tables already given of deaths from tuberculosis and from nontuberculous causes shows that tuberculosis plays a much more important part in the operative than in the nonoperative deaths. Thus in Fall River for the three-year period the figures stand thus. NUMBER OF OPERATIVES AND OF NONOPERATIVES 15 TO 44 YEARS OF AGE DYING FROM TUBERCULOSIS AND FROM ALL CAUSES, AND PER CENT OF DEATHS DUE TO TUBERCULOSIS, BY SEX, FALL RIVER, 3 YEARS.

Section 2. Contraction of the	Deaths in the age group 15 to 44 years.						
the second s	Ма	les.	Females.				
of the same second of the second second	Opera- tives.	Nonop- eratives.	Opera- tives.	Nonop- eratives.			
Number of deaths from— All causes. Tuberculosis.	179 82	308 97	253 106	297 69			
Per cent of deaths due to tuberculosis	45.8	32.1	41.9	23.2			

Not only do operatives as a whole show this excess in their proportion of deaths from tuberculosis, but the same excess appears in every age, sex, and race group. In some groups, especially among females, the difference is enormous; everywhere it is considerable. The following table shows the degree of this difference.<sup>a</sup>

How much greater, among those of approximately like age and among all races, the percentage of deaths from tuberculosis is among operatives than among nonoperatives, the following, based upon Tables 26 and 52, will demonstrate.

PERCENTAGE BY WHICH PER CENTS OF TUBERCULOUS DEATHS OF OPERATIVES 15 TO 44 YEARS OF AGE EXCEED THOSE OF NONOPERATIVES OF SAME AGE GROUP, BY RACE AND BY SPECIFIED AGE GROUPS, FOR FALL RIVER, 3 YEARS, AND FOR FALL RIVER, MANCHESTER, AND PAWTUCKET COMBINED, 1 YEAR.

	Percentage of excess.								
Sex and locality.	Aggregate non-Irish.	Irish.	Ameri- can.	English.	French Canadian.	Other races.	Total, all races.		
Males: Fall River, 3 years 3 cities, 1 year	70 78	13 17	14 26	68 57	88 70	117 213	44 45		
Females: Fall River, 3 years 3 cities, 1 year	74 88	96 62	106 273	57 114	83 65	24 12	83 82		
Fall River, 3 years 3 cities, 1 year	68 80	42 37	54 105	56 67	83 70	61 85	63 62		

BY RACE.

BY SPECIFIED AGE GROUPS.

and in the second	Percentage of excess.								
Sex and locality.	15 to 24 years.	25 to 34 years.	35 to 44 years.	Total, 15 to 44 years.					
Males: Fall River, 3 years 3 cities, 1 year Females: Fall River, 3 years 3 cities, 1 year Total, both sexes: Fall River, 3 years 2 cities 1 year.	24 6 29 14 26	27 53 65 100 44 77	88 77 178 105 89 91	44 45 83 82 63 62					

a This table is limited to the years from 15 to 44 because the nonoperatives are so much more numerously represented in the higher age groups where tuberculosis is relatively unimportant that, unless so limited, a comparison would be thoroughly unfair and misleading.

CHAPTER III.-MORTALITY IN AGE GROUP 10 YEARS AND OVER. 133

The table discloses considerable differences between the different race groups, but with unvarying constancy it shows for both the one and the three year period, for both sexes, for different age groups, and for each of the several races that a greater proportion of operative than nonoperative deaths were tuberculous. The constancy with which this result appears is practically a conclusive demonstration that fatal tuberculosis is more prevalent among operatives than among nonoperatives, and that its prevalence is greatest among female operatives.

Such percentages when based upon large masses of the population disclose mortality tendencies but do not afford exact measures of these tendencies. In spite of this admitted inexactness they are given here because they establish independently the chief facts demonstrated by the death rates. These rates for the different race age groups, it will be remembered, are based on the assumption that the race distribution of those 15 to 44 years of age in the 1906 population is in the same proportion as is the race distribution of the whole population recorded in the 1905 census. As this assumption contains a possibility of error, it seemed desirable to confirm the general accuracy of the death rates by a comparison with the above results obtained independently.

The close accord of the results obtained by the two methods—i. e., first by a comparison between percentages of tuberculous deaths within given groups, and second by a comparison of death rates from tuberculosis within the same groups—may be seen by comparing the table just given with that immediately following.

PERCENTAGE BY WHICH PER CENTS OF TUBERCULOUS DEATHS OF OPERATIVES 15 TO 44 EXCEED THOSE OF NONOPERATIVES OF SAME AGE GROUP; AND BY WHICH DEATH RATES PER 1,000 POPULATION OF SUCH OPERATIVES FROM TUBER-CULOSIS EXCEED THOSE OF NONOPERATIVES, BY SEX, FOR FALL RIVER, 3 YEARS, AND FOR FALL RIVER, MANCHESTER, AND PAWTUCKET, 1 YEAR.

the second s	Percentage of excess.			
	Males	Females.	Total, both sexes.	
DEATHS FROM TUBERCULOSIS.			Ch Land	
Per cent of total deaths: Fall River, 3 years 3 cities, 1 year	44 45	83 82	61 62	
Rate per 1,000 population: Fall River, 3 years. 3 cities, 1 year.	29 27	160 136	83 78	

The following table, abstracted from Tables 22 and 44, is constructed from death rates per 1,000 population of operatives and nonoperatives dying from tuberculosis, and is a correlative of the preceding table, which showed excess percentages on the basis of the percent which tuberculous deaths are of total deaths:

PERCENTAGE BY WHICH DEATH RATES FROM TUBERCULOSIS (PER 1,000 POPULA-TION) OF OPERATIVES 15 TO 44 YEARS OF AGE EXCEED THOSE OF NONOPERATIVES OF SAME AGE GROUP, BY RACE AND BY SPECIFIED AGE GROUPS, FOR FALL RIVER, 3 YEARS, AND FOR FALL RIVER, MANCHESTER, AND PAWTUCKET COMBINED, 1 YEAR.

#### BY RACE.

	Percentage of excess.								
Sex and locality.	Aggregate non- Irish.	Irish.	Amer- ican.	English.	French Canadian.	Other races.	Total, all races.		
Males: Fall River, 3 years 3 cities, 1 year Fall River, 3 years 3 cities, 1 year Total, both sexes: Fall River, 3 years 3 cities, 1 year	74 81 151 151 111 117	a ?6 a 30 149 98 31 26	224 221 300 638 249 379	5 a 13 81 233 36 70	80 88 160 58 121 72	86 93 64 2 72 38	29 27 160 136 83 78		

#### BY SPECIFIED AGE GROUPS.

Sex and locality.	Percentage of excess.			
	15 to 24 ears.	25 to 34 years.	35 to 44 years.	Total, 15 to 44 years.
Males: Fall River, 3 y ars 3 cities, 1 year	82 15	25 46	9 20	29 27
Fall River, 3 years 3 cities, 1 year	128 73	142 204	414 104	160 136
Fall River, 3 yea: s 3 cities, 1 year	106 55	79 117	101 87	83 78

a Nonoperative excess over operative.

This table shows at a glance that with the exception of the male Irish and English the percentage of excess of the tuberculous death rate of operatives over that of nonoperatives is constantly large, and that among females it is enormous.

The fact that operatives almost without exception in each locality and in the various age, sex, and race groups show such an undue proportion of deaths from tuberculosis is almost conclusive proof of a causal connection between operative work and the disease. The coincidence between work in the cotton mills and a death rate from tuberculosis higher than that of a corresponding class of nonoperatives would not be found in so many and such diverse groups were it a mere coincidence. It seems hardly open to question that operative work predisposes to tuberculosis and that its effect in this direction is greater among females than among males.
The latter conclusion is not so certain as the former, since it is possible that the greater tuberculous mortality among female operatives is due in part to their very general custom of doing a part or all of the housework at home in addition to their work in the mill. Housework may not in itself be in the least harmful, but when it follows a full day's work in the mills it is obvious that the doer of it runs a greater risk of exhaustion and of consequent susceptibility to tuberculosis than the person who is doing only housework or only millwork. As men operatives are less apt than women to do any work outside the mill they do not so often incur the extra exhaustion, which may partially account for their lower death rate from tuberculosis.

The question naturally arises whether this hazard from tuberculosis inheres in operative work as a whole or in certain occupations especially. The data at present available are not sufficient to answer this question fully, but some indication of the situation may be gained by comparing the distribution of the operative deaths with the distribution of the operative population. The latter is based on special reports from the mill superintendents of the places studied, giving the sex, whether below or above 16 years of age, workroom where employed, and specific occupation of each employee.

The operative decedents were at first classified tentatively in ten groups, according to the principal mill occupations, with an eleventh miscellaneous group comprising the various minor occupations. This last group comprised in Fall River 13 per cent and for the three cities 14 per cent of all operatives. The ten occupation groups, arranged according to the successive processes by which raw cotton is transformed into cloth ready for shipment, are as follows: Picker tenders, males; card grinders and card strippers combined as carders, males; back boys and doffers, the former males, the latter principally females; drawing-frame tenders, principally males; slubber tenders, both sexes; and speeder tenders, females; spinners, both sexes; spooler tenders, including also warper tenders, drawers in, cone winders, and twisters, the first principally, the others almost exclusively females; slasher tenders, males; loom fixers, males; weavers, including spare hands, males and females; and, finally, cloth-room hands, males and females, but chiefly the latter.ª

In spite of painstaking efforts to class each decedent operative in accordance with the exact work he performed this classification gives rise to obvious incongruities. For example, about two-thirds of the male employees who work in the spinning room are spinners and doffers, the remainder being assigned to various occupations. But

<sup>&</sup>lt;sup>a</sup> For description of cotton-mill processes see the 1907 report of the Massachusetts State Board of Health upon "The sanitary condition of factories, workshops, and other establishments where persons are employed," pp. 7-45. Massachusetts Senate Document, No. 250, 1907.

there were practically no male deaths reported for spinning-room occupations other than spinning and doffing, so that about one-third of the spinning-room male employees were left constantly without any mortality in any of the cities—an obvious absurdity, and one which unidentified probably accounts in no small part for the very high death rates published for spinners.

Under these circumstances it seemed advisable to use the number employed in a given workroom rather than the number employed at a given occupation as the basis for computing death rates. This necessitated a reclassification of the decedent operatives as follows:

- 1. Picker room-Picker tenders and picker bosses.
- 2. Card room—Male carders, etc., female speeder tenders, male and female slubber tenders, and drawing-frame tenders, and female doffers.
- 3. Spinning room-Spinners, male doffers, and back boys.
- 4. Spooling room—Spooler tenders, warper tenders, beamers, drawers in, winders, twisters, and reelers.
- 5. Slasher room—Slasher tenders, etc. (these have a separate room in the newer mills, but often in the older ones are in one end of the spooler room).
- 6. Weave room-Loom fixers, weavers, etc.
- 7. Cloth room-Inspectors, balers, folders, etc.

On this basis the death rates for the various rooms were computed. These are given in full in Table 62, but a summary is here presented of workroom death rates from tuberculosis. Two cautions must be observed in dealing with these figures. First, the average age of the tuberculous decedents in specific mill occupations differs so widely between the sexes that no comparison between the death rates of males and females can be made.<sup>a</sup> Second, in a number of cases, though the person giving the information knew that the decedent in question had been a mill worker within two years of his death the particular kind of work he did was unknown. In Fall River the occupation of the tuberculous female operatives was learned for all except 2 per cent of the decedents, but among the females of the other two cities and the males of all three cities a proportion varying from one-fifteenth to over a tenth were unreported as to the workroom in which they had been employed.

Those who were thus unreported were omitted in computing the death rates of the several workroom occupations. The death rates for these occupations may, therefore, be indefinitely too low, excepting those for the female operatives of Fall River, which are practically correct.

The following tables show, by sex, the distribution of the operatives and of the tuberculous decedents by workrooms:

PERCENTAGE DISTRIBUTION OF EACH SEX, BY WORKROOM WHERE EMPLOYED. OF OPERATIVE POPULATION AND OF TUBERCULOUS DEATHS OF OPERATIVES (10 YEARS OF AGE AND OVER), TOGETHER WITH PER CENT OF DIFFERENCE BETWEEN TUBERCULOUS DEATH RATE IN EACH WORKROOM AND TUBERCU-LOUS DEATH RATE OF TOTAL OPERATIVES, TOTAL NONOPERATIVES, AND BOTH COMBINED, FOR FALL RIVER, AND FOR FALL RIVER, MANCHESTER, AND PAWTUCKET COMBINED, THREE YEARS.

	Per cent (10 ye over)—	Per cent of total (10 years and over)— Per cent of to operative ( years and over)			Per cent of difference (+ or -) between death rate from tuberculosis of each speci- fied group and tuberculous death rate (taken as a base or 100 per cent) of-			
Workroom and locality.	Popula- tion.	'opula- tion. Deaths from tu- berculo- sis.		Deaths from tu- berculo- sis,	Total female opera- tives.	Total female nonop- eratives.	Total opera- tives and nonop- eratives, both sexes.	
Card room: Fall River. 3 cities Spinning room:			17 15	25 20	+46 +38	+312 +243	+148 +141	
Fall River. 3 cities. Spooler room: Fall River.			22 19 20	20 15 19	-9 -21 -7	+157 + 96 + 161	+ 55 + 38 + 57	
Weave room: Fall River. 3 cities. Cloth room:	••••••	• • • • • • • • • • • • • • • • • • • •	20 36 40	22 30 30	+7 -15 -25	+166 +140 + 85	+ 86 + 45 + 30	
Fall River. 3 cities. Unspecified workroom; Fall River. 3 cities.			5 6	4 6 2 7	$+ (a)^{-18}$	+130 +149	+ 39 + 74	
Total female operatives: Fall River 3 cities	27 21	51 43	ð 12, 148 ð 19, 717	c 112 c 189	d 3. 07 d 3. 20	+182 +148	+ 70 + 74	
Total female nonoperatives: Fall River. 3 cities	73 79	49 57				d 1.09 d 1.29	- 40 - 30	
Total females, both classes: Fall River	b 45, 331 b 91, 935	c 220 c 468					d 1.81 d 1.84	

#### FEMALES.

Less than one-half of 1 per cent.
Total or base number (100 per cent), population.
Total or base number (100 per cent), deaths from tuberculosis.
Basic rate of death from tuberculosis for computation of per cent of difference (+ or -).

#### PERCENTAGE DISTRIBUTION OF EACH SEX, BY WORKROOM WHERE EMPLOYED. OF OPERATIVE POPULATION AND OF TUBERCULOUS DEATHS OF OPERATIVES (10 YEARS OF AGE AND OVER), ETC .- Concluded.

	Per cent (10 yea over)—			er cent of total (10 years and over)— Per cent of total operative (10 years and over)—			Per cent of difference (+ or -) between death rate from tuberculosis of each speci- fied group and tuberculous death rate (taken as a base or 100 per cent) of-				
W orkroom and locality.	Popula- tion.	Deaths from tu- berculo- sis.	Popula- tion.	Deaths from tu- berculo- sis.	Total male opera- tives.	Total male nonop- eratives.	Total opera- tives and nonop- eratives, both sexes.				
					1.000						
Pi er room: Fall River. 3 cities.			3	34	$^{+7}_{+15}$	+ 39 + 40	+ 43 + 45				
Card room: Fall River		•••••	17	5	-68 - 62	-58 -54	- 57				
Spinning room: Fall River.			26	32	+23	+ 61	+ 64				
Spooler room: Fall River			24 5	28	+19	+ 44	+ 49				
3 cities Slasher room:			5		•••••						
Fall River			2 3	-3 4	+34 +24	+74 + 51	+ 78 + 56				
Weave room: Fall River			45	45	- 1	+ 29	+ 31				
Cloth room: Fall River.			2	1	-47	- 31	- 29				
3 cities Unspecified workroom:	•••••	•••••	5	2	-49	- 38	- 36				
3 cities			•••••	11 12	•••••	•••••	•••••				
Total male operatives: Fall River. 3 cities.	32 23	38 29	<sup>b</sup> 13,010 <sup>b</sup> 18,731	c 94 c 130	d 2. 41 d 2. 31	+ 30 + 22	+ 33 + 26				
Total male nonoperatives: Fall River	68 77	62				d 1.85	+ 2				
October both shows						a 1.90	+ 3				
Fall River	b 40, 335 b 80, 926	c 246 c 485					d 1.84 d 1.84				

MALES.

a Less than one-half of 1 per cent.
b Total or base number (100 per cent), population.
c Total or base number (100 per cent), deaths from tuberculosis.
d Basic rate of death from tuberculosis for computation of per cent of difference (+ or -).

It will be noticed that for female operatives the differences in the tuberculous hazard of the various rooms are not great. The card room is the only one which shows a rate higher than the average for female operatives. This is the dustiest of the rooms in which women work,<sup>a</sup> and is usually also the darkest. Without fuller data than are at present available concerning the race and age distribution of the workers within the various rooms, it is impossible to say whether this higher tuberculous rate in the card room is due to conditions prevailing there or to the kind of workers who go into it, but the coincidence

of a dusty and usually ill-ventilated room and a high death rate among the women working in it is at least worth noticing.

It is rather curious to find among the male operatives the lowest hazard from tuberculosis in the card room, just where for female operatives it is greatest. This may be due to differences in the race and age of the sexes employed in this room, the possibly brief connection with the card room or the industry of males many of whom doubtless are recent immigrants, or it may be that a considerable portion of the unreported male operatives really belong in the card room, in which case this discrepancy might be decreased or even removed if fuller data were at hand. Among males the slasher room seems to take the place of the card room among female operatives, but only a small proportion of the operative force are employed there; the spinning room probably has considerably more effect in bringing up the male death rate.

These tables can not be taken as conclusive in any way, but as far as they go they seem to indicate that for women at least the higher death rate from tuberculosis among operatives depends not so much upon the kind of work they do as upon the mere fact of their being engaged in mill work.

#### DURATION OF ILLNESS.

A matter of interest in connection with the prevalence of tuberculosis among operatives, especially females, is the length of time during which the decedent suffered from the disease. Table 63 gives the facts on this point so far as they could be gathered. It is highly probable that the duration of the illness, in the case of the tuberculous, is understated, owing to a tendency to date an illness from the time the invalid was obliged to give up his work, or even to take to his bed. This error, however, being general does not materially invalidate percentage comparisons.

It will be noticed that over a fourth (27.6 per cent) of the male and nearly a third (30.9 per cent) of the female tuberculous decedents were admitted by their relatives to have had tuberculosis for two years or more before their death. This means that a considerable number must have kept on at their work in the mill for a year or more after the disease was established. Unless exceptional care was exercised by these in the disposal of their sputum they may during this time have been a persistent source of infection for the other workers within the same mill room.

A comparison between the average duration of the disease as reported and the average length of time out of the mills before death gives a rough measure of the period through which each operative was a probable source of danger to his work mates. The following table presents this comparison.

#### 140 CAUSES OF DEATH AMONG COTTON-MILL OPERATIVES.

	Average months by tu before o	number of affected iberculosis death.
	Males.	Females.
Total duration of disease Out of mill before death In mill at work	13 9 4	16 11 5

AVERAGE NUMBER OF MONTHS MALE AND FEMALE OPERATIVES WHO DIED FROM TUBERCULOSIS WERE AFFECTED WITH THE DISEASE, 3 CITIES, 3 YEARS.

The length of time before his death that the decedent had been out of the mills would be definitely known by the informants, while the duration of the fatal illness, as reported, can be only approximately accurate, especially for a disease like tuberculosis, the onset of which is notoriously insidious. Consequently any error in the above table must be in the direction of understating the length of time during which the decedent operative was a source of danger to his companions.

Another point of interest brought out by the table concerning the duration of fatal illness is the fact that the operative apparently offers less resistance to the progress of tuberculosis than does the nonoperative. The following table shows the difference between the two classes in this respect:

AVERAGE DURATION, IN MONTHS, OF TUBERCULOSIS BEFORE DEATH AMONG MALE AND FEMALE OPERATIVES AND NONOPERATIVES, 3 CITIES, 3 YEARS.

Classification	Average number of months duration of tuberculosis be fore death.					
Crassilleation.	Males.	Females.	Males and females.			
Nonoperatives Operatives.	19 13	22 16	20 15			
Difference in favor of nonoperatives	6	6	5			

Although the duration of the fatal illness is admittedly of doubtful accuracy, yet since the statements for both operatives and nonoperatives were obtained from sources of the same character, there is no reason to suppose that the time has been under or over stated for one class as against the other. On the whole, therefore, it seems reasonably certain that the duration of tuberculosis is materially briefer among operatives than it is among nonoperatives.

From this fact the deductions appear plausible that:

1. Very possibly at the onset of tuberculosis the tissues of the operative were less vigorous, combative, or resistant than were those of the nonoperative. 2. Mill work and unhygienic influences within the mill hastened the progress of the tuberculous disease.

3. The tuberculous operative, especially the female operative, remained at work in the mill for months after contracting the disease, thereby menacing with tuberculous infection her mill mates; and that

4. The tuberculous operative, conscious of constantly diminishing strength, would scarcely have remained thus long at work had her financial condition or had public provision for her care and the care of her dependents been such as to allow her to quit the mill before exhaustion made further work impossible.

#### MORTALITY FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES.

#### EFFECT OF INTEMPERANCE.

At the beginning of the investigation there was no thought of including questions as to the decedents' habits respecting the use of alcoholic beverages, but unsolicited testimony on this point was offered so often that it was decided to make regular inquiry concerning it. As the informants who were questioned on this matter were usually relatives of the decedents, it was possible that their replies were not always candid, but it seems highly probable that any error from this source would be in the direction of understatement. It is to be noted that the informants very commonly seemed inclined to attribute the decedent's end to his intemperate habits, even though the cause officially assigned for his death might be something very different. "So-and-so had consumption, but he brought it on himself. He didn't do right, and there's nobody to blame but himself." Such was the substance of a comment very frequently made by informants.

These facts were not collected outside of Fall River, but within that city they were secured for something over three-fourths of all the male tuberculous decedents and for practically the same percentage of all the male operatives.

The following table<sup>a</sup> shows, by race, the percentage of the male operative and tuberculous decedents for whom reports on this point were secured:

PERCENTAGE OF EACH CLASSIFICATION OF MALE DECEDENTS FOR WHOM REPORTS AS TO USE OF ALCOHOLIC BEVERAGES WERE RECEIVED, BY RACE, FALL RIVER, 3 YEARS.

	Percentage of each classification.							
Classification.	Ameri- can.	English.	Irish.	French Cana- dian.	Other races.	Total.		
Operatives Tuberculous decedents	88 81	76 86	81 81	82 73	72 67	79 78		

The number in each group said by informants to have been of intemperate habits, and the percentage they form of all for whom reports on this point were received, were as follows:

NUMBER OF MALE DECEDENTS IN EACH CLASSIFICATION REPORTED AS OF INTEM-PERATE HABITS, BY RACE, FALL RIVER, 3 YEARS.

Classification.	Ameri- can.	English.	Irish.	French Cana- dian.	Other races.	Total.	
Operatives: Tuberculous. Nontuberculous.	• 2 2	5 13	7 12	5 9	<b>2</b> 2	21 38	
Total Tuberculous nonoperatives	4 1	18 4	19 23	14 2	4 1	59 31	
Total	5	22	42	16	5	90	

PER CENT OF MALE DECEDENTS IN EACH CLASSIFICATION REPORTED AS OF INTEM-PERATE HABITS, BY RACE, FALL RIVER, 3 YEARS.

Classification.	Ameri- can.	English.	Irish.	French Cana- dian.	Other races.	Total.
Operatives: Tuberculous Nontuberculous.	33 22	28 28	39 31	22 23	17 12	27 25
Total Tuberculous nonoperatives	27 7	28 21	33 38	23 17	14 10	26 27
Total tuberculous	14	24	38	20	14	27

Among the operatives as a group a slightly larger proportion of tuberculous than of nontuberculous decedents had been given to intemperance. The English and the French Canadians depart from this general relation, but among the Americans and Irish the proportion of intemperate decedents is much larger among the tuberculous operatives than among the nontuberculous. Among the tuberculous nonoperatives the Irish show much the highest proportion of hard drinkers, while the Americans show a smaller proportion than any other race group.

Among the operatives the Irish, as compared with the other races, show but a slight numerical excess of intemperate decedents, but proportionately their excess is considerable. The percentages which each race furnishes of the male operative population and of the intemperate operative decedents are as follows:

PER CENT IN EACH SPECIFIED RACE OF TOTAL MALE OPERATIVES AND OF TOTAL INTEMPERATE MALE OPERATIVES WHO DIED.

	Ameri- can.	English.	Irish.	French Cana- dian.	Other races.
Per cent of— Total male operatives Total intemperate male operative decedents	5 7	31 31	16 32	32 24	15 7

The Americans and the Irish are the only race groups showing an undue contribution to the number of intemperate male operative decedents, the Americans giving but a small percentage over what their population quota would warrant, while the Irish give twice their proportionate representation. Among the tuberculous decedents this disparity is still more marked. The following table shows the percentage each race furnishes of the total male population of Fall River, and of the intemperate tuberculous decedents:

PER CENT IN EACH SPECIFIED RACE OF TOTAL MALE POPLATION AND OF TOTAL INTEMPERATE TUBERCLOUS MALE DECENDENTS.

9.1	Ameri- can.	English.	Irish.	French Cana- dian.	Other races.
Per cent of— Total male population Total intemperate tuberculous male decedents	18 6	27 17	16 58	27 13	16 6

From this it appears that no race except the Irish furnishes as large a proportion of the intemperate tuberculous decedents as it does of the population, while the Irish have not far from four times their proportionate share of such decedents.

But among the nonoperative tuberculous decedents who were reported as intemperate, the excess of Irish reaches its climax, as shown in the following comparison:

PER CENT IN EACH SPECIFIED RACE OF TOTAL NONOPERATIVE MALES AND OF TOTAL NONOPERATIVE INTEMPERATE TUBERCULOUS MALE DECEDENTS.

and the second second	Ameri- can.	English.	Irish.	French Cana- dian.	Other races.
Per cent of— Total nonoperative males. Total nonoperative intemperate tuberculous male decedents.	25 3	19 13	17 74	25 7	16 3

Here it appears that the Irish, although they form but one-sixth of the male nonoperative population, yet furnish almost three-fourths of the intemperate tuberculous decedents from among the nonoperatives, a disproportion so great as to need no comment.

It will be remembered that the Irish males show a much higher death rate from tuberculosis than those of other races, and that the excess was particularly noticeable among the nonoperatives. The figures just given concerning intemperate decedents are too few to serve as a basis for any definite assertion. But since intemperance is known to be a very important factor in tuberculosis, since the Irish show a much higher proportionate share of intemperate decedents than any other race, and since this proportionate excess is greater among the nonoperative tuberculous decedents than anywhere else,

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there are at least grounds for suspecting that intemperance may account for some portion of the high mortality from tuberculosis among the Irish males.

### EFFECT OF MARRIAGE, IN COMBINATION WITH OPERATIVE WORK, FOR FEMALES.

No adequate population data are available respecting the conjugal condition of the different races or of the several age groups, and therefore no death rates can be computed for the married or single by race. Table 66 shows the conjugal condition of decedents, but no conclusions can be drawn as to the relative hazards of married life for different races and at different ages.

However, for the female population of Fall River taken as a whole, such data are obtainable from the Massachusetts census of 1905. For the purposes of the present discussion the conjugal distribution in 1906, the median of the three-year period, has been determined by applying to the female population of 1906, based on the estimate of the Fall River Board of Health, the percentages shown by the Massachusetts census to have existed in 1905. In order to limit the discussion to those of marriageable age, all under 15 years old are omitted; and since in New England communities it is exceedingly rare for a girl to marry under 15, it is assumed that the 5,393 Fall River females who, as being in the age group 10 to 14, are omitted, were all single. By these means the conjugal distribution of the women in Fall River in 1906 is obtained and a basis secured for the calculation of death rates. Taking first the deaths from tuberculosis, the following results are shown:

TOTAL NUMBER OF FEMALES (15 YEARS AND OVER) CLASSIFIED AS OPERATIVES AND NONOPERATIVES, NUMBER OF DEATHS FROM TUBERCULOSIS, AND TUBER-CULOUS DEATH RATE PER 1,000 POPULATION, IN EACH CLASSIFICATION, BY CON-JUGAL CONDITION, FALL RIVER, 3 YEARS.

	Single	Marri	Grand			
Classification.	and un- known.	Married.	Widowed and divorced.	Total.	total.	
Females 15 years of age and over: Operatives. Nonoperatives.	7,968 7,748	3, 389 16, 532	559 3,742	3,948 20,274	11,916 28,022	
Total	15,716	19,921	4,301	24, 222	39,938	
Deaths from tuberculosis: Operatives Nonoperatives	57 34	55 55	11	55 66	112 100	
Total	91	110	11	121	<b>2</b> 12	
Death rates from tuberculosis per 1,000 of population: Operatives	2.38 1.46	5. 41 1. 11	0.98	4.65 1.08	3.13 1.19	
Total	1.93	1.84	. 85	1.67	1.77	

The table shows a striking difference in the relative death rates of the married operatives and nonoperatives. For an operative, marriage, if it does not withdraw her from the mill, appears to increase very largely her risk of death from tuberculosis, while for a nonoperative it seems actually to diminish that risk, because stress is not improbably a chief factor in the causation of the debility precedent to tuberculosis, and the nonoperatives single are, in Fall River, largely engaged as wage earners, even though not in the cotton mill, whereas the nonoperatives married are comparatively seldom wage earners. Several items, in part explanatory of this latter situation, may be suggested. As the average age of the married is greater than that of the unmarried, the former group may contain a greater proportion of tuberculosis immunes or nonsusceptibles, thus bringing down its death rate. The instinctive tendency of men when marrying to choose the more attractive and more vigorous may result in a massing of the feebler, who could naturally oppose less resistance to tuberculosis, among the unmarried; or the larger proportion of the unmarried who are engaged in wage-earning pursuits may have some bearing upon the matter. Whatever weight these various considerations may have, it is certain that among the nonoperatives of Fall River the married do not show as great a death rate from tuberculosis as the unmarried.

But among the operatives the situation is sharply reversed, the married showing nearly twice as high a death rate as the single from tuberculosis. A considerable portion of this excess is directly connected with childbearing. Eleven of the 55 married operatives who died of tuberculosis had never borne offspring; in 14 of the remaining 44 cases, or practically one-third, childbirth or pregnancy had been present as a debilitating complication. Only 17 per cent of the married women of Fall River—the widowed and divorced not being included in this calculation—were operatives, but this 17 per cent furnished 58 per cent of all the tuberculous deaths complicated with parturition which occurred in the whole community during three years.

Furthermore, in every one of the 10 remaining cases of tuberculosis complicated with parturition the mother either had formerly been or was up to the time of her death a wage earner. In four cases she had been out of the mills but three years, while in two others she had been out five years.

Tuberculous heredity and tuberculous kindred appear to have been but minor factors in these parturition-complicated deaths among operatives, having been found in only about a quarter (29 per cent) of the cases. This is but little more than half as frequently as they were found among all female operatives dying of tuberculosis.

The total number of children born to these operative mothers who died of tuberculosis complicated with parturition was 29, an average

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of 2.1 per decedent. An indication of the debility of the mothers and of the consequent poor physical equipment with which their children may have been started in life is found in the fact that only 9 of these children (31 per cent, or less than one-third) survived their mothers.

In view of these facts there seems sufficient reason for assuming that maternity conjoined with operative work forms a combination so debilitating as to predispose to fatal tuberculosis to a marked degree.

The parturition-complicated deaths are not sufficiently numerous to explain the whole difference in tuberculous mortality between the married and the unmarried. But since marriage is apt to mean maternity and maternity is an evident drain upon a woman's strength, and since operative work in itself constitutes a debilitating experience which tends to raise the tuberculous death rate of even single operatives over that of nonoperatives, it is entirely reasonable that the combination of these two experiences should induce a degree of debility and of consequent nonresistance to tuberculosis which would fully account for its excessive prevalence among married as compared with unmarried operatives.

It is possible to compare the death rates from tuberculosis of operatives and nonoperatives because the age group 15 to 44 furnishes the great majority both of female operatives and of female deaths from tuberculosis. But when nontuberculous deaths are to be considered the two groups become noncomparable, owing to their different age distribution. Of the operatives aged 15 years and over, less than one-twelfth (7.2 per cent) were over 44 years old, while of the nonoperatives one-third (33.5 per cent) were over this age. As has already been pointed out, death rates increase very rapidly after 44, so that the large proportion of the nonoperatives in the upper age groups vitiates any comparison between deaths from nontuberculous causes in the two groups. Moreover, it renders it impossible to draw any conclusions as to the effect of marriage upon female nonoperatives, for, in the absence of any data showing the contrary, it is reasonable to suppose that the majority of the single are in the youthful age groups, where death rates are normally low, and that the majority of those in the older groups, where the death rates are high, are or have been married.

Among the operatives, however, it is possible to compare death rates from all causes, since, whether married or unmarried, very few of them are in the mills after 44. Consequently the following table is given to show the comparative death rates among married and single operatives from all causes, and in order to show the uniformity of the relation the rates are given for one year as well as for three years in Fall River and in three cities.

#### NUMBER AND RATE PER 1,000 OF DEATHS OF FEMALE OPERATIVES (10 YEARS OF AGE AND OVER) FROM SPECIFIED CAUSES, BY CONJUGAL CONDITION, FOR 1 YEAR AND FOR 3 YEARS IN FALL RIVER AND THREE CITIES.

and the second	Numbe	ar of deat	ths and r	ate per l conjugal	,000 fem: condition	ale opera 1.	tives of a	specified
1		-			Mar	ried.	114	
Causes, period, and locality.	unknown.		Husband living.		Husband dead or divorced.		Total married	
	Num- ber.	Rate.	Num- ber.	Rate.	Num- ber.	Rate.	Num- ber.	Rate.
TUBERCULOUS CAUSES.		-		64.00 Q			100	
One year: Fall River	22 36	2.68 2.69	25 40	7.38 7.27	2	2.42	25 42	6.33 6.63
Three years: Fall River	57 97	2. 32 2. 42	55 86	5. 41 5. 21	6	2. 42	55 92	4.65 4.84
NONTUBERCULOUS CAUSES.			1-11					
One year: Fall River	29 44	3. 54 3. 29	38 49	11. 21 8. 91	38	5.37 9.66	<b>41</b> 57	10. 39 9. 01
Fall River. 3 cities.	69 115	2. 80 2. 86	105 123	10. 33 ¢ 7. 45	13 23	7.75 9.26	118 146	9.96 ¢7.69
TOTAL, ALL CAUSES.		1.1						
One year: Fall River	51 80	6.22 5.98	63 89	18.59 16.18	3 10	5. 37 12. 08	66 99	16.72 15.64
Fall River. 3 cities.	126 217	5. 12 5. 28	160 209	15.74 a 12.66	13 29	7.75 11.78	173 238	14. 61 d 12. 53

a The distribution, by conjugal condition, of the operatives of the three cities has been found by applying to them the percentages shown by another investigation (see Vol. I of this report, Cotton Textile Industry, p. 129) to exist in 1908 among the whole group of New England female operatives studied. These percentages are almost identical with those shown by the Massachusetts census to have existed in Fall River in 1905. The inclusion of the age group 10 to 14 has no effect upon the death rates of the married, and, owing to the small number of both operatives and deaths within its limits, modifies the death rate of the single too slightly to affect at all materially the general relation of the rates.
b Low death rate due to investigation of all the nontuberculous for only 1 year in Manchester and Pawtucket, and to the consequent nonidentification of possibly many mill-working decedents as "operatives."

For all localities and for both periods the death rates of the married are strikingly higher than those of the single, the death rates of the former invariably being at least twice as high as those of the single, and in some cases rising to three times as high or even more.

Undoubtedly the married operatives as a group had a higher average age than the single, but since so small a proportion were over 44 years of age, the difference in this respect could hardly have been sufficient to account for any material part of the great difference in their respective death hazards.

In considering causes of this high mortality the hazard from childbirth immediately occurs as probably responsible for a considerable part. Another cause which can not be so definitely asserted or so easily measured is the extra strain of home work to which the married operative is subjected. As has already been mentioned, it is exceptional for a female operative not to have some share of housework, sewing, and other domestic duties to perform outside of mill hours. Evidently, however, a housewife, especially if she is a mother, is likely to find her outside tasks much heavier than those which devolve upon an unmarried woman, even though she takes her full part in the work of the home.

The extent of the hazard consequent upon childbirth is shown by Tables 7 and 8. Among the Fall River operatives during the threeyear period 26 deaths were ascribed to parturition. In addition there were, as has already been mentioned,<sup>a</sup> 14 deaths in which tuberculosis was complicated with parturition, making 40 cases in which childbirth was either the principal or an important contributory cause of death. This cause of death is practically confined to the married who are living with their husbands. Taking this group as given in a preceding table,<sup>b</sup> it appears that the death rate among them from parturition was 3.93. This hazard, to which the single are not exposed, accounts for a part of the difference in death rates between the married and single, but still leaves a considerable excess among the married which can not be ascribed to this cause.

The deaths due to parturition, however, throw some light upon that part of the difference which they do not explain. In the age group 15 to 44 the death rate from this cause—including deaths from tuberculosis complicated with childbirth—among Fall River operatives was 1.21 and among Fall River nonoperatives 0.68.° In other words, the incompatibility between operative work and wifely duties is so great that it practically doubles the hazard from childbirth. Evidently this incompatibility which reduces a married operative's vitality to such a degree that she is almost twice as likely as the nonoperative to die in childbirth must also decrease to a marked degree her power of resistance to other potential causes of death.

#### EFFECT OF EARLY MARRIAGE FOR FEMALES.

It has been shown that among operatives marriage seems to increase enormously the likelihood of death. A priori, it might be expected that early marriage would increase the hazards of at least the first few years of married life and possibly, through the extra strain thrown upon the wife before her strength is fully developed, might lessen her power of resistance to disease throughout the remainder of her life.

<sup>c</sup> Female operatives, aged 15 to 44, 11,056; female nonoperatives, same age group, 18,627; deaths due to parturition among above operatives, 40; among above nonoperatives, 38. This comparison is very unsatisfactory, since the proportion of married among the operatives was small and among the nonoperatives large. In the lack of data concerning the age distribution of the married, however, no better comparison is possible.

a See p. 92.

<sup>&</sup>lt;sup>b</sup> See table, p. 144.

Unfortunately the lack of adequate information concerning the relation of marriage and age makes it impossible to test this assumption fully, but some indications of its probable truth can be obtained from the facts gathered.

Table 68 shows that the per cent of the married decedents who had been married before reaching the age of 18 was as follows:

PER CENT OF FEMALE MARRIED DECEDENTS WHO WERE MARRIED AT OR BEFORE 18 YEARS.

and the second states and	Per cent marrying at 18 or earlier.				
and the second statement of the second statement and the	Cotton opera- tives.	Nonop- eratives.	Both classes.		
Female married decedents: Tuberculous Nontuberculous.	31 12	30 19	31 20		
Total	18	21	21		

It will be noticed that nearly one-third of the tuberculous married decedents had been married at 18 or earlier and that exactly onefifth of the nontuberculous had made equally early marriages. Common experience is against the supposition that such large proportions of all marriages are made at these youthful ages, and therefore it seems fair to infer that the early marriages contribute a disproportionate share of deaths. The disproportion seems greatest in the case of tuberculous deaths. As between operatives and nonoperatives, the former show the smaller proportion of deaths connected with early marriages.

No definite assertions can be based on these figures, but the inference seems fair that for females early marriage is a constant though not very marked debilitating influence predisposing to tuberculosis or fatally aggravating it where it already exists, and also, though to **a** smaller degree, predisposing to death from nontuberculous causes.

#### PROLIFICACY OF DECEDENTS, WITH THE NUMBER AND PROPORTION OF CHILD SURVIVORS.

A reason frequently assigned for the high mortality of cotton operatives is the prevalence of excessively large families among them. It is assumed that the mother's strength is overtaxed in producing and caring for her numerous children, that the father is unable to provide properly for them, and that lack of proper food, clothing, and care in a word, destitution—lowers the vitality of the whole family and renders them unresistant victims to tuberculosis or other forms of disease. From the point of view of this investigation the question is of interest mainly as it affects female operatives; but to show the full situation the following tables have been made out for both sexes. Because of the difference in their age distributions operatives and nonoperatives can not fairly be compared, but since tuberculous deaths occur mainly within the age limits in which the great majority of operatives are found, these two classes of decedents—the tuberculous and the operative—are fairly comparable. Consequently the nonoperative tuberculous decedents are included to show the relative as well as the absolute prolificacy of the operatives. The tables immediately following show the facts for these two classes of decedents.

NUMBER AND PER CENT OF MALE AND FEMALE DECEDENTS WHO WERE AND WERE NOT PARENTS, FOR FALL RIVER AND FOR FALL RIVER, MANCHESTER. AND PAW-TUCKET COMBINED, 3 YEARS.

	N	umber of	f deceden	its.	Per cent of decedents.			
Classification of decedents and locality.	Single and un- known.	Married but child- less.	Married who had had chil- dren.	Total.	Single and un- known.	Married but child- less.	Married who had had chil- dren.	Total.
Tuberculous nonoperatives: Fall River. 3 cities	62 155	8 24	82 176	152 355	41 44	5 7	54 49	100 100
Tuberculous:	36	7	51	94	38	8	54	100
3 cities	50	9	71	130	38	7	55	100
Fall River. 3 cities.	62 90	21 32	110 171	193 293	32 31	11 11	57 58	100 100
Fall River	98 140	28 41	161 242	287 423	34 33	10 10	56 57	100 100
Total tuberculous: Fall River	98 205	15 33	133 247	246 485	40 42	6 7	54 51	100 100
		FEMAI	ES.		5			
Tuberculous nonoperatives: Fall River	42 105	5 19	61 155	108 279	39 38	5 7	56 55	100 100
OPERATIVES.		-	4					
Tuberculous: Fall River. 3 cities.	57 97	11 17	<b>44</b> 75	112 189	51 51	10 9	39 40	100 100
Fall River. 3 cities.	69 115	16 21	102 125	187 261	37 44	8 8	55 48	100 100
Total operatives: Fall River	126 212	27	146 200	299 450	42	9	49 45	100
Total tuberculous: Fall River. 3 cities.	99 202	16 36	105 230	220 468	45 43	7 8	48 49	100 100

MALES.

#### TOTAL NUMBER OF DECEDENTS AND NUMBER AND PER CENT WHO HAD HAD CHIL-DREN, AND AVERAGE NUMBER OF CHILDREN (LIVING AND DEAD) PER DECEDENT PARENT OF SPECIFIED SEX AND CLASSIFICATION.

		Decedents		Child	Children of decedents.			
Classification of decedents and locality.	Total number in each specified classifi- cation.	Number who had had children.	Per cent who had had children.	Average number per decedent parent.	Per- centage of children dead.	Average number living per decedent parent.		
Tuberculous nonoperatives: Fall River. 3 cities.	152 355	82 176	54 49	4.5 3.8	30 29	3. 2 2. 7		
OPERATIVES.								
Tuberculous: Fall River	94 130	51 71	54 55	3.5 3.3	28 31	· 25 23		
Fall River	193	110	57	4.5	29	3. 2		
3 cities	293	171	58	4.4	28	3. 2		
Fall River	287	161	56	4.2	29	3.0		
3 cities Total tuberculous:	423	242	57	4.1	29	29		
Fall River	246 485	133 247	54 51	4.1 3.7	29 30	29 26		
	FEMA	LES.		1.1				
Muharaulous nonoporativost								
Fall River	108 279	61 155	56 55	4.4 4.0	36 31	2.8 2.8		
OPERATIVES.	1.00				-	A		
Tuberculous:				-	1			
Fall River.	112	44	39	2.9	48	15		
Nontuberculous:	109	15	-10	0.0	-11	1.0		
Fall River	187	102	55	3.3	40	20		
Total operatives:	201	100	10		10			
Fall River	299 450	146 200	49 45	3.1	42 43	1.8		
Total tuberculous:	000	105	10	0.7	10			
3 cities	468	230	48	3.7	40	22		
			-					

Considering first the males, it appears that only a little over half of the operative decedents had ever had children, and that those who had become fathers had averaged only a trifle over four children apiece. Moreover, of these four children on an average one had died in each family, so that the average number of living children per decedent was only three. These averages are not only small, considered by themselves, but are smaller than the corresponding averages for tuberculous nonoperatives. Evidently as far as the operative fathers of the localities studied are concerned either they did not at all generally have the large families ascribed to them, or, if they did, the fathers of such families failed to die at all numerously during the three years covered.

If the tuberculous operatives and nonoperatives are compared, the difference is still more marked. In Fall River the proportion of these

#### MALES.

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two classes who had had children was identical—54 per cent in each case—but the average number of children per decedent was 4.5 for the nonoperatives to 3.5 for the operatives. In the three cities the proportion who had been fathers was greater among operatives than among nonoperatives, but the average number of children per decedent was smaller. Certainly there is no evidence here that operative males at all generally had such large families as to constitute a handicap in their struggle for existence.

Turning to the female operative decedents, it appears that less than half of them had ever been mothers, and that those who had been averaged only 3.1 children apiece. Moreover, on an average one child in each of these families had died, leaving on an average less than two surviving children for each operative decedent mother. Here, as among the males, there is no justification for ascribing the high operative death rate to the effect of large families.

The tables already quoted show that the average age at death was about the same for the nonoperative tuberculous females and the nontuberculous operative females. Comparing these two classes, the above table shows that is smaller proportion of the operatives than of the nonoperatives had ever borne children, that the operative mothers each averaged a smaller number of children than did the nonoperative, and that a larger proportion of their children died before the mother. This seems to indicate that mill work rather than any large number of children was the important factor in the high death rate of the married operatives; and, further, it gives ground for supposing that mill employment unhandicapped by tuberculosis was a more important factor in the death rate than was even tuberculosis when uncomplicated with mill work.

A comparison of the average age at death of the three classes included in the above tables shows that among female decedents in Fall River who had been mothers tuberculous operatives died at the earliest age. These also had borne the smallest number of children per decedent mother, and showed the largest percentage of deaths among these children.

Next in average at death came the nontuberculous operatives. These showed a moderate degree of child bearing and a moderate mortality among the children produced.

Finally came the tuberculous nonoperatives. These showed a moderate degree of child bearing and the smallest percentage of deaths among the children.

The general relation between these factors—tuberculous infection, industrial or nonindustrial work, degree of prolificacy, and mortality of children—and average age at death may be roughly shown tabularly, as follows:

COMPARATIVE FREQUENCY OF INCIDENCE OF DESIGNATED FACTORS AMONG SPECI-FIED CLASSES OF FEMALE MARRIED DECEDENTS IN FALL RIVER DURING 1905 TO 1907, TOGETHER WITH THE RELATIVE LONGEVITY OF SAID CLASSES.

		Specified	d debilitating	; factors.	100	ou (C	
Age group 10 years and over.	Work.	Average prolificacy.	Average percentage of children dead.	Miscella- neous factors.	Resultant effect.	Casualty and infection.	A verage longevity effect.
Class I.—Tuber- culous opera- tives (55).	Exclusive- ly indus- trial.	Minimum.	Maximum.	(?)	P r ofound debility.	Tubercu- lous.	Death very e a r l y (age 30); brief ill-
Class II.—Aggre- gate nontuber- culous opera- tives (118).	do	Next to minimum.	Next to minimum.	(?)	do	Minimal	ness. Death less carly (age 38); illness briefest
Class III.—Aggre- gate tubercu- lous nonopera- tives (66).	Minimally indus- trial.	Moderate .	Minimum.	(?)	M o derate debility.	Tubercu- lous.	D e a t h l e a s t e a r l y (age 41); illness longest.

The fact that it averaged 11 years less time for the factors in Class I than for those in Class III to produce a bodily state fatally vulnerable to tuberculosis, points to cotton-mill employment rather than to prolificacy as having been by far the more important causative factor in the death of married Fall River females in 1905 to 1907.

Likewise, Classes II and III would seem to indicate that cottonmill employment unhandicapped with tuberculosis was basically a weightier factor in fatally terminating motherhood than was absence of operative work even complicated with tuberculosis.

Moreover, the fact that it required eight years less time for the factors in Class I than for those in Class II to effect a fatal result emphasizes how great a life-shortening factor tuberculosis is and what social and economic loss it occasions.

Attention is especially directed to the showing that operative and tuberculous decedent mothers each—the former, however, less than the latter—are characterized by a disproportionately small percentage of child survivors as compared with the percentage of children living at the death of the nonoperative and the nontuberculous mother; and this despite the greater age of the latter maternal classes, and therefore the greater number of years during which children of these latter might have died.

However few the children, therefore, motherhood conjoined to cotton-mill work in Fall River constituted a combination of duties that was prejudicial to child life; and conversely for Fall River female decedent operatives of 1905 to 1907 any extra work outside the mill, including the care of children however few, constituted a seemingly debilitating influence that in the average case, even in the absence of . tuberculous infection, was inimical to maternal longevity.

#### RELATION BETWEEN SEASON OF THE YEAR AND DEATHS.

Following precedent, the tabulation of deaths in this study was at first made by months, and later by the four seasons. But the small variances in these subdivisions seemed of so little practical significance that finally only two seasonal classifications were made summer, including the season from April 1 to September 30, and winter, from October 1 to March 31. Table 72 (number and per cent of deaths occurring during the periods, etc.) shows to what degree climate may be held immediately responsible for deaths, whether from tuberculosis or the combined nontuberculous causes.

An examination of this table shows that the larger proportion of all deaths occurred in the six colder months, October to March, and that this relation appears without exception in every subdivision of sex, occupation, and cause of death. Females, both operative and nonoperative, seemed more susceptible than the corresponding class of males to the effect of cold, showing a larger proportion of their deaths in the winter season. Comparing the occupation groups without respect to sex, nonoperatives show a greater susceptibility than operatives to the winter climate. This comparison is inconclusive, and may indicate only that the effect of cold is very debilitating to the aged, since cotton operatives as a whole comprise a decidedly younger age group than do all nonoperatives aged 10 years and over.

Among the operatives, the winter excess mortality of the males is greater among those dying from tuberculosis than among those dying from nontuberculous causes. Among the females, on the contrary, the tuberculous seem more susceptible than the nontuberculous to the winter cold. This not improbably is ascribable to cold only incidentally to the increased confinement during the winter months of women indoors in improperly ventilated apartments.

On the whole, the effect of the seasons upon mortality in the cities studied though constant is not marked.

#### RELATION BETWEEN HOUSING CONDITIONS AND DEATH RATES.

#### GENERAL HOUSING CONDITIONS.

I. Fall River, Mass.—The mills are grouped in five sections of Fall River. Three of these, the "Center" or river group, the "Border City" or northern group, and the "Globe Village" or southern group, are located along or near the bay front. The other principal mill section is "Flint Village," about 2 miles up east from the bay near Watuppa Pond, and lastly a small mill group is situated in the southeast or "Laurel Lake" section. The oldest mills are located on the western slope of the north-to-south ridge that traverses the city, in the central section upon a stream with a fall within three-quarters of a mile of something approximately 130 feet, which gives the city

its name. "Flint Village" and the "Laurel Lake" region, in population 30,000 or more, is essentially a French-Canadian community. The writer encountered there an exceptionally alert unmarried mill girl, aged 30, of French-Canadian parentage, who, native born and lifelong resident of the city though she asserted herself to be, nevertheless scarcely spoke English at all, though she said she understood it well enough and that she much regretted she had not been obliged to speak it at the nonpublic school she had attended. Although the gregariousness of French Canadians often found accommodation in occupancy of multiple apartments under a common roof, dwellings of decedents in this French-Canadian section not infrequently were large three-story buildings having a single six-room apartment upon each floor, which was occupied by a family numbering about half a dozen. Neatness was general, but not infrequently the apartment was ill ventilated. Evidence of thrift was usually apparent, and modern culinary conveniences, especially gas ranges, were in common use.

The Portuguese appeared to be displacing the Irish from the least desirable dwellings on the western side hill of the central, and in the southeast-central, and northern sections, where the rooms are small, the usual bedrooms being 3 by 4 yards in size with two or more occupants in each. They also in the northern section occupy old low wooden 16-tenement blocks, dirty and overcrowded and were also massed along the southwestern slope of the Flint Village section near the source of the Quequechan River. Their kitchens seldom had more than a primitive equipment and in summer commonly were infested with flies.

The Poles comprised colonies in the northern, southeast-central, southwest-central, Laurel Lake, and extreme southern sections, where they live chiefly in two-story, two or four apartment, so-called "corporation" houses (now, however, largely privately owned), most of such as are still owned by the mills being kept in fair and some in very good hygienic condition structurally. Occasionally there were encountered instances of two (and in at least one case even three) Polish families occupying each a small bedroom in the same three or four room apartment, all the families utilizing a common large kitchen or living room.

In many instances boxes and benches replaced chairs around the table and, as was also repeatedly observed of the Portuguese, often the women sat cross-legged on the scrubbed but fly-infested floor, engaged in vegetable peeling, mending, or stuffing through a young infant's lips bread or crackers dipped in water and macerated in the fingers of the misguided mother, who, as she poked down the pasty bolus, proudly asserted that thereby she was making her baby "strong."

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The wealthier American, English, and Irish decedent nonoperatives and the executive millmen largely had had residence on the high ridge in the sightly northeastern and east-central and south-central sections of the city.

The operative Irish of our decedent period, though scattered throughout the city, largely still evinced an apparent reluctance to quit the immediate neighborhood of the mills in the central section, where a not very uncommon<sup>a</sup> type of dwelling was a wooden, twostory, four-apartment building, often in ill repair, its three lowstudded rooms-one large three-window living room and two bedrooms (a one-window and a two-window)-usually housing a family of from three to five. In such apartments culinary and other household conveniences, notably gas stoves, were not unusually conspicuous by their absence. Moreover, the common toilet, sometimes befouled or even unflushable, was usually located in the basement, or, in the larger dwellings, occasionally was off the hall in a closet frequently unlighted or dimly lighted only through an aperture in the closet door.

The American and English operative decedents, even in the older or central section, had lived generally in detached two and a half story dwellings containing each two apartments of from four to six rooms fairly well appointed and occupied by less than half a dozen persons.

II. Manchester, N. H.—The mills here are grouped compactly along the Merrimac River, extending upward from the left bank of which were long rows of undetached mill-corporation-owned brick houses usually well appointed, except for such light limitations as in some degree necessarily are incident to contiguous or undetached con-These brick houses were in enviable contrast to the few struction. old blocks of company-owned, low-studded, two-story, undetached dwellings of wood, chiefly cellarless, and with rows of surface toilets, frequently foul, situated midway between each two blocks of such apartment houses. But even these apartments were usually light, not conspicuously overcrowded, and what was true of all the company-

• How much more common residence in this old type of dwelling was among the Fall River female Irish decedents (8 per cent unreported) than among the 1,022 female decedents in Fall River of aggregate non-Irish races (9 per cent unreported) the following shows:

Per cent of specified female decedents aged 10 years and over (Fall River, 3 years) having a basement location of toilet. Races. Opera-tives. Nonoper-Both atives. classes. Non-Irish . 14 20 19 Irish..... 48 31 34

owned houses, had a low rental, which rent the tenants stated was even much abated during chance periods of short-time working in the mill. These company-owned houses were occupied chiefly by long-time English, Irish, and French-Canadian operatives, among whom comparative comfort appeared to obtain. Outside these company-owned dwellings, however, the writer encountered repeated instances of extreme squalor.

The Greeks and Poles—recent accessions, and therefore principally young males—largely are massed in noncorporation dwellings or blocks rendered increasingly unhygienic by great overcrowding and by the insanitary personal habits of the tenants.

The French Canadians outside the company-owned houses appeared to be distinctly less thrifty and prosperous than were the same race in Fall River. Many of this race lived on cheerless unshaded streets in two-story, two, four, or six apartment dwellings, separated often, however, by little interspace, though not infrequently they were hived in great three-story, multiapartment buildings, placed often in pairs close together "end on" to the street, with the intervening dark entrance alley swarming with rachitic babies and pallid children. Those of this race perhaps most comfortably housed lived in the eastern or newly built section of the city in modern two and three story, large, six-roomed, three-apartment buildings, some of which were owned by the occupants.

The colony of Germans to the west of the river, however, in thrifty contrast to the preceding race, chiefly occupied well-appointed detached two-story buildings of low rental or personally owned cottages, often with well-cultivated vegetable gardens.

The Americans, English, and Irish outside the corporation-owned houses were usually housed in detached one or two story cottages generally of fair hygienic condition.

III. Pawtucket, R. I.—The mills of this pioneer American cotton manufacturing city are diffusely scattered, except for the older ones along the Blackstone River, the newer steam-power mills appearing to have been located with especial reference to good transportation facilities and ample land.

Detached two-apartment buildings, each of four or six rooms, were the common type of operative's dwelling, though many of the Irish, beginning many years back, had established cottage homes of their own on the sandy scrub-pine "Plains" toward "Lebanon" and the Massachusetts line. These wind-swept and sunny cottages of decedents often were most untidy, and (in June) the wafted emanations from their surface toilets not infrequently were most malodorous.

In general, however, the housing conditions, except for the not infrequent surface toilets, were an appreciable advance over those of the other two cities, Fall River and Manchester. Rentals, however,

#### 158 CAUSES OF DEATH AMONG COTTON-MILL OPERATIVES.

were very considerably above what obtained in either Fall River or Manchester; perhaps due to the prevalence of possibly higher wages incident to the presence in Pawtucket of many and widely diversified industries necessitating skilled artisans.

The probable hygienic advantage, elsewhere indicated, incident to residence in detached dwellings is obscured and does not receive its legitimate degree of confirmation in Pawtucket mortality data respecting housing conditions, because there an always well-filled institution receives aged infirm poor, chiefly Irish, from a wide area outside the municipal limits. (Over nine-tenths of all decedents from this institution in 1907 were Irish-born.) But a prerequisite to admission to this charitable institution is that the applicant (male or female) shall have reached at least the age of 60 years and be possessed of a considerable degree of infirmity. Obviously, therefore, the mortality of this large institution must be exceedingly high and must have augmented not inconsiderably the total mortality of the city, especially that of the Irish, and appreciably have raised the normal average age at death of all decedents, aged 10 years and over, covered by this study.

#### HOUSING CONDITIONS, STRUCTURAL.

Information suggestive in a general way of the structural housing conditions of decedents is embodied in the following averages respecting, I. Rooms per capita, II. Apartments per dwelling and III. Annual rental per decedent.

AVERAGE NUMBER OF ROOMS PER PERSON, AVERAGE NUMBER OF APARTMENTS PER DWELLING, AND AVERAGE ANNUAL RENT PER CAPITA OF FEMALE OPERA-TIVES AND NONOPERATIVES (10 YEARS OF AGE AND OVER) DYING FROM TUBER-CULOUS AND NONTUBERCULOUS CAUSES, BY RACE, FALL RIVER.

Classification.	Aggregate non-Irish.	Irish.	Amer- ican.	English.	French Canadian.	Other races.	All races.
Operatives: Tuberculous Nontuberculous	0.9 1.0	1.0 1.0	1.1 .9	0.8 1.1	0.9 .9	0.8 1.0	0.9
Total. Nonoperatives: Tuberculous Nontuberculous	.9 1.0 1.2	1.0 1.0 1.2	.9 1.3 1.6	1.0 1.0 1.3	.9 .9 1.0	.9 .7 .8	1.0 1.0 1.2
Total. Both classes: Tuberculous Nontuberculous	1.2 .9 1.2	1.2 1.0 1.2	1.6 1.2 1.5	1.3 .9 1.2	1.0 .9 1.0	.8 .8 .8	1.2 1.0 1.2
Grand total	1.1	1.1	1.4	1.2	1.0	.8	1.1

I. AVERAGE NUMBER OF ROOMS PER PERSON.

AVERAGE NUMBER OF ROOMS PER PERSON, AVERAGE NUMBER OF APARTMENTS PER DWELLING, AND AVERAGE ANNUAL RENT, ETC.-Concluded.

Classification.	Aggregate non-Irish.	Irish.	Amer- ican.	English.	French Canadian.	Other races.	All races.
Operatives: Tuberculous Nontuberculous	5.0 4.4	4.0 4.2	3.8 4.0	3.9 3.9	5.8 4.6	4.5 4.9	4.7
Total. Nonoperatives: Tuberculosis Nontuberculous	4.6 3.9 3.4	4.1 3.0 3.5	3.9 3.1 2.2	3.9 4.2 2.7	5.1 4.0 4.3	4.8 3.9 5.0	4.4 3.8 3.3
Total Both classes: Tuberculous Nontuberculous	3.3 4.4 3.4	3.5 3.8 3.6	2.3 3.3 2.3	2.8 4.1 2.9	4.2 5.1 4.3	4.8 4.1 5.0	3.4 4.2 3.5
Grand total	3.6	3.6	: 2.4	3.1	4.5	4.8	3.6

II. AVERAGE NUMBER OF APARTMENTS PER DWELLING.

III. AVERAGE ANNUAL RENT PAID PER CAPITA.

Operatives: Tuberculous Nontuberculous	\$20 21	\$26 24	\$28 21	\$21 24	\$19 18	\$17 24	\$21 22
Total Nonoperatives: Tubereulous Nontubereulous	21 23 25	25 22 25	24 29 37	23 26 27	19 23 20	21 15 20	22 23 25
Total Both classes: Tuberculous	25 21	25 24	37 28	27 23	20 21	19	25
Grand total	24 24	25 25	36	26 25	20 20	20 19	25 24

It will be seen that invariably the operative decedents had a smaller average number of rooms per decedent than the nonoperatives, and that they lived in houses containing a large number of apartments. As between tuberculous and nontuberculous decedents, the former showed the same indications of overcrowding as compared with the nontuberculous. Moreover, the fact that the operative and the tuberculous decedents regularly paid a lower rent per capita than the nonoperatives and the nontuberculous justifies the assumption that the former classes occupied less desirable as well as more crowded dwellings. In other words, a connection is at least indicated between overcrowded and undesirable dwellings, and the large death rates of female operatives and the high mortality from tuberculosis among females.

#### HYGIENIC CONDITIONS OF DECEDENT'S LATE ABODE.

The hygienic condition of a given house or apartment is a complex of many factors—direct sunlight, ventilation, neatness, structural arrangement, freedom from flies, vermin and other germ carriers, possession of bath, sewer connection, pure-water supply, etc. Where so many different items are concerned it is almost inevitable that the decision of different observers should be affected by the personal element, and that similar combinations of conditions should be variously ranked as fair, good, or poor, according to the observer's unconscious bias. To avoid the errors arising from such variations the following discussion is limited to apartments investigated almost wholly by the writer of this report, who personally inspected the late abodes of over nine-tenths of the female decedents of Fall River, and of all the tuberculous and of practically all the operative decedents of the three cities.

Five classifications were made—excellent, good, fair, poor, and bad. Experience shows that a more accurate determination would have been made had the rather colorless classification "Fair" been subdivided into "Fair plus" and "Fair minus," abodes characterized by the latter term being included with those judged "Poor" and "Bad" as unsatisfactory, and the "Fair plus" being grouped with those deemed satisfactory. As it is, the number of hygienically unsatisfactory abodes is probably materially understated.

Since no figures are available as to the distribution of the population between hygienically satisfactory and unsatisfactory dwellings, it is impossible to construct death rates bearing upon this point, but percentage comparisons can be made of operative and nonoperative decedents who died under such conditions, with the corresponding classes both of the total decedents and of the total population.

The facts concerning the hygienic condition of apartments in which the decedents had died are set forth in full detail in Tables 73 to 83. The following gives a summary of the coincidence of bad apartment hygiene and death among the female decedents of Fall River:

PER CENT OF FEMALE OPERATIVES AND NONOPERATIVES REPORTED AS DYING FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES IN APARTMENTS OF WHICH THE HYGIENIC CONDITIONS WERE UNSATISFACTORY, FALL RIVER, 1907 AND 1905-1907.

Classification	Tuber	culous.	Nontub	erculous.	All causes.		
CINCULCUTOR.	1907	1905-1907	1907	1905-1907	1907	1905-1907	
Operatives	50 47	53 42	49 30	33 26	49 32	43 28	
Both classes	48	46	32	27	35	31	

From this it appears that practically one-third of the female decedents (35 per cent in 1907, 31 per cent in 1905–1907) had died in abodes adjudged hygienically unsatisfactory, and that the proportion dying in such abodes was higher among operatives than among nonoperatives, higher among tuberculous than among nontuberculous, and highest of all among tuberculous operatives.

Turning to the tuberculous decedents of the three cities, the table shows a considerably higher proportion of deaths occurring in hygienically unsatisfactory apartments among operatives than among nonoperatives, and this proportion is higher among male than among female operatives.

The proportion of the tuberculous in each race group dying in unhygienic abodes is given for purposes of comparison, but the number of deaths involved is too small to justify conclusions as to the relative effect of such surroundings. The two races which have in general the highest tuberculous death rates, the Irish and the French Canadian, show a marked proportion of these deaths occurring in unhygienic surroundings; but the "Other races," among whom the death rate is comparatively low, show a much higher proportion than any other group of tuberculous deaths occurring in unhygienic surroundings. This probably means that the "Other races," who are for the most part recent immigrants, are apt to be crowded together in the cheapest and poorest buildings a community offers, and therefore obviously the majority of deaths occurring among them would take place in unsatisfactory surroundings.

Evidently until more definite information is available concerning the housing of the community in general, it will not be possible to measure the effect of unhygienic dwellings in the causation of deaths. The tables show that deaths, and especially tuberculous deaths, occur with marked frequency in unhygienic dwellings. It does not seem probable that from one-third to over one-half of the population of the three cities is unhygienically housed, but if they are not, then the number of tuberculous deaths occurring in unhygienic surroundings is disproportionate. More than this can hardly be said.

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### CHAPTER IV.

### POPULATION AND MORTALITY TABLES.

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## TABLE 1.-NUMBER AND PER CENT OF EACH SPECIFIED RACE OF THE 10 YEARS OF AGE AND OVER, FALL RIVER,

		Number.	
Sex, occupation group, and locality.	Aggregate non-Irish.	Irish.	American.
Operatives: MALES.			
Fall River. Manchester Pawtucket.	10,980 3,680 1,277	2,030 410 354	690 477 329
Total	15,937	2,794	1,496
Non-operatives: Fall River. Manchester. Pawtucket.	22, 982 16, 366 11, 922	4, 343 3, 321 3, 261	6,732 6,880 5,287
Total	51,270	10,925	18,899
Both classes:			-
Fall Fiver Manchester Pawtucket.	33, 962 20, 046 13, 199	6, 373 3, 731 3, 615	7,422 7,357 5,616
Total	67,207	13,719	20, 395
FEMALES.			
Fall River Manchester Pawtucket	9,376 4,150 1,734	2,772 788 897	784 386 171
Total	15,260	4,457	1,341
Nonoperatives: Fall River Manchester Pawtucket.	27, 297 18, 514 12, 393	5,886 4,416 3,712	7,512 8,060 5,843
Total	58,204	14,014	21, 415
Both classes: Fall River Manchester Pawtucket	36,673 22,664 14,127	8,658 5,204 4,609	8, 296 8, 446 6, 014
Total	73, 464	18,471	22,756
BOTH SEXES. Operatives: Fall River. Manchester. Pawtucket. Total	20, 356 7, 830 3, 011	4,802 1,198 1,251	1,474 863 500
1 Utal	31,197	7,201	2,831
Nonoperatives: Fall River Manchester Pawtucket	50, 279 34, 880 24, 315	10, 229 7, 737 6, 973	14,244 14,940 11,130
Total	109, 474	24, 939	40, 314
Both classes: Fall River. Manchester. Pawtucket.	70, 635 42, 710 27, 326	15,031 8,935 8,224	15,718 15,803 11,630
Total	140, 671	32,190	43,151

## TOTAL IN EACH SEX AND OCCUPATION GROUP OF THE POPULATION MANCHESTER, AND PAWTUCKET, 1906.

	Num	iber.				Perc	ent.		
English.	French Canadian.	Other races.	All races.	Aggregate non-Irish.	Irish.	Ameri- can.	English.	French Canadian.	Other races.
100.00			• "		100				
4,072 282 514	4, 215 1, 467 206	2,003 1,454 228	13,010 4,090 1,631	84 80 78	16 10 22	5 12 20	31 7 31	33 36 13	15 35 14
4,868	5,888	3, 685	18,731	85	15	8	26	31	20
5,044 1,901 3,488	6,796 6,864 1,946	4, 410 721 1, 201	27, 325 19, 687 15, 183	84 83 79	16 17 21	25 35 35	18 9 23	25 35 13	16 4 8
10, 433	15,606	6,332	62, 195	82	18	30	17	25	10
9, 116 2, 183 4, 002	11,011 8,331 2,152	6,413 2,175 1,429	40,335 23,777 16,814	84 84 78	16 16 22	18 31 33	23 9 24	27 35 13	16 9 8
15,301	21, 494	10,017	80, 926	83	17	25	19	27	12
3, 254 430 929	3,764 2,398 558	1,574 936 76	12, 148 4, 938 2, 631	77 84 66	23 16 34	6 8 7	27 9 35	31 48 21	13 19 3
4,613	6,720	2,586	19,717	77	23	7	23	. 34	13
	8,339 7,089 1,672	4,546 1,227 1,235	33, 183 22, 930 16, 105	82 81 77	18 19 23	23 35 36	21 9 23	25 31 10	13 6 8
12, 681	17,100	7,008	72, 218	.81	19	30	17	24	10
10, 154 2, 568 4, 572	12, 103 9, 487 2, 230	6,120 2,163 1,311	45,331 27,868 18,736	81 81 75	19 19 25	18 30 32	22 9 24	27 34 12	14 8 7
17, 294	23,820	9,594	91,935	80	20	25	19	26	10
7,326 712 1,443	7,979 3,865 764	3,577 2,390 304	25,158 9,028 4,262	81 87 71	19 13 29	6 9 12	29 8 34	32 43 18	14 27 7
9,481	12,608	6, 271	38, 448	81	19	7	25	33	16
11, 944 4, 039 7, 131	15,135 13,953 3,618	8,956 1,948 2,436	60, 508 42, 617 31, 288	83 82 78	17 18 22	23 35 36	20 9 23	25 33 11	15 5 8
23, 114	<b>32,70</b> 6	13,340	134, 413	81	19	30	17	24	10
19, 270 4, 751 8, 574	23, 114 17, 818 4, 382	12, 533 4, 338 2, 740	85,666 51,645 35,550	82 83 77	18 17 23	18 31 33	22 9 24	27 35 12	15 8 8
32, 595	45,314	19, 611	172, 861	81	19	25	19	26	11

## TABLE 2.—POPULATION 10 YEARS OF AGE AND OVER OF EACH SPECI AND 3 CITIES (FALL RIVER,

	Males.								
Age group and race.	Opera	atives.	Nonope	eratives.	Both o	classes.			
	Fall River.	3 cities.	Fall River.	3 cities.	Fall River.	3 cities.			
10 to 14 years: American. English. Irish. French Canadian. Other races.	33 96 26 114 22	47 108 33 125 27	937 1,097 808 1,325 818	2, 513 1, 816 1, 690 2, 574 1, 232	970 1,193 834 1,439 840	2,560 1,924 1,723 2,699 1,259			
Total, all races	291	340	4,985	9, 825	5,276	10, 165			
15 to 19 years: American English. Irish. French Canadian. Other races.	249 635 241 740 435	403 749 318 1,100 805	768 614 632 769 444	2,227 1,224 1,451 1,671 487	1,017 1,249 873 1,509 879	2,630 1,973 1,769 2,771 1,292			
Total, all races	2,300	3, 375	3,227	7,060	5,527	10, 435			
20 to 24 years: American English. Irish. French Canadian. Other races.	138 473 209 663 559	260 579 282 926 1,006	725 587 532 617 186	2, 164 1, 239 1, 349 1, 629 184	863 1,060 741 1,280 745	2,424 1,818 1,631 2,555 1,190			
Total, all races	2,042	3,053	2,647	6,565	4,689	9,618			
15 to 24 years: American English. Irish. French Canadian. Other races.	387 1,108 450 1,403 994	663 1,328 600 2,026 1,811	1,493 1,201 1,164 1,386 630	4, 391 2, 463 2, 800 3, 300 671	$1,880 \\ 2,309 \\ 1,614 \\ 2,789 \\ 1,624$	5,054 3,791 3,400 5,326 2,482			
Total, all races	4,342	6,428	5,874	13,625	10,216	20,053			
25 to 29 years: American English. Irish. French Canadian. Other races.	80 476 182 632 326	174 560 266 849 607	780 581 557 645 417	2,240 1,250 1,357 1,695 578	860 1,057 739 1,277 743	2, 414 1, 810 1, 623 2, 544 1, 185			
Total, all races	1,696	2,456	2,980	7,120	4,676	9,576			
30 to 34 years: American English. Irish. French Canadian. Other races.	60 461 235 625 190	131 550 324 805 362	722 500 437 535 485	2,033 1,074 1,132 1,476 701	782 961 672 1,160 675	2,164 1,624 1,456 2,281 1,063			
Total, all races	1,571	2,172	2,679	6, 416	4,250	8,588			
25 to 34 years: American. English. Irish. French Canadian. Other races.	140 937 417 1,257 516	305 1,110 590 1,654 969	$1,502 \\ 1,081 \\ 994 \\ 1,180 \\ 902$	4, 273 2, 324 2, 489 3, 171 1, 279	1,642 2,018 1,411 2,437 1,418	4,578 3,434 3,079 4,825 2,248			
Total, all races	3,267	4,628	5,659	13, 536	8,926	18, 164			
85 to 39 years: American English. Irish. French Canadian. Other races.	38 478 336 504 173	94 578 457 666 306	674 396 275 552 442	1,887 908 876 1,422 667	712 874 611 1,056 615	1, 981 1, 486 1, 333 2, 088 973			
Total, all races	1,529	2, 101	2, 339	5,760	3,868	7, 861			

### FIED RACE, BY SEX, OCCUPATION, AND AGE GROUPS, FALL RIVER, MANCHESTER, AND PAWTUCKET), 1906.

		Fema	ales.					Both	sexes.		
Opera	atives.	Nonope	ratives.	Both	classes.	Opera	tives.	Nonop	eratives.	Both	lasses.
Fall River.	3 cities.	Fall River.	3 cities.	Fall River.	3 cities.	Fall River.	3 cities.	Fall River.	3 cities.	Fall River.	3 cities.
36 74 23 75 24	46 95 30 104 27	952 1,133 1,007 1,365 704	2,487 1,830 2,026 2,546 1,040	988 1,207 1,030 1,440 728	2,533 1,925 2,056 2,650 1,067	69 170 49 189 46	93 203 63 229 54	1,889 2,230 1,815 2,690 1,522	5,000 3,646 3,716 5,120 2,272	1,958 2,400 1,864 2,879 1,568	5,093 3,849 3,779 5,349 2,326
232	302	5,161	9,929	5, 393	10, 231	523	642	10,146	19, 754	10,669	20,396
286 759 353 1,028 561	418 1,038 525 1,838 908	816 591 798 581 252	2,472 1,158 1,821 1,187 311	1,102 1,350 1,151 1,609 813	2, 890 2, 196 2, 346 3, 025 1, 219	535 1,394 594 1,768 996	821 1, 787 843 2, 938 1, 713	1,584 1,205 1,430 1,350 696	4, 699 2, 382 3, 272 2, 858 798	2,119 2,599 2,024 3,118 1,692	5,520 4,169 4,115 5,796 2,511
2, 987	4,727	3,088	6, 949	6,025	11,676	5,287	8,102	6, 265	14,009	11, 552	22, 111
247 712 510 1,008 575	372 973 786 1,712 878	867 652 653 618 247	2,665 1,335 1,678 1,467 402	1,114 1,364 1,163 1,626 822	3,037 2,308 2,464 3,179 1,280	385 1,185 719 1,671 1,134	632 1,552 1,068 2,638 1,884	1,592 1,239 1,185 1,235 433	4,829 2,574 3,027 3,096 586	1,977 2,424 1,904 2,906 1,567	5, 461 4, 126 4, 095 5, 734 2, 470
3,052	4,721	3,037	7,547	6,089	12, 268	5,094	7,774	5,684	14, 112	10,778	21,886
533 1,471 863 2,036 1,136	790 2,011 1,311 3,550 1,786	1,683 1,243 1,451 1,199 499	5, 137 2, 493 3, 499 2, 654 713	2, 216 2, 714 2, 314 3, 235 1, 635	5,927 4,504 4,810 6,204 2,499	920 2, 579 1, 313 3, 439 2, 130	1,453 3,339 1,911 5,576 3,597	3,176 2,444 2,615 2,585 1,129	9,528 4,956 6,299 5,954 1,384	4,096 5,023 3,928 6,024 3,259	10, 981 8, 295 8, 210 11, 530 4, 981
6,039	9, 448	6,075	14, 496	12,114	23,944	10,381	15, 876	11, 949	28, 121	22, 330	43,997
96 505 540 569 204	166 720 844 1,004 349	898 712 498 881 529	2, 664 1, 431 1, 454 1, 959 844	994 1,217 1,038 1,450 733	2,830 2,151 2,298 2,963 1,193	176 981 722 1,201 530	340 1,280 1,110 1,853 956	1,678 1,293 1,055 1,526 946	4,904 2,681 2,811 3,654 1,422	1,854 2,274 1,777 2,727 1,476	5, 244 3, 961 3, 921 5, 507 2, 378
1,914	3,083	3, 518	8,352	5, 432	11, 435	3,610	5, 539	6, 498	15,472	10,108	21,011
50 426 424 372 85	91 590 667 664 174	783 594 445 843 530	2,211 1,159 1,201 1,745 797	833 1,020 869 1,215 615	2,302 1,749 1,868 2,409 971	110 887 659 997 275	222 1,140 991 1,469 536	1,505 1,094 882 1,378 1,015	4, 244 2, 233 2, 333 3, 221 1, 498	1,615 1,981 1,541 2,375 1,290	4, 466 3, 373 3, 324 4, 690 2, 034
1,357	2,186	3, 195	7,113	4, 552	9, 299	2,928	4,358	5,874	13, 529	8,802	17,887
146 931 964 941 289	257 1,310 1,511 1,668 523	1,681 1,306 943 1,724 1,059	4, 875 2, 590 2, 655 3, 704 1, 641	1,827 2,237 1,907 2,665 1,348	5,132 3,900 4,166 5,372 2,164	286 1,868 1,381 2,198 805	562 2,420 2,101 3,322 1,492	3,183 2,387 1,937 2,904 1,961	9,148 4,914 5,144 6,875 2,920	3,469 4,255 3,318 5,102 2,766	9,710 7,334 7,245 10,197 4,412
3, 271	5, 269	6, 713	15, 465	9,984	20, 734	6, 538	9,897	12,372	29,001	18,910	38, 898
<b>3</b> 1 273 333 343 57	70 411 602 636 106	706 630 437 733 487	2,001 1,162 1,079 1,532 767	737 903 770 1,076 544	2,071 1,573 1,681 2,168 873	69 751 669 847 230	164 989 1,059 1,302 412	1,380 1,026 712 1,285 929	3,888 2,070 1,955 2,954 1,434	1,449 1,777 1,381 2,132 1,159	4,052 3,059 3,014 4,256 1,846
1,037	1,825	2,993	6, 541	4,030	8,366	2, 566	3,926	5,332	12, 301	7,898	16, 227

### TABLE 2.—POPULATION 10 YEARS OF AGE AND OVER OF EACH SPECI AND 3 CITIES (FALL RIVER, MANCHESTER,

	Males.							
Age group and race.	Opera	tives.	Nonope	ratives.	Both classes.			
	Fall River.	3 cities.	Fall River.	3 cities.	Fall River.	3 cities.		
40 to 44 years: American English Irish French Canadian. Other races	<b>3</b> 3 465 303 339 110	90 555 417 490 213	559 262 205 540 402	$1,517 \\ 651 \\ 663 \\ 1,203 \\ 576$	592 727 508 879 512	1,607 1,206 1,080 1,693 789		
Total, all races	1,250	1,765	1,968	4,610	3, 218	6,375		
35 to 44 years: American English. Irish. French Canadian. Other races.	71 943 639 843 283	184 1,133 874 1,156 519	1,233 658 480 1,092 844	3,404 1,559 1,539 2,625 1,243	$1,304 \\ 1,601 \\ 1,119 \\ 1,935 \\ 1,127$	3,588 2,692 2,413 3,781 1,762		
Total, all races	2,779	3,866	4, 307	10,370	7,086	14,236		
45 to 54 years: American. English. Irish. French Canadian. Other races.	38 647 358 426 150	164 774 487 648 258	801 383 362 819 575	2,215 1,010 1,113 1,859 910	839 1,030 720 1,245 725	2,379 1,784 1,600 2,507 1,168		
Total, all races	1,019	2,331	2,940	7,107	4,009	9,438		
55 to 64 years: American English. Irish. French Canadian. Other races.	17 260 121 143 33	101 320 174 224 72	- 474 342 300 585 391	1,2496927341,198591	491 602 421 728 424	$1,350 \\ 1,012 \\ 908 \\ 1,422 \\ 663$		
Total, all races	574	891	2,092	4,464	2,666	5,355		
65 years and over: American. English. Irish. French Canadian. Other races.	4 81 19 29 5	32 95 36 55 29	292 282 235 409 250	854 569 560 879 406	296 363 254 438 255	886 664 596 934 435		
Total, all races	138	247	1,463	3,268	1,606	3,515		
Total, 10 years and over: American. English. Irish. French Canadian. Other races.	690 4,072 2,030 4,215 2,003	1,496 4,868 2,794 5,888 3,685	6,732 5,044 4,343 6,796 4,410	18, 899 10, 433 10, 925 15, 606 6, 332	7,422 9,116 6,373 11,011 6,413	20, 395 15, 301 13, 719 21, 494 10, 017		
Total, all races	13,010	18, 731	27,325	62, 195	40, 335	80,926		

### FIED RACE, BY SEX, OCCUPATION, AND AGE GROUPS, FALL RIVER, AND PAWTUCKET), 1906—Concluded.

Females.				Both sexes.							
Operatives. Nonoperatives.		Both classes.		Operatives.		Nonoperatives.		Both classes.			
Fall River.	3 cities.	Fall River.	3 cities.	Fall River.	3 cities.	Fall River.	3 cities.	Fall River.	3 cities.	Fall River.	3 cities.
22 218 255 178 36	50 328 423 348 73	629 578 424 771 444	$1,739 \\ 1,032 \\ 1,029 \\ 1,525 \\ 681$	651 796 679 949 480	1,789 1,360 1,452 1,873 754	55 683 558 517 146	140 883 840 838 286	1,188 840 629 1,311 846	3,256 1,683 1,692 2,728 1,257	1,243 1,523 1,187 1,828 992	3,396 2,566 2,532 3,566 1,543
709	1,222.	<b>2,</b> 846	6,006	3, 555	7,228	1,959	2,987	4,814	10,616	6,773	13,603
53 491 588 521 93	120 739 1,025 984 179	1,335 1,208 861 1,504 931	3, 740 2, 194 2, 108 3, 057 1, 448	1,388 1,699 1,449 2,025 1,024	3,860 2,933 3,133 4,041 1,627	124 1,434 1,227 1,364 376	304 1,872 1,899 2,140 698	2,568 1,866 1,341 2,596 1,775	7,144 3,753 3,647 5,682 2,691	2,692 3,300 2,568 3,960 2,151	7,448 5,625 5,546 7,822 3,389
1,746	3,047	5,839	12, 547	7,585	15,594	4,525	6,913	10,146	22,917	14,671	29,830
11 216 268 159 28	84 342 457 344 63	931 936 715 1,215 667	2,536 1,649 1,670 2,399 1,042	942 1,152 983 1,374 695	2,620 1,991 2,127 2,743 1,105	49 863 626 585 178	248 1,116 944 992 321	1,732 1,319 1,077 2,034 1,242	4,751 2,659 2,783 4,258 1,952	1,781 2,182 1,703 2,619 1,420	4,999 3,775 3,727 5,250 2,273
682	1,290	4,464	9,296	5,146	10, 586	2,301	3,621	7,404	16,403	9,705	20,024
5 64 58 30 4	$38 \\ 106 \\ 101 \\ 65 \\ 6$	556 623 527 788 410	1,518 1,077 1,162 1,564 650	561 687 585 818 414	$1,556 \\1,183 \\1,263 \\1,629 \\656$	22 324 179 173 37	139 426 275 289 78	1,030 965 827 1,373 801	2,767 1,769 1,896 2,762 1,241	$1,052 \\ 1,289 \\ 1,006 \\ 1,546 \\ 838$	2,906 2,195 2,171 3,051 1,319
161	316	2,904	5,971	3,065	6,287	735	1,207	4, 996	10, 435	5,731	11,642
7 8 2	6 10 22 5 2	374 451 382 544 276	1,122 848 894 1,176 474	374 458 390 546 276	1,128 858 916 1,181 476	4 88 27 31 5	38 105 58 60 31	666 733 617 953 526	1,976 1,417 1,454 2,055 880	670 821 644 984 531	2,014 1,522 1,512 2,115 911
17	45	2,027	4,514	2,044	4,559	155	292	3, 495	7,782	3,650	8,074
784 3,254 2,772 3,764 1,574	1,341 4,613 4,457 6,720 2,586	7,512 6,900 5,886 8,339 4,546	21,415 12,681 14,014 17,100 7,008	8,296 10,154 8,658 12,103 6,120	22, 756 17, 294 18, 471 23, 820 9, 594	1,474 7,326 4,802 7,979 3,577	2,837 9,481 7,251 12,608 6,271	14,244 11,944 10,229 15,135 8,956	40, 314 23, 114 24, 939 32, 706 13, 340	15,718 19,270 15,031 23,114 12,533	43,151 32,595 32,190 45,314 19,611
12,148	19,717	33,183	72,218	45, 331	91, 935	25,158	38, 448	60, 508	134, 413	85,666	172, 861

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# TABLE 3.—NUMBER AND PER CENT OF EACH SPECIFIED RACE OF THE CULOUS AND FROM NONTUBERCULOUS CAUSES, 10 YEARS OF AGE YEARS.

#### TUBERCULOUS DECEDENTS.

	Number.				
Sex, occupation group, locality, and period.	Aggregate non-Irish.	Irish.	American.		
MALES.					
Operatives: (1 year	29	11	4		
Fall River	70	24	6		
Manchester	23	1 6	2		
Pawtucket	4	$\frac{1}{3}$	1		
Motol 2 cities /1 year		13	4		
10tal, 5 citles	97	33	9		
Nonoperatives: (1 year	97	90	R		
Fall River	80	72	20		
Manchester	23	14	9		
(3 years	72	41	26		
Pawtucket	17 44	46	19		
Total 3 cities	67	60	21		
(3 years.	196	159	65		
Both classes:	56	40	10		
Fall River	150	96	10		
Manchester (1 year	34	15	9		
Manchester	95	47	28		
Pawtucket	17 48	18 49	6 20		
Total, 3 cities	107	73	25		
FEMALES.					
Operatives:					
Fall River	34	13	3		
() years	10	39	5		
Manchester	24	16	2		
Pawtucket	7	7	3		
(1 7005					
Total, 3 cities	121	68	14		
Nononerstives.					
Foll Diver (1 year	24	15	6		
Fair Fiver	76	32	16		
Manchester	28	11	8		
(3 years.	80	22	28		
Pawtucket	42	27	13		
Total, 3 cities	66	36	17		
Both elesses	198	81	57		
Fall Biver (1 vear	58	28	0		
3 years.	149	71	21		
Manchester	104	\$8	30		
Pawtucket	21 66	17	8 20		
Total 8 cities /1 year	117	63	23		
3 years.	319	149	71		

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## TOTAL IN EACH SEX AND OCCUPATION GROUP DYING FROM TUBERAND OVER, FALL RIVER, MANCHESTER, AND PAWTUCKET, 1 AND 3

	Nur	nber.				Per	cent.	-	
English.	French Canadian.	Other races.	All races.	Aggregate non-Irish.	Irish.	Ameri- can.	English.	French Canadian.	Other races.
7 19 3 4	12 28 4 8	6 17 4 9	40 94 12 29 1 7	72 74 91 79 	28 26 9 21 100 43	10 6 7 14	17 20 25 14 29	30 30 33 27 	15 18 33 31
10 25	16 37	10 26	53 130	75 75	25 25	777	19 19	30 29	19 20
9 24 4 10 5 11	7 20 8 27 6 11	5 16 2 9 3	56 152 37 113 34 90	48 53 62 64 50 49	52 47 38 36 50 51	11 13 24 23 18 21	16 16 11 9 14 12	12 13 22 24 18 12	9 11 5 8 4
18 45	21 58	7 28	127 355	53 55	47 45	17 18	14 13	17 16	5 8
16 43 7 14 5 13	19 48 12 35 6 12	11 33 6 18 3	96 246 49 142 35 97	58 61 69 67 48 49	42 39 31 33 52 51	10 11 18 20 17 21	17 17 14 10 14 13	20 20 25 24 17 12	11 13 12 13 3
28 70	37 .95	17 54	180 485	59 60	41 40	14 15	15 14	21 20	9 11
10 16 4 9	16 39 29 21 	5 13 · 1 1 1 2	47 112 17 40 14 37	72 65 59 60 50 65	28 35 41 40 50 35	6 4 21 19	21 14 29 24	34 35 53 53 53 16	11 12 6 2 6
14 25	25 66	6 16	78 189	65 64	35 36	87	18 13	32 35	79
6 19 2 6 4 14	7 24 15 40 5 11	5 17 3 6 2 4	39 108 39 102 24 69	61 70 72 78 58 61	39 30 28 22 42 39	15 15 21 27 12 19	15 17 5 6 17 20	18 22 38 39 21 16	13 16 8 6 8 6
12 39	27 75	10 27	102 279	65 71	85 29	17 20	12 14	26 27	10 10
16 85 2 6 8 23	23 63 24 61 5 17	10 30 47 26	86 220 56 142 38 106	67 68 68 73 55 62	83 82 82 82 27 45 88	10 10 14 21 16 19	19 16 4 21 22	27 29 43 43 13 16	11 13 7 5 5 5
26 64	52 141	16 43	180 468	65 68	85 82	13 15	14 14	29 80	9 9

#### TUBERCULOUS DECEDENTS.

# TABLE 3.—NUMBER AND PER CENT OF EACH SPECIFIED RACE OF THE CULOUS AND FROM NONTUBERCULOUS CAUSES, 10 YEARS OF AGE YEARS—Continued.

			Number.	
Sex, occupation group, locality, and period.	Aggregate non-Irish.	Irish.	American.	
BOTH SEXES.				
Fall River	1 year	63 142	24	7
Manchester	1 year	21	8	
	3 years	47	22 8	4 3
Pawtucket	3 years	28	16	8
Total, 3 cities	{1 year 3 years	91 218	40 101	10 2 <b>3</b>
Nonoperatives:				
Fall River	1 year	51	44	12
Manchester	1 year	51	25	17
	3 years	152	63 27	54
Pawtucket	3 years	86	73	32
Total, 3 cities	1 year years	133 394	96 240	38 122
Both classes:				
Fall River.	1 year	114	68	19
Manahastas	(3 years	299	167 33	47
manchester	3 years	199	85	58
Pawtucket	3 years.	38 114	35 89	12 40
Total, 3 cities	(1 year 3 years	224 612	136 341	48 145

#### TUBERCULOUS DECEDENTS-Concluded.

#### NONTUBERCULOUS DECEDENTS.

Operatives: MALES.			
Fall River	59	19	6
3 years	147	46	11
Manchester	22	8	4
lo years.	10	10	11
Pawtucket	20	6	2
(o years		0	0
Total 2 sitist (1 year	91	30	13
10tal, 5 cities	225	68	31
Nonoperatives:			
Fall Direr	630	315	158
Fall Kiver	000	110	50
Manchester (1 year	230	110	08
Pawtucket	190	49	61
- white a construction of the construction of	127	(20)	01
Total, 3 cities 1 year	579	244	217
Both classes:	- 18 M		
Sall Dimen [3 years	777	361	169
Fall Kiver.	007	100	C4
Manchester (1 year	290	129	109
Pawtucket	157	07	102
a conversion of the second s	107	00	04
Total, 3 cities 1 year	670	274	230

## TOTAL IN EACH SEX AND OCCUPATION GROUP DYING FROM TUBERAND OVER, FALL RIVER, MANCHESTER, AND PAWTUCKET, 1 AND 3

	Nur	nber.	1	Per cent.						
English.	French Canadian.	Other races.	All races.	Aggregate non-Irish.	Irish.	Ameri- can.	English.	French Canadian.	Other races.	
17 35 3 4 4 11	28 67 13 29 7	11 30 5 10 2	87 206 29 69 15 44	72 69 72 68 47 64	28 31 28 32 53 36	8 5 20 18	19 17 10 6 27 25	32 32 45 42 	13 15 17 14 5	
24	41	16	131	69	· 31	87	18	31	12	
50	103	42	319	68	32		16	32	13	
15	14	10	95	54	46	13	16	15	10	
43	44	33	260	60	40	14	16	17	13	
6	23	5	76	67	33	22	8	30	7	
16	67	15	215	• 71	29	25	8	31	7	
9	11	2	58	54	46	16	16	19	3	
25	22	7	159	54	46	20	16	14	4	
30	48	17	229	58	42	17	13	21	7	
84	133	55	634	62	38	19	13	21	9	
32	42	21	182	62	38	10	18	23	11	
78	111	63	466	64	36	10	17	24	13	
9	36	10	105	69	31	16	9	34	10	
20	96	25	284	70	30	20	7	34	9	
13	11	2	73	52	48	16	18	15	3	
36	29	9	203	56	44	20	18	14	4	
54	89	33	360	62	38	13	15	25	9	
134	236	97	953	64	36	15	14	25	10	

#### TUBERCULOUS DECEDENTS-Concluded.

#### NONTUBERCULOUS DE CEDENTS.

23 65 4 6 7 15	21 48 7 10 2	9 23 7 23 	78 193 30 72 13 28	76 76 73 78 77 79	24 24 27 22 23 21	8 6 13 24 23 11	29 33 13 8 54 54	27 25 23 14 7	12 12 24 32 7
34 86	28 60	16 48	121 293	75 77	25 23	11 11	28 29	23 21	13 16
212 71 29 41	183 76 56 27	77 31 13 18	945 346 245 232	67 68 80 64	33 32 20 36	17 17 40 27	· 23 20 12 17	19 22 23 12	8 9 5 8
141	159	62	823	70	30	26	17	19	8
277	231	100	1, 138	68	32	15	24	20	9
94 33 48	97 63 27	40 20 18	424 275 245	70 79 64	30 21 36	15 37 26	22 12 20	23 23 11	10 7 7
175	187	78	944	71	- 29	24	19	_ 20	8

### 174 CAUSES OF DEATH AMONG COTTON-MILL OPERATIVES.

#### GENERAL TABLES.

# TABLE 3.—NUMBER AND PER CENT OF EACH SPECIFIED RACE OF THE CULOUS AND FROM NONTUBERCULOUS CAUSES, 10 YEARS OF AGE YEARS—Continued.

		Number.	
Sex, occupation group, locality, and period.	Aggregate non-Irish.	Irish.	American.
Operativas.		1	
Fall Biver /1 year	50	20	6
3 years.	129 12	58	14
Manchester	31	18	5
Pawtucket	12	13	3
Total, 3 cities	68 172	33 89	8 22
Nonoperatives:			
Fall River (3 years	744	419	227
1 year	263	146	86
Manchester	228 151	60 97	123
Total 3 cities	642	303	974
Both alassas			412
Boul classes. (3 years	873	477	241
Fall Kiver.	313	166	92
Manchester	240	66	125
Total 2 sitis	107	104	60
Total, 3 citiesI year	710	336	282
Operatives:			
Fall River	109	39	12
(3 years)	276 34	104 14	25
a years	87	34	22
Pawtucket	34	10	36
Total 2 sities (1 year	159	63	21
1 otal, 3 cities	397	157	53
Nonoperatives:	1 974	794	905
Fall River	1,0/4	104	686
Li year Manchester	499 424 298	256 109 182	144 221 126
Total. 3 cities	1. 221	547	401
Both electory			101
(3 years.	1,650	838	410
Fall River.	609	205	159
Manchester	458	123	227
rawtucketl year	314	192	129
Total, 3 cities1 year	1,380	610	512

#### NONTUBERCULOUS DECEDENTS-Concluded.

Operatives: MALES.	(3 years	217	70	17
Fail River Manchester Pawtucket	1 year 1 year 1 year	· 88 33 10	30 9 4	10 4 3
Total, 3 cities	1 year	131	• 43	17

#### ALL DECEDENTS.

### TOTAL IN EACH SEX AND OCCUPATION GROUP DYING FROM TUBERAND OVER, FALL RIVER, MANCHESTER, AND PAWTUCKET, 1 AND 3

#### NONTUBERCULOUS DECEDENTS-Concluded.

	Nu	mber				Per	cent.		
English.	French Canadian.	Other races.	All races.	Aggregate non-Irish.	Irish.	Ameri- can.	English.	French Canadian.	Other races.
15 42 3 11 6 8	22 54 7 10	7 19 5 1	70 187 18 49 13 25	71 69 67 63 46 48	29 31 33 37 54 52	9 8 11 10 12	21 22 17 23 46 32	31 29 39 20	10 10 10
24 61	29 64	7 25	101 261	68 66	32 34	8 8	24 23	29 25	7 10
228	212	77	1, 163	64	36	19	20	18	7
69 25 48	80 72 30	28 8 8	409 288 248	64 79 61	36 21 39	21 43 26	17 8 20	19 25 12	7 3 3
142	182	44	945	68	32	29	15	19	5
270	266	96	1,350	65	35	18	20	20	7
84 28 54	102 79 30	35 8 8	479 306 261	65 79 60	35 21 40	19 41 25	18 9 21	21 26 11	7 3 3
166	211	51	1,046	68	32	27	16	20	5
38 107 7 17 13 23	43 102 14 20 2	16 42 7 28 3	148 380 48 121 26 53	74 73 71 72 62 64	26 27 29 28 38 36	8 7 12 18 12 11	26 28 15 14 50 43	29 27 29 17 4	11 11 15 23 6
58 147	57 124	23 73	222 554	72 72	28 28	10 10	26 27	26 22	10 13
440	395	154	2, 108	65	35	18	21	19	7
140 54 89	156 128 57	59 21 26	755 533 480	66 80 62	34 20 38	19 42 26	18 10 19	21 24 12	8 4 5
283	341	106	1,768	69	31	28	16	19	6
547	497	196	2,488	67	33	17	22	20	8
178 61 102	199 142 57	75 28 26	903 581 506	67 79 62	33 21 38	17 39 26	20 11 20	22 24 11	8 5 5
341	398	129	1,990	69	31	26	17	20	6

ALL DECEDENTS.

84	76	40	287	76	24	6	30	26	14
30 7 7	33 11	15 11	118 42 14	75 79 71	25 21 29	9 10 21	25 17 50	28 26	13 26
44	44	26	. 174	75	25	10	25	25	15

#### 176 CAUSES OF DEATH AMONG COTTON-MILL OPERATIVES.

#### GENERAL TABLES.

#### TABLE 3.-NUMBER AND PER CENT OF EACH SPECIFIED RACE OF THE CULOUS AND FROM NONTUBERCULOUS CAUSES, 10 YEARS OF AGE YEARS-Concluded.

Number Sex, occupation group, locality, and period. Aggregate non-Irish. Irish. American. MALES-concluded. Nonoperatives: 710 387 (3 years. 178 Fall River. . 263 139 1 year ... 64 Manchester. year ... 219 107 63 Pawtucket .... 164 102 1 vear. 67 Total, 3 cities..... ....1 year... 646 304 238 Both classes: 3 years. 927 457 195 Fall River..... year .... 351 169 74 Manchester ..... year ... 252 Pawtucket .... 1 year ... 174 106 70 Total, 3 cities..... 777 347 255 .1 vear ... FEMALES. **Operatives:** 202 97 (3 years. 19 Fall River ..... 1 year. 84 33 9 Manchester. 1 year... 22 13 Pawtucket 1 year ... 13 14 3 Total, 3 cities. 119 60 .1 year ... 14 Nonoperatives: (3 years. 820 451 243 Fall River... 1 year.. 287 161 92 Manchester. 256 131 1 year. Pawtucket .... 165 107 .1 year ... 68 Total, 3 cities..... 708 339 291 .1 year... Both classes: 1,022 548 (3 years. 262 Fall River..... 371 278 194 101 1 year. Manchester. year ... 1 84 Pawtucket 121 1 year ... 178 71 Total, 3 cities..... .1 vear. 827 399 305 ..... BOTH SEXES. **Operatives:** 36 (3 years. 419 167 Fall River .... 172 19 1 year .: 63 Manchester ... 1 year ... 55 22 Pawtucket. 1 year .. 18 6 23 Total, 3 cities..... .1 year. 250 103 31 Nonoperatives: 1,530 (3 years. 838 421 Fall River..... 1 year ... 550 300 156 Manchester. 134 year. 475 238 Pawtucket. .1 year ... 329 209 135 Total, 3 cities ... 1,354 643 529 .....1 year. Both classes: (3 years. 1,949 1,005 457 Fall River .... 1 year. 722 530 363 175 244 Manchester. 156 year .... Pawtucket. 352 141 .1 year ... 227 Total, 3 cities. 1,604 560 746

...1 year ...

ALL DECEDENTS-Concluded.

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## TOTAL IN EACH SEX AND OCCUPATION GROUP DYING FROM TUBERAND OVER, FALL RIVER, MANCHESTER, AND PAWTUCKET, 1 AND 3

	Nur	nber.				Per	cent.		
English.	French Canadian.	Other races.	All races.	Aggregate non-Irish.	Irish.	Ameri- can.	English.	French Canadian.	Other races.
		-							
236	203	93	1,097	65	35	16	22	19	8
80 33 46	83 64 33	36 15 18	402 282 266	66 78 62	34 22 38	16 38 25	20 12 17	21 23 13	9 5 7
159	180	69	950	68	32	25	17	19	7
320	279	133	1,384	67	33	14	23	20	10
110 40 53	116 75 33	51 26 18	520 324 280	67 78 62	33 22 38	14 35 25	21 12 19	22 23 12	10 8 6
203	224	95	1, 124	69	31	23	18	20	8
58	93	32	299	67	33	6	19	31	11
25 3 10	38 16	12 1	117 35 27	72 63 48	28 37 52	8 6 11	21 8 37	33 46	10 3
38	54	13	179	66	34	8	21	30	7
247	236	94	1,271	64	36	19	19	18	8
75 27 52	87 87 35	33 11 10	448 327 272	64 78 61	36 22 39	21 40 25	17 8 19	19 27 13	734
154	209	54	1,047	68	32	28	15	20	5
305	329	126	1,570	65	35	17	19	21	8
100 30 62	125 103 35	· 45 12 10	565 362 299	66 77 60	34 23 40	18 37 24	18 8 21	22 29 12	8 3 3
192	263	67	1,226	67	33	25	16	21	5
142	169	72	586	71	29	16	24	29	12
55 10 17	71 27	27 12	235 77 41	73 71 56	27 29 44	8 8 15	24 13 41	30 35	11 15
82	98	39	353	71	29	9	23	28	11
483	439	187	2,368	65	35	18	20	19	8
155 60 98	170 151 68	69 26 28	850 609 538	64 78 61	36 22 39	18 39 25	18 10 18	20 25 13	8 4 5
313	389	123	1,997	68	32	27	16	19	6
625	608	259	2,954	66	34	15	21	21	9
210 70 115	241 178 68	96 38 28	1,085 686 579	67 77 61	33 23 39	16 36 24	20 10 20	22 26 12	9 5 5
395	487	162	2, 350	68	32	24	17	20	7

#### ALL DECEDENTS-Concluded.

### TABLE 4.-AVERAGE AGE AT DEATH AND DEATH RATE PER 1,000 POP TUBERCULOUS DECEDENTS OF EACH SPECIFIED RACE, BY SEX TUCKET, 1 AND 3 YEARS.

		Ave	rage age at d	eath.
Sex, occupation group, locality, and p	erlod.	Irish.	American.	English.
MALES			_ 1/40	
Operatives:				
Fall River	∫1 year	40	25	31
	1 year	30	. 27	34
Manchester	3 years.	40	35	43
Pawtucket	{1 year 3 years	41 38	15	37
Total, 3 cities	1 year	40	25	33
Nonoperatives:	. (o years			
Fall River	∫1 year	41	42	35
	3 years.	39	37	39
Manchester	3 years	33	38	28
Pawtucket	j1 year	39	41	39
	(3 years	39	39	39
Total, 3 cities	$ \begin{array}{c} 1 \text{ year} \\ 3 \text{ years} \\ \end{array} $	39 37	40 38	35 38
Both classes:				
Fall River	∫1 year	41	35	33
AF	3 years	38	34	37
Manchester	{3 years	34	38	36
Pawtucket	{1 year 3 years	39 39	41 38	39 38
Total, 3 cities	{1 year	40	37	34
	(a years	31	3/	37
Operatives:				
Fall River	ſ1 year	31	25	32
	3 years.	30	23	31
Manchester	3 years	32	34	
Pawtucket	∫1 year	29	29	26
	(3 years	29	23	27
Total, 3 cities	a years	30 30	27 25	30 30
Nonoperatives:				
Fall River	{1 year	36	26	40
Manahastan	(3 years	40	31	32
Manchester	(3 years	34	40	49
Pawtucket	$ \begin{array}{c} 1 \text{ year}\\3 \text{ years} \end{array} $	41 40	38 40	43 43
Total, 3 cities	1 year	37 38	39 37	42
Both classes.	(0 )			
Fall River	(1 year)	34	26	35
Four mixel	3 years	34	29	32
Manchester	J1 year	33	49	45
Pawtucket	1 year	36	34	34
	3 years	36	34	37
Total 2 aiting	11 year	34	36	36
LOUAL, O CILLOS		35	35	35

#### TUBERCULOUS DECEDENTS.

#### ULATION 10 YEARS OF AGE AND OVER, FOR TUBERCULOUS AND NON-AND OCCUPATION GROUPS, FALL RIVER, MANCHESTER, AND PAW-

#### TUBERCULOUS DECEDENTS.

Aver	age age at	death.		Death rates.					
French Cana- dian.	Other races.	All races.	Aggre- gate non- Irish.	Irish.	Ameri- can.	English.	French Cana- dian.	Other races.	All races.
36 35 31 32 36	27 34 30 35	34 34 33 37 41 34	2.64 2.13 2.99 2.08 1.04	5. 42 3. 94 2. 44 4. 88 2. 83 2. 83	5.80 2.90 1.40 1.01	1.72 1.56 10.64 4.73 1.30	2.85 2.21 2.73 1.82 1.62	3.00 2.83 2.75 2.06	3.07 2.41 2.93 2.36 .61 1.43
34	28	34	2.51	4.65	2.67	2.05	2.71	2.72	2.83
<b>34</b>	34	35	2.03	3.94	2.01	1.71	2.09	2.55	2.31
34 39 37 39 43 43	38 35 28 38 38	39 39 35 35 39 39	1. 17 1. 16 1. 40 1. 47 1. 43 1. 23	6.68 5.52 4.22 4.12 5.21 4.70	.89 .99 1.31 1.26 1.13 1.20	1.78 1.59 2.10 1.75 1.43 1.05	1.03 .98 1.16 1.31 3.08 1.88	1.13 1.21 2.77 4.16 1.83	2.05 1.85 1.88 1.91 2.24 1.98
38	35	38	1.31	5.49	1. 11	1.73	1.34	1.11	2.04
39	36	38	1.27	4.85	1. 15	1.44	1.24	1.47	1.90
35 37 35 37 43 42	32 34 29 37 37	37 37 35 35 39 39	1.65 1.47 1.70 1.58 1.29 1.21	6.28 5.02 4.02 4.20 4.98 4.52	1.35 1.17 1.22 1.27 1.07 1.19	1.76 1.57 3.20 2.14 1.25 1.08	$1.72 \\ 1.46 \\ 1.44 \\ 1.40 \\ 2.79 \\ 1.86$	1.71 1.71 2.76 2.76 .70	2.38 2.03 2.06 1.99 2.08 1.92
36	31	37	1.59	5.32	$\begin{array}{c} 1.22\\ 1.21\end{array}$	1.83	1.72	1.70	2.22
37	35	37	1.45	4.67		1.52	1.47	1.80	2.00
26 26 27 27 27 26	25 24 20 20 20	28 28 29 29 29 28 27	3.632.592.411.934.044.61	4.69 4.69 8.88 6.67 7.80 4.83	3.83 2.13 1.73 17.54 13.65	3.07 1.64 4.30 3.23	4.25 3.46 3.75 2.92 3.58	3. 17 2. 76 1.07 .36 8. 77	3.87 3.07 3.44 2.70 5.32 4.69
26	24	28	3.34	6.06	4.47	3.04	3.72	2.32	3.96
26	24	28	2.64	5.09	3.48	1.81	3.27	2.06	3.20
27	31	33	.88	2.55	.80	.87	.84	1.10	1. 17
33	29	34	.93	1.81	.71	.92	.96	1.25	1. 09
25	39	35	1.51	2.49	.99	.94	2.11	2.44	1. 70
27	46	35	1.44	1.66	1.16	.94	1.88	1.63	1. 48
51	34	43	1.13	2.70	.51	1.10	2.99	1.62	1. 49
42	34	41	1.13	2.42	.74	1.28	2.19	1.08	1. 43
30	34	36	1.13	2.57	.79	.94	1.58	1.43	1.41
31	34	36	1.13	1.93	.89	1.03	1.46	1.28	1.29
26 29 26 27 51 36	28 27 34 43 34 31	30 31 33 33 37 36	$1.58 \\ 1.35 \\ 1.68 \\ 1.53 \\ 1.49 \\ 1.56$	3.24 2.73 3.46 2.43 3.69 2.89	1.08 .84 .95 1.18 1.00 1.11	1.58 1.15 .78 .78 1.75 1.68	1.90 1.73 2.53 2.14 2.24 2.54	1.63 1.63 1.85 1.08 1.53 1.53	$ \begin{array}{c} 1.90\\ 1.62\\ 2.01\\ 1.70\\ 2.03\\ 1.89 \end{array} $
28	30	32	1.59	3.41	1.01	$1.50 \\ 1.23$	2.18	1.67	1.96
29	30	33	1.45	2.69	1.04		1.97	1.49	1.70

TABLE 4.—AVERAGE AGE AT DEATH AND DEATH RATE PER 1,000 POP TUBERCULOUS DECEDENTS OF EACH SPECIFIED RACE, BY SEX TUCKET, 1 AND 3 YEARS—Continued.

		Ave	rage age at d	eath.
Sex, occupation group, locality, and period	l.	Irish.	American.	English.
BOTH SEXES.	~			
Operatives: Fall River Manchester Pawtucket	1 year 3 years 1 year 3 years 1 year 3 years	35 32 33 34 31 31	25 25 35 29 22	32 33 40 43 26 29
Total, 3 cities	{1 year 3 years	33 32	26 26	31 33
Nonoperatives: Fall River Manchester Pawtucket	1 year 3 years 1 year 3 years 1 year 3 years	40 39 35 33 39 39	· 34 · 34 · 43 39 40 39	37 36 34 39 41 41
Total, 3 cities	{1 year 3 years	38 38	39 38	37 38
Both classes: Fall River Manchester Pawtucket	1 year 3 years 1 year 3 years 1 year 3 years	38 37 34 33 37 38	31 32 43 39 37 36	34 35 36 40 36 37
Total, 3 cities	{1 year 3 years	37 36	37 36	35 36

#### TUBERCULOUS DECEDENTS-Concluded.

#### NONTUBERCULOUS DECEDENTS.

MALES.	-		_
(1 100	- 1 40	20	40
Fall River.	40	20	40
o yea	40	32	00
Manchester	r 49	40	38
(3 yea	rs 45	56	33
Powtucket /1 yea	r 59	27	47
13 year	rs 54	27	52
Tetal 2 sitis (1 year	r 50	35	47
10tal, o cities	rs 44	45	49
Nonoperatives:			
Fall River	rs 56	59	56
	P.F.	F0	PP
(1 year	GG 00	56	50
Manchester year	···· 54	57	55
Pawtucket1 year	r 56	60	.56
Total, 3 cities1 year	r 55	58	55
Both classes:	-		1
Tall Direct	rs 54	58	55
Fair Liver	54	55	53
Manchester	53	57	53
Pawtucket 1 vea	58	50	55
A GH MOROTOTICI Y CA			00
Total, 3 cities1 year	55	57	54

#### ULATION 10 YEARS OF AGE AND OVER, FOR TUBERCULOUS AND NON-AND OCCUPATION GROUPS, FALL RIVER, MANCHESTER, AND PAW-

#### TUBERCULOUS DECEDENTS-Concluded.

Aver	age age at	death.		Death rates.									
French Cana- dian.	Other races.	All races.	Aggre- gate non- Irish.		Aggre- ate non- Irish. Irish. Ameri- can. English. French Cana- dian. Other races.		Other races.	All races.					
30 30 28 28 28 27	26 30 28 34 25	31 31 32 29 28	3. 10 2. 34 2. 68 2. 00 2. 33 3. 10	5.00 4.37 6.68 6.12 6.40 4.26	4.75 2.49 1.54 6.00 5.33	2.32 1.59 4.21 1.87 2.77 2.54	3.51 2.80 3.37 2.50 3.05	3.08 2.80 2.09 1.39 2.19	3. 46 2. 73 3. 21 2. 55 3. 52 3. 44				
29 29	27 30	30 31	2.91 2.33	5.51 4.64	3.53 2.70	2.53 1.76	3.25 2.72	$\begin{array}{r} 2.55\\ 2.23\end{array}$	3. 41 2. 77				
30 36 29 32 47 42	35 32 35 41 34 35	37 37 35 35 41 40	$1.01 \\ 1.03 \\ 1.46 \\ 1.45 \\ 1.27 \\ 1.18$	4.30 3.39 3.23 2.71 3.87 3.49	.84 .84 1.14 1.20 .81 .96	$1.26 \\ 1.20 \\ 1.49 \\ 1.32 \\ 1.26 \\ 1.17$	.92 .97 1.62 1.60 3.04 2.03	$1.11 \\ 1.23 \\ 2.57 \\ 2.57 \\ 2.57 \\ .82 \\ .96$	$1.57 \\ 1.43 \\ 1.78 \\ 1.68 \\ 1.86 \\ 1.69$				
34 35	34 35	37 37	$\begin{array}{c} 1.22\\ 1.20\end{array}$	$\begin{array}{r} 3.85\\ 3.21\end{array}$	.94 1.01	$\begin{array}{c} 1.30\\ 1.21 \end{array}$	1.47 1.36	$1.27 \\ 1.37$	1.71 1.57				
30 32 29 31 47 39	30 31 31 38 38 34 33	34 34 34 34 38 38	$1.61 \\ 1.41 \\ 1.69 \\ 1.55 \\ 1.39 \\ 1.39 \\ 1.39$	4.52 3.70 3.69 3.17 4.25 3.61	$1.21 \\ 1.00 \\ 1.08 \\ 1.22 \\ 1.03 \\ 1.15$	1.66 1.35 1.89 1.40 1.51 1.40	$1.82 \\ 1.60 \\ 2.02 \\ 1.80 \\ 2.51 \\ 2.21$	$1.68 \\ 1.68 \\ 2.31 \\ 1.92 \\ .73 \\ 1.09$	2. 13 1. 81 2. 03 1. 83 2. 05 1. 90				
32 32	31 33	35 35	1.59 1.45	4.22 3.53	1. 11 1. 12	1.66 1.37	1.97 1.74	1.68 1.65	2.08 1.84				

#### NONTUBERCULOUS DECEDENTS.

					-	-			
31 36 34 40 	34 39 51 48 	40 42 44 47 45 50	5.37 4.46 5.98 5.07 7.83 5.74	$9.36 \\ 7.55 \\ 19.51 \\ 13.01 \\ 8.47 \\ 5.65$	8.69 5.31 8.39 11.88 9.12 3.04	5.65 5.32 14.18 7.09 13.62 9.73	4.98 3.80 4.77 2.27 3.24	4.49 3.83 4.82 5.27 2.92	6.00 4.94 7.34 5.87 7.97 5.72
31 37	43 44	42 44	5.71 4.71	10.74 8.11	8.69 6.91	6.99 5.89	4.76 3.40	4.34 4.34	6.46 5.21
54	40	55	9.14	24.18	7.82	14.01	8.98	5.82	, 11.53
$54\\44\\53$	41 51 45	54 53 56	$10.27 \\ 11.98 \\ 12.33$	$25.33 \\ 14.75 \\ 26.07$	$\begin{array}{r} 8.62 \\ 14.24 \\ 11.54 \end{array}$	$\begin{array}{r} 14.08 \\ 15.26 \\ 11.76 \end{array}$	$11.\ 18\\8.\ 16\\13.\ 88$	7.03 18.03 14.99	$12.66 \\ 12.44 \\ 15.28$
50	44	54	11.29	22.34	11.48	13.51	10.19	9.79	13.23
50	40	53	7.63	18.88	7.59	10.13	6.99	5.20	9.41
49 43 53	40 51 45	51 52 56	8.69 10.87 11.89	$20.24 \\ 15.28 \\ 24.34$	8.62 13.87 11.39	10.31 15.12 11.99		6.24 9.19 12.60	10.51 11.57 14.57
47	44	53	9.97	19.97	11.28	11.44	8.70	7.78	11.67

#### TABLE 4.—AVERAGE AGE AT DEATH AND DEATH RATE PER 1,000 POP TUBERCULOUS DECEDENTS OF EACH SPECIFIED RACE, BY SEX TUCKET, 1 AND 3 YEARS—Continued.

#### Average age at death. Sex, occupation group, locality, and period. Irish. American. English. FEMALES. **Operatives:** 42 {1 year... 3 years... 33 36 37 33 38 Fall River 39 25 34 1 year... 3 years... 31 Manchester. 42 35 43 37 1 year... years... 44 Pawtucket..... 39 31 {1 year... 3 years... 40 33 37 Total, 3 cities..... 39 28 37 Nonoperatives: (3 years. 59 62 60 Fall River..... 1 year.. 60 61 60 year ... Manchester. 56 61 59 Pawtucket. ...1 year .... 61 64 53 Total, 3 cities..... .....1 year... 59 62 58 Both classes: 3 years. 56 59 56 Fall River. 1 year... 58 59 56 Manchester.... .1 year... .1 year... 56 54 61 Pawtucket..... 60 64 52 Total, 3 cities..... ..1 year.. 58 61 55 BOTH SEXES. **Operatives:** 1 year.. 45 32 43 45 36 36 Fall River. 3 years. 41 28 1 year... 3 years... 41 42 51 Manchester..... 43 1 year... 3 years.. 49 2745 47 Pawtucket..... 44 29 {1 year... 3 years... 45 34 43 Total, 3 cities.. 42 38 44 Nonoperatives: 58 61 58 3 years. Fall River. 1 year.. 58 60 58 Manchester.... 59 57 year... Pawtucket..... .1 year... 59 62 55 Total, 3 cities ... 58 60 57 .1 year ... Both classes: 3 years. 56 59 55 Fall River.... 1 year.. 56 58 55 Manchester. . 54 year... 59 54 .1 Pawtucket ... .1 year .. 58 61 53 Total, 3 cities ..... .1 year ... 56 59 54

#### NONTUBERCULOUS DECEDENTS-Concluded.

MALES. Operatives: Fall River.	J <sup>3</sup> years.	40	30	46
Manchester. Pawtucket	1 year 1 year 1 year 1 year	46 48 55	28 46 27	46 39 47
Total, 3 cities	1 year	47	33	44

ALL DECEDENTS.

#### CHAPTER IV.—POPULATION AND MORTALITY TABLES. 183

#### GENERAL TABLES.

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#### ULATION 10 YEARS OF AGE AND OVER, FOR TUBERCULOUS AND NON-AND OCCUPATION GROUPS, FALL RIVER, MANCHESTER, AND PAW-

Ave	rage age at	death.			1	Death rates	•		
French Cana- dian.	Other races.	All races.	Aggre- gate non- Irish.	Irish.	Ameri- can.	English.	French Cana- dian.	Other races.	All races.
				- 1					
30 31 26 28	22 24 33 18	34 34 30 36 44 36	5.33 4.59 2.89 2.49 3.46 2.31	7.21 6.97 7.62 7.62 7.81 4.83	7.65 5.95 5.18 4.32 5.85	4.61 4.30 6.98 8.53 6.46 2.87	5.85 4.78 2.92 1.39	4.45 4.02 1.78 4.39	<b>5.</b> 76 5.13 3.65 3.31 <b>4.94</b> 3.17
29 30	22 26	34 35	4.46 3.76	7.40 6.66	5.97 5.47	5.20 4.41	4.32 3.17	2.71 3.22	5.12 4.41
52	45	58	9.08	23.73	10.07	11.01	8.47	5.64	11.68
58 46 52	46 58 50	59 56 58	9.63 12.32 12.18	24.80 13.59 26.13	$     \begin{array}{r}             11.45 \\             15.26 \\             11.13         \end{array}     $	10.00 11.69 13.17	9.59 10.16 17.94	6.16 6.52 6.48	12.33 12.56 15.40
52	49	58	11.03	21.62	12.80	11.20	10.64	6.28	13.09
48	41	54	7.93	18.37	9.68	8.86	7.33	5.23	9.92
52 44 52	41 58 50	55 55 58	8.54 10.59 11.11	19.17 12.68 22.56	11.09 14.80 10.81	8.27 10.90 11.81	8. 43 8. 33 13. 46	5.72 3.70 6.10	10.56 10.98 13.93
49	45	56	9.67	18.19	12.39	9.60	8.86	5.31	11.38
30 33 30 34 45	29 32 51 45 45	37 38 39 43 45 43	5.35 4.52 4.34 3.70 5.31 3.76	8.12 7.22 11.68 9.46 7.99 5.06	8. 14 5. 65 6. 95 8. 50 6. 00 4. 00	5.19 4.87 9.83 7.96 9.01 5.31	5.39 4.26 3.62 1.72 .87	4.47 3.91 2.93 3.91 3.29	5.88 5.03 5.32 4.47 6.10 4.15
30 34	36 38	38 40	5.10 4.24	8.69 7.22	7.40	6.12 5.17	4.52 3.28	3.67 3.88	5.77 4.80
53	42	57	9.11	23.92	9.01	12.28	8.70	5.73	11.62
56 45 53	43 54 47	56 55 57	9.93 12.12 12.26	$25.03 \\ 14.09 \\ 26.10$	$     10.11 \\     14.79 \\     11.32 $	11.72 13.37 12.48	10.31 9.05 15.75	6.59 10.78 10.67	12.48 12.51 15.34
51	46	56	11.15	21.93	12.18	12.24	10.42	7.95	13.15
49	40	54	7.79	18.59	8.69	9.46	7.17	5.21	9.68
50 44 53	40 53 47	53 53 57	-8.61 10.72 11.49	$19.63 \\ 13.77 \\ 23.35$	9.92 14.36 11.09	9.24 12.84 11.90	8.61 7.97 13.01	5.98 6.45 9.49	10.54 11.25 14.24
48	44	54	9.81	18.95	11.87	10.46	8.78	6.58	11.51

#### NONTUBERCULOUS DECEDENTS-Concluded.

A	LL	D	EC	ED	EN	TS.
		_	_			

36	37	40	6. 59	11.49	8.21	6.88	6.01	6.66	7.35
32 33	31 43	38 41 45	8.01 8.97 7.83	14.78 21.95 11.30	14.49 8.39 9.12	7.37 24.82 13.62	7.83 7.50	7.49 7.57	9.07 10.27 8.58
32	37	40	8.22	15.39	11.36	9.04	7.47	7.06	9.29

### 184 CAUSES OF DEATH AMONG COTTON-MILL OPERATIVES.

#### GENERAL TABLES.

#### TABLE 4.—AVERAGE AGE AT DEATH AND DEATH RATE PER 1,000 POP TUBERCULOUS DECEDENTS OF EACH SPECIFIED RACE, BY SEX TUCKET, 1 AND 3 YEARS—Concluded.

ALL	DECEDE	NTS-Con	cluded

	Ave	Average age at death.				
Sex, occupation group, locality, and period.	Irish.	American.	English.			
MALES-concluded.						
Fall River 3 years.	. 53	56	55			
Manchester	- 52 - 50 - 53	56 55 59	53 52 54			
Total, 3 cities	. 52	57	53			
Both classes:						
Fall River	. 51	55	52			
Manchester. 1 year. 1 year.	- 51	53 55	51 49			
Pawtucket 1 year	. 53	57	53			
Total, 3 cities 1 year	. 51	55	51			
FEMALES.			-			
(3 years.	. 35	24	35			
Fail River. [1 year	. 37	30	34			
Manchester	32 37	34 29	33 36			
Total. 3 cities	36		34			
Nononeratives:						
Fall River 3 years.	- 58	59	58			
Tan Hver.	. 58	59	59			
Pawtucket 1 year	. 59	63	58 52			
Total, 3 cities 1 year	. 57	60	56			
Both classes:						
Fall River. 3 years.	. 54	57	53			
Manchester (1 year	54	56 60	53			
Pawtucket 1 year	56	61	50			
Total, 3 cities 1 year	. 54	59	52			
Operatives: [3 years.]	. 37	27	42			
1 year	41	29	41			
Pawtucket 1 year	41	42 28	41			
Total, 3 cities 1 year	. 41	32	39			
Nonoperatives: (3 years.	56	58	57			
Fall River	55	58	56			
Manchester. 1 year Pawtucket. 1 year	51 56	58 62	55 53			
Total, 3 cities 1 year	55	59	54			
Both classes: [3 years	53	56	52			
ran River	53	55	52			
Pawtucket 1 year Pawtucket	50 55	58 59	52 51			
Total, 3 cities 1 year	53	57	51			

#### ULATION 10 YEARS OF AGE AND OVER, FOR TUBERCULOUS AND NON-AND OCCUPATION GROUPS, FALL RIVER, MANCHESTER, AND PAW-

#### Death rates. Average age at death. Aggre-French French Other Ameri-Other All All races. gate non-Irish. English. Cana-Canaraces. can. races. races. dian. Irish. dian. 8.81 52 39 53 10.30 29.70 15,60 9.96 7.03 13.38 52 41 52 32.01 12.21 8.16 14.71 11.44 9.51 15.86 43 48 50 13.38 18.97 15.55 17.36 9.32 20.80 14.32 45 54 13.76 31.28 12.67 13.19 16,96 14.99 17.52 43 52 12.60 27.83 12.59 15.24 11.53 10.90 15.27 49 48 38 50 9,10 23.90 8.76 11.70 8.45 6.91 11.44 10.53 47 38 48 10.34 26.52 9.97 12.07 7.95 12.89 42 46 49 12.57 19.30 15.09 18.32 9.00 11.95 13.63 16.65 12.60 51 45 54 13.18 29.32 13.24 15.33 11.56 25.29 12.50 46 41 50 13.27 10.42 9.48 13.89 29 24 32 7.18 11.66 8.08 5.94 8.24 6.78 8.20 9.63 7.09 10.26 7.68 6.98 10.76 32 8.96 11.90 11.48 7.62 28 23 10.10 20 29 5.30 16.50 5.18 1.07 6.67 36 15.61 28 23 32 7.80 13.46 10.44 8.24 8 04 5.03 9.08 42 56 10.01 25 54 10.78 11.93 9,43 6.89 12.77 44 57 54 10.5113.8327.3516.0812.25 10.43 7.26 13.50 55 10.87 8.96 53 12.63 43 14.26 11.64 52 47 57 13.31 28.83 14.27 20.93 8.10 16.89 49 46 56 12.16 24.19 13.59 12.14 12.22 7.71 14.50 44 37 51 9.28 21.10 10.53 10.01 9.06 6.86 11.54 47 38 51 10.12 22.41 12.17 9.85 10.33 7.35 12.46 40 50 51 12.27 16.14 15.75 11.68 10.86 5.55 12.99 12.60 52 47 55 26.25 11.81 13.56 15.70 7.63 15.96 45 42 52 11.26 21.60 13.40 11.10 11.04 6.98 13.34 32 31 36 6.86 11.59 8.14 6.46 7.06 6.71 7.76 8.45 7.02 7.64 30 27 35 13.12 12.89 7.51 8.90 7.55 9.34 6.95 23 41 36 18.36 14.04 6.99 5.02 8.53 39 14.39 12.00 11.78 9.62 30 32 36 8.01 14.20 10.93 5.65 7.77 6.22 9.18 41 10.14 27.31 9.85 13.48 9.67 6.96 13.05 29.33 17.32 54 42 10.94 10.95 12.98 11.23 7.70 14.05 43 50 52 13.58 15.93 14.86 13.74 10.67 14.29 17.20 52 46 56 13.53 29.97 12.13 11.49 49 44 54 12.37 25.78 13.12 13.54 11.89 9.22 14.86 **4**6 38 51 9.20 22.29 9.69 10.81 8.77 11.49 6.89 47 38 49 10.22 24.15 11.13 10.90 10.43 7.66 8.76 12.67 41 47 50 12.41 17.46 15.44 14.73 9.99 13.28 12.88 27.60 52 46 55 12.12 13.41 15.52 10.22 16.29 46 41 51 11.40 23.17 12.98 12.12 10.75 8.26 13.59

#### ALL DECEDENTS-Concluded.

#### TABLE 5.—DEATHS OF PERSONS 10 YEARS OF AGE AND OVER OF EACH CAUSES, BY SEX, OCCUPATION, AND AGE GROUPS, FALL RIVER, TUCKET), 1 YEAR.

		Males.										Females.		
A go group and race	Op	erative	es.	None	Nonoperatives.			h class	es.	Operatives.				
AFe from and 1900.	Fall River. 3 years.	3 cities, 1 year.	3 cities, 3 years.	Fall River, 3 years.	3. cities, 1 year.	3 cities, 3 years.	Fall River. 3 years.	3 cities, 1 year.	3 cities, 3 years.	Fall River. 3 years.	3 cities. 1 year.	3 cities, 3 years.		
10 to 14 years: American English Irish. French Canadian Other races						1 1 			1 1 		1	1		
Total, all races						2			2		1	2		
15 to 19 years: American English Irish	1 4	·····	34	4 2 1	$1\\3\\1$	6 3 5	5 6 1	1 4 1	9 7 5	1 2 4	1	3 3 7		
French Canadian Other races	5 1	2	$\begin{array}{c} 6\\ 2\end{array}$	2	2	2 5	5 3	4	87	9 4	6 2	14 4		
Total, all races	11	3	15	9	7	21	20	10	36	20	10	31		
20 to 24 years: American English Irish French Canadian Other races	3 3 3 3 4	3 2 2 3	3 3 4 4 5	3 4 4	5 4 5 1	12 7 13 2 1	6 7 7 3 4	8 6 5 3 3	15 10 17 6 6	3 2 4 9 5	3 4 2 6 2	6 5 6 19 7		
Total, all races	16	10	19	11	15	35	27	25	54	23	17	43		
15 to 24 years: American English Irish French Canadian Other races	4 7 3 8 5	3 3 2 5	6 7, 4 10 7	7 6 5 2	6 7 6 1 2	18 10 18 4 6	11 13 8 8 7	9 10 . 6 3 7	24 17 22 14 13	4 4 8 18 9	4 4 3 12 4	9 8 13 33 11		
Total, all races	27	18	34	20	22	56	47	35	90	43	27	74		
25 to 29 years: American English Irish. French Canadian. Other races	4 4	2 2 2 1	5 5 1	3 2 4 2 2	2 1 3 2	10 5 20 4 4	3 2 8 6 2	2 1 5 4 1	10 • 5 25 9 5	$\frac{3}{14}$	4 10 4	$     \begin{array}{c}       1 \\       5 \\       21 \\       12 \\       2     \end{array} $		
Total, all races	8	5	11	13	8	43	21	13	54	26	18	41		
30 to 34 years: American English Irish French Canadian Other races	1 3 6 8 3	1 3 2 6 2	1 6 7 10 3	3 4 11 5 4	1 2 17 9 1	6 7 32 18 4	4 7 17 13 7	2 5 19 15 3	7 13 39 28 7	4 5 10 1	3 3 7 1	5 12 13 1		
Total, all races	21	14	27	27	30	67	48	44	94	20	14	31		
25 to 34 years: American English Irish French Canadian Other races.	1 3 10 12 3	1 3 4 8 3	$     \begin{array}{c}       1 \\       6 \\       12 \\       15 \\       4     \end{array} $	6 6 15 7 6	$3 \\ 3 \\ 20 \\ 11 \\ 1$	$     \begin{array}{r}       16 \\       12 \\       52 \\       22 \\       8     \end{array} $	7 9 25 19 9	4 6 24 19 4	17 18 64 37 12	7 19 18 2	7 13 11 1	$     \begin{array}{c}       1 \\       10 \\       33 \\       25 \\       3     \end{array} $		
Total, all races	29	19	38	40	38	110	69	57	148	46	32	72		

#### DEATHS, TUBERCULOUS.

#### SPECIFIED RACE FROM TUBERCULOUS AND FROM NONTUBERCULOUS 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAW-

Females.						Both sexes.								
Nor	operati	ves.	Bo	th class	es.	Op	erativ	es.	Non	operati	ves.	Bo	th class	ses.
Fall River, 3 years.	3 cities, 1 year.	3 cities, 3 years.	Fall River, 3 years.	3 cities, 1 year.	3 cities, 3 years.	Fall River, 3 years.	3 cities, 1 year.	3 cities, 3 years.	Fall River, 3 years.	3 cities, 1 year.	3 cities, 3 years.	Fall River, 3 years.	3 cities, 1 year.	3 cities, 3 years.
33	3	7 3 1 3 2	33	3	8 3 2 3 2		 	1	3 3 2	3	8 4 1 3 2	33	3	9 4 2 .3 2
8	3	16	8	4	18		1	2	8	3	18	8	4	20
4 1 3 1 1	2	7 2 4 8 2	5 3 7 10 5	3 4 10 2	$     \begin{array}{c}       10 \\       5 \\       11 \\       22 \\       6     \end{array} $	2 6 4 14 5	1 1 1 6 4	6 7 7 20 6	8 3 4 1 3	3 3 4 4 2	13 5 9 10 7	10 9 8 15 8	4 4 5 10 6	19 12 16 30 13
10	9	23	30	19	54	31	13	46	19	16	44	50	29	90
3 1 2 3	1 3 2 7 2	3 6 5 11 3	3 5 5 11 8	4 7 4 13 4	9 11 11 30 10	6 5 7 12 9	6 6 2 8 5	9 8 10 23 12	3 7 5 2 3	6. 7 8 2	15 13 18 13 4	9 12 12 14 12	12 13 9 16 7	24 21 28 36 16
9	15	28	32	32	71	39	27	62	20	30	63	59	57	125
4 4 3 4	3 3 5 11 2	10 8 9 19 5	8 8 12 21 13	7 7 8 23 6	19 16 22 52 16	8 11 11 26 14	7 7 3 14 9	15 15 17 43 18	11 10 9 3 6	9 10 11 12 4	28 18 27 23 11	19 21 20 29 20	16 17 14 26 13	43 33 44 66 29
19	24	51	62	51	125	70	40	108	39	46	107	109	86	215
2 3 4 6 3	1 1 7 5	8 6 15 14 4	2 6 18 14 4	1 5 17 9	9 11 36 26 6	3 18 12 1	4 12 6 1	1 5 26 17 3	5 5 8 8 5	3 2 10 7	18 11 35 18 8	5 8 26 20 6	3 6 22 13 1	19 16 61 35 11
18	14	47	44	32	88	34	23	52	31	22	90	65	45	142
1 3 8 7 2	3 7 3 4	4 4 16 18 4	1 7 13 17 3	6 10 10 5	4 9 28 31 5	1 7 11 18 4	1 6 5 13 3	1 11 19 23 4	4 7 19 12 6	1 5 24 12 5	10 11 48 36 8	5 14 30 30 10	2 11 29 25 8	11 22 67 59 12
21	17	46	41	31	77	41	28	58	48	47	113	89	75	171
3 6 12 13 5	1 4 14 8 4	$12 \\ 10 \\ 31 \\ 32 \\ 8$	3 13 31 31 7	1 11 27 19 5	13 20 64 57 11	1 10 29 30 5	1 10 17 19 4	1 16 45 40 7	9 12 27 20 11	4 7 34 19 5	28 22 83 54 16	10 22 56 50 16	5 17 51 38 9	30 38 128 94 23
39	31	- 93	85	63	165	75	51	110	- 79	69	203	154	120	313

#### DEATHS, TUBERCULOUS.

#### TABLE 5.—DEATHS OF PERSONS 10 YEARS OF AGE AND OVER OF EACH CAUSES, BY SEX, OCCUPATION, AND AGE GROUPS, FALL RIVER, TUCKET), 1 YEAR—Continued.

					Males.					F	'emale	5.
A me motin and race.	OI	perativ	es.	Non	operati	ives.	Bot	th clas	5 <b>es.</b>	Oj	perativ	es.
and broad and room	Fall River, 3 years.	3 cities, 1 year.	3 cities, 3 years.	Fall River, 3 years.	3 cities, 1 year.	3 cities, 3 years.	Fall River, 3 years.	3 cities, 1 year.	3 cities 3 years.	Fall River, 3 years.	3 cities, 1 year.	3 cities, 3 years.
35 to 39 years: American English Irish French Canadian Other races	3 5 3 3	1 4 1	3 6 4 5	2 18 7 1	2 1 8 1	5 3 28 8 3	5 23 10 4	2 2 12 2	5 6 34 12 8	$\begin{array}{c} 1\\ 1\\ 7\\ 2\\ 2\\ 2\end{array}$	1 7 1 1	2 13 4 2
Total, all races	14	6	18	28	12	47	42	18	65	12	10	21
40 to 44 years: American English Irish French Canadian Other races	1 3 2 3 3	2 4 1	· 1 4 5 5 5	1 6 1 1	2 3 9 2 1	3 5 14 5 3	1 4 8 4 4	2 3 11 6 2	4 9 19 10 8	1 2 1 1	1 1 1 1	2 3 3 3 3
Total, all races	12	7	20	9	17	30	21	24	50	5	4	11
35 to 44 years: American English Irish. French Canadian Other races	1 6 7 6 6	$\begin{array}{c}1\\6\\4\\2\end{array}$	1 7 11 9 10	3 24 8 2	4 4 17 2 2	8 8 42 13 6	1 9 31 14 8	4 5 23 6 4	9 15 53 22 16	1 3 8 3 2	1 2 8 2 1	2 5 16 7 2
Total, all races	26	13	38	37	29	77	63	42	115	17	14	32
45 to 54 years: American. English Irish. French Canadian. Other races.	3 1 2 1	3 1 2	1 5 2 3 3	$\begin{array}{c}1\\2\\16\\3\\6\end{array}$	1 1 9 6 2	7 4 22 12 8	1 5 17 5 7	1 4 10 8 2	8 9 24 15 11	2 4	1 1 2	1 2 4 1
Total, all races	7	6	14	28	19	53	35	25	67	6	4	8
55 to 64 years: American English Irish French Canadian., Other races	3	2	4 2	4 4 7	4 1 5 1	9 6 18 5	4 4 10 2	4 1 7 1	9 6 22 5 2			1
Total, all races	5	2	6	15	11	38	20	13	44			1
65 years and over: American English Irish French Canadian. Other races				2 3 5 2	3 2 3	6 4 7 2	2 3 5 2	3 2 3	6 4 7 2			
Total, all races				12	8	19	12	8	19			
Total, 10 years and over: American English Irish French Canadian. Other races	6 19 24 28 17	4 10 13 16 10	9 25 33 37 26	20 24 72 20 16	21 18 60 21 7	65 45 159 58 28	26 43 96 48 33	25 28 73 37 17	74 70 192 95 54	5 16 39 39 13	6 14 27 25 6	$     \begin{array}{r}       14 \\       25 \\       68 \\       66 \\       16 \\       16     \end{array} $
Total, all races	94	53	130	152	127	355	246	180	485	112	78	189

#### DEATHS, TUBERCULOUS-Concluded.

#### SPECIFIED RACE FROM TUBERCULOUS AND FROM NONTUBERCULOUS 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAW-

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#### DEATHS, TUBERCULOUS-Concluded.

	Females.								Be	oth sex	es.	-		
No	noperat	ives.	Bo	th class	es.	O	perativ	'es.	Nor	operat	ives.	Bo	th clas	ses.
Fall River, 3 years.	3 cities, 1 year.	3 cities, 3 years.	Fall River, 3 years.	3 cities, 1 year.	3 cities, 3 years.	Fall River, 3 years.	3 cities, 1 year.	3 cities, 3 years.	Fall River, 3 years.	3 cities, 1 year.	3 cities, 3 years.	Fall River, 3 years.	3 cities, 1 year.	3 cities, 3 years.
1 2 3 3	1 6 4 2	4 1 10 6 5	1 1 9 5 5	. 1 1 13 5 3	4 3 23 10 7	4 12 5 5	2 11 1 2	5 19 8 7	1 2 20 10 4	3 1 14 4 3	9 4 38 14 8	1 6 32 15 9	3 3 25 5 5	9 9 57 22 15
9	13	26	21	23	47	26	16	39	37	25	73	63	41	112
1 1	3  1 1 1	3 	1 2 2 1 1	4 1 2 2 1	5 3 7 7 1	2 5 3 4 3	1 1 3 5 1	3 7 8 8 5	1 7 1 2	5 3 10 3 2	6 5 18 9 4	2 6 10 5 5	6 4 13 8 3	9 12 26 17 9
2	6	12	7	10	23	17	11	31	11	23	42	28	34	73
1 3 3 4	4 7 5 3	7 1 14 10 6	2 3 11 6 6	5 2 15 7 4	9 6 30 17 8	2 9 15 9 8	1 3 14 6 3	<b>3</b> 12 27 16 12	1 3 27 11 6	8 4 24 7 5	15 9 56 23 12	3 12 42 20 14	9 7 38 13 8	18 21 83 39 24
11	19	38	28	33	70	43	27	70	48	48	115	91	75	185
3 3 6 3 2	1 4 1	6 6 13 6 4	3 5 10 3 2	1 2 6 1	7 8 17 7 4	5 5 2 1	° 1 4 3 2	2 7 6 4 3	4 5 22 6 8	1 2 13 6 3	13 10 35 18 12	4 10 27 8 9	2 6 16 8 3	15 17 41 22 15
17	6	35	23	10	43	13	10	22	45	25	88	58	35	110
1 2 6 1	4 1 5 3	7 4 10 4 1	1 2 6 1	4 1 5 3	7 4 11 4 1	3	2	5	5 6 13 1	8 2 10 4	16 10 28 9 1	5 6 16 1 2	8 2 12 4	16 10 33 9 3
10	13	26	10	13	27	5	2	7	25	24	64	30	26	71
1 1 1 1	2 3 1	8 7 3 1 1	1 1 1 1	2 3 1	8 7 3 1 1				3 4 6 3	5 5 4	14 11 10 3 1	3 4 6 3	5 5 4	14 11 10 3 1
4	6	20	4	6	20				16	14	39	16	14	39
16 19 32 24 17	17 12 36 27 10	57 39 81 75 27	21 35 71 63 30	23 26 63 52 16	71 64 149 141 43	11 35 63 67 30	10 24 40 41 16	23 50 101 103 42	36 43 104 44 33	38 30 96 48 17	$122 \\ 84 \\ 240 \\ 133 \\ 55$	47 78 167 111 63	48 54 136 89 33	145 134 341 236 97
108	102	279	220	180	468	206	131	319	260	229	634	466	360	953

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#### TABLE 5.—DEATHS OF PERSONS 10 YEARS OF AGE AND OVER OF EACH CAUSES, BY SEX, OCCUPATION, AND AGE GROUPS, FALL RIVER, TUCKET), 1 YEAR—Continued.

			Ma	les.		
Age group and race.	Opera	tives.	Nonope	ratives.	Both c	elasses.
14-13 - 1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.
10 to 14 years: American. English. Irish French Canadian. Other races	2	2 1	5 .9 .9	9 1 8 5	5 11 10	9 3 9 5
Total, all races	3	3	33	23	36	26
15 to 19 years: American English Irish French Canadian Other races.	3 5 1 10 2	3 4 	1 1 7 6	6 1 1 8 4	3 6 2 17 8	9 5 1 14 6
Total, all races	21	15	15	20	36	35
20 to 24 years: Armerican English. Irish. French Canadian. Other races.	2 4 4 2	2 3 4 2	4 8 7 5	4 5 9 6 6	6 12 11 4 7	6 8 9 10 8
Total, all races	16	. 11	24	30	40	41
15 to 24 years: American English Irrish French Canadian Other races.	5 9 5 14 4	5 7 10 4	4 9 8 7 11	10 6 10 14 10	9 18 13 21 15	15 13 10 24 14
Total, all races	37	26	39	50	76	76
25 to 29 years: American English Irrish French Canadian Other races.	1 2 3 5 2	1 1 5 2	6 6 4 8 3	11 6 8 9 3	7 8 7 13 5	12 6 9 14 5
Total, all races	13	9	27	37	40	46
30 to 34 years: American English Irish French Canadian Other races.	2 2 8 4 4	3	4 8 14 11 4	7 7 15 9 4		10 7 19 13 4
Total, all races	20	11	41	42	61	53
25 to 34 years: American English Irish French Canadian. Other races.	3 4 11 9 6	4 5 9 2	10 14 18 19 7	18 13 23 18 7	13 18 29 28 13	22 13 28 27 9
Total, all races	33	20	68	79	101	99

#### DEATHS, NONTUBERCULOUS.

#### SPECIFIED RACE FROM TUBERCULOUS AND FROM NONTUBERCULOUS 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAW-

		Fem	ales.					Both	sexes.		
Opera	atives.	Nonope	eratives.	Both	classes.	Opera	atives.	Nonope	eratives.	Both	classes.
Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.
1		6 2 1 7 7	9 2 1 9 3	7 2 1 7 7	9 2 1 10 3	$\frac{1}{2}$	2	11 11 1 16 17	18 3 1 17 8	12 13 1 17 17	18 5 1 19 8
1	1	23	24	24	25	4	4	56	47	60	51
5 6 2 8 3	1 1 5 2	4 3 3 4 2	6 3 1 10	9 9 5 12 5	7 4 1 15 2	8 11 3 18 5	4 5 11 4	4 4 4 . 11 . 8	12 4 2 18 4	12 15 7 29 13	16 9 2 29 8
24	9	16	20	40	29	45	24	31	40	76	64
3 3 2 11 10	1 2 3 9 4	5 6 3 5	5 1 3 3	8 3 8 14 15	6 3 6 12 4	5 7 6 15 12	3 5 3 13 6	9 8 13 3 10	9 6 12 9 6	14 15 19 18 22	12 11 15 22 12
29	19	19	12	48	31	45	30	43	42	88	72
8 9 4 19 13	2 3 3 14 6	9 3 9 7 7	11 4 4 13	17 12 13 26 20	13 7 7 27 6	13 18 9 33 17	7 10 3 24 10	13 12 17 14 18	21 10 14 27 10	26 30 26 47 35	28 20 17 51 20
53	28	35	32	88	60	90	54	74	82	164	136
<b>4</b> 5 6 3	2 3 2	7 5 7 14 6	6 2 8 16 4	7 9 12 20 9	6 4 11 18 4	1 6 8 11 5	1 2 4 7 2	13 11 11 22 9	17 8 16 25 7	14 17 19 33 14	18 10 20 32 9
18	7	39	36	57	43	31	16	66	73	97	89
2 6 8 8 2	2 4 3 4 1	8 3 13 18 5	9 5 11 10 1	10 9 21 26 7	11 9 14 14 2	4 8 16 12 6	5 4 7 8 1	12 11 27 29 9	16 12 26 19 5	16 19 43 41 15	21 16 33 27 6
26	14	47	36	73	50	46	25	88	78	134	103
2 10 13 14 5	2 6 6 6 1	15 8 20 32 11	15 7 19 26 5	17 18 33 46 16	17 13 25 32 6	5 14 24 23 11	6 6 11 15 3	25 22 38 51 18	33 20 42 44 12	30 36 62 74 29	39 26 53 59 15
44	21	86	72	130	93	77	41	154	151	231	192

#### DEATHS, NONTUBERCULOUS.

#### TABLE 5.—DEATHS OF PERSONS 10 YEARS OF AGE AND OVER OF EACH CAUSES, BY SEX, OCCUPATION, AND AGE GROUPS, FALL RIVER, TUCKET), 1 YEAR—Continued.

			Ma	ales.		
Age group and race.	Opera	atives.	Nonope	eratives.	Both	classes.
	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.
35 to 39 years: American English Irish French Canadian Other races.	3 4 3 2	 1 2 1 1	7 8 22 12 5	5 6 18 6 3	7 11 26 15 7	5 7 20 7 4
Total, all races	12	5	54	38	66	43
40 to 44 years: American. English Irish. French Canadian. Other races.	1 2 4 6 2	1 4 2 3	3 8 19 10 10	11 7 12 10 6	4 10 23 16 12	12 7 16 12 9
Total, all races	15	10	50	46	65	56
35 to 44 years: American English Irish French Canadian Other races.	1 5 8 9 4	1 1 6 3 4	10 16 41 22 15	16 13 30 16 9	11 21 49 31 19	17 14 36 19 13
Total, all races	27	15	104	84	131	99
45 to 54 years: American. English. Irish. French Canadian. Other races.	10 12 9 5	1 7 6 3 1	22 35 50 26 9	20 27 33 25 7	22 45 62 35 14	21 34 39 28 8
Total, all races	36	18	142	112	178	130
55 to 64 years: American English. Irish. French Canadian. Other races.	1 23 6 3 4	11 7 1 2	37 45 92 36 14	41 32 68 29 12	38 68 98 39 18	41 43 75 30 14
Total, all races	37	21	224	182	261	203
65 years and over: American English. Irish. French Canadian Other races.	1 12 4 3	2 6 6 1 3	70 84 106 64 11	103 49 80- 49 12	71 96 110 67 11	105 55 86 50 15
Total, all races	20	18	335	293	355	311
Total, 10 years and over: American English Irish. French Canadian Other races.	11 65 46 48 23	13 34 30 28 16	158 212 315 183 77	217 141 244 159 62	169 277 361 231 100	230 175 274 187 78
Total, all races	193	121	945	823	1,138	944

#### DEATHS, NONTUBERCULOUS-Concluded.

#### SPECIFIED RACE FROM TUBERCULOUS AND FROM NONTUBERCULOUS 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAW-

		Fem	ales.					Both	sexes.		
Op	eratives.	Nonop	eratives.	Both	classes.	Opera	atives.	Nonope	eratives.	Both	classes.
Fall River 3 year:	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.
1	6 4 0 77 7 1 1	. 10 14 7 9 . 4	9 13 7 10 3	10 20 17 16 5	9 17 14 11 3	9 14 10 3	5 9 2 1	17 22 29 21 9	14 19 25 16 6	17 31 43 31 12	14 24 34 18 7
2	4 12	44	42	68	54	36	17	98	80	134	97
1 1 1	4 3 2 4 0 3	. 9 12 25 13 4	9 2 21 4 5	9 16 37 23 4	9 5 25 7 5	1 6 16 16 2	1 3 8 5 3	12 20 44 23 14	20 9 33 14 11	13 26 60 39 16	21 12 41 19 14
2	6 10	63	41	89	51	41	20	113	87	154	107
10 22 1	0 7 2 11 7 4	. 19 26 32 22 8	18 15 28 14 8	19 36 54 39 9	18 22 39 18 8	1 15 30 26 5	1 8 17 7 4	29 42 73 44 23	34 28 58 30 17	30 57 103 70 28	35 36 75 37 21
50	) 22	107	83	157	105	77	37	211	167	288	204
1	2 3 5 8 5 8 3	27 30 62 33 19	29 28 44 23 10	29 38 73 36 19	32 33 52 26 10	2 18 23 12 5	4 12 14 6 1	49 65 112 59 28	49 55 77 48 17	51 83 135 71 33	53 67 91 54 18
2	1 - 19	171	134	195	153	60	37	313	246	373	283
		33 59 149 45 15	46 29 70 36 8	34 63 156 46 15	47 31 75 37 8	2 27 13 4 4	1 13 12 2 2 2	70 104 241 81 29	87 61 138 65 20	72 131 254 85 33	88 74 150 67 22
13	9	301	189	314	198	50	30	525	371	575	401
1	1	118 100 146 66 10	146 57 137 61 10	118 101 147 66 10	146 58 137 61 10	1 13 5 3	2 7 6 1 3	188 184 252 130 21	249 106 217 110 22	189 197 257 133 21	251 113 223 111 25
2	1	440	411	442	412	22	19	775	704	797	723
14 42 58 54 19	8 24 33 29 7	227 228 419 212 77	274 142 303 182 44	241 270 477 266 96	282 166 336 211 51	25 107 104 102 42	21 58 63 57 23	385 440 734 395 154	491 283 547 341 106	410 547 838 497 196	512 341 610 398 129
187	101	1, 163	945	1,350	1,046	380	222	2, 108	1,768	2, 488	1,990

#### DEATHS, NONTUBERCULOUS-Concluded.

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#### TABLE 5.—DEATHS OF PERSONS 10 YEARS OF AGE AND OVER OF EACH CAUSES, BY SEX, OCCUPATION, AND AGE GROUPS, FALL RIVER, TUCKET), 1 YEAR—Continued.

and the second s	1		Ма	les.		
Age group and race.	Opera	tives.	Nonope	ratives.	Both c	lasses.
0,501501	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.
10 to 14 years: American. English. Irish. French Canadian. Other races	2 1	2 1 	5 9 9 10	9 1 	5 11  10 10	93
15 to 19 years: American English Irish French Canadian Other races.	4 9 1 . 15 3	335	43278	7 4 2 8 6	8 12 3 22 11	10 9 2 14 10
Total, all races	32 5 7 7 7 6	18 5 5 	24 7 12 11 5	9 9 9 14 7 6	56 12 19 18 7 11	45 14 14 14 13 11
Total, all races	32	21	35	45	67	66
15 to 24 years: American English Irish French Canadian Other races.	9 16 8 22 9	8 10 12 9	11 15 13 7 13	16 13 16 15 12	20 31 21 29 22	24 23 16 27 21
Total, all races	64	39	59	72	123	111
25 to 29 years: American English Irish French Canadian Other races.	1 2 7 9 2	1 3 7 3	9 8 8 10 5	13 7 11 11 3	10 10 15 19 7	14 7 14 18 6
Total, all races	21	14	40	45	61	59
30 to 34 years: American English. Irish French Canadian Other races.	3 5 14 12 7	4 3 6 10 2	7 12 25 16 8	8 9 32 18 5	10 17 39 28 15	12 12 38 28 7
Total, all races	41	25	68	72	109	97
25 to 34 years: American English Irish French Canadian Other races	4 7 21 21 21 9	5 3 9 17 5	16 20 33 26 13	21 16 43 29 8	20 27 54 47 22	26 19 52 46 13
Total, all races	62	39	108	117	170	156

#### DEATHS, ALL CAUSES.

#### SPECIFIED RACE FROM TUBERCULOUS AND FROM NONTUBERCULOUS 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAW-

		Fema	les.					Both	sexes.		
Opera	atives.	Nonope	eratives.	Both	classes.	, Opera	atives.	Nonop	eratives.	Both	classes.
Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.
1	1 1	9 5 1 7 9	12 2 1 9 3	10 5 1 7 9	12 2 2 10 3	1 2 1	2 1 2	14 14 1 16 19	21 3 1 17 8	15 16 1 17 19	21 5 2 19 8
1	2	31	27	32	29	4	5	64	50	68	55
6 8 6 17 7	2 1 1 11 4	8 4 6 5 3	8 3 4 14	$     \begin{array}{r}       14 \\       12 \\       12 \\       22 \\       -10 \\       \end{array} $	10 4 5 25 4	10 17 7 32 10	5 6 1 17 8	12 7 8 12 11	15 7 6 22 6	22 24 15 44 21	20 13 7 39 14
44	19	26	29	70	48	76	37	50	56	126	93
6 5 6 20 15	4 6 5 15 6	5 3 7 5 8	6 4 5 10 2	11 8 13 25 23	10 10 10 25 8	11 12 13 27 21	9 11 5 21 11	12 15 18 5 13	15 13 19 17 8	23 27 31 32 34	24 24 24 38 19
52	36	28	27	80	63	84	57	63	72	147	129
12 13 12 37 22	6 7 6 26 10	13 7 13 10 11	14 7 9 24 2	25 20 25 47 33	20 14 15 50 12	21 29 20 59 31	14 17 6 38 19	24 22 26 17 24	30 20 25 39 14	45 51 46 76 55	44 37 31 77 33
96	55	54	56	150	111	160	94	113	128	273	222
7 19 14 4	6 13 6	9 8 11 20 9	7 3 15 21 4	9 15 30 34 13	7 9 28 27 4	1 9 26 23 6	1 6 16 13 3	18 16 19 30 14	20 10 26 32 7	19 25 45 53 20	21 16 42 45 10
44	25	57	50	101	75	65	39	97	95	162	134
2 10 13 18 3	2 7 6 11 2	9 6 21 25 7	9 8 18 13 5	11 16 34 43 10	11 15 24 24 7	5 15 27 30 10	6 10 12 21 4	16 18 46 41 15	17 17 50 31 10	21 33 73 71 25	23 27 62 52 14
46	28	68	53	114	81	87	53	136	125	223	178
2 17 32 32 7	2 13 19 17 2	18 14 32 45 16	16 11 33 34 9	20 31 64 77 23	18 24 52 51 11	6 24 53 53 16	7 16 28 34 7	34 34 65 71 29	37 27 76 63 17	40 58 118 124 45	44 43 104 97 24
90	53	125	103	215	156	152	92	233	220	385	312

#### DEATHS, ALL CAUSES.

#### TABLE 5.—DEATHS OF PERSONS 10 YEARS OF AGE AND OVER OF EACH CAUSES, BY SEX, OCCUPATION, AND AGE GROUPS, FALL RIVER, TUCKET), 1 YEAR—Concluded.

DEATHS, ALL CAUSES-Concluded.

			Ма	les.		
Age group and race.	Opera	atives.	Nonope	ratives.	Both o	lasses.
	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.
35 to 39 years: American English Irish French Canadian Other races Total, all races	6 9 6 5 26	2 6 1 2	7 10 40 19 6 82	7 7 26 6 4	7 16 49 25 11	7 9 32 7 6
40 to 44 years: American. English. Irish French Canadian. Other races.	2 5 6 9 5	1	3 9 25 11 11	13 10 21 12 7	5 14 31 20 16	14 10 27 18 11
35 to 44 years:         American.         English.         Irish.         French Canadian.         Other races.         Under all mass	21 2 11 15 15 10	17 1 12 12 7 6	10 19 65 30 17	20 17 47 18 11	12 30 80 45 27	21 19 59 25 17
45 to 54 years: American English. French Canadian Other races.	13 13 11 6	1 10 7 5 1	141 23 37 66 29 15	113 21 28 42 31 9	194 23 50 79 40 21	141 22 38 49 36 10
55 to 64 years: American. English. Irish. French Canadian. Other races.	43 1 23 9 3 6 42	24 11 9 1 2 23	170 41 49 99 36 14 239	45 33 73 30 12 193	213 42 72 108 39 20 281	155 45 44 82 31 14 216
65 years and over: American. English. Irish. French Canadian. Other races.	1 12 4 3	266113	72 87 111 66 11	106 51 83 49 12	73 99 115 69 11	108 57 89 50 15
Total, all races. Total, 10 years and over: American. English. Irish. French Canadian. Other races.	20 17 84 70 76 40	18 17 44 43 44 26	347 178 236 387 203 93	301 238 159 304 180 69	367 195 320 457 279 133	319 255 203 347 224 95
Total, all races	287	174	1,097	950	1,384	1, 124

#### SPECIFIED RACE FROM TUBERCULOUS AND FROM NONTUBERCULOUS 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAW-

-		Fen	nales.					Both	sexes.		
Oper	atives.	Nonope	eratives.	Both o	lasses.	Opera	atives.	Nonope	eratives.	Both o	elasses.
Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	,Fall River, 3 years.	3 cities, 1 year.
7 17 9 3	5 14 2 1	11 14 9 12 7	10 13 13 14 5	11 21 26 21 10	10 18 27 16 6	13 26 15 8	7 20 3 3	18 24 49 31 13	17 20 39 20 9	18 37 75 46 21	17 27 59 23 12
36	22	53	55	89	77	62	33	135	105	197	138
1 6 13 11	1 4 5 4	9 12 26 13 5	12 2 22 5 6	10 18 39 24 5	13 6 27 9 6	3 11 19 20 5	2 4 11 10 4	$12 \\ 21 \\ 51 \\ 24 \\ 16$	25 12 43 17 13	15 32 70 44 21	27 16 54 27 17
31	14	65	47	96	61	58	31	124	110	182	141
1 13 30 20 3	1 9 19 6 1	20 26 35 25 12	22 15 35 19 11	21 39 65 45 15	23 24 54 25 12	3 24 45 35 13	2 11 31 13 7	30 45 100 55 29	42 32 82 37 22	33 69 145 90 42	44 43 113 50 29
67	36	118	102	185	138	120	64	259	215	379	279
2 10 15 3	4 6 10 3	30 33 68 36 21	29 29 48 23 11	32 43 83 39 21	33 35 58 26 11	2 23 28 14 6	5 16 17 8 1	53 70 134 65 36	50 57 90 54 20	55 93 162 79 42	55 73 107 62 21
30	23	188	140	218	163	73	47	358	271	431	318
1 4 7 1	1 2 5 1	34 61 155 46 15	50 30 75 39 8	35 65 162 47 15	51 32 80 40 8	2 27 16 4 6	1 13 14 2 2	75 110 254 82 29	95 63 148 69 20	77 137 270 86 35	96 76 162 71 22
13	9	311	202	324	211	55	32	550	395	605	427
1	1	119 101 147 67 10	148 60 138 61 10	119 102 148 67 10	148 61 138 61 10	1 13 5 8	2 7 6 1 3	191 188 258 133 21	254 111 221 110 22	192 201 263 136 21	256 118 227 111 25
2	1	444	417	446	418	22	19	791	718	813	737
19 58 97 93 32	14 38 60 54 13	243 247 451 236 94	291 154 339 209 54	262 305 548 329 126	305 192 399 263 67	36 142 167 169 72	31 82 103 98 39	421 483 838 439 187	529 313 643 389 123	457 625 1,005 608 259	560 395 746 487 162
299	179	1,271	1,047	1,570	1,226	586	353	2,368	1,997	2,954	2,350

#### DEATHS, ALL CAUSES-Concluded.

#### TABLE 6.—DEATH RATE PER 1,000 POPULATION 10 YEARS OF AGE AND NONTUBERCULOUS CAUSES, BY SEX, OCCUPATION, AND AGE CHESTER, AND PAWTUCKET), 1 YEAR.

			-	1	Males.					F	emales	
Age group and race.	Op	erativ	es.	None	operati	ves.	Bot	h class	es.	Op	erative	es.
Age group and room	Fall River,	3 cities, 1	3 cities,	Fall River, 3	3 cities, 1	3 cities, 3	Fall River, 3	3 cities, 1	3 cities,	Fall River, 3	3 cities, 1	3 cities, 3
	years.	year.	years.	years.	year.	years.	years.	year.	years.	years.	year.	years.
10 to 14 years: American English Irish French Canadian Other races			• • • • • •			0.13 .18			0.13		33. 33	7.25 11.11
Total, all races	•••••					. 07			. 07		3.31	2.21
15 to 19 years: American English Irish French Canadian Other races	1.34 2.10 2.25 .77	1.34 2.48	2. 48 1. 78 1. 82 . 83	1.74 1.09 .53 1.50	0. 45 2. 45 . 69 4. 11	.90 .82 1.15 .40 3.42	1.64 1.60 .38 1.10 1.14	0.38 2.03 .57 3.10	1. 14 1. 18 . 94 . 96 1. 81	1. 16 .88 3. 78 2. 92 2. 38	2.39 1.90 3.26 2.20	2.39 .96 4.44 2.54 1.47
Total, all races	1.60	. 89	1.48	. 93	. 99	. 99	1.21	. 96	1.15	2.23	2.12	2.19
20 to 24 years: American English Irish French Canadian Other races	7.25 2.11 4.78 1.51 2.39	11. 54 3. 46 2. 16 2. 98	3.85 1.73 4.73 1.44 1.66	1.38 2.27 2.51	2.31 3.23 3.71 .62	1.85 1.88 3.21 .41 1.81	2.32 2.20 3.15 .78 1.79	3.30 3.30 3.06 1.18 2.52	2.06 1.83 3.47 .78 1.68	4.05 .94 2.61 2.97 2.90	8.06 4.11 2.54 3.50 2.28	5.38 1.71 2.54 3.70 2.66
Total, all races	2.61	3.28	2.07	1.39	2.28	1.78	1.92	2.60	1.87	2.51	3.60	3.04
15 to 24 years: American English Irish French Canadian Other races	3.44 2.10 2.22 1.90 1.68	4.53 2.26 .99 2.76	3.02 1.76 2.22 1.65 1.29	1.56 1.66 1.43 1.06	1.36 2.84 2.14 .31 2.98	1.37 1.35 2.14 .40 2.98	1.95 1.88 1.65 .96 1.44	1.782.641.77.562.82	1.58 1.49 2.16 .88 1.75	2.50 .91 3.09 2.95 2.64	5.06 1.99 2.29 3.38 2.24	3. 80 1. 33 3. 31 3. 10 2. 05
Total, all races	2.07	2.02	1.76	1.14	1.61	1.37	1.53	1.75	1.50	2.37	2.86	2.61
25 to 29 years: A merican English. Irish. French Canadian O ther races	7.33 2.11	7.52 2.35 1.65	6.27 1.96 .55	1.28 1.15 2.39 1.03 1.60	. 89 . 80 2. 21 1. 18	1.49 1.33 4.91 .79 2.31	1.16 .63 3.61 1.57 .90	. 83 . 55 3. 08 1. 57 . 84	1.38 .92 5.13 1.18 1.40	$     \begin{array}{r}       1.98 \\       8.64 \\       4.69 \\       1.64     \end{array} $	5.55 11.85 3.99	2.01 2.31 8.29 3.98 1.91
Total, all races	1.57	2.04	1.49	1.45	1.12	2.01	- 1.50	1.36	1.88	4.53	5.84	4.43
30 to 34 years: American English. Irish. French Canadian. Other races	5.562.178.514.275.26	7.63 5.45 6.17 7.45 5.52	2.54 3.64 7.20 4.14 2.76	1.38 2.67 8.39 3.12 2.75	. 49 1. 86 15. 02 6. 10 1. 43	. 98 2. 17 9. 42 4. 07 1. 90	1.70 2.43 8.43 3.74 3.46	.93 3.08 13.05 6.58 2.82	1.082.678.934.092.20	3. 13 3. 93 8. 96 3. 92	5.08 4.50 10.54 5.75	2.82 6.00 6.53 1.92
Total, all races	4.46	6.45	4.14	3.36	4.67	3.48	3.77	5.12	3.65	4.91	6.40	4.73
25 to 34 years: American Enclish Irish. French Canadian O ther races	2.38 1.07 8.00 3.18 1.94	3. 28 2. 70 6. 78 4. 84 3. 10	1.09 1.80 6.78 3.02 1.38	$     \begin{array}{r}       1.33 \\       1.85 \\       5.03 \\       1.98 \\       2.22 \\     \end{array} $	.70 1.29 8.04 3.47 .78	$1.25 \\ 1.72 \\ 6.96 \\ 2.31 \\ 2.09$	1. 42 1. 49 5. 91 2. 60 2. 11	.87 1.75 7.80 3.94 1.78	1.24 1.75 6.93 2.56 1.78	2.516.576.382.30	5.34 8.60 6.59 1.91	1.30 2.54 7.28 5.00 1.91
Total, all races	2.96	4.11	2.74	2.36	2.81	2.71	2.58	3.14	2.72	4.69	6.07	4.55

#### DEATH RATE PER 1,000 FROM TUBERCULOSIS.

## OVER OF EACH SPECIFIED RACE FROM TUBERCULOUS AND FROM GROUPS, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MAN-

#### DEATH RATE PER 1,000 FROM TUBERCULOSIS.

	Females.								В	oth sex	es.			-
No	noperat	ives.	Во	th class	es.	OI	erativ	es.	Non	operati	ives.	Во	th class	ses.
Fall River, 3 years.	3 cities, 1 year.	3 cities, 3 years.	Fall River, 3 years.	3 cities, 1 year.	3 cities, 3 years.	Fall River, 3 years.	3 cities, 1 year.	3 cities, 3 years.	Fall River, 3 years.	3 cities, 1 year.	3 cities, 3 years.	Fall River, 3 years.	3 cities, 1 year.	3 cities, 3 years.
1.05 .88	1.21	0.94 .55 .16 .39 .64	1. 01 . 83 . 92	1.19	1.05 .52 .32 .38 .62		15.87	3.58 5.29	0. 53 . 45 . 44	0.60	0.55 .37 .09 .20 .29	0.51 .42 .43	0.59	0.59 .35 .18 .19 .29
. 52	. 30	. 54	. 50	. 39	: 59		1.56	1.04	. 26	.15	. 30	. 25	. 20	. 33
1.63 .57 1.25 .57 1.32	.81 1.65 3.37	.94 .59 .73 2.25 2.14	1.51 .74 2.03 2.07 2.05	1.04 1.70 3.30 1.64	$1.15 \\ .76 \\ 1.56 \\ 2.42 \\ 1.64$	1.25 1.44 2.25 2.64 1.67	$1.22 \\ .56 \\ 1.19 \\ 2.04 \\ 2.34$	2.44 1.31 2.77 2.27 1.17	$1.69\\.83\\.93\\.25\\1.44$	.64 1.26 1.22 1.40 2.51	.92 .69 .92 1.17 2.92	1.57 1.16 1.32 1.60 1.58	.72 .96 1.21 1.73 2.39	1.15 .96 1.30 1.73 1.73
1.10	1.29	1.10	1.66	1.63	1.54	1.95	1.61	1.89	1.01	1.14	1.05	1.44	1.31	1.36
1.53 .51 1.08 4.05	.37 2.25 1.19 4.77 4.98	. 38 1. 50 . 99 2. 50 2. 49	.90 1.22 1.44 2.26 3.25	$     \begin{array}{r}       1.32 \\       3.03 \\       1.62 \\       4.09 \\       3.13     \end{array} $	.99 1.60 1.49 3.15 2.60	5. 19 1. 41 3. 25 2. 40 2. 64	9. 49 3. 87 1. 87 3. 03 2. 65	4.75 1.72 3.12 2.91 2.12	.63 1.89 1.40 .54 2.31	1. 24 2. 72 2. 31 2. 58 3. 41	1.04 1.68 1.98 1.40 2.28	1.52 1.65 2.10 1.61 2.55	2. 20 3. 15 2. 20 2. 79 2. 83	1.46 1.70 2.28 2.09 2.16
. 99	1.99	1.24	1.75	2.61	1.93	2.55	3.47	2.66	1.17	2.12	1.49	1.83	2.60	1.90
.79 1.07 .92 .83 2.67	.59 1.20 1.43 4.14 2.81	. 64 1. 07 . 86 2. 39 2. 34	1.20 .98 1.73 2.16 2.65	1.18 1.55 1.66 3.71 2.40	$1.07 \\ 1.18 \\ 1.52 \\ 2.79 \\ 2.13$	2.90 1.42 2.79 2.52 2.19	4.82 2.10 1.57 2.51 2.50	3. 44 1. 50 2. 97 2. 57 1. 67	$1.16 \\ 1.36 \\ 1.15 \\ .39 \\ 1.77$	.95 2.02 1.75 2.02 2.89	.98 1.21 1.43 1.29 2.65	1.55 1.39 1.70 1.61 2.05	1.46 2.05 1.71 2.26 2.61	1.31 1.33 1.79 1.91 1.94
1.04	1.65	1.17	1.71	2.13	1.74	2.25	2.52	2.27	1.09	1.63	1.27	1.63	1.96	1.63
.74 1.41 2.68 2.27 1.89	. 38 . 70 4. 82 2. 55	1.00 1.40 3.44 2.38 1.58	. 67 1. 64 5. 78 3. 22 1. 82	. 35 2. 32 7. 40 3. 04	1.06 1.70 5.22 2.92 1.68	1.028.313.33.63	3. 13 10. 81 3. 24 1. 05	.98 1.30 7.81 3.06 1.05	1.00 1.29 2.53 1.75 1.76	. 61 . 75 3. 56 1. 92	$1.22 \\ 1.37 \\ 4.15 \\ 1.64 \\ 1.88$	.90 1.17 4.88 2.45 1.36	.57 1.52 5.61 2.36 .42	$1.21 \\ 1.35 \\ 5.19 \\ 2.12 \\ 1.54$
1.71	1.68	1.88	2.70	2.80	2.57	3.14	4.15	3.13	1.59	1.42	1.94	2.14	2.14	2,25
. 42 1. 68 5. 99 2. 77 1. 26	2.59 5.83 1.72 5.02	.60 1.15 4.44 3.44 1.67	. 40 2. 29 4. 99 4. 67 1. 63	3. 43 5. 35 4. 15 5. 15	.58 1.72 5.00 4.29 1.72	3. 03 2. 63 5. 57 6. 02 4. 85	4.51 5.26 5.05 8.85 5.60	1.50 3.22 6.39 5.22 2.49	.88 2.13 7.18 2.90 1.97	.24 2.24 10.29 3.72 3.34	.: 79 1. 64 6. 86 3. 73 1. 78	1.03 2.35 6.49 4.21 2.58	. 45 3. 26 8. 72 5. 33 3. 93	.82 2.17 6.72 4.19 1.97
2.19	2.39	2.16	3.00	3. 33	2.76	4.67	6.42	4.44	2.73	3.47	2.78	3.37	4.19	3.19
.60 1.53 4.24 2.51 1.58	. 20 1. 55 5. 27 2. 16 2. 44	.82 1.29 3.89 2.88 1.63	.55 1.94 5.42 3.88 1.73	.20 2.82 6.48 3.54 2.31	.84 1.71 5.12 3.54 1.69	1.16 1.78 7.00 4.55 2.07	1.78 4.13 8.09 5.72 2.68	.59 2.20 7.14 4.01 1.56	.94 1.68 4.65 2.30 1.87	. 43 1. 42 6. 61 2. 76 1. 71	1. 02 1. 49 5. 38 2. 62 1. 83	.96 1.72 5.62 3.27 1.93	.51 2.32 7.04 3.73 2.04	1.03 1.73 5.89 3.07 1.74
1.94	2.00	2.00	2.84	3.04	2.65	3.82	5.16	3.70	2.13	2.38	2.33	2.72	3.08	2.68

### TABLE 6.-DEATH RATE PER 1,000 POPULATION 10 YEARS OF AGE AND NONTUBERCULOUS CAUSES, BY SEX, OCCUPATION, AND AGE CHESTER, AND PAWTUCKET), 1 YEAR—Continued.

#### Males. Females. Nonoperatives. **Operatives.** Both classes. Operatives. Age group and race. Fall 3 3 Fall 3 3 Fall 3 3 Fall 3 3 River, cities, cities, River, cities, cities, River, cities, cities, River, cities, cities, 3 1 3 3 1 3 3 1 3 3 1 3 years. years. year. years. year. years. years. year. years. years. year. vears. 85 to 39 years: 1.06 0.88 1.01 American..... 0.84 1.91 12.55 3.16 1.73 8.75 1.73 4.38 2.00 2.44 2.09 1.68 21.82 1.10 9.13 1.35 9.00 English..... 1.10 $1.35 \\ 8.50$ 1.22 1.62 4.96 Irish. 7.01 11.63 7.20 French Canadian ... 1.98 4.23 1.88 1.92 1.95 1.57 2.10 3.27 5.45 1.50 2.06 .75 5.78 1.50 Other races..... 2.172.74 11.69 9.43 6.29 3.05 2.86 2.86 3.99 2.08 2.72 3.62 2. 29 Total, all races ... 2.76 3.86 5.48 3.84 40 to 44 years: 3.70 10.10 1.32 .66 2.56 1.24 .83 15.15 American..... 57 20.0013.33English..... 2.152.202.952.40 1.27 $1.83 \\ 5.25$ 2.49 10.19 3.05 2.36 4.61 2.49 3.06 3.05 4.80 7.04 4.00 9.76 13.57 5.86 1.31 2.36 Irish... 1.51 3.542.53French Canadian ... 8.16 3.40 .62 1.66 1.39 1.97 1.87 2.87 2.87 .83 Other races..... 9.09 4.70 7.82 1.73 1.74 2.61 3.38 3.78 3.69 Total, all races ... 3.20 3.97 1.52 2.17 2.18 3.77 2.61 2.35 3.28 3.00 35 to 44 years: American..... 4.69 1.81 1.18 .78 .26 1.11 .84 6.29 8.33 5.56 English..... $2.12 \\ 3.65$ . 88 2.06 1.52 2.56 1.71 1.88 1.86 1.86 2.04 2.71 2.26 5.20 6.86 4.20 2.60 16.67 11.05 9.10 9.23 9.53 7.32 4.54 7.81 Irish... .76 French Canadian ... 2.377.07 3.46 2.44 1.65 2.41 1.59 1.94 1.92 2.03 2.37 Other races..... 3. 85 6.42 . 79 1.61 1.61 2.37 2.27 3.03 7.17 5.59 3.72 Total, all races ... 3.12 3.36 3.28 2.86 2.80 2.48 2.95 2.69 2.97 3.24 4.59 3.50 45 to 54 years: 2.03 .45 $\begin{array}{c} 1.05 \\ 1.32 \\ 6.59 \end{array}$ American..... .41 . 40 . 42 1.12 11.91 3.97 $2.24 \\ 6.25$ 1.95 English..... 1.55 3.88 2.15 1.62 1.68 3.09 2.92 . 93 2.05 1.37 14.73 8.09 7.87 5.00 4.98 4.38 Irish. ... French Canadian. 1.57 3.09 1.54 1.22 3.23 2.15 1.34 3.19 1.99 .97 Other races..... 2.22 8.88 3.48 2.20 2.93 3.22 1.71 3.14 .... Total, all races ... 1.44 2.582.00 3.17 2.67 2.49 2.56 2.65 2.372.93 3.10 2.0755 to 64 years: American.... 2.81 3.20 2.40 2.71 2.96 2.22 English..... 3,90 1.45 2.89 2.22 .99 1.98 7.71 Trish. 8.26 11.49 7.66 7.78 6.81 8.17 7.92 8.08 3.30 French Canadian ... .83 1.39 1.17 . . . . . Other races..... 20.20 9.26 1.57 1.01 .... . . . . Total, all races ... 2.90 2.24 2.24 2.39 2.46 2.84 2.50 2.43 2.74 1.05 ..... 65 years and over: American..... 2.28 $3.51 \\ 3.51$ 2.34 2.253.39 2.26 English..... 3.55 2.34 2.76 3.01 2.01 7.09 5.36 4.17 6.56 5.03 3.91 Irish... French Canadian ... 1.52 1.63 .76 .71 Other races..... ..... ..... . . . . . . . . . . . .... .... Total, all races ...... 2.72 2.45 1.94 2,49 2.271.80 |..... Total, 10 years and over: 2.90 2.13 American..... 2.67 2.01 . 99 1.11 1.15 1.17 1.22 1.214.47 3.48 English..... 1.73 5.49 1. 57 1.56 2.05 1.71 1.59 1.44 1.83 1.52 1.64 3.04 1.81 4.65 4.67

Irish ...

French Canadian.

Other races.....

Total, all races ...

3.94

2.21

2.83 2.72 2.35

2.41 2.83 2.31

3.94

2.09

5.52

. 98 1.34 1.24

1.21 1.11

1.85 2.04 1.90

4.85

1.47

5.02 5.32

1.46 1.72

1.71 1.70 1.80

2.032.22 2.00 4.69 6.06 5.09

3.46 3.72 3.27

2.76 2.32 2.06

3.07 3.963.20

#### DEATH RATE PER 1.000 FROM TUBERCULOSIS-Concluded.

## OVER OF EACH SPECIFIED RACE FROM TUBERGULOUS AND FROM GROUPS, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MAN-

#### DEATH RATE PER 1,000 FROM TUBERCULOSIS-Concluded.

Females.						Both sexes.								
Not	noperati	ives.	Bo	th class	es.	OI	erativ	es.	. Nonoperatives. Bot			th class	ses.	
Fall River, 3 years,	3 cities, 1 year.	3 cities, 3 years.	Fall River, 3 years.	3 cities, 1 year.	3 cities, 3 years.	Fall River, 3 years.	3 cities, 1 year.	3 cities, 3 years.	Fall River, 3 years.	3 cities, 1 year.	3 cities, 3 years.	Fall River, 3 years.	3 cities, 1 year.	3 cities, 3 years.
0.47 1.52 1.37 2.05	0.50 5.56 2.61 2.61	0.67 .29 3.09 1.31 2.17	0.45 .37 3.90 1.55 3.06	0. 48 . 63 7. 73 2. 31 3. 44	0.65 .64 4.56 1.54 2.67	1.78 5.98 1.97 7.24	2.02 10.39 .77 4.85	1.69 5.98 2.05 5.66	0. 24 . 65 9. 36 2. 59 1. 43	0.77 .48 7.16 1.35 2.09	$\begin{array}{c} 0.\ 77 \\ .\ 64 \\ 6.\ 48 \\ 1.\ 58 \\ 1.\ 86 \end{array}$	0. 23 1. 13 7. 72 2. 34 2. 59	0.74 .98 8.30 1.17 2.71	0. 74 . 98 6. 30 1. 72 2. 71
1.00	1.99	1.32	1.74	2.75	1.87	3. 38	4.08	3. 31	2.31	2.03	1.98	2.66	2.52	2.30
.79	1.72 .97 .66 1.47	. 58 1. 30 . 87 . 49	.51 .84 .98 .35 .69	2.24 .73 1.38 1.07 1.33	.93 .74 1.61 1.25 .44	12.12 2.44 1.79 2.58 6.85	7.14 1.13 3.57 5.97 3.50	7.14 2.64 3.17 3.18 5.83	.40 3.71 .25 .79	$1.54 \\ 1.78 \\ 5.91 \\ 1.10 \\ 1.59$	.61 .99 3.55 1.10 1.06	. 54 1. 31 2. 81 . 91 1. 68	$1.77 \\ 1.56 \\ 5.14 \\ 2.24 \\ 1.95$	. 88 1. 56 3. 42 1. 59 1. 94
. 23	1.00	. 67	. 66	1.38	1.06	2.89	3.68	3.46	. 76	2.17	1.32	1.38	2.50	1.79
$\begin{array}{c} .25\\ 1.16\\ .66\\ 1.43\end{array}$	1.07 3.32 1.64 2.07	.62 .15 2.21 1.09 1.38	.48 .59 2.53 .99 1.95	1.30 .68 4.79 1.73 2.46	.78 .68 3.19 1.40 1.64	5. 37 2. 09 4. 07 2. 20 7. 09	3.29 1.60 7.37 2.80 4.30	3. 29 3. 14 4. 74 2. 49 5. 73	.13 .54 6.71 1.41 1.13	$1.12 \\ 1.07 \\ 6.58 \\ 1.23 \\ 1.86$	.70 .80 5.12 1.35 1.49	$\begin{array}{r} .37\\ 1.21\\ 5.45\\ 1.69\\ 2.17\end{array}$	$1.21 \\ 1.24 \\ 6.85 \\ 1.66 \\ 2.36$	.81 1.24 4.99 1.66 2.36
. 63	1.51	1.01	1.23	2.12	1.50	3.17	3.91	3.38	1.58	2.09	1.67	2.07	2. 51	2.07
1.07 1.07 2.80 .82 1.00	. 61 2. 39 . 96	.79 1.21 2.59 .83 1.28	1.06 1.45 3.39 .73 .96	.38 1.00 2.82 .90	.89 1.34 2.66 .85 1.21	1.93 2.66 1.14 1.87	4.03 3.59 3.18 2.01	2. 69 2. 09 2. 12 1. 34 3. 12	.77 1.26 6.81 .98 2.15	.21 .75 4.67 1.41 1.54	.91 1.25 4.19 1.41 2.05	.75 1.53 5.29 1.02 2.11	.40 1.59 4.29 1.52 1.32	1.00 1.50 3.67 1.40 2.20
1.27	. 65	1.26	1.49	. 95	1.35	1.89	2.76	2.03	2.03	1.52	1.79	1.99	1.75	1.83
.60 1.07 3.80 .42	2. 64 . 93 4. 30 1. 92	1.54 1.24 2.87 .85 .51	. 60 . 97 3. 42 . 41	2.57 .85 3.96 1.84	$1.50 \\ 1.13 \\ 2.90 \\ .82 \\ .51$	5. 59 18. 02	7.27	6.06 8.55	1.62 2.07 5.24 .24	2.89 1.13 5.27 1.45	1.93 1.88 4.92 1.09 .27	1.59 1.55 5.30 .21 .79	2.76 .91 5.53 1.31	1. 84 1. 52 5. 07 . 98 . 76
1.15	2.18	1.45	1.09	2.07	1.43	2.27	1.66	1.93	1.67	2.30	2.04	1.75	2.23	2.03
. 89 . 74 . 87 . 61	1.78 3.54 1.12	2.38 2.75 1.12 .28 .70	. 89 . 73 . 86 . 61	1.78 3.50 1.09	2.36 2.72 1.09 .28 .70	· · · · · · · · · · · · · · · · · · ·			1.50 1.82 3.24 1.05	2. 53 3. 53 2. 75	2.36 2.59 2.29 .49 .38	1. 49 1. 63 3. 11 1. 02	2. 48 3. 29 2. 64	2.322.412.20.47.37
. 66	1.33	1.48	. 65	1.32	1.46				1.53	1.80	1.67	1.46	1.73	1.61
.71 .92 1.81 .96 1.25	. 79 . 94 2. 57 1. 58 1. 43	. 89 1. 03 1. 93 1. 46 1. 28	85 1.15 2.73 1.73 1.63	1. 01 1. 50 3. 41 2. 18 1. 67	1.04 1.23 2.69 1.97 1.49	2. 49 1. 59 4. 37 2. 80 2. 80	$\begin{array}{c} 3.53\\ 2.53\\ 5.51\\ 3.25\\ 2.55\end{array}$	2.70 1.76 4.64 2.72 2.23	.84 1.20 3.39 .97 1.23	.94 1.30 3.85 1.47 1.27	$1.01 \\ 1.21 \\ 3.21 \\ 1.36 \\ 1.37$	1.00 1.35 3.70 1.60 1.68	1.11 1.66 4.22 1.97 1.68	$1.12 \\ 1.37 \\ 3.53 \\ 1.74 \\ 1.65$
1.09	1.41	1.29	1.62	1.96	1.70	2.73	3. 41	2.77	1.43	1.71	1.57	1.81	2.08	1.84

#### TABLE 6.—DEATH RATE PER 1,000 POPULATION 10 YEARS OF AGE AND NONTUBERCULOUS CAUSES, BY SEX, OCCUPATION, AND AGE CHESTER, AND PAWTUCKET), 1 YEAR—Continued.

#### DEATH RATE PER 1,000 FROM CAUSES OTHER THAN TUBERCULOSIS.

lana set	Males.									
Age group and race.	Opera	atives.	Nonope	ratives.	Both classes.					
	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.				
10 to 14 years: American English Irish French Canadian Other races	6.94 2.92	18.52 8.00	1.78 2.73 2.26 4.07	3.58 .55 3.11 4.06	1.72 3.07 2.32 3.97	3.52 1.56 3.33 3.97				
Total, all races	3.44	8.82	2.21	2.34	2.27	2.56				
15 to 19 years: American. English. Irish. French Canadian. Other races.	4.01 2.62 1.38 4.51 1.53	7.44 5.34 5.45 2.49	.54.523.034.51	2.69 .82 .69 4.79 8.21	.98 1.60 .77 3.76 3.03	3.422.53.565.054.64				
Total, all races	3.04	4.44	1.55	2.83	2.17	3.35				
20 to 24 years: American English Irish French Canadian Other races	4.83 2.82 6.38 2.01 1.19	7.69 5.18 4.32 1.99	1.84 4.54 4.38 8.96	1.85 4.03 6.67 3.68 32.61	2.31 3.77 4.95 1.04 3.13	2.48 4.40 5.52 3.91 6.72				
Total, all races	2.61	3.60	3.02	4.57	2.84	4.26				
15 to 24 years: American English. Irrish. French Canadiaa. Other races.	4.31 2.71 3.71 3.33 1.34	7.54 5.27 4.93 2.21	.90 2.50 2.29 1.68 5.82	2.28 2.44 3.57 4.24 14.90	1.60 2.60 2.69 2.51 3.08	$\begin{array}{c} 2.97\\ 3.43\\ 2.94\\ 4.51\\ 5.64\end{array}$				
Total, all races	2.84	4.05	2. 21	3.67	2.48	3.79				
25 to 29 years American English. Irish. French Canadian. Other races.	$4.17 \\ 1.40 \\ 5.49 \\ 2.64 \\ 2.04$	5.75 3.76 5.89 3.29	2.57 3.44 2.40 4.14 2.40	4. 91 4. 80 5. 90 5. 31 5. 19	2.72 2.52 3.16 3.39 2.24	$\begin{array}{r} 4.97 \\ 3.32 \\ 5.55 \\ 5.51 \\ 4.22 \end{array}$				
Total, all races	2.56	3.66	3.02	5.20	2.85	4.80				
30 to 34 years: American English. Irrish. French Canadian. Other races.	11. 11 1. 45 11. 35 2. 13 7. 02	22.90 12.35 4.97	1.85 5.33 10.68 6.85 2.75	$\begin{array}{r} 3.45 \\ 6.52 \\ 13.25 \\ 6.10 \\ 5.70 \end{array}$	2.563.4710.924.313.95	4. 62 4. 31 13. 05 5. 70 3. 77				
Total, all races	4.24	5.06	5.10	6.55	4.78	6.17				
25 to 34 years: American English. Irish. French Canadian. Other races.	7.14 1.42 8.79 2.39 3.87	13. 11 8. 47 5. 44 2. 06	2.22 4.32 6.04 5.36 2.58	4.21 5.59 9.24 5.68 5.47	2.64 2.97 6.85 3.83 3.06	4.81 3.78 9.09 5.59 4.00				
Total, all races	3.37	4.32	4.00	5.83	3.77	5.45				

#### OVER OF EACH SPECIFIED RACE FROM TUBERCULOUS AND FROM GROUPS, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MAN-

#### DEATH RATE PER 1,000 FROM CAUSES OTHER THAN TUBERCULOSIS.

Females.								Both	sexes.		
Opera	atives.	Nonope	eratives.	Both classes.		Operatives.		Nonoperatives.		Both classes.	
Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.
9.26	9.62	$2.10 \\ .59 \\ .33 \\ 1.71 \\ 3.31$	3.62 1.09 .49 3.53 2.88	2.3% .55 .32 1.62 3.20	3.55 1.04 .48 3.77 2.81	4.83 3.92 1.76	9.85 8.73	1.94 1.64 .18 1.98 3.72	3.60 .82 .27 3.32 3.52	2.04 1.80 .18 1.97 3.61	3.53 1.30 .27 3.55 3.44
1.44	3.31	1.48	2.42	1.48	2.44	2.55	6.23	1.84	2.38	1.87	2.50
5.83 2.63 1.89 2.59 1.78	2.39 .96 2.72 2.21	$1.64 \\ 1.69 \\ 1.26 \\ 2.30 \\ 2.65$	2.43 2.59 .55 8.42	2.72 2.22 1.45 2.49 2.05	$2.42 \\ 1.82 \\ .43 \\ 4.96 \\ 1.64$	4.98 2.63 1.68 3.39 1.68	4.87 2.80 3.75 2.33	.84 1.11 .93 2.72 3.83	2.55 1.68 .61 6.30 5.01	1.89 1.92 1.15 3.10 2.56	2.90 2.16 .49 5.00 3.18
2.68	1.90	1.75	2.88	2.21	2.48	2.84	2.96	1.65	2.86	2.20	2.90
4.05 1.40 1.31 3.64 5.80	2.09 2.06 3.82 5.26 4.55	1.92 3.06 1.62 6.75	1.88 .75 1.79 2.05	2.39 .74 2.29 2.87 6.08	1.97 1.30 2.44 3.77 3.12	4.33 1.97 2.78 2.99 3.53	4.75 3.22 2.81 4.93 3.19	1.88 2.15 3.66 .81 7.70	1.87 2.33 3.97 2.91 10.24	2.36 2.06 3.33 2.06 4.68	2. 19 2. 67 3. 66 3. 84 4. 86
3.17	4.03	2.08	1.59	2.63	2.53	2.95	3.86	2.52	2.98	2.72	3.29
$5.00 \\ 2.04 \\ 1.54 \\ 3.11 \\ 3.82$	$2.53 \\ 1.49 \\ 2.29 \\ 3.94 \\ 3.36$	1.78 .81 2.07 1.95 4.68	2.14 1.61 1.14 4.90	2.56 1.48 1.87 2.68 4.08	2.19 1.56 1.46 4.35 2.40	4.71 2.33 2.29 3.20 2.66	4.82 2.99 1.57 4.30 2.78	1.36 1.64 2.16 1.80 5.32	2.20 2.02 2.22 4.53 7.23	2.11 1.99 2.20 2.60 3.58	2.55 2.41 2.07 4.42 4.02
2.93	2.96	1.92	2.21	2.42	2.51	2.89	3.40	2.06	2.92	2.45	3.09
2. 64 3. 09 3. 51 4. 90	2.78 3.55 1.99	2.60 2.34 4.68 5.30 3.78	$2.25 \\ 1.40 \\ 5.50 \\ 8.17 \\ 4.74$	2.35 2.47 3.85 4.60 4.09	$2.12 \\ 1.86 \\ 4.78 \\ 6.07 \\ 3.35$	1.892.043.693.053.14	2.94 1.56 3.60 3.78 2.09	2.58 2.83 3.47 4.80 3.17	3.47 2.98 5.69 6.84 4.92	2.522.493.564.033.16	3.43 2.52 5.10 5.81 3.79
3.13	2.27	3.69	4.31	3.50	3.76	2.86	2.89	3.39	4.72	3.20	4.24
13.33 4.69 6.29 7.17 7.84	21.98 6.78 4.50 6.03 5.74	3.41 1.69 9.74 7.12 3.14	4.07 4.31 9.16 5.73 1.25	4.00 2.94 8.05 7.13 3.79	4.78 5.15 7.50 5.81 2.06	$12.12 \\ 3.01 \\ 8.09 \\ 4.01 \\ 7.27$	22.52 3.51 7.06 5.45 1.86	2.66 3.35 10.20 7.02 2.96	3.775.3711.145.903.33	3.30 3.20 9.30 5.75 3.88	4.70 4.74 9.93 5.76 2.95
6.39	6. 41	4.90	5.06	5.35	5.38	5.23	5.74	4.99	5.77	5.08	5.76
4.57 3.58 4.50 4.96 5.77	7.78 4.58 3.97 3.60 1.91	2.97 2.04 7.07 6.19 3.46	- 3.08 2.70 7.16 7.02 3.04	3.10 2.68 5.77 5.75 3.96	3.31 3.33 6.00 5.95 2.77	5. 83 2. 50 5. 79 3. 49 4. 56	10.68 2.48 5.24 4.51 2.01	$2.62 \\ 3.07 \\ 6.54 \\ 5.85 \\ 3.06$	3.614.078.166.404.11	2.88 2.82 6.23 4.83 3.49	4.02 3.54 7.31 5.78 3.40
4.48	3.99	4.27	4.66	4.34	4.48	3.93	4.14	4.15	5.21	4.07	4.94

#### TABLE 6.—DEATH RATE PER 1,000 POPULATION 10 YEARS OF AGE AND NONTUBERCULOUS CAUSES, BY SEX, OCCUPATION, AND AGE CHESTER, AND PAWTUCKET), 1 YEAR—Continued.

#### DEATH RATE PER 1,000 FROM CAUSES OTHER THAN TUBERCULOSIS-Concluded.

	Males.									
Age group and race.	Opera	atives.	Nonope	ratives.	Both classes.					
	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.				
35 to 39 years: American English. Irish. French Canadian Other races.	2.09 3.97 1.99 3.85	1.73 4.38 1.50 3.27	3. 46 6. 74 26. 66 7. 24 3. 77	2.656.6120.554.224.50	3.28 4.19 14.18 4.73 3.79	2.524.7115.013.354.11				
Total, all races	2.62	2.38	7.70	6.60	5.69	5.47				
40 to 44 years: American English Irish. French Canadian. Other races.	10. 10 1. 43 4. 40 5. 90 6. C6	11. 11 9. 59 4. 08 14. 08	1.79 10.18 30.89 6.17 8.29	7.25 10.75 18.10 8.32 10.42	2.25 4.59 15.09 6.07 7.81	7.47 5.80 14.81 7.09 11.41				
Total, all races	4.00	5.66	8.47	9.98	6.73	8.78				
85 to 44 years: American English. Irish. French Canadian. Other races.	4.70 1.77 4.17 3.56 4.71	5.43 .89 6.87 2.60 7.71	$2.70 \\ 8.11 \\ 28.47 \\ 6.72 \\ 5.92$	4.70 8.34 19.49 6.10 7.24	2.81 4.37 14.60 5.34 5.62	4.74 5.20 14.92 5.02 7.38				
Total, all races	3.24	3.88	8.05	8.10	6.16	6.95				
45 to 54 years: American. English. Irish. French Canadian. Other races.	5. 15 11. 17 7. 04 11. 11	6. 10 9. 04 12. 32 4. 63 3. 88	9.16 30.46 46.04 10.58 5.22	9.03 26.73 29.65 13.45 7.69	8.74 14.56 28.70 9.37 6.44	8.83 19.06 24.38 11.17 6.85				
Total, all races	7.41	7.72	16.10	15.76	13.01	13.77				
55 to 64 years: American English. Irish. French Canadian Other races.	19. 61 29. 49 16. 53 6. 99 40. 41	34. 38 40. 23 4. 46 27. 78	26. 02 43. 86 102. 22 20. 51 11. 94	32. 83 46. 24 92. 65 24. 21 20. 30	25.80 37.65 77.59 17.86 14.15	30. 37 42. 49 82. 60 21. 10 21. 12				
Total, all races	21.49	23.57	35.69	40.77	32.63	37.91				
65 years and over: American. English. Irish. French Canadian. Other races.	83.33 49.38 70.18 34.48	62.50 63.16 166.67 18.18 103.45	79.91 99.29 150.36 52.16 14.67	120. 61 86. 12 142. 85 55. 75 29. 56	79.96 88.15 144.36 50.99 14.38	118.5182.83144.3053.5334.48				
Total, all races	48.31	72.87	76.07	89.66-	73.68	88.48				
Total, 10 years and over: American. English. Irish. French Canadian. Other races.	<b>5.</b> 31 <b>5.</b> 32 7. 55 3. 80 3. 83	8.69 6.99 10.74 4.76 4.34	7.82 14.01 24.18 8.98 5.82	11. 48 13. 51 22. 34 10. 19 9. 79	7.5910.1318.88 $6.995.20$	11.28 11.44 19.97 8.70 7.78				
Total, all races	4.94	6.46	11.53	13.23	9.41	11.67				

#### OVER OF EACH SPECIFIED RACE FROM TUBERCULOUS AND FROM GROUPS, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MAN-

#### DEATH RATE PER 1,000 FROM CAUSES OTHER THAN TUBERCULOSIS-Concluded.

Females.						Both sexes.					
Opera	atives.	Nonope	ratives.	Both classes.		Operatives.		Nonoperatives.		Both classes.	
Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.
7.33 10.01 6.80 5.85	9.73 11.63 1.57	4.72 7.41 5.34 4.09 2.74	4.50 11.19 6.49 6.53 3.91	4.53 7.38 7.36 4.96 3.07	4.35 10.81 8.33 5.07 3.43	3.99 6.97 3.93 4.35	5.06 8.50 1.53 2.43	4.11 7.15 13.58 5.45 3.23	3.60 9.18 12.79 5.42 4.19	3.91 5.81 10.38 4.85 3.45	3.46 7.85 11.28 4.23 3.79
7.71	6.57	4.90	6.42	5.62	6.45	4.67	4.33	6.13	6.51	5.65	5.98
6.11 15.68 18.73	9.15 9.46 8.62	4.77 6.92 19.65 5.62 3.00	5.18 1.94 20.41 2.62 7.34	4.61 6.70 18.17 8.08 2.78	$5.03 \\ 3.68 \\ 17.22 \\ 3.74 \\ 6.63$	6.06 2.93 9.56 10.31 4.57	7.15 3.40 9.53 5.96 10.49	3.37 7.93 23.32 5.85 5.51	6.14 5.35 19.50 5.13 8.75	3.49 5.69 16.85 7.11 5.38	6.18 4.68 16.19 5.33 9.07
12.22	8.18	7.38	6.83	8.34	7.06	6.98	6.70	7.83	8.19	7.58	7.87
6.79 12.47 10.88 3.58	9.47 10.73 4.07	4.74 7.17 12.39 4.88 2.87	4.81 6.84 13.28 4.58 5.53	4.56 7.06 12.42 6.42 2.93	4.66 7.50 12.45 4.46 4.92	2.69 3.49 8.15 6.35 4.43	3.29 4.28 8.95 3.27 5.73	3.76 7.50 18.15 5.65 4.32	4.76 7.64 15.90 5.28 6.32	3.72 5.76 13.37 5.89 4.34	4.70 6.40 13.53 4.73 6.20
9.55	7.22	6.11	6.62	6.90	6.73	5.67	5.35	6.93	7.29	6.54	6.84
60. 61 12. 34 13. 68 6. 29	35.71 14.62 17.50 8.72	9.67 10.68 28.90 9.06 9.49	11. 44 16. 98 26. 35 9. 59 9. 60	10.26 10.99 24.76 8.73 9.11	12.22 16.58 24.45 9.48 9.05	13. 61 6. 95 12. 25 6. 84 9. 37	16. 13 10. 75 14. 83 6.05 3. 12	9.43 16.43 34.66 9.67 7.51	10.31 20.69 27.67 11.27 8.71	9.54 12.68 26.42 9.03 7.75	10.60 17.75 24.42 10.29 7.92
11.73	14.73	12.77	14.41	12.63	14.45	8.69	10.22	14.09	15.00	12.81	14.13
66.67 20.83 40.23 11.11	26.32 18.87 49.50 15.38	19.78 31.57 94.24 19.04 12.20	30.30 26.93 60.24 23.02 12.31	20. 20 30. 57 88. 89 18. 74 12. 08	30. 21 26. 20 59. 38 22. 71 12. 20	30.30 27.78 24.21 7.71 36.03	7.1930.5243.64 $6.9225.64$	22.65 35.93 97.14 19.67 12.07	31.44 34.48 72.79 23.53 16.12	22.81 33.88 84.16 18.33 13.13	30.28 33.71 69.09 21.96 16.68
26.92	28.48	34.55	31.65	34.15	31.49	22.67	24.85	35.03	35.55	33.44	34.45
47.62 41.67	100.00	$105.17 \\73.91 \\127.40 \\40.44 \\12.08$	130. 13 67. 21 153. 24 51. 87 21. 10	105.1773.51125.6440.2912.08	129.43 67.60 149.57 51.65 21.01	83.33 49.24 61.73 32.26	52.63 66.67 103.45 16.67 96.77	94.10 83.67 136.14 45.47 13.31	126.0174.80149.2453.5325.00	94.03 79.98 133.02 45.05 13.18	124.63 74.24 147.49 52.48 27.44
39.22	22.22	72.35	91.05	72.08	90.37	47.31	65.07	73.91	90.46	72.79	89.55
5.95 4.30 6.97 4.78 4.02	5.97 5.20 7.40 4.32 2.71	$10.07 \\ 11.01 \\ 23.73 \\ 8.47 \\ 5.64$	12.80 11.20 21.62 10.64 6.28	9.68 8.86 18.37 7.33 5.23	12.39 9.60 18.19 8.86 5.31	5.65 4.87 7.22 4.26 3.91	7.40 6.12 8.69 4.52 3.67	9.01 12.28 23.92 8.70 5.73	12.18 12.24 21.93 10.42 7.95	8.69 9.46 18.59 7.17 5.21	11. 87 10. 46 18. 95 8. 78 6. 58
5.13	5.12	11.68	13.09	9.92	11.38	5.03	5.77	11.62	13.15	9.68	11.51

# TABLE 6.—DEATH RATE PER 1,000 POPULATION 10 YEARS OF AGE AND<br/>NONTUBERCULOUS CAUSES, BY SEX, OCCUPATION, AND AGE<br/>CHESTER, AND PAWTUCKET), 1 YEAR—Continued.

	Males.								
Age group and race.	Opera	tives.	Nonope	ratives.	Both o	lasses.			
	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.			
10 to 14 years: American. English. Irish. French Canadian	6. 94 2. 92	18.52 8.00	1.78 2.73 2.26	3.58 .55 3.11	1.72 3.07	3.52 1.56			
Other races	3 44	8.82	4.07	4.06	3.97	3.97			
15 to 19 years: American English Irish French Canadian Other races	5.35 4.72 1.38 6.76 2.30	7.44 6.68 5.45 4.97	1.74 1.63 1.05 3.03 6.01	3.14 3.27 1.38 4.79 12.32	2.62 3.20 1.15 4.86 4.17	3.80 4.56 1.13 5.05 7.74			
Total, all races	4.64	5.33	2.48	3.82	3.38	4.31			
20 to 24 years: American English. Irish. French Canadian Other races.	12.08 4.93 11.16 3.52 3.58	19. 23 8. 64 6. 48 4. 97	3. 22 6. 81 6. 89 8. 96	4.16 7.26 10.38 4.30 32.61	4.63 5.97 8.10 1.82 4.92	5.78 7.70 8.58 5.09 9.24			
Total, all races	5.22	6.88	4.41	6.85	4.76	6.86			
15 to 24 years: American English. Irish. French Canadian. Other races.	7.75 4.81 5.93 5.23 3.02	12.07 7.53 5.92 4.97	$2.46 \\ 4.16 \\ 3.72 \\ 1.68 \\ 6.88$	3. 64 5. 28 5. 71 4. 55 17. 88	3.55 4.48 4.34 3.47 4.52	4.75 6.07 4.71 5.07 8.46			
Total, all races	4.91	6.07	3.35	5.28	4.01	5. 54			
25 to 29 years: American English. Irrish. French Canadian. Other races.	$\begin{array}{r} 4.17\\ 1.40\\ 12.82\\ 4.75\\ 2.04 \end{array}$	5.75 11.28 8.24 4.94	3.85 4.59 4.79 5.17 4.00	5.80 5.60 8.11 6.49 5.19	3.88 3.15 6.77 4.96 3.14	5.80 3.87 8.63 7.08 5.06			
Total, all races	4.13	5.70	4.47	6.32	4.35	6.16			
30 to 34 years: American. English. Irish. French Canadian. Other races.	16. 67 3. 62 19. 86 6. 40 12. 28	<b>30. 53</b> 5. 45 18. 52 12. 42 5. 52	3. 23 8.00 19.07 9.97 5.50	3. 94 8. 38 28. 27 12. 20 7. 13	4.26 5.90 19.35 8.05 7.41	5.55 7.39 26.10 12.28 6.59			
Total, all races	8.70	11.51	8.46	11.22	8.55	11.29			
25 to 34 years: American English. Irrish. French Canadian. Other races.	9.52 2.49 16.79 5.57 5.81	16.39 2.70 15.25 10.28 5.16	3.55 6.17 11.07 7.34 4.80	4.91 6.88 17.28 9.15 6.25	4.06 4.46 12.76 6.43 5.17	5.68 5.53 16.89 9.53 5.78			
Total, all races	6.33	8.43	6.36	8.64	6.35	8.59			

#### DEATH RATE PER 1,000 FROM ALL CAUSES.
# OVER OF EACH SPECIFIED RACE FROM TUBERCULOUS AND FROM GROUPS, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MAN-

		Fema	les.					Both	sexes.		
Opera	atives.	Nonope	eratives.	Both	classes.	Opera	atives.	Nonope	eratives.	Both	classes.
Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.
9.26	33. 33 9. 62	3. 15 1. 47 .33 1. 71 4. 26	4.83 1.09 .49 3.53 2.88	3.37 1.38 .32 1.62 4.12	4.74 1.04 .97 3.77 2.81	4.83 3.92 1.76	9.85 15.87 8.73	2.47 2.09 .18 1.98 4.16	4.20 .82 .27 3.32 3.52	2.55 2.22 .18 1.97 4.04	4. 12 1. 30 .53 3. 55 3. 44
1.44	6.62	2.00	2.72	1.98	2.83	2.55	7.79	2.10	2.53	2.12	2.70
6.99 3.51 5.67 5.51 4.16	4.78 .96 1.90 5.98 4.41	3. 27 2. 26 2. 51 2. 87 3. 97	3. 24 2. 59 2. 20 11. 79	4.23 2.96 3.48 4.56 4.10	3.46 1.82 2.13 8.26 3.28	6. 23 4. 07 3. 93 6. 03 3. 35	6.09 3.36 1.19 5.79 4.67	2.53 1.94 1.86 2.96 5.27	3.19 2.94 1.83 7.70 7.52	3.46 3.08 2.47 4.70 4.14	3.62 3.12 1.70 6.73 5.57
4.91	4.02	2.85	4.17	3.87	4.11	4.79	4.57	2.66	4.00	3.64	4. 21
8.10 2.34 3.92 6.61 8.70	$10.75 \\ 6.17 \\ 6.36 \\ 8.76 \\ 6.83$	1.92 1.53 3.57 2.70 10.80	2.25 3.00 2.98 6.82 4.98	3.29 1.96 3.73 5.13 9.33	3.29 4.33 4.06 7.86 6.25	9.52 3.38 6.03 5.39 6.17	14.24 7.09 4.68 7.96 5.84	2.51 4.04 5.06 1.35 10.01	3.11 5.05 6.28 5.49 13.65	3.88 3.71 5.43 3.67 7.23	4.39 5.82 5.86 6.63 7.69
5.68	7.63	3.07	3.58	4.38	5.14	5.50	7.33	3.69	5.10	4.55	5.89
7.50 2.95 4.63 6.06 6.46	7.59 3.48 4.58 7.32 5.60	2.57 1.88 2.99 2.78 7.35	2.73 2.81 2.57 9.04 2.81	3.76 2.46 3.60 4.84 6.73	3.37 3.11 3.12 8.06 4.80	7.61 3.75 5.08 5.72 4.85	9.64 5.09 3.14 6.81 5.28	2.52 3.00 3.31 2.19 7.09	3.15 4.04 3.97 6.55 10.12	3.66 3.38 3.90 4.21 5.63	4.01 4.46 3.78 6.68 6.63
5.30	5.82	2.96	3.86	4.13	4.64	5.14	5.92	3.15	4.55	4.08	5.05
4.62 11.73 8.20 6.54	8.33 15.40 5.98	3.34 3.75 7.36 7.57 5.67	2. 63 2. 10 10. 32 10. 72 4. 74	3.02 4.11 9.63 7.82 5.91	2.47 4.18 12.18 9.11 3.35	$ \begin{array}{c} 1.89\\3.06\\12.00\\6.38\\3.77\end{array} $	2.94 4.69 14.41 7.02 3.14	3.58 4.12 6.00 6.55 4.93	4.08 3.73 9.25 8.76 4.92	3.423.668.446.484.52	4.00 4.04 10.71 8.17 4.21
7.66	8.11	5.40	5.99	6.20	6.56	6.00	7.04	4.98	6.14	5.34	6.38
13. 33 7. 82 10. 22 16. 13 11. 76	21.98 11.86 9.00 16.57 11.49	3.83 3.37 15.73 9.89 4.40	4.07 6.90 14.99 7.45 6.27	4.40 5.23 13.04 11.80 5.42	4.78 8.58 12.85 9.96 7.21	$     \begin{array}{r}         15.15 \\         5.64 \\         13.66 \\         10.03 \\         12.12     \end{array} $	27.03 8.77 12.11 14.30 7.46	3.54 5.48 17.38 9.92 4.93	4.01 7.61 21.43 9.62 6.67	4.33 5.55 15.79 9.96 6.46	5.15 8.00 18.65 11.09 6.88
11.30	12.81	7.09	7.45	8.35	8.71	9.90	12.16	7.72	9.24	8.45	9.95
4.57 6.09 11.07 11.34 8.07	7.78 9.92 12.57 10.19 3.82	3.57 3.57 11.31 8.70 5.04	3.28 4.25 12.43 9.18 5.48	3.65 4.62 11.19 9.63 5.69	3.516.1512.489.495.08	6.99 4.28 12.79 8.04 6.63	12.46 6.61 13.33 10.23 4.69	3.56 4.75 11.19 8.15 4.93	4.04 5.49 14.77 9.16 5.82	3.84 4.54 11.85 8.10 5.42	4.53 5.86 14.35 9.51 5.44
9.17	10.06	6.21	6.66	7.18	7.52	7.75	9.30	6.28	7.59	6.79	8.02

#### DEATH RATE PER 1,000 FROM ALL CAUSES.

# TABLE 6.—DEATH RATE PER 1,000 POPULATION 10 YEARS OF AGE AND NONTUBERCULOUS CAUSES, BY SEX, OCCUPATION, AND AGE CHESTER, AND PAWTUCKET), 1 YEAR—Concluded.

anne a trit	Males.							
Age group and race.	Opera	tives.	Nonope	ratives.	Both o	elasses.		
日三日三日	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.		
35 to 39 years: A merican. English. Irish. French Canadian. Other races.	4. 18 8. 93 3. 97 9. 63	3. 46 13. 13 1. 50 6. 54	3.46 8.42 48.48 11.47 4.52	3.71 7.71 29.68 4.22 6.00	3.28 6.10 26.73 7.89 5.96	3. 53 6. 06 24. 01 3. 35 6. 17		
Total, all races	5.67	5.24	11.69	8.68	9.31	7.76		
40 to 44 years: American English. Irrish. French Canadian. Other races.	$20.20 \\ 3.58 \\ 6.60 \\ 8.85 \\ 15.15$	11.11 14.39 12.24 18.78	$ \begin{array}{r} 1.79\\ 11.45\\ 40.65\\ 6.79\\ 9.12 \end{array} $	8.57 15.36 31.67 9.98 12.15	$\begin{array}{r} 2.82 \\ 6.42 \\ 20.34 \\ 7.58 \\ 10.42 \end{array}$	8.71 8.29 25.00 10.63 13.94		
Total, all races	7.20	9.63	9.99	13.67	8.91	12.55		
85 to 44 years: American. English. Irish. French Canadian Other races.	9.39 3.89 7.82 5.93 11.78	$5. 43 \\ 1.77 \\ 13.73 \\ 6.06 \\ 11.56$	2.70 9.63 45.14 9.16 6.71	5. 88 10. 90 30. 54 6. 86 8. 85	3.07 6.25 23.83 7.75 7.99	5.85 7.06 24.45 6.61 9.65		
Total, all races	6.36	7.24	10.91	10.90	9.13	9.90		
45 to 54 years: American English. Irish. French Canadian. Other races.	6.70 12.10 8.61 13.33	6. 10 12. 92 14. 37 7. 72 3. 88	9.57 32.20 60.77 11.80 8.70	9.48 27.72 37.74 16.68 9.89	9. 14 16. 18 36. 57 10. 71 9. 66	9.25 21.30 30.63 14.36 8.56		
Total, all races	8.85	10.30	19.27	18.43	15.57	16.42		
55 to 64 years: American. English. Irrish. French Canadian. Other races.	$19. \ 61 \\ 29. \ 49 \\ 24. \ 79 \\ 6. \ 99 \\ 60. \ 61$	34.3851.724.4627.78	$\begin{array}{r} 28.83\\ 47.76\\ 110.00\\ 20.51\\ 11.94 \end{array}$	36. 03 47. 69 99. 46 25. 04 20. 30	28. 51 39. 87 85. 51 17. 86 15. 72	33. 33 43. 48 90. 31 21. 80 21. 12		
Total, all races	24.39	25.81	38.08	43.23	35.13	40.34		
65 years and over: American. English. Irish French Canadian. Other races.	83. 33 49. 38 70. 18 34. 48	62.50 63.16 166.67 18.18 103.45	82.19 102.84 157.45 53.79 14.67	124. 12 89. 63 148. 21 55. 75 29. 56	82. 21 90. 91 150. 92 52. 51 14. 38	21. 90 85. 84 149. 33 53. 53 34. 48		
Total, all races	48.31	72.87	78.79	92.11	76.17	90.75		
Total, 10 years and over: American English. Irish. French Canadian. Other races.	8. 21 6. 88 11. 49 6. 01 6. 66	11. 36 9. 04 15. 39 7. 47 7. 06	8.81 15.60 29.70 9.96 7.03	12.5915.2427.8311.5310.90	8.76 11.70 23.90 8.45 6.91	12.50 13.27 25.29 10.42 9.48		
Total, all races	7.35	9.29	13.38	15.27	11.44	13.89		

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#### DEATH RATE PER 1,000 FROM ALL CAUSES-Concluded.

# OVER OF EACH SPECIFIED RACE FROM TUBERCULOUS AND FROM GROUPS, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MAN-

#### DEATH RATE PER 1,000 FROM ALL CAUSES-Concluded.

	Females.							Both	sexes.		
Opera	atives.	Nonope	eratives.	Both	classes.	Opera	atives.	Nonop	eratives.	Both	classes.
Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.
8.55 17.02 8.75 17.54	12.17     23.26     3.14     9.43	5.197.416.865.464.79	$5.00 \\11.19 \\12.05 \\9.14 \\6.52$	4.98 7.75 11.26 6.51 6.13	4.83 11.44 16.06 7.38 6.87	5.77 12.95 5.90 11.59	7.08 18.89 2.30 7.28	4.35 7.80 22.94 8.04 4.66	4.37 9.66 19.95 6.77 6.28	4.14 6.94 18.10 7.19 6.04	4.20 8.83 19.58 5.40 6.50
11.57	12.05	5.90	8.41	7.36	9.20	8.05	8.41	8.44	8.54	8.31	8.50
15.15 9.17 16.99 20.60	20.00 12.20 11.82 11.49	4.77 6.92 20.44 5.62 3.75	6.90 1.94 21.38 3.28 8.81	5.12 7.54 19.15 8.43 3.47	7.27 4.41 18.60 4.81 7.96	18.18 5.37 11.35 12.89 11.42	14. 29 4. 53 13. 10 11. 93 13. 99	3.37 8.33 27.03 6.10 6.30	7.68 7.13 25.41 6.23 10.34	4.02 7.00 19.66 8.02 7.06	7.95 6.24 21.33 7.57 11.02
14.57	11.46	7.61	7.83	9.00	8.44	9.87	10.38	8.59	10.36	8.96	10.37
6.29 8.83 17.01 12.80 10.75	8.33 12.18 18.54 6.10 5.59	4.99 7.17 13.55 5.54 4.30	5.88 6.84 16.60 6.22 7.60	5.04 7.65 14.95 7.41 4.88	5.96 8.18 17.24 6.19 7.38	8.06 5.58 12.22 8.55 11.52	6.58 5.88 16.32 6.07 10.03	3.89 8.04 24.86 7.06 5.45	5.88 8.53 22.48 6.51 8.18	4.09 6.97 18.82 7.58 6.51	5.91 7.64 20.38 6.39 8.56
12.79	11.81	6.74	8.13	8.13	8.85	8.84	9.26	8.51	9.38	8.61	9.35
60. 61 15. 43 18. 66 6. 29	47.62 17.54 21.88 8.72	10.74 11.75 31.70 9.88 10.49	11.44 17.59 28.74 9.59 10.56	11.32 12.44 28.15 9.46 10.07	12.60 17.58 27.27 9.48 9.95	13.61 8.88 14.91 7.98 11.24	20.16 14.34 18.01 8.06 3.12	10.20 17.69 41.47 10.65 9.66	$10.52 \\ 21.44 \\ 32.34 \\ 12.68 \\ 10.25$	10. 29 14. 21 31. 71 10. 05 9. 86	11.00 19.34 28.71 11.81 9.24
14.66	17.83	14.04	15.06	14.12	15.40	10.58	12.98	16.12	16.52	14.80	15.88
66. 67 20. 83 40. 23 11. 11	26.32 18.87 49.50 15.38	20.38 32.64 98.04 19.46 12.20	32.94 27.86 64.54 24.94 12.31	20.80 31.54 92.31 19.15 12.08	32.78 27.05 63.34 24.55 12.20	30.30 27.78 29.80 7.71 54.05	7.1930.5250.91 $6.9225.64$	24. 27 38. 00 102. 38 19. 91 12. 07	34.37 35.61 78.06 24.98 16.12	24. 40 35. 43 89. 46 18. 54 13. 92	33.04 34.62 74.62 23.27 16.68
26.92	28.48	35.70	33.83	35.24	33.56	24.94	26.51	36.70	37.85	35.19	36.68
47.62 41.67	100.00	$106.06 \\ 74.65 \\ 128.27 \\ 41.05 \\ 12.08$	131.91 70.75 154.36 51.87 21.10	106.06 74.24 126.50 40.90 12.08	131.2171.10150.6651.6521.01	83.33 49.24 61.73 32.26	52.63 66.67 103.45 16.67 96.77	95.60 85.49 139.38 46.52 13.31	128.5478.33151.9953.5325.00	95.52 81.61 136.13 46.07 13.18	127.11 77.53 150.13 52.48 27.44
39.22	22.22	73.01	92.38	·72.73	91.69	47.31	65.07	75.44	92.26	74.25	<b>91.2</b> 3
8.08 5.94 11.66 8.24 6.78	10. 44 8. 24 13. 46 8. 04 5. 03	$10.78 \\ 11.93 \\ 25.54 \\ 9.43 \\ 6.89$	13.59 12.14 24.19 12.22 7.71	$10.53 \\ 10.01 \\ 21.10 \\ 9.06 \\ 6.86$	$13.40 \\ 11.10 \\ 21.60 \\ 11.04 \\ 6.98$	8.14 6.46 11.59 7.06 6.71	$10.93 \\ 8.65 \\ 14.20 \\ 7.77 \\ 6.22$	9.85 13.48 27.31 9.67 6.96	13.12 13.54 25.78 11.89 9.22	9.69 10.81 22.29 8.77 6.89	12.98 12.12 23.17 10.75 8.26
8.20	9.08	12.77	14.50	11.54	13.34	7.76	9.18	13.05	14.86	11.49	13.59

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# TABLE 7.-DEATHS OF PERSONS 10 YEARS OF AGE AND OVER FROM FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL

	Males.								
Age group and cause of death.	Opera	tives.	Nonope	ratives.	Both o	lasses.			
	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.			
10 to 14 years: Accident or violence	3	3	4	5	7	8			
Senility. Unclassified diseases. Parturition.		•••••	8	4	8	4			
Diseases of the nervous system Diseases of the digestive system		· · · · · · · · · · · · · · · · · · ·	8 5	10 2	8 5	10 2			
Apoplexy Heart disease. Bespiretary disease other then tuber.			1 1 2	2	$1\\1\\2$	2			
culosis	3		4		4				
Tuberculosis.						20			
Total, respiratory diseases Total, nonrespiratory diseases		3	4 29	23	4 32	26			
Total, all causes	3	3	33	23	36	26			
15 to 24 years: Accident or violence Senility	10	Б	4	6	14	11			
Unclassified diseases Parturition Cancer	5	2	4	3	9	5			
Diseases of the digestive system Nephritis	4 6 3	6 4 2	6 4 6	10 10 5	10 10 9	10 14 7			
Heart disease. Respiratory diseases other than tuber- culosis.	3	3	11	2 5 9	14 10	8 13			
Total, nontuberculous diseases Tuberculosis	37 27	26 13	39 - 20	50 22	76 47	76 35			
Total, all causes	64	39	59	72	123	111			
Total, respiratory diseases Total, nonrespiratory diseases	33 31	17 22	24 35	31 41	57 66	48 63			
Total, all causes	64	39	59	72	123	111			
25 to 34 years: Accident or violence Senility	5	5	10	13	15	18			
Unclassified diseases Parturition Cancer	4	1	14 1	11 2	18 2	12 2			
Diseases of the digestive system Nephritis.	335		4777	3 8 12	7 10 12	4 9 16			
Heart disease. Respiratory diseases other than tuber- culosis.	3	5	2 8 15	5 7 18	11 22	7 23			
Total, nontuberculous diseases Tuberculosis	33 29	20 19	68 40	79	101 69	99 57			
Total, all causes	62	39	108	117	170	156			
Total, respiratory diseases Total, nonrespiratory diseases	36 26	24 15	55 53	56 61	91 79	80 76			
Total, all causes	62	39	108	- 117	170	156			

# EACH SPECIFIED CAUSE, BY SEX, OCCUPATION, AND AGE GROUPS, RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR.

		Fema	les.			Both sexes.						
Opera	tives.	Nonope	ratives.	Both o	elasses.	Opera	tives.	Nonope	eratives.	Both o	classes.	
Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	
1			1	1	1	4	3	4	6	8	9	
		5	6	5	6			13	10	13	10	
		1	1	1	1			. 1	1	1	1	
	1	32	4	2	4		1	7	16	7	17	
		5	1	5	1			1	1	6	1	
		3		3	1	•••••	• • • • • • • • •	5	3	5	3	
		4	4	4	4			8	4	8	4	
1	1	23	24	24	25 4	4	4	56	47	60 8	51	
1	2	31	27	32	29	4	5	64	50	68	55	
1	1	12 19	7 20	12 20	8 21	4	1 4	16 48	7 43	16 52	8 47	
1	2	31	27	32	29	4	5	64	50	68	55	
1	1	2	1	3	2	11	6	6	7	17	13	
6 10	1 8	7	3 1	13 11	<b>4</b> 9	11 10	38	11	6 1	22 11	9	
1 4	4	1 4		28		1 8	10	1 10	18	2		
9 7	3	4 4	. 9	13 11	12 7	15 10	75	8 10	19 9	23 20	26 14	
1 3	1 1	1 5	1 2	28	23	1 6	1 4	1 16	37	2 22	4	
11	6	6	3	17	9	17	10	10	12	27	22	
53 43	28 27	35 19	32 24	88 62	60 51	90 70	54 40	74 39	82 46	164 109	136 86	
96	55	54	56	150	111	160	94	113	128	273	222	
54 42	33 22	25 29	27 29	79 71	60 51	87 73	50 44	49 64	58 70	136 137	108 114	
96	55	54	56	150	111	160	94	113	128	273	222	
	1	4	3	. 4	4	5	6	14	16	19	22	
3 11		18 21	14	21 32	14	7	1	32 21	25	39 32	26	
1		5	3 5	6	37	27		6	5	8	5	
85	4	6 10	7	14	11	11	5	13	15	24	20	
12	1	2	1 3	3	- 2	35	4	4	6	7	10	
9	2	12	13	21	15	16	7	27	31	43	38	
44 46	21 32	86 39	72 31	130 85	93 63	77 75	41 51	154	151	231 154	192 120	
90	53	125	103	215	156	152	92	233	220	385	312	
55 35	34 19	51 74	44 59	106 109	78 78	91 61	58 34	106 127	100 120	197 188	158	
90	53	125	103	215	156	152	92	233	220	385	312	
			And in case of the local division of the loc	1				Concernation of the local division of the lo	-	-		

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## GENERAL TABLES.

# TABLE 7.-DEATHS OF PERSONS 10 YEARS OF AGE AND OVER FROM FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER,

-	-1	Males.										
	Age group and cause of death.	Opera	tives.	Nonope	ratives.	Both o	elasses.					
-		Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.					
35	to 44 years:	6	1	13	14	19	15					
	Senility Unclassified diseases.			7	7	7						
	Cancer Diseases of the nervous system Diseases of the digestive system	1	$2 \\ 1 \\ 4$	6 3 16	3 6 14	7 3 24	5 7 18					
	Nephritis. Apoplexy Heart disease	3 1 4	3 1	13 7 15	8 6 9	16 8 19	11 6 10					
	Respiratory diseases other than tuber- culosis	4	3	24	17	28	20					
	Total, nontuberculous diseases Tuberculosis.	27 26	15 13	104 37	84 29	131 63	99 42					
	Total, all causes	53	28	141	113	194	141					
	Total, respiratory diseases Total, nonrespiratory diseases	30 23	16 12	61 80	46 67	91 103	62 79					
45	Total, all causes	53	28	141	113	194	141					
20	Accident or violence Senility Unclassified diseases	6	3	21 4 45	$\begin{array}{c} 22\\1\\26\end{array}$	$27 \\ 4 \\ 53$	$25 \\ 1 \\ 29$					
	Parturition. Cancer. Diseases of the nervous system	7 2	5	32 12	18 16	39 14	23 16					
	Nephritis. Apoplexy. Heart disease.	10 9 7 12	5 6 7 5	38 51 45 78	39 44 36 49	48 60 52 90	44 50 43 54					
	Respiratory diseases other than tuber culosis.	12	5	40	43	52	48					
	Total, nontuberculous diseases Tuberculosis	73 12	39 8	366 43	294 30	439 55	333 38					
	Total, all causes	85	47	409	324	494	371					
1	Total, respiratory diseases Total, nonrespiratory diseases	24 61	13 34	83 326	73 251	107 387	86 285					
	Total, all causes	85	47	409	324	494	371					
65	years and over: Accident or violence. Senility Unclassified diseases.	2 1 1	3 1 2	9 42 27	8 30 21	11 43 28	11 31 23					
	Parturition. Cancer. Diseases of the nervous system Diseases of the directive system	2	1 1	26 18 25	17 11 25	28 18 25	18 12 25					
	Nephritis. Apoplexy. Heart disease.	6 1 4	2 2 6	32 56 54	41 56 42	38 57 58	43 58 48					
	culosis	3		46	42	49	42					
	Total, nontuberculous diseases Tuberculosis	20	18	335 12	293 8	355 12	311 8					
	Total, all causes	20	18	347	301	367	319					
	Total, respiratory diseases Total, nonrespiratory diseases	3 17	18	58 289	50 251	61 306	50 269					
	Total, all causes	20	18	347	301	367	319					

# EACH SPECIFIED CAUSE, BY SEX, OCCUPATION, AND AGE GROUPS, MANCHESTER, AND PAWTUCKET), 1 YEAR-Continued.

	Females.							Both sexes.						
Opera	tives.	Nonope	ratives.	Both	classes.	Opera	tives.	Nonoperatives.		Both o	lasses.			
Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.			
2	2	7	3	9	5	8	3	20	17	28	20			
i	1	14		15	13	1	·····i	21	19	22	20			
5 7	3 1	9 18	9 12	14 25	12 13	58	3	9 24	9 15	14 32	12 18			
6		4	57	4	5 10		17	$\frac{7}{28}$	11 21	7 42	12 28			
9	2	10	6	19	8	12	5	23 13	14	35	19 15			
. 4	2	20	10	24	12	8	3	35	19	43	22			
14	8	7	10	21	18	18	11	31	27	49	38			
50 17	22 14	107 11	83 19	157 28	105 33	77 43	37 27	211 48	167 48	288 91	204 75			
67	36	118	102	185	138	120	64	259	215	379	279			
31 36	22 14	18 100	29 73	49 136	51 87	61 59	38 26	79 180	75 140	140 239	113 166			
67	36	118	102	185	138	120	64	259	215	379	279			
1	1	12 7 40	8 2 22	13 7 40	9 2 22	7	4	33 11 85	30 3 48	40 11 93	34 3 51			
5 2 3 11 4	5 2 2 5 2	62 11 55 53 71	49 17 27 48 58	67 13 58 64 75	54 19 29 53 60	12 4 13 20 11	10 2 7 11 9	2 94 23 93 104 116	67 33 66 92 94	106 27 106 124 127	77 35 73 103 103			
8	5 6	90 69	40 46	98	52	15	10	109	95 89	188	105			
37 6	28 4	472 27	323 19	509 33	351 23	110 18	67 12	838 70	617 49	948 88	684 61			
43	32	499	342	542	374	128	79	908	666	1,036	745			
9 34	10 22	96 403	65 277	105 437	75 299	33 95	23 56	179 729	138 528	212 824	161 584			
43	32	499	342	542	374	128	79	908	666	1,036	745			
		5 68 25	11 53 25	5 68 25	11 53 25	2 1 1	3 1 2	14 110 52	19 83 46	16 111 53	22 84 48			
 1 1		$     \begin{array}{r}       36 \\       12 \\       46 \\       45     \end{array} $	24 19 29 33	36 12 47 46	24 19 29 33	$\begin{array}{c} 2\\ 1\\ 7\end{array}$	1 1 2	62 30 71 77	41 30 54 74	64 30 72 84	42 31 54 76			
	1	63 73	77 70	63 73	77 71	1 4	27	119 127	133 112	120 131	135 119			
		67	70	67	70	3		113	112	116	112			
2	1	440 4	411 6	442 4	412 6	22	19	775 16	704 14	797 16	723 14			
2	1	444	417	446	418	22	19	791	718	813	737			
2	1	71 373	76 341	71 375	76 342	3 19		129 662	126 592	132 681	126 611			
2	1	444	417	446	418	22	19	791	718	813	737			

# TABLE 7.-DEATHS OF PERSONS 10 YEARS OF AGE AND OVER FROM FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER,

	Males.									
Age group and cause of death.	Opera	tives.	. Nonope	eratives.	Both o	elasses.				
	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.				
Total, 10 years and over: Accident or violence. Senility. Unclassified diseases. Parturition	32 1 18	20 1 8	61 46 105	68 31 72	93 47 123	88 32 80				
Cancer. Diseases of the nervous system. Diseases of the disestive system. Nephritis. Apoplexy. Heart disease.	11 9 27 26 11 26	8 9 14 17 12 15	65 51 95 110 111 168	$ \begin{array}{r}     40 \\     56 \\     98 \\     110 \\     105 \\     114 \end{array} $	76 60 122 136 122 194	48 65 112 127 117 117 129				
Total, nontuberculous diseases	32 193	17 121	133 945	129 823	165 1,138	146 				
Tuberculosis	94 287	53 174	152	950	246 1,384	180 1,124				
Total, respiratory diseases Total, nonrespiratory diseases	126 161	70 104	285 812	256 694	411 973	326 798				
Total, all causes	287	174	1,097	950	1,384	1,124				
Total, 15 years and over: Accident or violence Senility. Unclassified diseases. Parturition	29 1 18	17 1 8	57 46 97	63 31 68	86 47 115	80 32 76				
Cancer. Diseases of the nervous system. Diseases of the digestive system. Nephritis. Apoplexy. Heart disease. Respiratory diseases other than tuber-	11 9 27 26 11 26	8 9 14 17 12 15	65 43 90 109 110 166	40 46 96 110 105 112	76 52 117 135 121 192	48 55 110 127 117 127				
culosis	32	17	912	129 800	161	918				
Tuberculosis.	94	53	152	127	246	180				
Total, respiratory diseases	126	70	281	256	407	326				
Total, nonrespiratory diseases	158	101	783	671	941	772				
Total, all causes	284	171	1,064	927	1,348	1,098				

# EACH SPECIFIED CAUSE, BY SEX, OCCUPATION, AND AGE GROUPS, MANCHESTER, AND PAWTUCKET), 1 YEAR-Concluded.

				Both sexes.							
Opera	atives.	Nonope	eratives.	Both classes.		Opera	Operatives.		eratives.	Both classes.	
Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	8 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities. 1 year.
4 10 26 14 10 27 33 8 17	5 2 15 6 8 12 16 4 10	30 75 104 33 122 35 123 123 122 143 192	26 55 76 24 88 54 79 100 146 131	34 75 114 59 136 45 150 155 151 209	31 555 78 39 94 62 91 116 150 141	<b>33</b> 1 28 26 25 19 54 59 19 43	22 1 10 15 14 17 26 33 16 25	87 121 201 33 187 78 213 231 253 358	89 86 144 24 128 100 175 210 251 243	120 122 229 59 212 97 267 290 272 401	111 87 154 39 142 117 201 243 267 268
37	22	161	142	198	164	69	39	290	271	359	310
186 112	100 77	$1,140 \\ 100$	921 99	1,326 212	1,021 176	376 206	218 130	2,052 252	1,721 226	2,428 458	1,939 356
298	177	1,240	1,020	1, 538	1,197	582	348	2,304	1,947	2,886	2,295
149 149	99 78	261 979	241 779	410 1,128	340 857	275 307	169 179	542 1,762	497 1,450	817 2,069	666 1,629
298	177	1,240	1,020	1,538	1, 197	582	348	2,304	1,947	2,886	2,295
5 10 26 14 10 27 33 8 17	5 2 15 6 9 12 16 4 10	30 75 109 33 123 38 125 127 143 195	$27 \\ 55 \\ 82 \\ 24 \\ 89 \\ 60 \\ 83 \\ 101 \\ 146 \\ 132$	35 75 119 59 137 48 152 160 151 212	32 55 84 39 95 69 95 117 150 142	37 1 28 26 25 19 54 59 19 43	25 1 10 15 14 18 26 33 16 25	91 121 214 33 188 89 220 237 254 363	95 86 154 24 129 116 181 211 251 246	128 122 242 59 213 108 274 296 273 406	120 87 164 39 143 134 207 244 267 271
37	22	165	146	202	168	69	39	298	275	367	314
187 112	101 78	1,163 108	945 102	1,350 220	1,046 180	380 206	222 131	2,108 260	1,768 229	2,488 466	1,990 360
299	179	1,271	1,047	1, 570	1,226	586	353	2,368	1,997	2,954	2,350
149 150	100 79	273 998	248 799	422 1,148	348 878	275 311	170 183	558 1, 810	504 1, 493	833 2,121	674 1,676
299	179	1,271	1,047	1,570	1,226	586	353	2,368	1,997	2,954	2,350

# TABLE 8.—DEATH RATE PER 1,000 POPULATION 10 YEARS OF AGE AND<br/>GROUPS, FALL RIVER, 1905 TO 1907, AND 3 CITIES

	· Males,									
Age group and cause of death.	Opera	tives.	Nonope	ratives.	Both c	lasses.				
	Fall River, 3 years.	3 cities, 1 year.	Fall · River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.				
10 to 14 years: Accident or violence Senility.	3.44	8.82	0.27	0.51	0.44	0.79				
Unclassified diseases Parturition Cancer			.53	.41	.51	.39				
Diseases of the digestive system Nephritis			.03 .07 .07	.20	.32 .06 .06	.20				
Heart disease. Respiratory diseases other than tuber- culosis.			. 13 . 27	.20	. 13 . 25	. 20				
Total, nontuberculous diseases Tuberculosis	3.44	8.82	2.21	2.34	2.27	2.56				
Total, all causes	3.44	8.82	2.21	2.34	2.27	2.56				
Total, nonrespiratory diseases	3.44	8.82	1.94	2.34	2.02	2.56				
Total, all causes	3.44	8.88	2.21	2.34	2.27	2.56				
Accident or violence	.77	.78	.23	.44	. 46	.55				
Unclassified diseases Parturition	.38 °	.31	.23	.22	. 29	. 25				
Diseases of the nervous system Diseases of the digestive system Nephritis.	.31 .46 .23	.93 .62 .31	.34 .23 .34	.73 .73 .37	.33 .33 .29	.80 .70 .35 10				
Heart disease. Respiratory diseases other than tuber- culosis	.23 .46	.47 .62	.62 .23	.37	.46 .33	.40 .65				
Total, nontuberculous diseases Tuberculosis	2.84 2.07	4.05 2.02	2.21 1.14	3.67 1.61	2.48 1.53	3.79 1.75				
Total, all causes	4.91	6.07	3.35	5.28	4.01	5.54				
Total, respiratory diseases Total, nonrespiratory diseases	2.53 2.38	2.64 3.42	1.36 1.99	2.28 3.01	1.86 2.15	2.39 3.14				
Total, all causes	4.91	6.07	3.35	5.28	4.01	5.54				
Accident or violence. Senility.	.51	1,08	.59	. 96	.56	. 99				
Parturition	.10	. 44	.06	.15	.07	.11				
Diseases of the nervous system Diseases of the digestive system Nephritis. Apoplexy Heart disease.	.31 .31 .51 .20	.22 .22 .86 .65	.24 .41 .41 .12	.22 .59 .89 .37	.26 .37 .45 .15 .41	.22 50 .88 .44 .39				
Respiratory diseases other than tuber- culosis	.71	1.08	.88	1.33	.82	1.27				
Total, nontuberculous diseases Tuberculosis	3.37 2.96	4.32 4.11	4.00 2.36	5.83 2.81	3.77 2.58	5.45 3.14				
Total, all causes	6.33	8.43	6.36	8.64	6.35	8.59				
Total, respiratory diseases Total, nonrespiratory diseases	3.67 2,65	5.19 3.24	3.24 3.12	4.14 4.51	3.40 2.95	4.40 4.18				
Total, all causes	6.33	8.43	6.36	8.64	6.35	8.59				

# OVER FROM EACH SPECIFIED CAUSE, BY SEX, OCCUPATION, AND AGE (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR.

	Females.						Both sexes.					
Opera	atives.	Nonope	eratives.	Both	classes.	Opera	Operatives.		Nonoperatives.		classes.	
Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	
1.44		·	0.10	0.06	0.10	2.55	4 67	0.13	0.30	0.25	0.44	
		0.32	. 60	.31	. 59			.43	.51	.41	.49	
		. 06	. 10	. 06				.03	. 05	.03	.05	
	3.31	.19	.60	.19	. 68		1.56	.36	.81	-34	· 83	
		.32	.10	.31	. 10			.20	. 05	.19	. 05	
		. 19	. 10	. 19	.10			.16	. 15	.16	. 15	
		. 26	.40	.25	. 39			. 26	.20	.25	. 20	
1.44	$\begin{array}{c} 3.31\\ 3.31\end{array}$	1.48 .52	2.42 .30	1.48 .50	2.44 .39	2.55	6.23 1.56	$1.84 \\ .26$	$2.38 \\ .15$	1.87 .25	$2.50 \\ .20$	
1.44	6.62	2.00	2.72	1.98	2.83	2.55	7.79	2.10	2.53	2.12	2.70	
1.44	3.31 3.31	.78 1.23	.71 2.01	.74 1.24	.78 2.05	2.55	$1.56 \\ 6.23$	. 53 1. 58	.35 2.18	.50 1.62	. 39 2. 30	
1.44	6.62	2.00	2.72	1.98	2.83	2.55	7.79	2.10	2.53	2.12	2.70	
.06	.11	. 11	.07	.08	.08	. 35	. 38	. 17	.25	. 25	. 30	
.33	.11	.38	.21	.36	.17	. 35	.19	.31	.21	.33	. 20	
.06	+00	.05	.07	.06	.00	.03		.03	-04	. 10	. 40	
. 50	.32	.22	. 55	.36	.50	.48	.03	.28	.04	.34	. 04	
. 06	.32	.05	.28	.30	.29	.32	. 31	.28	.32	.30	. 32	
. 17	.11	. 27	.14	.22	.13	. 19	. 25	.45	.25	.38 40	. 25	
2.93 2.37	2.96 2.86	1.92 1.04	2.21 1.65	2.42 1.71	2.51 2.13	2.89 2.25	3.40 2.52	2.06 1.09	2.92 1.63	2.45 1.63	3.09 1.96	
5.30	5.82	2.96	3.86	4.13	4.64	5.14	5.92	3.15	4.55	4.08	5.05	
2.98 2.32	3.49 2.33	1.37 1.59	1.86	2.17 1.95	2.51 2.13	2.79 2.34	3.15 2.77	1.37 1.79	2.06 2.49	2.03 2.05	2.45 2.59	
5.30	5.82	2.96	3.86	4.13	4.64	5.14	5.92	3.15	4.55	4.08	5.05	
	.19	.20	.19	. 13	. 19	.25	.61	.38	. 55	. 33	. 57	
. 31		.89	. 91	. 70	.68	.36	. 10	.86	. 86	. 69	. 67	
1.12	. 76	1.04	.91	1.07	.87	.56	.40	.57	.48	.56	.46	
.41	.38 .76	.20	.32	.27	.34	.36 .56	$.30 \\ .51$	.22 .35	.28	.23	.28	
.51	1.14	.50 .10	.58	.50	.72	.51	1.01	.46	.72	.48	.80	
.20	. 19	.20	. 19	.20	.19	. 25	. 10	. 32	.34	.30	.28	
.92	. 38	.60	.84	. 70	.72	.82	.71	.73	1.07	. 76	.98	
4.69	6.07	1.94	2.00	2.84	3.04	3.82	5.16	2.13	2.38	2.72	3.08	
9.17	10.06	6.21	6.66	7.18	7.52	7.75	9.30	6.28	7.59	6.79	8.02	
5.60 3.57	6.45 3.61	2.53 3.67	2.85 3.82	3.54 3.64	3.76 3.76	4.64 3.11	5.86 3.44	2.86 3.42	3.45 4.14	3.47 3.31	4.06 3.96	
9.17	10.06	6.21	6.66	7.18	7.52	7.75	9.30	6.28	7.59	6.79	8.02	

# TABLE 8.—DEATH RATE PER 1,000 POPULATION 10 YEARS OF AGE AND GROUPS, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL

	Males.								
Age group and cause of death.	Opera	tives.	Nonope	ratives.	Both c	lasses.			
	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.			
35 to 44 years: Accident or violence	0.72	0.26	1.01	1.35	0.89	1.05			
Senility Unclassified diseases			.54	. 68	.33	. 49			
Parturition Cancer	.12	.52	.46	. 29	.33	. 35			
Diseases of the nervous system Diseases of the digestive system	.96	.26	.23 1.24	.58	.14 1.13	.49			
Nephritis.	.36	.78	1.01	.77	.75	.77			
Heart disease.	.48	. 26	1.16	.87	.89	.70			
culosis	.48	.78	1.86	1.64	1.32	1.40			
Total, nontuberculous diseases Tuberculosis	$\begin{array}{r} 3.24\\ 3.12\end{array}$	3.88 3.36	8.05 2.86	8.10 2.80	6.16 2.97	6.95 2.95			
Total, all causes	6.36	7.24	10.91	10.90	9.13	9.90			
Total, respiratory diseases Total, nonrespiratory diseases	$3.60 \\ 2.76$	4.14 3.10	4.72 6.19	4.44 6.46	4.28 4.85	4.36 5.55			
Total, all causes	6.36	7.24	10.91	10.90	9.13	9.90			
45 to 64 years:									
Accident or violence	.91	. 93	1.39 .26	1.90	1.25	1.69			
Unclassified diseases	1.22	. 93	2.98	2.25	2.45	1.96			
Cancer.	1.06	1.55	2.12	1.56	1.80	1.55			
Diseases of the digestive system	1.52	1.55	2.52	1.38 3.37	2.21	1.08 2.97			
Nephritis. Apoplexy	1.37	1.86 2.17	3.38 2.98	3.80 3.11	2.77 2.40	$3.38 \\ 2.91$			
Heart disease. Respiratory diseases other than tuber-	1.82	1.55	5.17	4.23	4.15	3.65			
Matal montry honory love discourse	11.02	1.00	2.00	0.14	2. 20	0. 44			
Tuberculosis	1.82	12.11 2.48	24.24	25.41 2.59	20.25	22.51			
Total, all causes	12.92	14.59	27.09	28.00	22.79	25.08			
Total, respiratory diseases	3.65 9.27	4.03 10.55	5.50 21.60	$6.31 \\ 21.69$	4.94 17.85	5.81 19.27			
Total, all causes	12.92	14.59	27.09	28.00	22.79	25.08			
65 years and over:									
Accident or violence Senility	4.83	12.15	2.04	2,45	2.28	3.13 8.82			
Unclassified diseases	2.42	8.10	6.13	6.43	5.81	6.54			
Cancer.	4.83	4.05	5.90	5.20	5.81	5.12			
Diseases of the digestive system		4.00	5.68	7.65	5.19	7.11			
Apoplexy	14.49	8,10	12.72	12.55	11.83	12.23 16.50			
Heart disease. Respiratory diseases other than tuber-	9.66	24.29	12.26	12.85	12.04	13.66			
culosis	7.25		10.45	12.85	10.17	11.95			
Total, nontuberculous diseases Tuberculosis	48.31	72.87	76.07 2.72	89.66 2.45	73.68 2.49	88. 48 2. 27			
Total, all causes	48.31	72.87	78.79	92.11	76.17	90.75			
Total, respiratory diseases	7.25 41.06	72.87	13.17 65.62	15.30 76.81	$12.66 \\ 63.51$	14.22 76.53			
Total, all causes	48.31	72.87	78.79	92.11	76.17	90.75			

# OVER FROM EACH SPECIFIED CAUSE, BY SEX, OCCUPATION, AND AGE RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR—Continued.

		Fema	les.			Both sexes.							
Opera	atives.	Nonope	eratives.	Both	elasses.	Opera	atives.	Nonope	eratives.	Both	classes.		
Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River,3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.		
0.38	0.66	0.40	0.24	0.40	0.32	0.59	0.43	0.66	0.74	0.64	0.67		
.19 .95 1.34 1.15	.33 .98 .33	.80 .51 1.03 .23 .69	.96 .72 .96 .40 .56	.66 .62 1.10 .18 .79	.83 .77 .83 .32 .64	.07 .37 .59 1.03	.14 .43 .43 .14 1.01	.69 .30 .79 .23 .92	.83 .39 .65 .48 .92	.50 .32 .73 .16 .95	.67 .40 .60 .40 .94		
1.72 .38 .76	. 66	.57 .34 1.14	.48 .72 .80	.83 .35 1.05	.51 .58 .77	.88 .22 .59	.72	.76 .43 1.15	.61 .65 .83	.80 .36 .98	. 64 . 50 . 74		
2.67	2.63	.40	. 80	. 92	1.15	1.33	1.59	1.02	1.18	1.11	1.27		
9.55 3.24	7.22 4.59	6.11 .63	6.62 1.51	6.90 1.23	6.73 2.12	5.67 3.17	5.35 3.91	6.93 1.58	7.29 2.09	6.54 2.07	6.84 2.51		
12.79	11.81	6. 74	8.13	8.13	8.85	8.84	9.26	8.51	9.38	8.61	9.35		
5.92 6.87	7.22 4.59	1.03 5.71	$2.31 \\ 5.82$	2.15 5.98	3.27 5.58	4.49 4.35	5.50 3.76	2.60 5.91	3.27 6.11	3.18 5.43	3.79 5.56		
12.79	11.81	6.74	8.13	8.13	8.85	8.84	9.26	8.51	9.38	8.61	9.35		
.40	. 62	.54 .32 1.81 .09	.52 .13 1.44	.53 .28 1.62 .08	.53 .12 1.30	.77	.83	.89 .30 2.28 .05	1.12 .11 1.79	.86 .24 2.01 .04	1.07 .09 1.61		
1. 33 .79 1. 19 4. 35 1. 58 3. 16	$\begin{array}{c} 3.11\\ 1.25\\ 1.25\\ 3.11\\ 1.25\\ 3.11\\ 1.25\\ 3.11\end{array}$	2.30 .50 2.49 2.40 3.21 4.07	3.21 1.11 1.77 3.14 3.80 3.01	2.72 .53 2.35 2.60 3.04 3.98	$     \begin{array}{r}       3.20 \\       1.13 \\       1.72 \\       3.14 \\       3.56 \\       3.02 \\     \end{array} $	$ \begin{array}{r} 1.32 \\ .44 \\ 1.43 \\ 2.20 \\ 1.21 \\ 2.20 \\ \end{array} $	$ \begin{array}{r} 2.07 \\ .41 \\ 1.45 \\ 2.28 \\ 1.86 \\ 2.07 \end{array} $	$\begin{array}{r} 2.53 \\ .62 \\ 2.50 \\ 2.80 \\ 3.12 \\ 4.52 \end{array}$	$ \begin{array}{r} 2.50\\ 1.23\\ 2.46\\ 3.43\\ 3.50\\ 3.54 \end{array} $	2.29 .58 2.29 2.68 2.74 4.06	$\begin{array}{c} 2.43 \\ 1.11 \\ 2.31 \\ 3.25 \\ 3.25 \\ 3.32 \end{array}$		
1.19	3.74	3.12	3.01	2.92	3.08	1.65	2.28	2.93	3.32	2.68	3.16		
$\begin{array}{r} 14.63\\ 2.37\end{array}$	$\begin{array}{r} 17.44\\ 2.49\end{array}$	21.36 1.22	21.16 1.24	20.66 1.34	20.80 1.37	12.08 1.97	13.88 2.48	22.53 1.88	22.99 1.83	<b>20.47</b> <b>1.90</b>	21.60 1.93		
17.00	19.93	22.58	22.40	22.00	22.17	14.05	16.36	24.41	24.82	22.37	23. 53		
$\begin{array}{r} 3.56\\13.44\end{array}$	6.23 13.70	$\begin{array}{r} 4.34\\18.23\end{array}$	4.26 18.14	4.26 17.74	4.44 17.72	3.62 10.43	4.76 11.60	4.81 19.60	5.14 19.67	4.58 17.79	5.08 18.44		
17.00	19.93	22.58	22.40	22.00	22.17	14.05	16.36	24.41	24.82	22.37	23.53		
		.82 11.18 4.11	2.44 11.74 5.54	.82 11.09 4.08	2.41 11.63 5.48	4.30 2.15 2.15	10.27 ~3.42 6.85	1.34 10.49 4.96	2.44 10.67 5.91	$1.46 \\ 10.14 \\ 4.84$	2.72 10.40 5.95		
19.61 19.61	22.22	$5.92 \\ 1.97 \\ 7.56 \\ 7.40 \\ 10.36 \\ 12.00$	5.32 4.21 6.42 7.31 17.06 15.51	5.87 1.96 7.66 7.50 10.27 11.90	5.26 4.17 6.36 7.24 16.89 15.57	4.30 2.15 15.05 2.15 8.60	3.42 3.42 6.85 6.85 23.97	5.91 2.86 6.77 7.34 11.35 12.11	5.27 3.86 6.94 9.51 17.09 14.39	5.84 2.74 6.58 7.67 10.96 11.96	$5.20 \\ 3.84 \\ 6.69 \\ 9.41 \\ 16.72 \\ 14.74$		
		11.02	15.51	10.93	15.35	6.45		10.78	14.39	10. 59	13.87		
39.22	22.22	72.35	<b>91.</b> 05 1.33	72.08 .65	90.37 1.32	47.31	65.07	73.91 1.53	90.46 1.80	72.79 1.46	89.55 1.73		
39.22	22.22	73.01	92.38	72.73	91.69	47.31	65.07	75.44	92.26	74.25	91.28		
39.22	22.22	$\begin{array}{c} 11.68\\ 61.34\end{array}$	16.84 75.54	11.58 61.15	16.67 75.02	6.45 40.86	65.07	$\begin{array}{c} 12.30\\ 63.14 \end{array}$	16. 19 76. 07	$\begin{array}{c} 12.05\\62.19\end{array}$	15. 61 75. 68		
39.22	22.22	73.01	92.38	72.73	91.69	47.31	65.07	75.44	92.26	74.25	91.28		

# TABLE 8.—DEATH RATE PER 1,000 POPULATION 10 YEARS OF AGE AND GROUPS, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL

	Males.									
Age group and cause of death.	Opera	tives.	Nonope	ratives.	Both c	lasses.				
	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.				
Total, 10 years and over: Accident or violence. Senility. Unclassified diseases.	0.82 .03 .46	1.07 .05 .43	0.75 .56 1.28	1.09 .50 1.16	0.77 .39 1.02	1.09 •40 •99				
Cancer. Diseases of the nervous system. Diseases of the digestive system. Nephritis. Apoplexy Heart disease. Respiratory diseases other than tuber-	.28 .23 .69 .67 .28 .66	.43 .48 .75 .91 .64 .80	.79 .62 1.16 1.34 1.35 2.05	.64 .90 1.57 1.77 1.69 1.83	.63 .49 1.01 1.12 1.01 1.60	.59 .80 1.38 1.57 1.45 1.59				
culosis Total, nontuberculous diseasés Tuberculosis	.82 4.94 2.41	.91 6.46 2.83	1.63 11.53 1.85	2.08 13.23 2.04	1.37 9.41 2.03	1.81 11.67 2.22				
Total, all causes	7.35	9.29	13.38	15.27	11.44	13.89				
Total, respiratory diseases Total, nonrespiratory diseases	3.23 4.12	3.74 5.55	3.48 9.90	4.12 11.15	3.40 8.04	4.03 9.86				
Total, all causes	7.25	9.29	13.38	15.27	11.44	13.89				
Total, 15 years and over: Accident or violence	.76 .03 .47	. 92 . 05 . 43	.85 .69 1.45	1.20 .59 1.30	. 82 . 45 1. 09	1.13 .45 1.07				
Cancer. Diseases of the nervous system. Diseases of the digestive system. Nephritis. Apoplexy. Heart disease. Respiratory diseases other than tuber-	.29 .24 .71 .68 .29 .68	.43 .49 .76 .92 .65 .82	$\begin{array}{r} .97\\ .64\\ 1.34\\ 1.63\\ 1.64\\ 2.48\end{array}$	.76 .88 1.83 2.10 2.00 2.14	.72 .49 1.11 1.28 1.15 1.83	.68 .78 1.55 1.79 1.65 1.79				
culosis	. 84	. 92	1.92	2.46	1.53	2.06				
Total, nontuberculous diseases Tuberculosis	4.98 2.46	6. 42 2. 88	13.61 2.27	15.28 2.42	10.48 2.34	12.97 2.55				
Total, all causes	7.44	9.30	15.88	17.70	12.82	15.52				
Total, respiratory diseases Total, nonrespiratory diseases	3.30 4.14	3.81 5.49	4.19 11.68	4.89 12.81	3.87 8.95	4.61 10.91				
Total, all causes	7.44	9.30	15.88	17.70	12.82	15.52				

# OVER FROM EACH SPECIFIED CAUSE, BY SEX, OCCUPATION, AND AGE RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR—Concluded.

		Fem	ales.	-		Both sexes.							
Opera	tives.	Nonope	eratives.	Both	elasses.	Opera	atives.	Nonope	eratives.	Both	elasses.		
Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.	Fall River, 3 years.	3 cities, 1 year.		
0.14 .27 .71 .38 .27 .74 .91 .22 .47	0.25 .10 .76 .30 .46 .62 .81 .20 .51	$\begin{array}{c} 0.30 \\ .75 \\ 1.09 \\ .33 \\ 1.24 \\ .38 \\ 1.26 \\ 1.28 \\ 1.44 \\ 1.96 \end{array}$	$\begin{array}{c} 0.37\\ .76\\ 1.14\\ .33\\ 1.23\\ .83\\ 1.15\\ 1.40\\ 2.02\\ 1.83\end{array}$	0.26 .55 .87 .43 1.01 .35 1.12 1.18 1.11 1.56	0.35 .60 .91 .42 1.03 .75 1.03 1.27 1.63 1.54	0.49 .01 .37 .34 .33 .25 .72 .79 .25 .57	0.65 .03 .26 .39 .36 .47 .67 .67 .86 .42 .65	0.50 .67 1.18 .18 1.04 .49 1.21 1.30 1.40 2.00	0.71 .64 1.14 .18 .96 .86 1.35 1.57 1.87 1.83	0.50 .47 .94 .23 .83 .42 1.07 1.15 1.06 1.58	0.69 .50 .94 .23 .83 .77 1.20 1.42 1.54 1.57		
1.02	1.11	1.65	2.03	1.48	1.83	.91	1.01	1.65	2.04	1.43	1.82		
5.13 3.07	5.12 3.96	11.68 1.09	13.09 1.41	9.92 1.62	11.38 1.96	5.03 2.73	5.77 3.41	11.62 1.43	13.15 1.71	9.68 1.81	11.51 2.08		
8.20	9.08	12.77	14.50	11.54	13.34	7.76	9.18	13.05	14.86	11.49	13.59		
4.09 4.11	5.07 4.01	2.74 10.03	3.44 11.06	3.10 8.44	3.79 9.55	3.64 4.12	4.42 4.76	3.08 9_97	3.75 11.11	3.24 8.25	3.90 9.69		
8.20	9.08	12.77	14.50	11.54	13.34	7.76	9.18	13.05	14.86	11.49	13.59		
.11 .28 .73 .39 .28 .76 .92 .22 .22 .48	$\begin{array}{c} .26\\ .10\\ .77\\ .31\\ .41\\ .62\\ .82\\ .21\\ .52\end{array}$	36 .89 1.24 .39 1.45 .42 1.46 1.45 1.70 2.28	.42 .88 1.22 .39 1.41 .87 1.27 1.61 2.34 2.10	$\begin{array}{c} .28\\ .63\\ .95\\ .49\\ 1.14\\ .38\\ 1.25\\ 1.29\\ 1.26\\ 1.74\\ \end{array}$	$\begin{array}{c} .38\\ .67\\ .95\\ .48\\ 1.15\\ .76\\ 1.11\\ 1.42\\ 1.84\\ 1.73\\ 0.01\end{array}$	.45 .01 .38 .35 .34 .26 .73 .80 .26 .58	$     \begin{array}{r}       .58 \\       .03 \\       .26 \\       .40 \\       .37 \\       .45 \\       .69 \\       .42 \\       .66 \\       .60 \\   \end{array} $	.58 .80 1.33 .22 1.24 .52 1.41 1.53 1.67 2.37	.78 .75 1.26 .21 1.12 .87 1.53 1.83 2.19 2.12	.53 .54 1.02 .26 .94 .43 1.19 1.29 1.21 1.78	$\begin{array}{c} .73\\ .57\\ 1.01\\ .26\\ .93\\ .77\\ 1.32\\ 1.32\\ 1.59\\ 1.75\\ 1.76\\ 1.76\end{array}$		
1.04	1.13	1.92	2.28	1.65	2.01	.93	1.03	1.92	2.36	1.60	2.03		
5.21 3.13	5.15 3.97	13.56	14.79 1.59	11.07	12.50	5.09	5.76	13.58	15.01	10.79 2.04	12.72		
8.34	9.12	14.75	16.38	12.84	14.65	7.87	9.20	15.25	16.98	12.83	15.05		
4.17 4.17	5.10 4.02	3.10 11.65	3.87 12.51	3.42 9.41	4.16 10.49	3.72 4.15	4.47 4.73	3.59 11.66	4.33 12.65	3.63 9.20	4.37 10.68		
8.34	9.12	14.75	16.38	12.84	14.65	7.87	9.20	15.25	16.98	12.83	15.05		

# TABLE 9.—POPULATION, NUMBER OF DEATHS, AND DEATH RATES PER NONTUBERCULOUS CAUSES, FOR OPERATIVES AND NONOPERATIVES

	Population and deaths.									
Age group and classified		Males.			Female	3.	B	oth sex	es.	Three cities (1
cause of death.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	year): Both sexes and both classes.
15 TO 19 YEARS.	0.000	0.007		0.007						
Population	2,300	3,221	5,527	2,987	3,038	6,025	5,287	6,265	11,552	22,111
Deaths: Tuberculous Nontuberculous	11 21	9 15	20 36	20 24	10 16	30 40	31 45	19 31	50 76	29 64
Total, all causes	32	24	56	44	26	70	76	50	126	93
20 TO 24 YEARS. Population	2,042	2,647	4, 689	3,052	3,037	6,089	5,094	5,684	10,778	21, 886
Deaths: Tuberculous Nontuberculous	16 16	11 24	27 40	23 29	9 19	32 48	39 45	20 43	59 88	57 72
Total, all causes	32	35	67	52	28	80	84	63	147	129
25 TO 29 YEARS.										
Population	1,696	2,980	4,676	1.914	3.518	5.432	3,610	6,498	10, 108	21.011
Deatbs: Tuberculous Nontuberculous	8 13	13 27	21 40	26 18	18 39	44 - 57	34 31	31 66	65 97	45 89
Total, all classes	21	40	61	44	57	101	85	07	162	124
20									102	
Population	1,571	2,679	4, 250	1,357	3, 195	4,552	2,928	5,874	8,802	17,887
Deaths: Tuberculous Nontuberculous	21 20	27 41	48 61	20 26	21 47	41 73	41 46	48 88	89 134	75 103
Total, all causes	41	68	109	46	68	114	87	136	223	178
35 TO 39 YEARS.						-				
Population	1,529	2,339	3,868	1,037	2,993	4,030	2,566	5,332	7,898	16,227
Deaths: Tuberculous Nontuberculous	14 12	28 54	42 66	12 24	9 44	21 68	26 36	37 98	63 134	41 97
Total, all causes	26	82	108	36	53	89	62	- 135	197	138
40 TO 44 YEARS.										
Population	1,250	1,968	3,218	709	2,846	3,555	1,959	4,814	6,773	13,603
Deaths: Tuberculous Nontuberculous	12 15	9 50	21 65	5 26	2 63	7 89	17 41	11 113	28 154	34 107
Total, all causes	27	59	86	31	65	96	58	124	182	141
15 TO 44 YEARS. Population	10, 388	15,840	26, 228	11,056	18,627	29,683	21,444	34, 467	55,911	112, 725
Deaths: Tuberculous Nontuberculous	82 97	97 211	179 308	106 147	69 228	175 375	188 244	166 439	354 683	281 532
Total, all causes	179	308	487	253	297	550	432	605	1,037	813

# 1,000 POPULATION 15 TO 44 YEARS OF AGE FROM TUBERCULOUS AND IN EACH 5-YEAR AGE GROUP, BY SEX, FALL RIVER, 1905 TO 1907.

Death rates.													
	Males.			Females.		]	Both sexes		Three				
Opera- tives.	Nonop- eratives.	Both classes.	Opera- tives.	Nonop- eratives.	Both classes.	Opera- tives.	Nonop- eratives.	Both classes.	cities (1 year): Both sexes and both classes.				
1.60 3.04	0.93 1.55	1.21 2.17	2. 23 2. 68	1.10 1.75	1.66 2.21	ī. 95 2. 84	1.01 1.65	1.44 2.20	1.31 2.90				
4.64	2.48	3.38	4.91	2.85	3. 87	4.79	2.66	3.64	4.21				
									····				
2, 61 2, 61	1.39 3.02	1.92 2.84	2.51 3.17	. 99 2. 08	1.75 2.63	2.55 2.95	1.17 2.52	1.83 2.72	2.60 3.29				
5, 22	4, 41	4.76	5.68	3.07	4.38	5.50	3.69	4.55	5.89				
1.57 2.56	1.45 3.02	1.50 2.85	4.53 3.13	1.71 3.69	2.70 3.50	3.14 2.86	1.59 3.39	2.14 3.20	2. 14 4. 24				
4, 13	4.47	4.35	7.66	5.40	6.20	6.00	4.98	5.34	6.38				
4.46 4.24	3.36 5.10	<b>3.</b> 77 <b>4.</b> 78	4, 91 6, 39	2.19 4.90	3.00 5.35	4.67 5.23	2.73 4.99	3.37 5.08	4.19 5.76				
8.70	8.46	8. 55	11.30	7.09	8,35	9.90	7.72	8.45	9.95				
3.05 2.62	3.99 7.70	3.62 5.69	3.86 7.71	1.00 4.90	1.74 5.62	3.38 4.67	2.31 6.13	2.66 5.65	2.52 5.98				
5.67	11.69	9.31	11.57	5.90	7.36	8.05	8.44	8.31	8.50				
									•				
3.20 4.00	1.52 8.47	2.18 6.73	2.35 12.22	.23 7.38	.66 8.34	2.89 6.98	.76 7.83	1.38 7.58	2.50 7.87				
7.20	9.99	8.91	14.57	7.61	9.00	9.87	8.59	8.96	10.37				
2.63 3.11	2.04 4.44	2.28 3.91	3.20 4.43	1.23 4.08	1.97 4.21	2.92 3.80	1.60 4.25	2.11 4.07	2.49 4.72				
5.74	6.48	6. 19	7.63	5.31	6.18	6.72	5.85	6.18	7.21				

# TABLE 10.—AGE PERCENTAGE DISTRIBUTION OF OPERATIVE AND OF NONOPERATIVE MALES AND FEMALES, FOR POPULATION AND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, FALL RIVER, 1905 TO 1907.

		Males.			Female	s.	В	æs.	Three	
Age group and classified cause of death.	Oper- atives.	Non- opera- tives.	Both classes.	Oper- atives.	Non- opera- tives.	Both classes.	Oper- atives.	Non- opera- tives.	Both classes.	(1 year): Both sexes and both classes,
15 TO 19 YEARS.	22	20	21	97	17	20	25	18	21	20
Deaths: Tuberculous Nontuberculous	13 22	97	11 12	19 16	15	17	16 18	12	14	10 12
Total, all causes	18	. 8	12	18	9	13	18	8	12	11
20 TO 24 YEARS.										
Population	_20	17	18	28	17	20	23	16	19	20
Deaths: Tuberculous Nontuberculous	19 17	11 11	15 13	21 20	13 8	18 13	21 18	12 10	16 13	20 14
Total, all causes	18	11	14	20	9	15	19	11	14	. 16
25 TO 29 YEARS.										
Population	16	19	18	17	18	18	17	19	18	· 18
Deaths: Tuberculous Nontuberculous	10 13	14 13	12 13	25 12	26 17	25 15	18 13	18 15	19 14	16 17
Total, all causes	12	13	12	18	19	18	15	16	15	17
30 TO 34 YEARS.										
Population	15	17	16	12	17	16	14	17	16	16
Deaths: Tuberculous Nontuberculous	26 21	28 19	27 20	19 18	30 21	24 19	22 19	29 20	25 20	27 19
Total, all causes	23	22	22	18	23	21	20	22	22	22
35 TO 39 YEARS.			· ·		· · · · ·					
Population	15	15	15	9	16	14	12	16	14	14
Deaths: Tuberculous Nontuberculous	17 12	29 26	23 21	11 16	13 19	12 18	14 15	22 22	18 20	15 18
Total, all causes	14	27	22	14	18	16	15	22	19	17
40 TO 44 YEARS.										
Population	12	12	12	7	15	12	9	14	12	12
Deaths: Tuberculous Nontuberculous	15 15	9 24	12 21	5 18	3 28	4 24	9 17	7 26	8 22	12 20
Total, all causes	15	19	18	12	22	17	13	21	18	17

# TABLE 11.—SEX PERCENTAGE DISTRIBUTION OF OPERATIVES AND OF NONOPERATIVES IN EACH 5-YEAR AGE GROUP, FOR POPULATION AND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, FALL RIVER, 1905 TO 1907.

	0	perativ	'es.	No	noperat	ives.	Both classes.		
Age group and classified cause of death.	Per	cent.	Both	Per	cent.	Both	Per	cent.	Both
	Males.	Fe- males	(100 per cent).	Males.	Fe- males.	(100 per cent).	Males.	Fe- males.	(100 per cent).
15 TO 19 YEARS.						1813	e 91 av	-	
Population	44	56	5,287	51	49	6, 265	48	52	11, 552
Deaths: Tuberculous Nontuberculous	35 47	65 53	31 45	47 48	53 52	19 31	40 47	60 53	50 76
Total, all causes	42	58	76	48	52	50	44	56	126
20 TO 24 YEARS.						100.0	1.04.07	144	
Population	40	60	5,094	47	53	5,684	44	56	10,778
Deaths: Tuberculous Nontuberculous	41 36	59 64	39 45	55 56	45 44	20 43	46 45	54 55	59 88
Total, all causes	38	62	84	56	44	63	46	54	147
25 TO 29 YEARS.						6.9		-	
Population	47	53	3,610	46	54	6, 498	46	54	10, 108
Deaths: Tuberculous Nontuberculous	24 42	76 58	34 31	42 41	58 . 59	31 66	32 41	68 59	65 97
Total, all causes	32	68	65	41	59	97	38	62	162
30 TO 34 YEARS.							17 al 17	1	
Population	54	46	2, 928	46	54	5,874	48	52	8,802
Deaths: Tuberculous Nontuberculous	51 43	49 57	41 46	56 47	44 53	48 88	54 46	46	89 134
Total, all causes	47	53	87	50	50	136	49	51	223
35 TO 39 YEARS.	60	40	9 566	44		5 229	40	51	7 909
Deaths:			2,000			0,004	_ 13		1,000
Tuberculous Nontuberculous	54 33	46 67	26 36	76 55	24 45	37 98	67 49	33 51	63 134
Total, all causes	42	58	62	61	39	135	55	45	197
40 TO 44 YEARS.						10.00	r #5 m	100	
Population	64	36	1,959	41		4,814	48	52	6,773
Tuberculous	71 37	29 63	17 41	82 44	18 56	11 113	75 42	25 58	28 154
Total, all causes	47	53	58	48	52	124	47	53	182
15 TO 44 YEARS. Population	48	52	21, 444	46	54	34, 467	47	53	55, 911
Deaths: Tuberculous Nontuberculous	44 40	56 60	188 244	58 48	42 52	166 439	51 45	49 55	354 683
Total, all causes	41	59	432	51	49	605	47	53	1,037

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# TABLE 12.—PER CENT OF OPERATIVES AND NONOPERATIVES AMONGMALES AND AMONG FEMALES IN EACH 5-YEAR AGE GROUP, FORPOPULATION AND FOR DEATHS FROM TUBERCULOUS AND NON-<br/>TUBERCULOUS CAUSES, FALL RIVER, 1905 TO 1907.

	Males.				Female	s.	Both sexes.		
Age group and classified cause of death.	Per	cent.	Both	Per	cent.	Both	Per	cent.	Both
19 20 20 20	Opera- tives.	Non- opera- tives.	(100 per cent).	Opera- tives.	Non- opera- tives.	(100 per cent).	Opera- tives.	Non- opera- tives.	(100 per cent).
15 TO 19 YEARS.						-			-
Population	42	58	5,527	50	50	6,025	46	54	11,552
Deaths: Tuberculous Nontuberculous	55 58	45 42	20 36	67 60	33 40	30 40	62 59	38 41	50 76
Total, all causes	57	43	56	63	37	70	60	40	126
20 TO 24 YEARS.									
Population	44	56	4,689	50	50	6,089	47	53	10,778
Deaths: Tuberculous Nontuberculous	59 40	41 60	27 40	72 60	28 40	32 48	66 51	34 49	59 88
Total, all causes	48	52	67	65	35	80	57	43	147
25 TO 29 YEARS.									
Population	36	64	4,676	35	65	5,432	36	64	10, 108
Deaths: Tuberculous. Nontuberculous.	38 32	62 68	21 40	59 32	41 68	44 57	52 32	48 68	65 97
Total, all causes	34	66	61	44	56	101	40	60	162
30 TO 34 YEARS.									
Population	37	63	4,250	30	.70	4,552	33	67	8,802
Deaths: Tuberculous Nontuberculous	44 33	56 67	48 61	49 36	51 64	41 73	46 34	54 66	89 134
Total, all causes	38	62	109	40	60	114	39	61	223
35 TO 39 YEARS. Population	40	60	3,868	- 26	. 74	4,030	33	67	7,898
Deaths:									
Tuberculous Nontuberculous	33 18	67 82	42 66	57 35	43 65	21 68	41 27	59 73	63 134
Total, all causes	24	76	108	40	60	89	31	69	197
40 TO 44 YEARS.									
Population	39	61	3,218	20	80	3,555	29	71	6,773
Deaths: Tuberculous Nontuberculous	57 23	43 77	21 65	71 29	29 71	7 89	61 27	39 73	28 154
Total, all causes	31	69	86	32	68	96	32	68	182
15 TO 44 YEARS.									
Population	40	60	26, 228	37	63	29,683	38	62	55,911
Deaths: Tuberculous Nontuberculous	46 31	54 69	179 308	61 39	-39 61	175 375	53 36	47 64	354 683
Total, all causes	37	63	487	46	54	550	42	58	1,037

# TABLE 13.—PER CENT OF OPERATIVE AND NONOPERATIVE MALES AND FEMALES IN TOTAL FOR EACH 5-YEAR AGE GROUP, FOR POPU-LATION AND FOR DEATHS FROM TUBERCULOUS AND NONTUBER-CULOUS CAUSES, FALL RIVER, 1905 TO 1907.

		Males.		1	Females	l.	Both sexes.			
Age group and classified cause of death.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes (100 per cent).	
15 TO 19 YEARS. Population	20	28	48	26	26	52	46	54	11,552	
Deaths: Tuberculous Nontuberculous.	22 27	18 20	40 47	40 32	20 21	60 53	62 59	38 41	50 76	
Total, all causes	25	19	44	35	21	56	60	40	126	
20 TO 24 YEARS. Population	19	25	44	28	28	56	47	53	10,778	
Deaths: Tuberculous Nontuberculous	27 18	19 27	46 45	39 33	15 22	54 55	66 51	34 49	59 88	
Total, all causes	22	24	46	35	19	54	57	43	147	
25 TO 29 YEARS. Population	17	29	46	19	35	54	36	64	10,108	
Deaths: Tuberculous Nontuberculous.	12 13	20 28	32 41	40 19	28 40	68 59	52 32	48 68	65 97	
Total, all causes	13	25	38	27	35	62	40	60	162	
30 TO 34 YEARS.										
Population	18	30	48	15	37	52	33	67	8,802	
Deaths: Tuberculous. Nontuberculous.	24 15	30 31	54 46	22 19	24 35	46 54	46 34	<b>54</b> 66	89 134	
Total, all causes	18	31	49	21	30	51	39	61	223	
35 to 39 years. Population	20	29	49	13	38	51	33	67	7,898	
Deaths: Tuberculous Nontuberculous	22 9	45 40	67 49	19 18	14	33	· 41 27	59 73	63 134	
Total, all causes	13	42	55	18	27	45	31	69	197	
40 TO 44 YEARS.										
Population	19	29	48	10	42	52	29	71	6,773	
Deaths: Tuberculous Nontuberculous	43 10	32 32	75 42	18 17	7 41	25 58	61 27	39 73	28 154	
Total, all causes	15	32	47	17	36	53	32	68	182	
15 TO 44 YEARS.				-						
Population	19	28	47	19	34	53	38	62	55,911	
Deaths: Tuberculous Nontuberculous.	23 14	28 31	51 45	30 22	19	49	53	47	354 683	
Total, all causes	17	30	47	25	28	53	42	58	1,037	

# TABLE 14.—PER CENT OF DEATHS FROM TUBERCULOUS AND NONTU TIVE MALES AND FEMALES, FOR EACH 5-YEAR AGE GROUP, FALL PAWTUCKET), 1 YEAR.

- Dati stary	Fall River (3 years).										
Age group, classified cause of death, etc.		Males.	-		Females	3.	в	oth sex	es.		
See and the second	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.		
15 TO 19 YEARS.											
Per cent of deaths: Tuberculous Nontuberculous	34 66	37 63	36 64	45 55	38 62	<b>43</b> 57	41 59	38 62	40 60		
Number, all causes (100 per cent) Death rate per 1,000, all causes	32 4.64	24 2.48	56 3.38	44 4.91	$\begin{array}{r}26\\2.85\end{array}$	70 3.87	76 4.79	50 2.66	126 3.64		
20 TO 24 YEARS.		-				-	role ar	0			
Per cent of deaths: Tuberculous Nontuberculous	50 50	31 69	<b>40</b> 60	44 56	32 68	40 60	46 54	32 68	40 60		
Number, all causes (100 per cent) Death rate per 1,000, all causes	32 5.22	35 4.41	67 4.76	52 5.68	28 3.07	80 4.38	84 5.50	63 3.69	147 4.55		
25 TO 29 YEARS.							-	-			
Per cent of deaths: Tuberculous. Nontuberculous.	38 62	32 68	34 66	59 41		44 56	52 48	32 68	40 60		
Number, all causes (100 per cent) Death rate per 1,000, all causes	21 4.13	40 4.47	61 4.35	44 7.66	57 5.40	101 6.20	65 6.00	97 4.98	162 5.34		
30 TO 34 YEARS.				1_1				a cal			
Per cent of deaths: Tuberculous. Nontuberculous.	51 49	40 60	44 56	43 57	31 69	36 64	47 53	35 65	40 60		
Number, all causes (100 per cent) Death rate per 1,000, all causes	41 8.70	68 8.46	109 8.55	46 11.30	68 7.09	114 8.35	87 9.90	136 7.72	223 8.45		
35 TO 39 YEARS.		200						-			
Per cent of deaths: Tuberculous	54 46	34 66	39 61	33 67	17 83	24 76	42 58	27 73	32 68		
Number, all causes (100 per cent) Death rate per 1,000, all causes	26 5.67	82 11.69	108 9.31	36 11.57	53 5.90	89 7.36	62 8.05	135 8.44	197 8.31		
40 TO 44 YEARS.		P	1 I		-						
Per cent of deaths: Tuberculous Nontuberculous	44 56	15 85	24 76	16 84	3 97	7 93	29 71	9 , 91	15 85		
Number, all causes (100 per cent) Death rate per 1,000, all causes	27 7.20	59 9.99	86 8.91	31 14.57	65 7.61	96 9.00	58 9.87	124 8.59	182 8.96		
15 TO 44 YEARS.		- 1			-• -	-	1-1-1	1	1		
Per cent of deaths: Tuberculous Nontuberculous	46 54	32 68	37 63	42 58	23 77	32 68	44 56	27 73	34 66		
Number, all causes (100 per cent) Death rate per 1,000, all causes	179 5.74	308 6.48	4.87 6.19	253 7.63	297 5.31	550 6.18	432 6.72	605 5.85	1,037 6.18		

# BERCULOUS CAUSES AMONG OPERATIVE AND AMONG NONOPERA-RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND

Three cities (1 year).													
	Males.			Females.		10.000 (J.	Both sexes.						
Opera-	Nonopera-	Both	Opera-	Nonop-	Both	Opera-	Nonop-	Both					
tives.	tives.	classes.	tives.	eratives.	classes.	tives.	eratives.	classes.					
	100		N.	- (ei	19	- 7		million (					
17	26	22	53	31	40	35	29	<b>31</b>					
83	74	78	47	69	60	65	71	69					
18	27	45	19	29	48	37	56	93					
5.33	3.82	4.31	4.02	4.17	4.11	4.57	4.00	4.21					
1		0 0	30.	- (0)	0			- 0 - 1 al april					
48	33	38	47	56	51	47	42	44					
52	67	62	53	44	49	53	58	56					
21	45	66	36	27	63	57	72	129					
6.88	6.85	6.86	7.63	3.58	5.14	7.33	5.10	5.89					
36	18	22	72	28	43	59	23	34					
64	45	78 59	28	50	75	41	95	66 134					
5.70	6.32	6.16	8.11	5.99	6.56	7.04	6.14	6.38					
56	40	45	50	32	38	53	38	42					
44	60	55	50	68	62	47	62	58					
25	72	97	28	53	81	53	125	178					
11. 51	11.22	11.29	12.81	7.45	8.71	12.16	9.24	9.95					
55 45	24 76	<b>30</b> 70	45	24 76	30 70	48 52		30 70					
11	50	61	22	55	77	33	105	138					
5.24	8.68	7.76	12.05	8.41	9.20	8.41	8.54	8.50					
	1000	2.010	Clari	10-0				- Line T					
41	27	30	29	13	16	35	21	24					
59	73	70	71	87	84	65	79	76					
17	63	80	14	47	61	31	110	141					
9.63	13.67	12.55	11.46	7.83	8.44	10.38	10.36	10.37					
42	29	33	51	- 28	36	47	29	35					
58	71	67	49	72	64	53	71	65					
106	302	408	144	261	405	250	563	813					
7.10	8.05	7.78	8.11	6.14	6.72	7.65	7.03	7.21					

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#### TABLE 15.—PER CENT OF MALES AND FEMALES IN EACH 5-YEAR AGE GROUP OF TOTAL OPERATIVES AND OF TOTAL NONOPERATIVES, FOR POPULATION AND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, FALL RIVER, 1905 TO 1907.

	0	Operati	ves.	No	nopera	tives.	Both classes.		
Age group and classified cause of death.	Males	Fe- males	Both sexes.	Males	Fe- males	Both sexes.	Males.	Fe- males.	Both sexes.
15 TO 19 YEARS.		1							
Population	11	14	25	9	9	18	10	11	21
Deaths: Tuberculous Nontuberculous	69	10 9	16 18	63	6 4	12 7	6 5	86	14 11
Total, all causes	8	10	18	4	4	8	5	7	12
20 TO 24 YEARS.									
Population	9	14	23	7	9	16	8	11	19
Deaths: Tuberculous Nontuberculous	9 7	12 11	21 18	76	5 4	12 10	76	9 7	16 13
Total, all causes	7	12	19	6	5	11	6	• 8	14
25 TO 29 YEARS.			1						
Population	8	9	17	9	10	19	8	10	18
Deaths: Tuberculous Nontuberculous	4 5	14 8	18 13	76	11 9	18 15	6 6	13 8	19 14
Total, all causes	5	10	15	7	9	16	6	9	15
30 TO 34 YEARS.				1					
Population	7	7	14	8	9	. 17	8	8	16
Deaths: Tuberculous Nontuberculous	11 8	11 11	22 19	16 9	13 11	29 20	14 9	11 11	25 20
Total, all causes	9	11	20	11	11	22	11	11	22
35 TO 39 YEARS.									
Population	7	5	12	7	9	16	7	7	14
Deaths: Tuberculous Nontuberculous	8 5	6 10	14 15	16 12	6 10	22 22	12 10	6 10	18 20
Total, all causes	6	9	15	13	9	22	10	9	19
40 TO 44 YEARS.					15 -			21	
Population	6	3	9	6	8	14	6	6	12
Deaths; Tuberculous Nontuberculous	6 6	3 11	9 17	6 12	1 14	7 26	69	2 13	8 22
Total, all causes	6	7	13	10	11	21	9	9	18
15 TO 44 YEARS.									
Population	48	52	a21, 444	46	54	a34, 467	47	53	a55,911
Deaths: Tuberculous Nontuberculous	44 40	56 60	a 188 a 244	58 48	42 52	a 166 a 439	51 45	49 55	a 354 a 683
Total, all causes	41	59	a 432	51	49	<b>a</b> 605	47	53	a 1,037

" Total on which per cents are based.

# TABLE 16.—PER CENT OF OPERATIVES AND NONOPERATIVES IN EACH5-YEAR AGE GROUP OF TOTAL MALES AND OF TOTAL FEMALES, FORPOPULATION AND FOR DEATHS FROM TUBERCULOUS AND NON-<br/>TUBERCULOUS CAUSES, FALL RIVER, 1905 TO 1907.

	Males.				Female	8.	Both sexes.		
Age group and classified cause of death.	Oper- atives.	Non- oper- atives.	Both classes.	Oper- atives.	Non- oper- atives.	Both classes.	Oper- atives.	Non- oper- atives.	Both classes.
15 TO 19 YEARS.					-				
Population	9	12	21	10	10	20	10	11	21
Deaths: Tuberculous Nontuberculous	6 7	5 5	11 12	11 7	6 4	17 11	86	6 5	14 11
Total, all causes	7	5	12	8	5	13	7	5	12
20 TO 24 YEARS.									
Population	8	10	18	10	10	20	9	10	19
Deaths; Tuberculous. Nontuberculous.	95	68	15 13	13	55	18 13	11 6	57	16
Total all causes	7	7	14	10	5	15	8	6	14
25 mg 20 VEADS									
Population	6	12	18	6	12	18	6	12	18
Deaths: Tuberculous. Nontuberculous.	5 4	79	12 13	15 5	10 10	25 15	10 5	-9 9	19 14
Total, all causes	4	8	12	8	10	18	6	9	15
30 TO 34 YEARS.									
Population	6	10	16	5	11	16	5	11	16
Deaths: Tuberculous Nontuberculous	12 6	15 14	27 20	12 6	12 13	24 19	11 7	14 13	25 20
Total, all causes	8	14	22	9	12	21	9	13	22
35 TO 39 YEARS.									
Population	6	9	15	4	10	- 14	5	9	14
Deaths: Tuberculous	7	16 17	23	7	5	12	8	10	18
Total all causes	5	17			10	10		12	10
40 mo 44 mp. pc					10	10		10	19
TO TO 44 TEARS.									
Population	5	7	12	2	10	12	3	9	12
Deaths: Tuberculous Nontuberculous	7 5	. 16	12 21	- 37	1 17	4 24	5 6	3 16	8 22
Total, all causes	6	12	18	5	12	17	- 6	12	18
15 TO 44 YEARS.					-				
Population	40	60	a26,228	37	63	a29,683	38	62	a55,911
Deaths: Tuberculous	46	54	a 179	61	39	a 175	53	47	¢ 354
Total all causes	31	69	a 407	39	01	0375	30	04 E0	a 1 027
total, an causes	37	03	6 487	40	54	a 990	42	58	• 1,037

a Total on which per cents are based.

TABLE 17.—PER CENT OF OPERATIVES AND NONOPERATIVES OF EACH SEX AND AGE GROUP IN TOTAL FOR ALL CLASSES, FOR POPULA-TION AND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCU-LOUS CAUSES, FALL RIVER, 1905 TO 1907.

Secondian )	Fall River (3 years).							Three		
Age group and classified	m	Males.	a le	10	Female	8.	В	oth sex	es.	cities (1 year): Both
cause of uestil.	Oper- atives.	Non- opera- tives.	Both classes.	Oper- atives.	Non- opera- tives.	Both classes.	Oper- atives.	Non- opera- tives.	Both classes.	and both classes.
15 TO 19 YEARS.	10	0		14(				- 1		-
Population	4	6	10	6	5	11	10	11	21	20
Deaths: Tuberculous Nontuberculous	33	32	65	53	33	86	8 6	6 5	14 11	10 12
Total, all causes	3	2	5	4	3	7	7	5	12	11
20 TO 24 YEARS.	-									
Population	4	4	8	5	6	11	9	10	19	20
Deaths <sup>*</sup> Tuberculous Nontuberculous	42	34	76	74	23	97	11 6	57	16 13	20 14
Total, all causes	3	3	6	5	3	8	8	6	14	16
25 TO 29 YEARS.								· · ·		
Population	3	5	8	3	7	10	6	12	18	18
Deaths: Tuberculous Nontuberculous	22	4	6 6	83	55	13 8	10 5	9	19 14	16
Total, all causes	2	4	6	4	5	9	6	9	15	17
30 TO 34 YEARS.	-									
Population	. 3	5	8	2	6	8	5	11	16	16
Deaths: Tuberculous Nontuberculous	63	86	14 9	54	67	11 11	11 7	14 13	25 20	27
Total, all causes	4	7	11	5	6	11	9	13	22	22
35 TO 39 YEARS.										
Population	. 3	4	.7	2	5	7	5	9	14	14
Deaths:									-	
Nontuberculous	42	8	12 10	4	2 6	6 10	8	10 14	18 20	15 18
Total, all causes	2	8	10	4	5	9	6	13	19	17
40 TO 44 YEARS.										-
Population	2	4	6	1	5	6	3	9	12	12
Deaths: Tuberculous Nontuberculous	4 2	27	69	1 4	1 9	2 13	56	3 16	8 22	12 20
Total, all causes	. 3	6	9	3	6	9	6	12	18	17

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# TABLE 17.—PER CENT OF OPERATIVES AND NONOPERATIVES OF EACH SEX AND AGE GROUP IN TOTAL FOR ALL CLASSES, FOR POPULA-TION AND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCU-LOUS CAUSES, FALL RIVER, 1905 TO 1907—Concluded.

	Fall River (3 years).									
Age group and classified		Males.			Females	3.	B	oth sex	es.	eities (1year): Both
cause of death.	Oper- atives.	Non- opera- tives.	Both classes.	Oper- atives.	Non- opera- tives.	Both- classes.	Oper- atives.	Non- opera- tives.	Both classes.	and both classes.
15 TO 44 YEARS.	D.M.			24	57		100		22	1
Population	19	28	47	19	34	53	38	62	a55, 911	a112, 725
Deaths: Tuberculous Nontuberculous	23 14	28 31	51 45	30 22	19 33	49 55	53 36	47 64	a 354 a 683	€ 281 € 532
Total, all causes	17	30	47	25	28	53	42	58	s 1,037	# 813

•Total on which per cents are based.

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# TABLE 18.—POPULATION, NUMBER OF DEATHS, AND DEATH RATES AND NONTUBERCULOUS CAUSES, FOR OPERATIVES AND NONOPER (FALL RIVER, MANCHESTER, AND PAWTUCKET).

POPULATION.

		Males.			Females.		Both sexes.			
Race and locality.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	
All non-Irish races: Fall River 3 cities	8, 882 12, 858	13, 202 30, 703	22, 084 43, 561	8,641 13,917	15, 372 34, 246	24, 013 48, 163	17, 523 26, 775	28, 574 64, 949	46, 097 91, 724	
Irish: Fall River	1,506 2,064	2, 638 6, 828	4,144 8,892	2, 415 3, 847	3, 255 8, 262	5,670 12,109	3, 921 5, 911	5, 893 15, 090	9, 814 21, 001	
Fall River 3 cities English:	598 1,152	4, 228 12, 068	4,826 13,220	732 1,167	4,699 13,752	5, 431 14, 919	1,330 2,319	8,927 25,820	10, 257 28, 139	
Fall River 3 cities	2, 988 3, 571	2,940 6,346	5,928 9,917	2,893 4,060	3,757 7,277	6,650 11,337	5, 881 7, 631	6, 697 13, 623	12, 578 21, 254	

			-	aths.	-				
Race, locality, and period.		Males.			Females.		В	oth sexe	s.
<i>2</i> /	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.
All non-Irish races:									
Fall River{1 year 3 years	25 62 35	20 53 46	45 115 81	33 71 49	19 50 48	$52 \\ 121 \\ 97$	58 133 84	39 103 94	97 236 178
3 cities 3 years	83	131	214	116	128	244	199	259	458
Irish:									
Fall River $\begin{cases} 1 & year \\ 3 & years \end{cases}$	8 20	20 44	28 64	11 35	11 19	22 54	19 55	31 63	50 118
3 cities	$     10 \\     27 $	43 112	53 139	24 62	26 54	50 116	34 89	69 166	103     255
American:		0	-			0		0	10
Fall River {1 year 3 years	. 6	3 13 13	7 19 17	355	3	0 13 13	11	6 21 21	13 32 30
3 cities {3 years	8	42	50	12	29	41	20	71	91
English:			10	0		10	14		05
Fall River 1 year	16	15	12 31	9 14	10	13 24	14 30	25	25 55
3 cities /1 year	7	14	21	13	7	20	20	21	41
French Conadian. (3 years	20	30	50	23	. 19	42	43	49	92
Fall Bivor /1 year	10	7	17	16	7	23	26	14	40
3 years	26	15	41	39	19	58	65	34	99
3 cities	$\frac{14}{34}$	39	28 73	65	61	126	99	100	199
Other races:						10		0	10
Fall River 1 year	0 14	3 10	9 24	5 13	13	10 26	27	23	19
3 cities	10	5	15	6	9	15	16	14	30
(3 years		20	41	16	19	35	37	39	76
Total, all races:									
Fall River 1 year	33	40 97	73 179	44 106	30 69	175	188	166	147 354
3 cities {1 year 3 years	45 110	89 243	134 353	73 178	74 182	147 360	118 288	163 425	281 713

#### DEATHS, TUBERCULOUS.

# PER 1,000 POPULATION 15 TO 44 YEARS OF AGE FROM TUBERCULOUS ATIVES OF SPECIFIED RACES, BY SEX, FALL RIVER AND 3 CITIES

		Males.			Females.		Both sexes.		
Race and locality.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.
French Canadian: Fall River	3,503 4,836	3,658 9,096 2,376	7,161 13,932 4,169	3, 498 6, 202	4, 427 9, 415 2, 489	7,925 15,617 4,007	7,001 11,038 3,311	8,085 18,511 4,865	15,086 29,549 8 176
3 cities	3,299	3, 193	6,492	2,488	3,802	6, 290	5,787	6,995	12,782
Fall River 3 cities	10, 388 14, 922	15, 840 37, 531	26, 228 52, 453	11, 056 17, 764	18, 627 42, 508	29, 683 60, 272	21,444 32,686	34, 467 80, 039	55, 911 112, 725

DEATHS, TUBERCULOUS.

# POPULATION.

#### Death rate per 1,000 population 15 to 44 years of age. Females. Males. Both sexes. Non-Both Opera-Non-Both Opera-Non-Both Operatives. operatives. tives. tives. classes. operatives. classes. operatives. classes. . 3.822.743.522.783.31 2.53 3.14 1.511.341.501.24 1.371.201.452.81 2.04 2.17 2.10 2.33 1.09 1.40 1.25 1.68 2.02 1.74 1.70 1.94 2.15 2.48 1.64 1.42 1.69 1.33 1.66 $\begin{array}{c} 6.75 \\ 5.15 \\ 5.96 \\ 5.21 \end{array}$ 3.38 1.94 3.15 2.18 3.88 3.17 4.13 4.85 4.67 5.75 5.02 7.58 5.56 6.30 4.55 4.83 6.24 $5.26 \\ 3.56$ 5.31 5.09 4.43 4.01 4.84 4.57 4.91 4.36 5.47 5.37 3.19 3.67 4.05 6.69 3.34 $1.45 \\ 1.31 \\ 1.29 \\ 1.26$ 4.10 2.28 4.28 .64 5.26 2.76 3.88 .71 1.10 . 67 1.27 .80 1.04 .79 .58 3.47 1.08 . 81 2.32 1.16 3.43 .92 2.87 .92 1.08 2.02 1.06 1.95 2.38 1.64 1.67 2.38 3.11 1.99 1.74 2.12 1.68 1.20 1.77 1.23 1.70 2.62 1.88 $1.70 \\ 2.21$ . 89 $1.25 \\ 1.54$ 1.46 1.78 1.61 1.96 3.20 . 96 1.86 1.58 1.89 . 87 1.20 1.44 2.37 1.91 2.01 1.75 3.71 3.10 3.53 2.99 2.65 2.19 2.61 2.24 2.85 1.91 4.58 1.58 2.90 1.73 2.44 3.14 2.69 1.43 2.55 2.16 2.47 2.89 1.37 3.72 4.03 $1.40 \\ 2.05$ 2.34 1.43 3.49 1.80 3.352.613.032.122.502.162.381.853.32 2.72 2.76 2.13 1.26 2.16 3.29 2.86 2.41 2.01 1.64 2.32 1.92 2.31 2.11 1.582.001.861.40 1.74 2.37 2.04 2.35 1.57 2.09 2.15 1.67 1.98 2.522.042.372.782.282.563.59 2.92 3.61 2.94 2.49 2.03 2.63 3.18 3.98 1.61 1.23 1.74 1.97 2.44 2.63 3.01 3.20 $1.60 \\ 2.03$ 2.11 2.49 4.11 2.24 3.34 2.46 2.16 1.43 1.99 1.77 2.11

# TABLE 18.—POPULATION, NUMBER OF DEATHS, AND DEATH RATES AND NONTUBERCULOUS CAUSES, FOR OPERATIVES AND NONOPER (FALL RIVER, MANCHESTER AND PAWTUCKET)—Concluded.

#### DEATHS, NONTUBERCULOUS.

100 a (114)	14	Assessed		Nun	aber of d	eaths.				
Race, locality, and period.		Males.	mail	_	Females		E	oth sexe	35.	
	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	
All non-Irish races: Fall River	31 73 50	57 144 150	88 217 200	39 108 51	48 167 136	<b>87</b> 275 187	70 181 101	105 311 286	175 492 387	
Irish: Fall River	8 24 11 5 9	28 67 63 12 24 44	36 91 74 17 33 54	12 39 20 3 10	15 61 51 16 43 44	27 100 71 19 53 48	20 63 31 8 19	43 128 114 28 67 88	63 191 145 36 86 102	
English: Fall River	4 18 8	12 39 32	16 57 40	10 29 16	9 37 26	19 66 42	14 47 24	21 76 58	35 123 82	
Fall River {1 year 3 cities1 year Other races: Fall River /1 year	16 32 22 6	20 48 48 13	36 80 70 19	19 50 24 7	15 61 53 8	34 111 77 15	35 82 46 13	35 109 101 21	70 191 147 34	
3 citles1 year Total, all races: Fall River	14 10 39 97	33 26 85 211	47 36 124 308	19 7 51 147	26 13 63 228	45 20 114 375	33 17 90 244	59 39 148 439	92 56 238 683	

#### DEATHS, ALL CAUSES.

All non-Irish races: Fall River	56 135 85	77 197 196	133 332 281	72 179 100	67 217 184	139 396 284	128 314 185	144 414 380	272 728 565
Irish:		-	12	18		18.1	10.7		
Fall River	16	48	64	23	26	49	39	74	113
3 cities1 year	21	106	127	44	77	121	65	183	248
American:		11.25	ym.	11			100		
Fall River 1 year	9	15	24 59	15	19	25	15	34	49
3 cities1 year	14	57	71	9	52	61	23	109	132
English:							1		
Fall River 1 year	9	19	28	19	13	32	28	101	60 178
3 cities1 year	15	46	61	29	33	62	44	79	123
French Canadian:		1	0.1 1	1 100		10	54.1		1.6
Fall River {1 year	26	27	53	35	22	57	61	49	110
3 cities	36	62	98	49	77	126	85	139	230
Other races:			10	1 10	2 1	10.0	3.1		
Fall River 1 year	12	16	28	12	13	25	24	29	53
3 cities 1 year	28 20	43	51	32 13	39	35	33	82 53	142
o cracossesses goates									
Total, all races:		0.7	1.377.1	1 1	A 1	10 2	141.0		
Fall River [1 year	72	125	197	95	93	188	167	218	385
2 oition 1 years.	179	308	487	253	297	405	432	605 563	1,037
• GILICS year	100	302	-100	144	201	200	200	000	010

PER 1,000 POPULATION 15 TO 44 YEARS OF AGE FROM TUBERCULOUS ATIVES OF SPECIFIED RACES, BY SEX, FALL RIVER AND 3 CITIES

#### DEATHS, NONTUBERCULOUS.

	Death rate per 1,000 population 15 to 44 years of age.											
	Males.			Females.			Both sexes.	mai				
Opera-	Non-	Both	Opera-	Non-	Both	Opera-	Non-	Both				
tives.	operatives.	classes.	tives.	operatives.	classes.	tives.	operatives.	classes.				
3. 49	<b>4.32</b>	3.98	4.51	3.12	3. 62	3.99	3.67	3.80				
2. 74	<b>3.</b> 63	3.27	4.17	3.62	3. 82	3.44	3.63	3.56				
3. 89	<b>4.</b> 88	4.59	3.67	3.97	3. 88	3.77	4.40	4.22				
5. 31	10.62	8.69	<b>4.97</b>	4.61	4.76	5.10	7.30	6.42				
5. 31	8.47	7.32	<b>5.38</b>	6.25	5.88	5.36	7.24	6.49				
5. 33	9.22	8.32	<b>5.20</b>	6.17	5.86	5.25	7.56	6.90				
8.36	2.84	3.52	4.10	3.40	3.50	6.02	3.14	3.51				
5.02	1.89	2.28	4.55	3.05	3.25	4.76	2.50	2.79				
8.68	3.64	4.08	3.43	3.20	3.22	6.04	3.41	3.62				
1.34	4.08	2.70	3.46	2.40	2.86	2.38	3.14	2.78				
2.01	4.42	3.21	3.34	3.28	3.31	2.66	3.78	3.26				
2.24	5.04	4.03	3.94	3.57	3.70	3.15	4.26	3.86				
4.57	5.47	5. 03	5. 43	3. 39	4. 29	5.00	4.33	4.64				
3.05	4.37	3. 72	4. 76	4. 59	4. 67	3.90	4.50	4.22				
4.55	5.28	5. 02	3. 87	5. 63	4. 93	4.17	5.46	4.97				
3.34	5. 47	4.56	4.61	3. 21	3.74	3.93	4. 32	4.16				
2.60	4. 63	3.76	4.17	3. 48	3.75	3.32	4. 04	3.75				
3.03	8. 14	5.55	2.82	3. 42	3.18	2.94	5. 58	4.38				
3.75	5.37	4.73	4.61	3.38	3.84	4.20	4.29	4.26				
3.11	4.44	3.91	4.43	4.08	4.21	3.80	4.25	4.07				
4.09	5.68	5.22	4.00	4.40	4.28	4.05	5.00	4.72				

DEATHS, ALL CAUSES.

1226	6. 30	5. 83	6.02	8.33	4.36	5. 79	7.30	5.04	5.90
	5. 07	4. 97	5.01	6.91	4.71	5. 50	5.97	4.83	5.26
	6. 61	6. 38	6.45	7.19	5.37	5. 90	6.91	5.85	6.16
11.4	10.62	18.20	15. 44	9.52	7.99	8.64	9.95	12.56	11. 51
	9.74	14.03	12. 47	10.21	8.19	9.05	10.03	10.80	10. 50
	10.17	15.52	14. 28	11.44	9.32	9.99	11.00	12.13	11. 81
the second	15.05	3.55	4.97	8.20	4.04	4.60	11.28	3.81	4.78
	8.36	2.92	3.59	6.83	3.62	4.05	7.52	3.29	3.83
	12.15	4.72	5.37	7.71	3.78	4.09	9.92	4.22	4.69
	3.01	6.46	4.72	6.57	3.46	4.81	4.76	4.78	4.77
	3.79	6.12	4.95	4.95	4.17	4.51	4.36	5.03	4.72
	4.20	7.25	6.15	7.14	4.53	5.47	5.77	5.80	5.79
107	7.42	7.38	7.40	10.01	4.97	7.19	8.71	6.06	7.29
	5.52	5.74	5.63	8.48	6.02	7.11	7.00	5.90	6.41
	7.44	6.82	7.03	7.90	8.18	8.07	7.70	7.51	7.58
1.0	6.69	6.73	6.72	7.90	5.22	6.24	7.25	5.96	6.48
	5.21	6.03	5.68	7.03	5.22	5.91	6.04	5.62	5.79
	6.06	9.71	7.86	5.23	5.79	5.56	5.70	7.58	6.73
1100	6.93	7.89	7.51	8.59	4.99	6.33	7.79	6.32	6.89
	5.74	6.48	6.19	7.63	5.31	6.18	6.72	5.85	6.18
	7.10	8.05	7.78	8.11	6.14	6.72	7.65	7.03	7.21

# TABLE 19.—SEX PERCENTAGE DISTRIBUTION OF OPERATIVES AND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, OTHER, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER,

	Per cent of each sex in specified class.										
	c	perative	s.	No	noperati	ves.	Both classes.				
Race and locality.	Per	cent.	Both	Per cent.		Both	Per	cent.	Both		
	Males.	Fe- males.	sexes (100 per cent).	Males.	Fe- males.	sexes (100 per cent).	Males.	Fe- males.	sexes (100 per cent).		
All non-Irish races: Fall River	51 48	49 52	17,523 26,775	46 47	54 53	28, 574 64, 949	48 47	52 53	46,097 91,724		
Irish: Fall River 3 cities	38 35	62 65	3,921 5,911	45 45	55 55	5,893 15,090	42 42	58 58	9,814 21,001		
American: Fall River 3 cities	45 50	55 50	1,330 2,319	47 47	53 53	8,927 25,820	47 47	53 53	10, 257 28, 139		
Fall River 3 cities	51 47	49 53	5,881 7,631	44 47	56 53	6,697 13,623	47 47	53 53	12,578 21,254		

## POPULATION.

#### DEATHS, TUBERCULOUS.

1 1 1	Per cent of each sex in specified class.										
Devision and meriod	0	perative	s.	No	noperati	ves.	В	oth class	h classes.		
Race, locality, and period.	Per	cent.	Both	Per	cent.	Both	Per	cent.	Both		
	Males.	Fe- males.	(100 per cent).	Males.	Fe- males.	(100 per cent).	Males.	Fe- males.	(100 per cent).		
All non-Irish races:											
Fall River {1 year	43	57	58	51	49	39	46	54	97		
3 cities{1 year 3 years	42 42	58 58	- 84 199	49 51	51 49	94 259	46 47	54 53	178 458		
Irish:											
Fall River {1 year	42	58	19	65	35	31	56	44	50		
(1 year	29	71	34	62	30	69	54 51	40	103		
3 cities	30	70	89	67	33	· 166	55	45	255		
American: /1 year	57	43	7	50	50	6	54	46	13		
Fan River	55	45	11	62	38	21	59	41	32		
3 cities 3 years	44	60	20	59	41	71	57 55	43	91		
English:	20		14		0.0		40	50	05		
Fall River 3 years	53	47	14 30	60	30 40	25	48 56	52	20 55		
3 cities	35	65	20	67	33	21	51	49	41		
French Canadian:	41		43	01	39	49	54	40	92		
Fall River {1 year	38	62	26	50	50	14	43	57	40		
aitien (1 year	40 36	64	39	44 37	63	34	41 36	59 64	99		
3 years.	34	66	99	39	61	100	37	63	199		
Fall Direr (1 year	55	45	11	38	62	8	47	53	19		
Fall River 3 years	52	48	27	43	57	23	48	52	50		
3 cities{1 year 3 years	63 57	37 43	16 37	36 51	64 49	$\frac{14}{39}$	50 5 <b>4</b>	50 46	30 76		
Total, all races:		-		-				-			
FallRiver. $\begin{cases} 1 & year \\ 3 & years \end{cases}$	43 44	57 56	77 188	57 58	43 42	70 166	50 51	50 49	147 354		
3 cities{1 year 3 years	38 38	62 62	118 288	55 57	45 43	163 425	48 50	52 50	281 713		

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# OF NONOPERATIVES IN EACH RACE GROUP, FOR POPULATION AND AND PER CENT OF EXCESS IN DEATH RATE OF ONE SEX OVER THE AND PAWTUCKET). POPULATION.

Race and locality.	Per cent of each sex in specified class.									
	Operatives.			No	noperati	ves.	Both classes.			
	Per cent.		Both Per		cent.	Both	Per cent.		Both	
	Males.	Fe- males.	sexes (100 per cent).	Males.	Fe- males.	sexes (100 per cent).	Males.	Fe- males.	sexes (100 per cent).	
French Canadian: Fall River. 3 cities. Other races: Fall River. 3 cities. Total, all races: Fall River.	50 44 54 57 48	50 56 46 43 52	7,001 11,038 3,311 5,787 21,444	45 49 49 46 46	55 51 51 54 54	8,085 18,511 4,865 6,995 34,467	47 47 51 51 47	53 53 49 49 53	15,086 29,549 8,176 12,782 55,911	
3 cities	46	54	32,686	. 47	53	80,039	47	53	112,725	

#### DEATHS, TUBERCULOUS.

Per cent of excess in death rate in specified class of specified sex over the other sex and death rate of both sexes per 1,000 population 15 to 44 years of age.									
	Operatives.		N	onoperativ	es.	Both classes.			
Pero	cent.	Death	Per	cent.	Death	Per	Death		
Males.	Females.	both sexes.	Males.	Females.	both sexes.	Males.	Females.	both sexes.	
	36 18 29 29	3.31 2.53 3.14 2.48	22 23 7 14		1.37 1.20 1.45 1.33	4	6 9 3	2.10 1.70 1.94 1.66	
	9 29 23	4.85 4.67 5.75 5.02	124 187 100 151		5.26 3.56 4.57 3.67	74 62 44 63		5. 09 4. 01 4. 91 4. 05	
63 47	23 48	5.26 2.76 3.88 2.87	$11 \\ 81 \\ 86 \\ 66$		.67 .79 .81 .92	27 64 48 37		1.27 1.04 1.07 1.08	
11	86 63 2	2.38 1.70 2.62 1.88	125 91 130 82		$1.64 \\ 1.25 \\ 1.54 \\ 1.20$	4 45 20 37		1.99 1.46 1.93 1.44	
	61 51 39 49	3.71 3.10 3.53 2.99	21	5 66 51	$1.73 \\ 1.40 \\ 2.05 \\ 1.80$		22 28 56 54	2.65 2.19 2.61 2.24	
2	10 1	3.32 2.72 2.76 2.13	25	60 24 51	$1.64 \\ 1.58 \\ 2.00 \\ 1.86$	14	16 13 3	2.32 2.04 2.35 1.98	
	25 22 37 36	3.59 2.92 3.61 2.94	57 66 36 51		2.03 1.60 2.03 1.77	12 16 5 13		2.63 2.11 2.49 2.11	

# 240 CAUSES OF DEATH AMONG COTTON-MILL OPERATIVES.

#### AGES 15 TO 44 YEARS.

#### TABLE 19.—SEX PERCENTAGE DISTRIBUTION OF OPERATIVES AND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, OTHER, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER,

1 mm (* 10	Per cent of each sex in specified class.									
Reas locality and period	Operatives.			No	noperati	ves.	Both classes.			
have, incastry, and period.	Per cent.		Both Pe		cent.	Both	Per cent.		Both	
	Males.	Fe- males.	(100 per cent).	Males.	Fe- males.	(100 per cent).	Males.	Fe- males.	(100 per cent).	
All non-Irish races: Fall River	44 40 50	56 60 50	70 181 101	54 46 52	46 54 48	105 311 286	50 44 52	50 56 48	175 492 387	
Irish: Fall River{1 year 3 cities1 year American:	40 38 36	60 62 64	20 63 31	65 52 55	35 48 45	43 128 114	57 48 51	43 52 49	63 191 145	
Fall River	63 47 71	37 53 29	8 19 14	43 36 50	57 64 50	28 67 88	47 38 53	53 62 47	36 86 102	
Fall River	29 38 33	71 62 67	14 47 24	57 51 55	43 49 45	21 76 58	46 46 49	54 54 51	35 123 82	
Fall River	46 39 48	54 61 52	35 82 46	57 44 48	43 56 52	35 109 101	51 42 48	49 58 52	70 191 147	
Fall River	46 42 59	54 58 41	13 33 17	62 56 67	38 44 33	21 59 39	56 51 64	44 49 36	34 92 56	
Total, all races: Fall River. {1 year 3 cities1 year	43 40 46	57 60 54	90 244 132	57 48 53	43 52 47	148 439 400	52 45 52	48 55 48	238 683 532	
		DEATH	IS, ALI	CAUS	ES.					
All non-Irish races: Fall River	44 43 46	56 57 54	128 314 185	53 48 52	47 52 48	144 414 380	49 46 50	51 54 50	272 728 565	
Trish.				1.6						

#### DEATHS, NONTUBERCULOUS.

Fall River....{1 year... 3 cities.....1 year... 37 American: Fall River....{1 year... 3 cities.....1 year... English: Fall River ..... 123 French Canadian: Other races: Total, all races: Fall River. {1 year... 53 1,037 50 3 cities....1 year.. 

a Tass them and half of I man com

# OF NONOPERATIVES IN EACH RACE GROUP, FOR POPULATION AND AND PER CENT OF EXCESS IN DEATH RATE OF ONE SEX OVER THE AND PAWTUCKET)—Concluded.

#### DEATHS, NONTUBERCULOUS.

Per cent of excess in death rate in specified class of specified sex over the other sex and death rate of both sexes per 1,000 population 15 to 44 years of age.

	Operatives.		N	onoperative	S.'	Both classes.			
Per cent.		Death rate,	Per	cent.	Death rate,	Per	Death rate,		
Males.	Females.	both sexes.	Males. Females.		both sexes.	Males.	Females.	both sexes.	
6	29 52	3.99 3.44 3.77	(a) 38 23		3.67 3.63 4.40	10	17	3.80 3.56 4.22	
7	1	5.10 5.36 5.25	130 36 49		7.30 7.24 7.56	83 24 42		6.42 6.49 6.90	
104 10 153		6.02 4.76 6.04	14	20 61	3.14 2.50 3.41	1 27	43	3.51 2.79 3.62	
	158 66 76	$2.38 \\ 2.66 \\ 3.15$	66 35 41		$3.14 \\ 3.78 \\ 4.26$	9	6 3	2.78 3.26 3.86	
	19 56	5.00 3.90 4.17	61	5 7	4.33 4.50 5.46	17 2	26	4.64 4.22 4.97	
7	38 60	3.93 3.32 2.94	70 33 138		4.32 4.04 5.58	(a) 22 75		4.16 3.75 4.38	
	23 42	4.20 3.80 4.05	59 9 29		4.29 4.25 5.00	23 22	8	4.26 4.07 4.72	

#### DEATHS, ALL CAUSES.

	32 36 9	7.30 5.97 6.91	34 6 19		5.04 4.83 5.85	4	10	5.90 5.26 6.16
12	5 13	9.95 10.03 11.00	128 71 67		12.56 10.80 12.13	79 38 43		11.51 10.50 11.81
84 22 58		$11.28 \\ 7.52 \\ 9.92$	26	14 24	3.81 3.29 4.22	8	13	4.78 3.83 4.69
	118 31 70	4.76 4.36 5.77	87 47 60		4.78 5.03 5.80	10 12	2	4.77 4.72 5.79
	35 54 6	8.71 7.00 7.70	48	5 20	6.06 5.90 7.51	3	26 15	7.29 6.41 7.58
16	18 35	7.25 6.04 5.70	29 16 68		5.96 5.62 7.58	8 46	4	6.48 5.79 6.73
	24 33 14	7.79 6.72 7.65	58 22 31		6.32 5.85 7.03	(a) 19 16		6.89 6.18 7.21

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## TABLE 20.—PER CENT OF MALES AND FEMALES OF EACH RACE IN TOTAL FOR EACH OCCUPATION GROUP, FOR POPULATION AND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAW-TUCKET).

	Operatives.			No	noperati	ves.	Both classes.			
Race, locality, and period.	Males.	Fe- males.	Both sexes.	Males.	Fe- males.	Both sexes.	Males.	Fe- males.	Both sexes.	
All non-Irish races: Fall River 3 cities	42 39	40 43	82 82	38 38	45 43	- 83 81	39 39	43 42	82 81	
Irish: Fall River 3 cities	76	11 12	18 18	89	9 10	17 19	888	10 11	18 19	
American: Fall River 3 cities English:	3 4	4 3	777	12 15	14 17	26 32	8 12	10 13	18 25	
Fall River 3 cities French Canadian: Fall River	14 11	13 12 16	27 23 33	9 8 10	11 9	20 17 23	10 9 13	12 10	22 19 27	
3 cities. Other races: Fall River.	15 8	19 7	34	11 7	12 12 7	23 14	12	14	26 15	
3 cities Total, all races: Fall River 3 cities	49 46	51 54	a21,444 a32,686	46 47	54 53	a34,467 a80,039	47 47	5 53 53	a55,911 a112,725	

#### POPULATION.

#### DEATHS, TUBERCULOUS.

1 de la companya de la									
All non-Irish races:	20	40			07			0.5	
Fall River	32	43	75	29	21	62	31	30	67
3 cities	30 29	42 40	72 69	29 31	29 30	58 61	29 30	34 34 34	63 64
Tricht									
IIISU. (1 veer	11	14	25	28	16	44	10	15	34
Fall River 3 years	11	18	29	26	12	38	18	15	33
(1 year)	- 8	21	29	26	16	42	19	18	37
3 cities	9	22	31	26	13	39	20	16	36
American:									
Fall Divor /1 year	5	4	9	5	4	9	5	4	9
Fan Kiver 3 years	3	3	6	8	5	13	5	4	9
3 cities /1 year	4	4	8	8	5	13	6	5	11
3 years	3	4	7	10	7	17	7	6	13
English:	0		70	10		10			10
Fall River	0	12	18	10	6	10	8	9	17
(3 years	9	11	10	9	0	10	9		10
3 cities	0	11	11	97	4	10	7	6	14
French Canadian.	'	0	10			11		0	10
fichen Canadian.	13	21	34	10	10	20	12	17	27
Fall River 3 years	14	21	35	9	11	20	12	16	28
1 year.	12	21	33	9	14	23	10	17	27
3 cities	12	22	34	9	14	23	11	17	28
Other races:									-
Fall River /1 year	8	6	14	4	7	11	6	7	13
1 an itivei	7	7	14	6	8	' 14	7	7	14
3 cities 1 year	8	5	13	3	6	9	6	5	11
(3 years	7	6	13	5	5	10	5	5	10
Total all manage									
1 otal, all races.	42	57	0.77	57	42	0.70	50	50	0.147
Fall River 3 voors	40	56	a 189	59	40	a 166	51	40	a 354
1 vear	38	62	a 118	55	45	a 163	48	52	6 281
3 cities 3 years.	38	62	a 288	57	43	a 425	50	50	¢ 713
(0 ) 001.051	00	02	200	0.	10	100	00	00	110

a Total on which per cents are based.
#### TABLE 20.—PER CENT OF MALES AND FEMALES OF EACH RACE IN TOTAL FOR EACH OCCUPATION GROUP, FOR POPULATION AND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAW-TUCKET)—Concluded.

and and	C	perative	s.	No	noperati	ves.	Both classes.		
Race, locality, and period.	Males.	Fe- males.	Both sexes.	Males.	Fe- males.	Both sexes.	Males.	Fe- males.	Both sexes.
All non-Irish races: Fall River	34 30 38	44 44 39	78 74 77	- 39 33 38	32 38 34	71 71 72	37 32 38	37 40 35	74 72 73
Irish: Fall River{1 year 3 cities1 year American:	9 10 8	$13 \\ 16 \\ 15$	22 26 23	19 15 15	10 14 13	29 29 28	15 13 14	11 15 13	26 28 27
Fall River {1 year 3 years 5 paise	5 4 8	4 4 3	9 8 11	8 5 11	11 10 11	19 15 • 22	7 5 10	8 8 9	15 13 19
Fall River	4 7 6	11 12 12	15 19 18	8 9 8	6 8 7	14 17 15	7 8 8	8 10 7	15 18 15
Fall River{1 year 3 cities1 year Other races:	18 13 17	21 20 18	39 33 35	14 11 12	10 14 13	24 25 25	16 12 13	$     \begin{array}{r}       14 \\       16 \\       15     \end{array} $	30 28 28
Fall River	7 6 7	8 8 6	15 14 13	9 8 7	5 6 3	$ \begin{array}{r} 14\\14\\10\\\hline \end{array} $	7 7 7	7 6 4	14 13 11
Total, all races: Fall River{1 year 3 cities1 year	43 40 46	57 60 54	a 90 a 244 a 132	58 48 53	42 52 47	a 148 a 439 a 400	$52 \\ 45 \\ 52$	48 55 48	a 238 à 683 a 532

#### DEATHS, NONTUBERCULOUS.

#### DEATHS, ALL CAUSES.

All non-Irish races: Fall River	34 31 34	43 42 40	77 73 74	35 33 35	$\begin{vmatrix} 31\\ 36\\ 32 \end{vmatrix}$	66 69 67	35 32 34	36 38 35	71 70 69
Irish:									
Fall River {1 year 3 years	10	14 17	23	18	$12 \\ 13$	34 31	16	13	29 30
3 cities1 year American:	8	18	26	19	14	33	16	15	31
Fall River {1 year	5	4	9	7	9	16	7	6	13
3 cities1 year English:	6	43	9	10	9	15 19	9	67	11 16
Fall River {1 year	6	11	17	9	6	15	7	8	15
3 cities1 year French Canadian:	6	10	18	8	8 6	17 14	87	8	17 15
Fall River {1 year	16	21	. 37	12	10	22	14	15	29
3 cities1 year Other races:	19	21 20	39	11	13	24 25	12	10 15	28 27
Fall River {1 year	7	77	14	77	6	13	7	7	14
3 cities1 year	8	5	13	6	3	9	6	5	14
Total, all races:	49	E7	a 167			- 010			- 005
Fall River 3 years.	43	59	a 432	51	43 49	a 605	51 47	49 53	a 1,037
3 cities1 year	42	58	a 250	54	46	a 563	50	50	a 813

• Total on which per cents are based.

#### TABLE 21.—RACE PERCENTAGE DISTRIBUTION OF MALES AND OF FEMALES IN EACH OCCUPATION GROUP, FOR POPULATION AND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAW-TUCKET).

-		Males.			Females.		Both sexes.		
Race, locality, and period.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.
All non-Irish races: Fall River	86 86	83 82	84 83	78 78	83 81	81 80	82 82	83 81	82 81
Irish: Fall River 3 cities	14 14	17 18	16 17	22 22	18 20	19 20	18 18	17 19	18
American: Fall River	6 8	27 .32	18 25	6 6	25 32	18 25	777	26 32	18 25
Fall River 3 cities French Canadian:	29 24	18 17	<b>23</b> 19	26 23	20 17	22 19	27 23	20 17	22 19
Fall River 3 cities Other races:	34 32	23 24	27 27	32 35	24 22	27 26	33 34	23 23	27 26
Fall River	17 22	15 9	16 12	14 14	13 9	14 10	15 18	14 9	15 11
Total all races: Fall River 3 cities	a10, 388 a14, 922	a15,840 a37,531	$a{26,228} \\ a{52,453}$	a11,056 a17,764	$a18,627 \\ a42,508$	a29,683 a60,272	a21,444 a32,686	a34, 467 a80, 039	a 55,911 a112,725

#### **POPULATION.**

#### DEATHS, TUBERCULOUS.

the second se	the second se		and the second s	the second se	and the second s	- Wald I will be all a grant and a second	The second s		The second se
All non-Irish races:									
Fall River	76	50	62	75	63	70	75	56	66
(1 year	76	55 52	60	67	65	69 66	71	62 58	67
3 cities{3 years	75	54	61	65	70	68	69	61	64
Irish:									
Fall River fl year	24	50	38	25	37	30	25	44	34
1 un fortor (3 years	24	45	36	33	28	31 34	29	38	33
3 cities	25	46	39	35	30	32	31	39	36
American:	10	-7	10	7	10	0	0	0	0
Fall River 3 years	7	13	10	5	10	° 7	6	13	9
3 cities	9	14	13	7	11	9	8	13	11
English:	1	17	14		10	11	"	17	13
Fall River	15	18	17	21	13	17	18	16	17
(3 years	20	16	17	13	14	14	10	15	10
3 cities	18	13	14	13	10	12	15	11	13
French Canadian:	21	10	02	26		21	24	20	97
Fall River 3 years	32	16	23	37	28	33	35	20	28
3 cities	31	16	21	34	32	33	33	23	27
Other races:	31	10	21	30	34	30	94	20	28
Fall River {1 year	18	7	12	11	17	14	14	11	13
(3 years	22	10	14	12	19	10	14	14	14
3 cities	19	8	12	9	10	10	13	10	10
Total, all races:			-						
Fall River {1 year	a 33	a 40	a 73	a 44	a 30	a 74	a 77	a 70	a 147
1 years.	a 82 a 45	a 97 a 89	a 179 a 134	a 106 a 73	a 69 a 74	a 175 a 147	a 188 a 118	a 166	a 354 a 281
3 cities {3 years	a 110	a 243	a 353	a 178	a 182	a 360	a 288	a 425	a 713
	1		-	-			1	1	1

a Total on which per cents are based,

#### TABLE 21.—RACE PERCENTAGE DISTRIBUTION OF MALES AND OF FEMALES IN EACH OCCUPATION GROUP, FOR POPULATION AND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAW-TUCKET)—Concluded.

		Males.		•	Females.		в	oth sexe	s.
Race, locality, and period.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.
All non-Irish races: Fall River	79 75 82	67 68 70	71 70 73	77 74 72	76 73 73	76 74 72	78 74 77	71 71 72	74 72 73
Irish: Fall River{1 year 3 cities1 year American:	21 25 18	33 32 30	29 30 27	23 26 28	24 27 27	24 26 28	22 26 23	29 29 28	26 28 27
Fall River{1 year	13	14	14	6	25	17	9	19	15
3 cities1 year	9	11	11	7	19	15	8	15	13
English:	16	21	20	6	24	19	11	22	19
Fall River {1 year	10	14	13	20	14	16	15	14	15
3 citie31 year	19	18	18	20	16	18	19	17	18
French Canadian:	14	15	15	22	14	16	18	15	15
Fall River{1 year	41	24	29	37	24	30	39	24	30
3 cities1 year	33	23	26	34	27	29	33	25	28
Other races:	36	22	25	34	28	30	35	25	28
Fall River	15	15	15	14	13	13	15	14	14
	14	16	15	13	11	12	14	14	13
	16	12	13	10	7	7	13	10	11
Total, all races:	a 39	a 85	a 124	a 51	a 63	a 114	a 90	a 148	a 238
Fall River. {1 year	a 97	a 211	a 308	a 147	a 228	a 375	a 244	a 439	a 683
3 cities1 year	a 61	a 213	a 274	a 71	a 187	a 258	a 132	a 400	a 532

#### DEATHS, NONTUBERCULOUS.

#### DEATHS, ALL CAUSES.

		1	}	1				1	1
All non-Irish races:				-					
Fall River	78	62	68	76	72	74	77	66	71
3 cities1 year	80	65	69	69	70	70	74	67	69
Irish:							-		
Fall River	22	38	32	24	28	26	23	34	29
3 cities 1 year	20	30	32	29	27	28	27	31	30
American:	20	00	01	01	50	50	20	00	01
Fall River /1 year	13	12	12	6	20	13	9	16	13
3 years.	8	12	11	6	17	12	7	15	11
English:	13	19	17	6	20	15	9	19	16
Fall River {1 year	13	15	15	20	14	17	17	. 15	15
3 years	19	18	18	17	16	16	18	17	17
French Canadian:	14	15	15	20	_12	. 15	18	14	15
Fall Divor /1 year	36	22	27	37	24	31	37	22	29
3 years	32	20	25	35	27	31	34	24	28
3 cities1 year	· 34	21	- 24	34	30	31	39	-25	27
other races.	16	13	14	12	14	12	14	12	14
Fall River 3 years	16	14	. 14	13	13	13	14	10	14
3 cities1 year	19	10	13	9	- 8	9	13	9	11
Total all races									
Total, all laces.	a 72	a 12:	a 107	a 05	a 03	a 199	a 167	a 918	a 295
Fall River. 3 years.	a 179	a 308	a 487	¢ 253	a 297	a 550	a 432	a 605	a 1, 037
3 cities1 year	a 106	a 302	a 408	a 144	a 261	a 405	a 250	a 563	a 813
	1			-					

a Total on which per cents are based.

## TABLE 22.—PER CENT OF OPERATIVES AND NONOPERATIVES AMONG AND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCULOUS PATION CLASS OVER THE OTHER, FALL RIVER AND 3 CITIES

	Per cent of each class in specified sex,											
		Males.			Females		Both sexes.					
Race and locality.	Per cent.		Both	Per cent.		Both	Per cent.		Both			
	Opera- tives.	Non- opera- tives.	classes (100 per cent).	Opera- tives.	Non- opera- tives.	classes (100 per cent).	Opera- tives.	Non- opera- tives.	classes (100 per cent).			
All non-Irish races: Fall River	40 30	60 70	22, 084 43, 561	36 29	64 71	24, 013 48, 163	38 29	62 71	46, 097 91, 724			
Irish: Fall River	36 23	64 77	4, 144 8, 892	43 32	57 68	5,670 12,109	40 28	60 72	9,814 21,001			
Fall River	12 9	88 91	4, 826 13, 220	13 8	87 92	5, 431 14, 919	13 8	87 92	10, 257 28, 139			
Fall River	50 36	50 64	5,928 9,917	44 36	56 64	6,650 11,337	47 36	53 64	12, 578 21, 254			

#### DEATHS, TUBERCULOUS.

			Per ce	nt of eac	h class in	specified	l sex.			
Race locality and period.		Males.			Females.		Both sexes.			
Hace, locality; and periods	Per	cent.	Both	Per	cent.	Both	Per	cent.	Both	
5	Opera- tives.	Non- opera- tives.	classes (100 per cent).	Opera- tives. Non- opera- tives.		classes (100 per cent).	Opera- tives.	Non- opera- tives.	classes (100 per cent).	
All non-Irish races:	1									
Fall River {1 year	56	44	45	63	37	52	60 56	40	97	
3 cities	43 39	57 61	81 214	51 48	49 52	97 244	47 43	53 57	178 458	
Irish:										
Fall River {1 year	29	71	28	50	50	22	38	62 52	50	
2 citics J1 year	19	81	53	48	52	50	33	67	103	
A merican:	19	81	139	53	47	116	35	65	255	
Fall River {1 year	57	43	7	50	50	6	54	46	13	
1 vear	32	68	19	38	62	13	34	66	32	
3 cities (3 years	16	84	50	29	71	41	22	78	91	
English: Toll Dimon (1 year	42	58	12	69	31	13	56	44	- 25	
Fan Kiver	52	48	31	58	42	24	55	45	55	
3 cities	40	60	50	55	45	42	49	53	92	
French Canadian:	50	41	17	70	30	92	65	35	40	
Fall River 3 years.	63	37	41	67	33	58	66	34	99	
3 cities 1 year	50	50	28	51	49	49	51	49	100	
Other races:	11	00	10	02	10	120	00	00	100	
Fall River {1 year	67	33	9	50	50	10 26	58	42	19	
3 cities {1 year 3 years	67 51	33 49	15 41	33 46	67 54	15 35	53 49	47 51	30 76	
Total, all races:										
Fall River. {1 year	45	55 54	73	59	41	74	53	47	147	
3 cities {1 year 3 years	34 45	66 55	134 353	50 49	50 51	147 360	42 40	58 60	281 713	

**POPULATION.** 

#### MALES AND AMONG FEMALES IN EACH RACE GROUP, FOR POPULATION CAUSES, WITH PER CENT OF EXCESS IN DEATH RATE OF ONE OCCU-(FALL RIVER, MANCHESTER, AND PAWTUCKET).

DC	T	TTT	ATT	In	T.C.
L.C	11	UL	<b>73 I</b>	10	1.0

	Per cent of each class in specified sex										
	Males.				Females		Both sexes.				
Race and locality.	Per cent.		Both	Per cent.		Both	Per cent.		Both		
-	Opera- tives.	Non- opera- tives.	classes (100 per cent).	Opera- tives.	Non- opera- tives.	classes (100 per cent).	Opera- tives.	Non- opera- tives.	classes (100 per cent).		
French Canadian: Fall River	49 35 43 51	51 65 57 49	7,161 13,932 4,169 6,492	44 40 38 40	56 60 62 60	7,925 15,617 4,007 6,290	46 37 40 45	54 63 60 55	15,086 29,549 8,176 12,782		
Total, all races: Fall River 3 cities	40 28	60 72	26, 228 52, 453	37 29	63 71	29, 683 60, 272	38 29	62 71	55,911 112,725		

#### DEATHS, TUBERCULOUS.

Per cent of excess in death rate in specified sex of specified class over the other class, and death rate of both classes per 1,000 population 15 to 44 years of age.

	Males.		Females. Both sexes.					
Per o	ænt.	D	Per	cent.	Dell	Per	cent.	
Opera- tives.	Nonopera- tives.	rate, both classes.	Opera- tives.	Nonopera- tives.	rate, both classes.	Opera- tives.	Nonopera- tives.	rate, both classes.
86 74 81 51		2.04 1.74 1.86 1.64	208 151 151 122		2.17 1.68 2.02 1.69	142 111 117 86		2.10 1.70 1.94 1.66
	43 26 30 25	6.75 5.15 5.96 5.21	35 149 98 146		3.88 3.17 4.13 3.19	31 26 37	8	5.09 4.01 4.91 4.05
842 224 221 100		1,45 1,31 1,29 1,26	541 300 638 390		1.10 .80 .87 .92	685 249 379 212		1.27 1.04 1.07 1.08
5 18	43 13	$2.02 \\ 1.74 \\ 2.12 \\ 1.68$	193 81 233 117		1.95 1.20 1.77 1.23	45 36 70 57		1.99 1.46 1.93 1.44
49 80 88 64	· · · · · · · · · · · · · · · · · · ·	2.37 1.91 2.01 1.75	190 160 58 62		2.90 2.44 3.14 2.69	114 121 72 66		2.65 2.19 2.61 2.24
166 86 93 1		2.16 1.92 2.31 2.11	64 64 2 29		2.50 2.16 2.38 1.85	102 72 38 15		2.32 2.04 2.35 1.98
26 29 27 14		2.78 2.28 2.56 2.24	147 160 136 134		2.49 1.97 2.44 1.99	77 83 78 66		2.63 2.11 2.49 2.11

#### 248 CAUSES OF DEATH AMONG COTTON-MILL OPERATIVES.

#### AGES 15 TO 44 YEARS.

#### TABLE 22.—PER CENT OF OPERATIVES AND NONOPERATIVES AMONG AND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCULOUS PATION CLASS OVER THE OTHER, FALL RIVER AND 3 CITIES DEATHS, NONTUBERCULOUS.

	Per cent of each class in specified sex.										
		Males.			Females		B	oth sexe	s.		
Race, locality, and period.	Per	cent.	Both	Per	cent.	Both	Per	cent.	Both		
	Opera- tives.	Non- opera- tives.	classes (100 per cent).	Opera- tives.	Non- opera- tives.	(100 per cent).	Opera- tives.	Non- opera- tives.	classes (100 per cent).		
All non-Irish races:								-			
Fall River {1 year 3 years	35 34	65 66	217	45 39	55 61	275	40 37	60 63	175 492		
3 cities1 year	25	75	200	27	73	187	26	74	387		
Irish:											
Fall River {1 year	22 26	78	36	44	56 61	27	32	68	63 191		
3 cities1 year	15	85	74	28	72	71	21	79	145		
Foll Divor (1 year	29	71	17	16	84	19	22	78	36		
3 cities 1 years.	27	73	33	19	81	53	22	78	86		
English:	19	01	94	0	92	40	14	00	102		
Fall River {1 year	25 32	75	16	53	47	19	40	60 62	35		
3 cities1 year	20	80	40	38	62	42	29	71	82		
French Canadian:	44	56	36	56	44	34	50	50	70		
3 cities 1 years.	40	60 60	80	45	55	111	43	57	191		
Other races:	01	05	10	51	05		51	09	14/		
Fall River {1 year	32 30	68 70	19 47	47	53 58	15	38	62 64	34 92		
3 cities1 year	28	72	36	35	65	20	30	70	56		
Total, all races:											
Fall River. {1 year	31	69 69	124	45	55	114	38	62	238		
3 cities1 year	22	78	274	28	72	258	25	75	532		
		DEATI	HS, ALI	L CAUS	SES.						
All non-Trich races.											
Fall River [1 year	42	58	133	52	48	139	47	53	272		
3 cities	41 30	59 70	332	45	55 65	396	43	57	728		
Tulaba											
Fall Divor /1 year	25	75	64	47	53	49	35	65	113		
3 cities 1 years	28	72	155	48	52	154	38	62	309		
American:	11		121	30	01	121	20	12	248		
Fall River {1 year	37	63	24 52	24 23	76	25	31 25	69 75	49		
3 cities1 year	20	80	71	15	85	61	17	83	132		
Foll Divor /1 year	32	68	28	59	41	32	46	54	60		
3 cities 1 wears.	39	61	88	48	52	90	43	57	178		
French Canadian:	20	10	01	41	00	02	30	01	123		
Fall River {1 year	49 48	51 52	53	61 53	39	57	55 51	45	110		
3 cities1 year	37	63	98	39	61	126	38	62	224		
Fall River /1 year	43	57	28	48	52	25	45	55	53		
acities 1 years.	39	61	71	45	55	71	42	58	142		
o cruco year		01				35	30		00		
Total, all races:	37	63	197	51	49	188	43	57	385		
Pall River. (3 years	37	63	487	46	54	550	42	58	1,037		
o crues year	20	14	408	36	04	405	31	69	813		

a Less than one-half of 1 per cent.

#### MALES AND AMONG FEMALES IN EACH RACE GROUP, FOR POPULATION CAUSES, WITH PER CENT OF EXCESS IN DEATH RATE OF ONE OCCU-(FALL RIVER, MANCHESTER, AND PAWTUCKET)—Concluded.

#### DEATHS, NONTUBERCULOUS.

Per cent of excess in death rate in specified sex of specified class over the other class, and death rate of both classes per 1,000 population 15 to 44 years of age.

	Males.			Females.		Both sexes.			
Per	cent.		Per	cent.		Per	cent.		
Opera- tives.	Nonopera- tives.	Death rate, both classes.	Opera- tives.	Nonopera- tives.	Death rate, both classes.	Opera- tíves.	Nonopera- tives.	rate, both classes.	
	24 32 25	3.98 3.27 4.59	45 15	8	3.62 3.82 3.88	9	6 17	$3.80 \\ 3.56 \\ 4.22$	
	100 60 73	8.69 7.32 8.32	8	16 19	4.76 5.88 5.86		43 35 44	6.42 6.49 6.90	
194 166 138		3.52 2.28 4.08	21 49 7		$3.50 \\ 3.25 \\ 3.22$	92 90 77		3.51 2.79 3.62	
	204 120 125	2.70 3.21 4.03	44 2 10		2.86 3 31 3.70		32 42 35	2.78 3.26 3.86	
	18 43 16	5.03 3.72 5.02	60 37	45	4.29 4.67 4.93	• 15	15 31	4.64 4.22 4.97	
	64 78 169	4.56 3.76 5.55	44 20	21	3.74 3.75 3.18		10 22 90	4.16 3.75 4.38	
	43 43 39	4.73 3.91 5.22	36 9	10	3.84 4.21 4.28		2 12 24	4.26 4.07 4.72	

#### DEATHS, ALL CAUSES.

						-		
8 2 4		$     \begin{array}{r}       6.02 \\       5.01 \\       6.45     \end{array} $	91 47 34		5.79 5.50 5.90	45 24 18		5.90 5.26 6.16
	71 44 53	15. 44 12. 47 14. 28	19 25 23		8.64 9.05 9.99		26 8 10	11.51 10.50 11.81
324 186 157		4.97 3.59 5.37	103 89 104		4.60 4.05 4.09	196 129 135		4.78 3.83 4.69
	115 61 73	4.72 4.95 6.15	90 19 58		4.81 4.51 5.47		(a) 15 1	4.78 4.72 5.79
1 9	4	7.40 5.63 7.03	101 41	4	7.19 7.11 8.07	44 19 3		7.29 6.41 7.58
	1 16 60	6.72 5.68 7.86	51 35	11	6.24 5.91 5.56	22 8	33	6.48 5.79 6.73
	14 13 13	7.51 6.19 7.78	72 44 32		6.33 6.18 6.72	23 15 9		a 6.89 6.18 7.21

#### 250 CAUSES OF DEATH AMONG COTTON-MILL OPERATIVES.

#### AGES 15 TO 44 YEARS.

# TABLE 23.—PER CENT OF OPERATIVE AND NONOPERATIVE MALES AND FEMALES IN TOTAL FOR EACH RACE GROUP, FOR POPULATION AND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET).

The second second		Males.			Females.		Both sexes.			
Race, locality, and period.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes (100 per cent).	
All non-Trish races.										
Fall River	19	29	48	19	33	52	38	62	46,097	
3 cities	14	33	47	15	38	53	29	71	91, 724	
Irish:	10	07	40	0.5		50	40	00	0.014	
2 oities	10	21	42	20	30	58	98	72	9,814	
American:	10	02	1.	10	10	00	40	12	21,001	
Fall River.	6	41	47	7	46	53	13	87	10,257	
3 cities	4	43	47	4	49	53	8	92	28,139	
English:		00	1.	00				50	10 570	
Fall River	24	23	4/	23	30	53	4/	53	12, 5/8	
French Canadian	17	30	15	19	54	00	00	04	21,201	
Fall River.	23	24	47	23	30	53	46	54	15.086	
3 cities	16	31	47	21	32	53	37	63	29, 549	
Other races:										
Fall River	22	29	51	19	30	49	41	59	8,176	
3 citles	20	25	51	19	30	49	40	00	12,782	
Total, all races		1	-					-		
Fall River	19	28	47	19	34	53	38	62	55,911	
3 cities	13	34	47	16	37	53	29	71	112,725	
			-			1	1			

#### **POPULATION.**

#### DEATHS, TUBERCULOUS.

All non-Irish races:	96	20	46	24	20	EA	60	40	07
Fall River 3 years	26	23	49	30	20	51	56	44	236
3 cities $\begin{cases} 1 \text{ year} \\ 3 \text{ years} \end{cases}$	20 18	26 29	46 47	27 25	27 28	54 53	47 43	53 57	178 458
Irish:					-				
Fall River {1 year 3 years	16 17	40 37	56 54	22 30	22 16	44 46	38 47	62 53	50 118
3 cities	11	42	51 55	24 24	25	49	33	67	103 255
American:		v							
Fall River {1 year	31	23	54	23	23	46	54	46	13
(3 years	19	41	57	15	25	40	34	00	32
3 cities	9	46	55	13	32	45	22	78	91
English:									
Fall River. 1 year	20	28	48	36	16	52	56	44	25
(3 years	29	27	51	26	18	44	50 40	40	00 41
3 cities	22	32	54	25	21	46	47	53	92
French Canadian:									
Fall River {1 year	25	18	43	40	17	57	65	35	40
(3 years	26	15	41	40	19	59	00	34	99
3 cities	10	20	37	33	30	63	50	50	199
Other races:			0.		00				
Fall River /1 year	32	16	48	26	26	52	58	42	19
3 years	28	20	48	26	26	52	54	46	50
3 cities	28	26	54	20	25	46	49	51	76
(0 ) 00.000									
Total, all races:								47	1.47
Fall River { year	23	27	50	30	20	50	53	47	147
la years	16	32	48	26	26	52	42	58	281
3 cities 3 years	15	35	50	25	25	50	40	60	713
					1				

#### CHAPTER IV.—POPULATION AND MORTALITY TABLES. 251

#### AGES 15 TO 44 YEARS.

#### TABLE 23.—PER CENT OF OPERATIVE AND NONOPERATIVE MALES AND FEMALES IN TOTAL FOR EACH RACE GROUP, FOR POPULATION AND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET)—Concluded.

		Males.			Females		Both sexes.		
Race, locality, and period.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes (100 per cent).
All non-Irish races:	10	20	50		99	50	40	60	175
Fall River	15 13	29 39	44 52	22 13	20 34 35	56 48	37 26	63 74	492 387
Irish:	13	44	57	19	24	43	32	68	63
Fall River{1 year	13	35	48	20	32	52	33	67	191
3 cities1 year	7	44	51	14	35	49	21	79	145
Fall River	14	33	47	8	45	53	22	78	36
	10	28	38	12	50	62	22	78	86
	10	43	53	4	43	47	14	86	102
Fall River	12	34	46	28	26	54	40	60	35
	14	32	46	24	30	54	38	62	123
	10	39	49	20	31	51	30	70	82
Fall River	23	28	51	27	22	49	50	50	70
	17	25	42	26	32	58	43	57	191
	15	33	48	16	36	52	31	69	147
Fall River	18	38	56	20	24	44	38	62	34
	15	36	51	21	28	49	36	64	92
	18	46	64	12	24	36	30	70	56
Total, all races:	16	36	52	22	26	48	38	62	238
Fall River{1 year	14	31	45	22	33	55	36	64	683
3 cities1 year	12	40	52	13	35	48	25	75	532

#### DEATHS, NONTUBERCULOUS.

#### DEATHS, ALL CAUSES.

All non-Trish races							-		
Deu Diene (1 vear	21	28	49	26	25	51	47	53	272
Fall River 3 years	19	27	56	24	30	54	43	57	728
3 cities1 year	15	35	50	18	32	50	33	67	565
Irish:									
Fall River /1 year	14	43	57	21	22	43	35	65	113
3 years	14	36	50	24	26	50	38	62	309
3 cities1 year American:	8	43	51	18	31	49	26	74	248
Eall Dimon (1 year	18	31	49	13	38	51	31	69	49
Fall River	13	31	44	13	43	56	26	74	118
3 cities1 year	11	43	54	7	39	46	18	82	132
English:									
Fall River 1 year	15	32	47	32	21	53	47	53	60
3 years	19	30	49	24	27	51	43	57	178
3 citles1 year	13	37	50	23	27	50	26	64	123
French Canadian:	00	0.5	- 10		00	50		45	110
Fall River	23	20	48	32	20	52	00	40	110
2 oition 1 woor	16	22	42	31	21	56	16	49	290
Other races.	10	40	11	44	JT	00	00	02	224
(1 vear	23	30	53	23	24	47	46	54	53
Fall River 13 years.	20	30	50	22	28	50	42	58	142
3 cities1 year	23	36	59	15	26	41	38	62	86
Total, all races:	10			0.5		10	10		00*
Fall River {1 year	18	33	51	25	24	49	43	57	380
2 oiting 1 years	17	30	47	25	28	53	42	08 60	1,037
o crues1 year	13	31	00	18	32	50	31	09	819

#### TABLE 24.—PER CENT OF OPERATIVES AND NONOPERATIVES OF EACH RACE IN TOTAL FOR EACH SEX, FOR POPULATION AND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET).

	Males.				Females		Both sexes.		
Race, locality, and period.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.
All non-Irish races: Fall River	34 24	50 59	84 83	29 23	52 57	81 80	31 24	51 57	82 81
Irish: Fall River 3 cities	6 4	10 13	16 17	8 7	11 13	19 20	7 5	11 14	18 19
American: Fall River 3 cities. English:	2 2	16 23	18 25	$2 \\ 2$	16 23	18 25	2 2	16 23	18 25
Fall River 3 cities French Canadian:	12 7	11 12	23 19	10 7	12 12	22 19	10 7	$\begin{array}{c} 12\\12\end{array}$	22 19
Fall River 3 cities Other races:	13 9	14 18	27 27	12 10	15 16	27 26	13 10	14 16	27 26
Fall River	7 6	96	16 12	54	9 6	14 10	6 5	9 6	15 11
Total, all races: Fall River 3 cities	40 28	60 72	a26, 228 a52, 453	37 30	63 70	a29, 683 a60, 272	38 29	62 71	a 55, 911 a112, 725

#### **POPULATION.**

DEATHS, TUBERCULOUS.

And and a second s									
All non-Irish races:						-			
Fall River {1 year 3 years	34 35	28 29	62 64	45 41	25 28	70 69	39	27 29	66
3 cities {1 year 3 years	26 24	34 37	60 61	33 32	33 36	66 68	30 28	33 36	63 64
Irish:									
Fall River 1 year		27 25	38 36	15 20	15	30 31	14	20 18	34
3 cities {1 year 3 years	8	32 31	40 39	17 17	17 15	34 32	12 12	25 24	37
American:									
Fall River 1 year	63	47	10	42	45	87	53		9
3 cities {1 year 3 years	3 2	' 10 12	13 14	33	6 8	9 11	33	8 10	11 13
English:									
Fall River {1 year	79	10	17	12	5	17	9	87	17
3 cities {1 year 3 years	5 7	10 7	15 14	9 6	56	14 12	76	777	14
French Canadian:									100
Fall River {1 year	13 15	10	23	22 23	9 10	31	17	10	27
3 cities	11 9	10 12	21 21 21	17 18	16 17	33 35	14 14	13 14	27 28
Other races:							-		
Fall River 1 year	8	4	12 14	7	77	14 15	8	5	
3 cities {1 year 3 years	7 6	4 6	11 12	45	6 5	10 10	6 5	55	11 10
Total, all races:									
Fall River. {1 year	45	55 54	a 73	60 61	40	a 74 a 175	53 53	47	a 147 a 354
3 cities {1 year 3 years	34 32	66 68	a 134 a 353	50 49	50 51	a 147 a 360	42 40	58 60	a 281 a 713
		a 21					-		

"Total on which per cents are based.

TABLE 24.—PER CENT OF OPERATIVES AND NONOPERATIVES OF EACH RACE IN TOTAL FOR EACH SEX, FOR POPULATION AND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET)—Concluded.

		Males.			Females		Both sexes.		
Race, locality, and period.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.
All non-Irish races: Fall River	25 23 18	46 47 55	71 70 73	34 29 20	42 45 52	76 74 72	30 27 19	44 45 54	74 72 73
Irish: Fall River{1 year 3 cities1 year	6 8 4	23 22 23	29 30 27	11 10 8	13 16 20	24 26 28	8 9 6	18 19 21	· 26 28 27
Fall River{1 year 3 years 3 cities1 year English:	4 3 4	10 8 16	14 11 20	3 3 2	14 12 17	17 15 19	3 3 2	. 10 . 10 17	15 13 19
Fall River{1 year 3 cities1 year French Canadian:	3 5 3 13	10 13 12	13 18 15	8 8 6	8 10 10	16 18 16	6 7 4	9 11 11	15 18 15
Fall River	11 8 5	10 15 17 10	26 25 15	13 9 6	16 21 7	29 30 13	10 12 9 5	14 16 19 9	28 28 14
3 cities	43	11 10	15 13	53	74	12 7	54	87	13 11
Fall River. {1 year 3 years 3 cities1 year	31 31 22	69 69 78	a 124 a 308 a 274	45 39 28	55 61 72	a 114 a 375 a 258	38 36 25	62 64 75	a 238 a 683 a 532

#### DEATHS, NONTUBERCULOUS.

#### DEATHS, ALL CAUSES.

All non-Irish races Fall River 3 cities	: {1 year 3 years 1 year	29 28 21	39 40 48	68 68 69	38 33 25	36 39 45	74 72 70	33 30 23	38 40 46	71 70 69
Irish:								-		
Fall River	{1 year	8	24	32	12	14	26	10	19	29
3 cities	1 year	5	23 26	31 31	13	15	30	8	18 23	30
Fall River	∫1 year	5	7	12	3	10	13	4	9	13
3 cities	1 year	3	8 14	$-11 \\ -17$	3 2	9 13	12 15	3	8	11 16
English:	(1 veer	5	10	15	10	7	17	7	8	15
Fall River	3 years.	7	11	18	8	8	16	7	10	17
3 cities French Canadian:	1 year	4	11	15	7	8	15	5	10	15
Fall River	∫1 year	13	14	27	19	12	31	16	13	29
3 cities	1 year.	12	13 15	25 24	16	15 19	31	14	14	28
Other races:										
Fall River	{1 year	6	8	14	6	77	13	6	8	14
3 cities	1 year	5	8	13	4	5	13	5	6	11
Total, all rac	es:									-
Fall River	∫1 year	37	63	a 197	50	50	a 188	43	57	a 385
3 cities	1 years	37	63 74	a 487	46	54	a 550 a 405	42	58	a 1,037
0 0100000000	yodi	20	1.2	- 108	30	0.5	- 400	01	00	5 010

a Total on which per cents are based.

#### TABLE 25.—PER CENT OF OPERATIVES AND NONOPERATIVES OF EACH SEX AND RACE IN TOTAL FOR ALL CLASSES, FOR POPULATION AND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAW-TUCKET).

		Males.			Females.		Both sexes.		
Race, locality, and period.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.
All non-Irish races: Fall River 3 cities	16 11	23 28	39 39	15 13	28 29	43 42	31 24	51 57	82 81
Irish: Fall River	3 2	5 6	8 8	43	6 8	10 11	7 5	11 14	18 19
Fall River 3 cities	1 1	8 11	9 12	1 1	8 12	9 13	2 2	16 23	18 25
Fall River. 3 cities. French Canadian:	53	56	10 9	5 4	7 6	12 10	10 7	12 12	22 19
Fall River 3 cities Other races:	74	6 8	13 12	66	88	14 14	13 10	14 16	27 26
Total, all races:	3	.3	6	2	3	5	5	6	15
Fall River 3 cities	19 13	28 34	47 47	19 16	34 37	53 53	38 29	62 71	a55,911 a12,725

#### **POPULATION.**

#### DEATHS, TUBERCULOUS.

All non-Irish races:									
Fall River {1 year	17 18	14	31 33	22 20	13	35	39 38	27	66 67
3 cities	13 12	16 18	29 30	17 16	17 18	34 34	30 28	33 36	63 64
Irish:									
Fall River {1 year 3 years	6 5	13 13	19 18	8 10	75	15 15	14 15	20 18	34 33
3 cities	3	16 17	19	9	97	18	12	25	37
American:			20			10	12		00
Fall River {1 year 3 years	3	2 4	55	22	22	4 4	53	4 6	9
3 cities	1	6	7		3	6	3	10	13
English:			-						
Fall River	3 5	5	8	6	3	97	9	87	17
3 cities 1 year	3	4	7	4	3	7	7	7	10
French Canadian:	3	4	7	3	3	6	6	7	13
Foll Diver (1 year	7	5	12	10	5	15	17	10	27
Fan River	7	5	12	11	5	16	18	10	28
3 cities	5	56	10	9	8	17	14	13	27
Other races:	Ŭ								-0
Fall River	4	2	67	4	3	7	8	5	13
1 year	4	$\frac{2}{2}$	6		3	5	6	5	11
3 cities	3	2	5	2	3	5	5	5	10
Total, all races:									
Fall River J1 year	23	27	50	30	20	50	53	47	a 147
3 years.	23	28	51	30	19	49	53	47	a 354
3 cities{3 years	15	32	48 50	20	20	50	42	60	a 713
-1			-		1				

· a Total on which per cents are based.

#### TABLE 25.—PER CENT OF OPERATIVES AND NONOPERATIVES OF EACH SEX AND RACE IN TOTAL FOR ALL CLASSES, FOR POPULATION AND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAW-TUCKET)—Concluded.

		Males.	_1		Females		I	Both sexe	×s.
Race, locality, and period.	Opera- tives.	Non- opera- tives	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.
All non-Irish races:									
Fall River 1 year	13	24	37	17	20	37	30	44	74
3 cities1 year	10	28	38	9	26	35	19	54	73
Trish									
Fall River /1 year	3	12	15	. 5	6	11	8	18	26
3 cities 1 year	3 9	10	13	6	9	15	9	19	28
American:	Ĩ	12	11	3		10		~1	
Fall River {1 year	2	5	7 5	$\frac{1}{2}$	7	8	3	12	15
3 cities1 year	1	9	10	1	8	9	2	17	19
English:	2	5	7	1.1	4	0	6	0	15
Fall River {3 years	2	6	8	5	5	10	7	11	18
3 cities1 year	2	6	8	2	5	7	4	11	15
Fall River A year	8	8	16	8	6	14	16	14	30
3 cities 1 years	5	7	12	7	9	16	12	16	28
Other races:	-	9	15	J	10	10	9	19	40
Fall River	1	6	77	4	3	7	5	9	14
3 cities1 year	3	4	7	ĩ	3	4	4	7	11
Total all races									
Foll River /1 year	16	36	52	22	26	48	38	62	a 238
Fair Alver. 3 years	14	31	45	22	33	55	36	64	a 683
s citicsi year	12	40	32	13	30	40	20	10	a 3.52
		DEATH	IS ATT	CAUS	FS			11	
			Ny ALL	CAUS	LI.J.	_			
All non-Trish races									
Fall River /1 year	15	20	35	18	18	36	33	38	71
3 cities 1 years.	13	19	32	17	21	38	30	40	70
Irish:	10	24	0.4	10	44		20	40	09
Fall River	3	13	16	7	6	13	10	19	29
3 cities1 year	3	13	16	5	10	15	8	23	31
American:	- 2		7			c		0	12
Fall River 3 years	2	3	5	1	5	. 6	3	8	13
3 cities1 year	2	7	- 9	1	6	7	3	13	16
Fall River /1 year	2	5	7	5	3	8	7	8	15
3 cities 3 years.	3	5	8	4	5	9	7	10	17
French Canadian:	1	0		4	4	8	5	10	15
Fall River	7	7	14	. 9	6	15.	16	13	. 29
3 cities1 year	4	8	12	6	9	16	14	14	28 27
Other races:	2		7	2		7			14
Fall River 3 years	3	4	7	3	- 4	7	6	8	- 14
3 cities1 year	3	3	6	2	3	5	5	6	11
Total, all races:									
Fall River. {1 year	18	33	51	25	24	49	43	57	a 385
3 cities1 year	13	37	50	18	32	50 S	31	58 69	a 813
	1			1			1- 1		-

#### DEATHS, NONTUBERCULOUS.

a Total on which per cents are based.

#### TABLE 26.—PER CENT OF DEATHS FROM TUBERCULOUS AND NONTU-BERCULOUS CAUSES AMONG OPERATIVES AND AMONG NONOPERA-TIVES IN EACH SEX AND RACE GROUP, AND DEATH RATES FROM ALL CAUSES, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET).

[Figures for deaths among nonoperatives in the 3 cities for the 3-year period are omitted owing to the possible inaccuracies discussed on pp. 47 and 48.]

		Ope	ratives.		Nonoperatives.				Both classes.			
Race, locality, and	Per de fre	cent of eaths om—	Total deaths from	Death rate	Per de fre	cent of eaths om—	Total deaths from	Death	Per de fre	cent of eaths om—	Total deaths from	Death rate
penou.	Tu- ber- cu- lo- sis.	Non- tuber- culous causes.	all causes (100 per cent).	per 1,000 15 to 44 years of age.	Tu- ber- cu- lo- sis.	Non- tuber- culous causes.	all causes (100 per cent).	per 1,000 15 to 44 years of age.	Tu- ber- cu- lo- sis.	Non- tuber- culous causes.	all causes (100 per cent).	per 1,000 15 to 44 years of age.
ALL NON-IRISH RACES.												
Fall River{1 year         3 years         3 cities{1 year         3 years	45 46 41 44	55 54 59 56	56 135 85 187	6.30 5.07 6.61 4.85	26 27 23	74 73 77	77 197 196	5.83 4.97 6.38	34 35 29	66 65 71	133 332 281	6.02 5.01 6.45
IRISH.												
Fall River         1 year           3 cities         1 year           3 cities         3 years	50 45 48 46	50 55 52 54	16 44 21 59	10.62 9.74 10.17 9.53	42 40 41	58 60 59	48 111 106	18.20 14.03 15.52	44 41 42	56 59 58	64 155 127	15.44 12.47 14.28
AMERICAN.												
Fall River{1 year           3 years           3 cities{1 year           3 years	44 40 29 36	56 60 71 64	9 15 14 22	$15.05 \\ 8.36 \\ 12.15 \\ 6.37$	20 35 23	80 65 77	15 37 57	3.55 2.92 4.72	29 37 24	71 63 76	24 52 71	4.97 3.59 5.37
ENGLISH.												
Fall River{1 year 3 years 3 cities{1 year 3 years	56 47 47 43	44 53 53 57	9 34 15 46	3.01 3.79 4.20 4.29	37 28 30	63 72 70	19 54 46	6.46 6.12 7.25	43 35 34	57 65 66	28 88 61	4.72 4.95 6.15
FRENCH CANADIAN.						-						
Fall River{1 year 3 years	38 45	62 55	26 58	7.42 5.52	26 24	74 76	27 63	7.38	32 34	68 66	53 121	7.40
3 cities 3 years	39 46	61 54	36 74	7.44 5.10	23		62	6.82	29		98	
Fall River {1 year	50 50	50 50	12 28	6.69 5.21	19 23	81 77	16 43	6.73 6.03	32 34	68 66	28 71	6.72 5.68
3 cities{1 year 3 years	50 47	50 53	20 45	6.06 4.55	16	84	31	9.71	29	71	51	7.86
TOTAL, MALES.	40	EA	70	6.00	20	69	105	7 90	27	62	107	7 51
Fall River. {1 year 3 cities {1 year 3 vears	46 42 47	54 58 55	179 106 246	5.74 7.10 5.50	32 32 29	68 71	308 302	6.48 8.05	37 33	63 67	487 408	6.19 7.78

#### MALES.

TABLE 26.—PER CENT OF DEATHS FROM TUBERCULOUS AND NONTU-BERCULOUS CAUSES AMONG OPERATIVES AND AMONG NONOPERA-TIVES IN EACH SEX AND RACE GROUP, AND DEATH RATES FROM ALL CAUSES, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET)—Continued.

		Oper	ratives.			Nonop	erative	5.	Both classes.			
Race, locality, and	Per de fro	cent of eaths om—	Total deaths from	Death rate	Per de fre	cent of eaths om—	Total deaths from	Death rate	Per de fre	cent of eaths om—	Total deaths from	Death rate
	Tu- ber- cu- lo- sis.	Non- tuber- culous causes.	all causes (100 per cent).	1,000 15 to 44 years of age.	Tu- ber- cu- lo- sis.	Non- tuber- culous causes.	all causes (100 per cent).	1,000 15 to 44 years of age.	Tu- ber- cu- lo- sis.	Non- tuber- culous causes.	all causes (100 per cent).	1,000 15 to 44 years of age.
ALL NON-IRISH RACES.												a she
Fall River{1 year 3 years 3 cities{1 year 3 years	46 40 49 46	54 60 51 54	72 179 100 251	8.33 6.91 7.19 6.01	28 23 26	72 77 74	67 217 184	4.36 4.71 5.37	37 31 34	63 69 66	139 396 284	5.79 5.50 5.90
IRISH.												
Fall River{1 year           3 years           3 cities{1 year           3 years	48 47 55 52	52 53 45 48	23 74 44 119	$9.52 \\10.21 \\11.44 \\10.31$	42 24 34	58 76 66	26 80 77	7.99 8.19 9.32	45 35 41	55 65 59	49 154 121	8.64 9.05 9.99
AMERICAN.			1.15									
Fall River         1 year           3 cities         1 year           3 gears	50 33 56 43	50 67 44 · 57	6 15 9 28	8.20 6.83 7.71 8.00	16 16 15	84 84 85	19 51 52	4.04 3.62 3.78	24 20 21	76 80 79	25 66 61	4.60 4.05 4.09
ENGLISH.									1	1		
Fall River{1 year 3 years 3 cities{1 year 3 years	47 33 45 37	53 67 55 63	19 43 29 62	6.57 4.95 7.14 5.09	31 • 21 • 21	69 79 79	13 47 33	3.46 4.17 4.53	41 27 32	59 73 68	32 90 62	4.81 4.51 5.47
FRENCH CANADIAN.											-	
Fall River{1 year 3 years 1 year	46 44 51	54 56 49	35 89 49	10.01 8.48 7.90	32 24 31	68 76 69	22 80 77	4.97 6.02 8.18	40 34 39	60 66 61	57 169 126	7.19 7.11 8.07
OTHER RACES.	00	*1	122	0.00		•••••	•••••					
Fall River{1 year           3 years           3 cities{1 year           3 years	42 41 46 41	58 59 54 59	12 32 13 39	7.90 7.03 5.23 5.23	38 33 41	62 67 59	13 39 22	5.22 5.22 5.79	40 37 43	60 63 57	25 71 35	6.24 5.91 <b>5.</b> 56
TOTAL, FEMALES.												
Fall River{1 year 3 years 3 cities{1 year 3 years	46 42 51 48	54 58 49 52	95 253 144 370	8.59 7.63 8.11 6.94	32 23 28	68 77 72	93 297 - 261	4.99 5.31 6.14	39 32 36	61 68 64	188 550 405	6.33 6.18 6.72

#### FEMALES.

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#### TABLE 26.—PER CENT OF DEATHS FROM TUBERCULOUS AND NONTU-BERCULOUS CAUSES AMONG OPERATIVES AND AMONG NONOPERA-TIVES IN EACH SEX AND RACE GROUP, AND DEATH RATES FROM ALL CAUSES, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET)—Concluded.

	-	Oper	ratives.	-	Nonoperatives.				Both classes.			
Race, locality, and	Per de fre	cent of eaths om—	Total deaths from	Death rate	Per de fr	cent of eaths om—	Total deaths from	Death rate	Per cent of deaths from—		Total deaths from	Death rate
	Tu- ber- cu- lo- sis.	Non- tuber- culous causes.	all causes (100 per cent).	1,000 15 to 44 years of age.	Tu- ber- cu- lo- sis.	Non- tuber- culous causes.	all causes (100 per cent).	1,000 15 to 44 years of age.	Tu- ber- cu- lo- sis.	Non- tuber- culous causes.	all causes (100 per cent).	1,000 15 to 44 years of age.
ALL NON-IRISH RACES.												
Fall River{1 year 3 years	45 42 45	55 58 55	128 314 185	7.30 5.97 6.91	$27 \\ 25 \\ 25$	73 75 75	144 414 380	5.04 4.83 5.85	36 32 32	64 68 68	272 728 565	5.90 5.26 6.16
3 cities{3 years	45	55	438	5.45								
Fall River{1 year	49 47	51 53	39 118	9.95 10.03	42 33	58 67	74 191	12.56 10.80	44	56	113 309	11.51 10.50
3 cities {1 year 3 years	52 50	48 50	65 178	11.00 10.04	38	62	183	12.13	42	58	248	11.81
AMERICAN.	47	53	15	11.28	18	82	34	3, 81	27	73	49	4, 78
Fall River{3 years 3 cities{1 year 3 years	37 39 40	63 61 60	30 23 50	7.52 9.92 7.19	24 19	76 81	88 109	3.29 4.22	27 23	73 77	118 132	3.83 4.69
ENGLISH.												
Fall River{1 year 3 years 1 year	50 39 45	50 61 55	28 77 44	4.76 4.36 5.77	34 25 27	66 75 73	32 101 79	4.78 5.03 5.80	42 31 33	58 69 67	60 178 123	4.77 4.72 5.79
(3 years FRENCH CANADIAN.	40	60	108	4.72			•••••	•••••		•••••		
Fall River {1 year 3 years	43 44	57 56	61 147	8.71 7.00	29 24	71 76	49 143	6.06 5.90	36 34	64 66	110 290	7.29 6.41 7.59
3 cities {3 years	40 51	49	85 196	5.92				7.01	34	00		1.08
Fall River {1 year	46	54	24	7.25	28	72	29	5.96	36	64	53	6.48 5.70
3 cities{1 year 3 years	48 44	52 56	33 84	5.70 4.84	26 	74	53	7.58	35	65	86	6.73
TOTAL, BOTH SEXES.					1			_	-	-	-	
Fall River{1 year           3 years           3 cities{1 year           3 years	46 44 47 47	54 56 53 53	$     \begin{array}{r}       167 \\       432 \\       250 \\       616     \end{array} $	$\begin{array}{c} 7.79 \\ 6.72 \\ 7.65 \\ 6.28 \end{array}$	32 27 29	68 73 71	218 605 563	6.32 5.85 7.03	38 34 35	62 66 65	385 1,037 813	6.89 6.18 7.21
3 years	47	53	616	6.28		•••••			•••••			

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#### BOTH SEXES.

#### TABLE 27.—PER CENT OF OPERATIVES AND NONOPERATIVES OF EACH RACE IN TOTAL POPULATION OF EACH SEX, AND PER CENT WHICH DEATHS IN EACH OCCUPATION, RACE, AND CAUSE OF DEATH GROUP FORM OF TOTAL DEATHS OF EACH SEX FROM ALL CAUSES, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET).

		Males.	. 1		Females		Both sexes.		
Race, locality, and period.	Opera- tives.	Non- opera- tives.	Both classes	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.
All non-Irish races: Fall River	34 24	50 59	84 83	29 23	52 57	81 80	31 24	51 57	82 81
Irish: Fall River 3 cities.	6 4	10 13	16 17	8 7	11 13	19 20	<b>7</b> 5	11 14	18 19
Fall River 3 cities English:	2 2	16 23	18 25	2 2	16 23	18 25	2 2	16 23	18 25
Fall River. 3 cities. French Canadian:	12 7	$\begin{array}{c}11\\12\end{array}$	23 19	10 7	$12\\12$	22 19	10 7	$\begin{array}{c} 12\\12\end{array}$	22 19
Fall River. 3 cities Other races:	13 9	14 18	27 27	12 10	15 16	27 26	13 10	14 16	27 26
Fall River 3 cities	7 6	9 6	16 12	5 4	9 6	14- 10	6 5	9 6	15 11
Total, all races: Fall River 3 cities	40 28	60 72	a26,228 a52,453	37 30	63 70	a29,683 a60,272	38 29	62 71	a55, 911 a112, 725

#### **POPULATION.**

#### DEATHS, TUBERCULOUS.

All non-Irish races: Fall River{1 year 3 cities1 year	12.7 12.7 8.6	10.2 10.9 11.3	22.9 23.6 19.9	17.6 12.9 12.1	10.1 9.1 11.9	27.7 22.0 24.0	15.1 12.8 10.3	10.1 9.9 11.6	25.2 22.7 21.9
Irish:									
Fall River {1 year 3 years 3 cities	4.1 4.1 2.5	10.1 9.0 10.5	$ \begin{array}{c} 14.2 \\ 13.1 \\ 13.0 \end{array} $	$5.8 \\ 6.4 \\ 5.9$	5.9 3.4 6.4	$     \begin{array}{r}       11.7 \\       9.8 \\       12.3     \end{array} $	4.9 5.3 4.2	$8.1 \\ 6.1 \\ 8.5$	13.0 11.4 12.7
American:									
Fall River {1 year 3 years	$ \begin{array}{c} 2.1 \\ 1.2 \\ 1.0 \end{array} $	1.5	3.6	1.6	1.6	3.2 2.4	$1.8 \\ 1.1$	$1.6 \\ 2.0$	3.4
English:	1.0	0.4	4.2	1.2	2.0	3.2	1.1	2.6	3.7
Fall River{1 year 3 years 3 cities	2.5 3.3 1.7	$3.6 \\ 3.1 \\ 3.4$	$   \begin{array}{c}     6.1 \\     6.4 \\     5.1   \end{array} $	$4.8 \\ 2.6 \\ 3.2$	2.1 1.8 1.8	$6.9 \\ 4.4 \\ 5.0$	$3.6 \\ 2.9 \\ 2.5$	$2.8 \\ 2.4 \\ 2.6$	6. <b>4</b> 5.3
French Canadian:									011
Fall River $\begin{cases} 1 & year \\ 3 & years \end{cases}$ 3 cities1 year	$5.0 \\ 5.3 \\ 3.4$	$3.6 \\ 3.1 \\ 3.5$	8.6 8.4 6.9	$8.5 \\ 7.1 \\ 6.2$	$3.7 \\ 3.4 \\ 5.9$	$12.2 \\ 10.5 \\ 12.1$	6.8 6.2 4.8	$3.6 \\ 3.3 \\ 4.6$	10.4 9.5 9.4
Other races:									
Fall River 1 year 3 cities 1 year	$     \begin{array}{r}       3.1 \\       2.9 \\       2.5     \end{array} $	$1.5 \\ 2.0 \\ 1.2$	$4.6 \\ 4.9 \\ 3.7$	$2.7 \\ 2.3 \\ 1.5$	2.7 2.4 2.2	$5.4 \\ 4.7 \\ 3.7$	2.9 2.6 1.9	2.1 2.2 1.8	5.0 4.8 3.7
Fall River 1 year 3 cities1 year	16.8 16.8 11.1	20.3 19.9 21.8	37.1 36.7 32.9	23.4 19.3 18.0	$16.0 \\ 12.5 \\ 18.3$	$39.4 \\ 31.8 \\ 36.3$	20.0 18.1 14.5	$18.2 \\ 16.0 \\ 20.1$	$38.2 \\ 34.1 \\ 34.6$

a Total on which per cents are based.

TABLE 27.—PER CENT OF OPERATIVES AND NONOPERATIVES OF EACH RACE IN TOTAL POPULATION OF EACH SEX, AND PER CENT WHICH DEATHS IN EACH OCCUPATION, RACE, AND CAUSE OF DEATH GROUP FORM OF TOTAL DEATHS OF EACH SEX FROM ALL CAUSES, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAW-TUCKET)—Continued.

2 . 3		Males.	1	Females.			Both sexes.		
Race, locality, and period.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.
All non-Irish races: Fall River	$15.7 \\ 15.0 \\ 12.2$	28.9 29.6 36.8	44.6 44.6 49.0	$20.7 \\ 19.6 \\ 12.6$	25.5 30.4 33.6	$\begin{array}{r} 46.2 \\ 50.0 \\ 46.2 \end{array}$	18.1 17.5 12.5	27.3 30.0 35.1	45.4 47.5 47.6
Irish: Fall River{1 year 3 cities	4.1 4.9 2.7	14.2 13.8 15.4	18.3 18.7 18.1	6.4 7.1 4.9	8.0 11.1 12.6	14.4 18.2 17.5	5.3 6.1 3.7	$     11.1 \\     12.3 \\     14.1   $	16.4 18.4 17.8
Fall River{1 year 3 cities1 year English:	2.5 1.9 2.4	$6.1 \\ 4.9 \\ 10.8$	$8.6 \\ 6.8 \\ 13.2$	$1.6 \\ 1.8 \\ 1.0$	8.5 7.8 10.9	10.1 9.6 11.9	$2.1 \\ 1.8 \\ 1.7$	7.2 6.5 10.8	9.3 8.3 12.5
Fall River {1 year 3 cities 1 year French Canadian:	2.0 3.7 2.0	6.1 8.0 7.8	8.1 11.7 9.8	5.3 5.2 4.0	4.8 6.8 6.4	10.1 12.0 10.4	3.6 4.6 3.0	5.5 7.3 7.1	9.1 11.9 10.1
Fall River	8.2 6.5 5.4 3.0	10.1 9.9 11.8	18.3 16.4 17.2 9.6	9.1 5.9 3.7	8.0 11.1 13.1 4.2	18.1 20.2 19.0 7.9	9.1 7.9 5.7	9.1 10.5 12.4	18.2 18.4 18.1
Fall River	2.9 2.4	6.8 6.4	9.7 8.8	3.5	4.7 3.2	8.2 4.9	3.2 2.1	5.7 4.8	8.9
Fall River {1 year 3 years 3 cities1 year	19.8 19.9 14.9	$\begin{array}{r} 43.1 \\ 43.4 \\ 52.2 \end{array}$	$     \begin{array}{r}       62.9 \\       63.3 \\       67.1     \end{array} $	$\begin{array}{r} 27.1 \\ 26.7 \\ 17.5 \end{array}$	$33.5 \\ 41.5 \\ 46.2$	60.6 68.2 63.7	$23.4 \\ 23.6 \\ 16.2$	38.4 42.3 49.2	61.8 65.9 65.4

#### DEATHS, NONTUBERCULOUS.

TABLE 27.—PER CENT OF OPERATIVES AND NONOPERATIVES OF EACH RACE IN TOTAL POPULATION OF EACH SEX, AND PER CENT WHICH DEATHS IN EACH OCCUPATION, RACE, AND CAUSE OF DEATH GROUP FORM OF TOTAL DEATHS OF EACH SEX FROM ALL CAUSES, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAW-TUCKET)—Concluded.

		Males.	- 7		Females		Both sexes.		
Race, locality, and period.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.
All non-Irish races: Fall River	$   \begin{array}{r}     28.4 \\     27.7 \\     20.8   \end{array} $	39.1 40.5 48.1	67.5 68.2 68.9	38.3 32.5 24.7	35.6 39.5 45.5	73.9 72.0 70.2	33.2 30.3 22.8	37.4 39.9 46.7	70.6 70.2 69.5
Irish: Fall River	8.2 9.0 5.2	24.3 22.8 25.9	32.5 31.8 31.1	12.2 13.5 10.8	13.9 14.5 19.0	26.1 28.0 29.8	10.2 11.4 8.9	19.2 18.4 22.6	29.4 29.8 30.5
American: Fall River{1 year 3 cities 1 year English:	4.6 3.1 3.4	7.6 7.6 14.0	12.2 10.7 17.4	3.2 2.7 2.2	10.1 9.3 12.9	13.3 12.0 15.1	3.9 2.9 2.8	8.8 8.5 13.4	$12.7 \\ 11.4 \\ 16.2$
Fall River	4.5 7.0 3.7 13.2	9.7 11.1 11.2 13.7	14.2 18.1 14.9 26.9	10.1 7.8 7.2 18.6	$     \begin{array}{r}       6.9 \\       8.6 \\       8.2 \\       11.7     \end{array} $	17.0 16.4 15.4 30.3	7.2 7.5 5.5 15.9	8.3 9.7 9.7 12.7	15.5 17.2 15.2 28.6
Fall River	11.8 8.8 6.1 5.8	13.0 15.3 8.1 8.8	24.8 24.1 14.2 14.6	16.2 12.1 6.4 5.8	14.5 19.0 6.9 7.1	30.7 31.1 13.3 12.9	14.1 10.5 6.2 5.8	13.8 17.0 7.6 7.9	28.9 27.5 13.8 13.7
3 cities1 year Total, all races: Fall River{1 year	4.9 36.6 36.7	63.4 63.3	12.5 a 197 a 487	3.2 50.5 46.0	49.5	8.6 a 188 a 550	43.4	6.6 56.6 58.3	a 385 a 1 027
3 cities1 year	26.0	74.0	a 408	40.0 35.5	64.5	a 405	30.7	69.3	a 813

#### DEATHS, ALL CAUSES.

Total on which per cents are based.

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#### TABLE 28.—PER CENT OF OPERATIVES AND NONOPERATIVES OF DEATHS FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES IN DEATHS FROM ALL CAUSES, FALL RIVER AND 3 CITIES (FALL RIVER,

								-		
		Males.			Females.		Both sexes.			
Race and locality.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	
All non-Irish races: Fall River	16 11	23 28	39 39	15 13	28 29	43 42	31 24	51 57	82 81	
Irish: Fall River 3 cities American:	3 2	5 6	8	4 3	6 8	10 11	7 5	11 14	18 19	
Fall river. 3 cities. English:	1 1	8 11	9 12	1 1	8 12	9 13	2 2	16 23	18 25	
Fall River	5 3	5 6	10 9	5 4	7 6	12 10	10 7	12 12	22 19	

#### **POPULATION.**

#### DEATHS, TUBERCULOUS.

Per cent of deaths of operatives and of nonoperatives of each specified sex of total deaths from all causes of both classes and both sexes.

Race, locality, and period.		Males.		-	Females.		Both sexes.		
1-1-21	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.
All non-Irish races: Fall River	6.5 $6.0$ $4.3$	5.2 5 1 5.7	11.7 11.1 10.0	8.6 6.8 6.0	4.9 4.8 5.9	13.5 11.6 11.9	15.1 12.8 10.3	10. 1 9. 9 11. 6	25. 2 22. 7 21. 9
Irish: Fall River {1 year 3 years	2.1 1.9 1.2	5.2 4.3 5.3	7.3 6.2 6.5	2.8 3.4 3.0	2.9 1.8 3.2	5.7 5.2 6.2	4.9 5.3	$8.1 \\ 6.1 \\ 8.5$	13.0 11.4 12.7
American: Fall River (1 year 3 cities 1 year	1.0	.8 1.2 1.6	1.8 1.8 2.1	.8 .5 .6	.8 .8 1.0	1.6 1.3 1.6	1.8 1.1 1.1	1.6 2.0 2.6	3.4 3.1 3.7
English: Fall River{1 year 3 cities1 year	$1.3 \\ 1.6 \\ .9$	$1.8 \\ 1.4 \\ 1.7$	3.1 3.0 2.6	$2.3 \\ 1.3 \\ 1.6$	$1.0 \\ 1.0 \\ .9$	3.3 2.3 2.5	3.6 2.9 2.5	2.8 2.4 2.6	6.4 5.3 5.1
French Canadian: Fall River{1 year 3 cities1 year	2.6 2.4 1.7	$1.8 \\ 1.5 \\ 1.7$	4.4 3.9 3.4	4. 2 3. 8 3. 1	1.8 1.8 2.9	6.0 3.6 6.0	6.8 6.2 4.8	$3.6 \\ 3.3 \\ 4.6$	10.4 9.5 9.4
Fall River {1 year 3 cities1 year	$1.6 \\ 1.4 \\ 1.2$	.8 1.0 .7	2.4 2.4 1.9	$1.3 \\ 1.2 \\ .7$	$1.3 \\ 1.2 \\ 1.1$	2.6 2.4 1.8	2.9 2.6 1.9	2.1 2.2 1.8	5.0 4.8 3.7
Total, all races: Fall River {1 year 3 cities 1 year	8.6 7.9 5.5	10.4 9.4 11.0	19.0 17.3 16.5	11.4 10.2 9.0	7.8 6.6 9.1	19. 2 16. 8 18. 1	20.0 18.1 14.5	18. 2 16. 0 20. 1	38. 2 34. 1 34. 6

#### CHAPTER IV .- POPULATION AND MORTALITY TABLES.

#### AGES 15 TO 44 YEARS.

## EACH RACE AND SEX IN TOTAL POPULATION, AND PER CENT WHICH EACH OCCUPATION, SEX, AND RACE GROUP FORM OF TOTAL MANCHESTER, AND PAWTUCKET).

1200 202		Males.			Females.		Both sexes.			
Race and locality.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	
French Canadian: Fall River. 3 cities. Other races: Fall River. 3 cities.	7 4 3 3	6 8 5 3	13 12 8 6	6 6 3 2	8 8 4 3	14 14 7 5	13 10 6 5	14 16 9 6	27 26 15 11	
Total, all races: Fall River 3 cities	19 13	28 34	47 47	19 16	34 37	53 53	38 29	62 71	a 35,911 a112,725	

#### **POPULATION.**

#### DEATHS, TUBERCULOUS.

Per cent of difference (+ or -) between death rate from specified causes in each specified class and death rate of both classes and both sexes from all causes.

	Males.			Females.	1	Both sexes.				
Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.		
$-59 \\ -62 \\ -62 \\ -62$	78 78 79	-70 -72 -74	-45 -56 -51	-82 -83 -81	-68 -73 -72	52 59 56	80 81 80	-70 -72 -73		
$-23 \\ -28 \\ -33$	$+10 \\ -11 \\ -13$	-2 -17 -17	$-34 \\ -22 \\ -13$	$-51 \\ -69 \\ -56$	$-44 \\ -49 \\ -43$	$-30 \\ -24 \\ -20$	$-24 \\ -42 \\ -37$	-26 -35 -32		
-3 -46 -52	90 83 85	$-79 \\ -79 \\ -82$	$-40 \\ -63 \\ -41$	$-91 \\ -91 \\ -92$	84 87 88	$-24 \\ -55 \\ -46$	-90 -87 -89	82 83 85		
$-76 \\ -71 \\ -73$	$-65 \\ -72 \\ -69$	$-71 \\ -72 \\ -72 \\ -72$	$     -55 \\     -74 \\     -56   $	85 86 87	$-72 \\ -81 \\ -75$	$-65 \\ -73 \\ -64$	$-76 \\ -80 \\ -79$	-71 -76 -73		
-59 -60 -60	-72 -78 -79	$-66 \\ -69 \\ -72$	$-34 \\ -40 \\ -44$	-77 -77 -65	$     \begin{array}{r}       -58 \\       -61 \\       -56     \end{array} $	$-46 \\ -50 \\ -51$	-75 -77 -72	$-62 \\ -65 \\ -64$		
-51 -58 -58	-82 -77 -78	$-69 \\ -69 \\ -68$	$     \begin{array}{r}       -52 \\       -54 \\       -67     \end{array} $	$-71 \\ -72 \\ -67$	$-64 \\ -65 \\ -67$	$     \begin{array}{r}       -52 \\       -56 \\       -62     \end{array} $	$-76 \\ -74 \\ -72$	$-66 \\ -67 \\ -67$		
54 57 58	63 67 67	$-60 \\ -63 \\ -64$	$-42 \\ -48 \\ -43$	-77 -80 -76	$-64 \\ -68 \\ -66$	-48 -53 -50	$-71 \\ -74 \\ -72$			

a Total on which per cents are based.

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#### 264 CAUSES OF DEATH AMONG COTTON-MILL OPERATIVES.

#### AGES 15 TO 44 YEARS.

#### TABLE 28.—PER CENT OF OPERATIVES AND NONOPERATIVES OF DEATHS FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES IN DEATHS FROM ALL CAUSES, FALL RIVER AND 3 CITIES (FALL RIVER,

#### DEATHS, NONTUBERCULOUS.

	Per cent of deaths of operatives and of nonoperatives of each specified sex of total deaths from all causes of both classes and both sexes.										
Race, locality, and period.		Males.			Females.		Both sexes.				
	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.		
All non-Irish races: Fall River	8.0 7.1 6.1	14.8 13.9 18.5	22.8 21.0 24.6	10. 1 10. 4 6. 4	$12.5 \\ 16.1 \\ 16.6$	22.6 26.5 23.0	18.1 17.5 12.5	27.3 30.0 35.1	45.4 47.5 47.6		
Irish: Fall River	2.1 2.3 1.4	7.3 6.4 7.7	9.4 8.7 9.1	3.2 3.8 2.3	3.8 5.9 6.4	7.0 9.7 8.7	5.3 6.1 3.7	11. 1 12. 3 14. 1	16.4 18.4 17.8		
Fall River{1 year 3 cities 1 year English:	1.3 .9 1.2	3.1 2.3 5.4	4.4 3.2 6.6	.8 1.9 .5	4.1 4.2 5.4	4.9 5.1 5.9	2.1 1.8 1.7	7.2 6.5 10.8	9.3 8.3 12.5		
Fall River {1 year 3 years French Canadian:	1.0 1.7 1.0	3.1 3.8 4.0	4.1 5.5 5.0	2.6 2.9 2.0	2.4 3.5 3.1	5.0 6.4 5.1 8.9	3.6 4.6 3.0	5.5 7.3 7.1	9.1 11.9 10.1		
Fall River	3.1 2.7 1.5	4.6 5.9 3.5	7.7 8.6 5.0	4.8 3.0 1.8	5.9 6.5 2.0	10.7 9.5 3.8	5.7 5.7 3.3	10.5 12.4 5.5	18. 2 18. 4 18. 1 8. 8		
3 cities 1 year Total, all races:	1.4 1.2	3.2 3.2	4.6 4.4	1.8 .9	-2.5 1.6	4.3 2.5	3.2 2.1	5.7 4.8	8.9 6.9		
Fall River {1 year 3 years 3 cities1 year	10.1 9.4 7.5	$22.1 \\ 20.3 \\ 26.2$	32. 2 29. 7 33. 7	13.3 14.2 8.7	$   \begin{array}{r}     16.3 \\     22.0 \\     23.0   \end{array} $	29.6 36.2 31.7	$23.4 \\ 23.6 \\ 16 2$	38.4 42.3 49.2	$\begin{array}{c} 61.8 \\ 65.9 \\ 65.4 \end{array}$		
		DEATH	IS, ALI	L CAUS	ES.			•			
All non-Irish races: Fall River	14.5 13.1 10.4	20. 0 19. 0 24. 2	34. 5 32. 1 34. 6	18.7 17.2 12.4	17. 4 20. 9 22. 5	36. 1 38. 1 34. 9	33. 2 30. 3 22. 8	37.4 39.9 46.7	70.6 70.2 69.5		

6.0 7.2 5.3

1.6

1.4

4.9

4.2

3.6

9.1

8.6

6.1

3.1

3.0

1.6

24.7

24.4

17.7

6.7

7.7

9.6

4.9

5.0

6.4

3.4

4.5

4.0

5.8

7.7

9.4

3.3

3.7

24.1

28.6

32.1

12.7

14.9

14.9

6.5

6.4 7.5

8.3

8.7

14.9

16.3

15.5

6.4

6.7

4.3

48.8

53.0

10.2

11.4

8.9

3.9 2.9

2.8

7.2

7.5

5.5

15.9

14.1

10.5

6.2

5.8

4.0

43. 4 41. 7 30. 7

19.2

18.4

22.6

8.8

8.5

13.4

8.3

9.7

9.7

12.7

13.8

17.0

7.6

7.9

6.6

56.6 58.3

69.3

29.4

29.8

30.5

12.7

11.4 16.2

15.5

17.2

15.2

28.6

28.9

27.5

13.8

13.7

10.6

b 385

b 1,037 b 813

a	Less	than	one-half	of	1	per	cent.	
---	------	------	----------	----	---	-----	-------	--

4.2 4.2 2.6

2.3

1.5

1.7

2.3

3.3

1.9

6.8

5.5

4.4

3.1

2.8

2.4

18.7

17.3

13.0

12.5

10.7

13.0

3.9

3.5

7.0

4.9

5.2

6.9

6.1

7.6

4.3

4.2

3.9

32.5

29.7

37.2

16.7

14.9

15.6

6.2

5.0

7.2

7.6

13.7

11.6

12.0

7.4

7.0

6.3

51.2

47.0

Irish:

American:

English:

Fall River..... {1 year.... 3 years...

Fall River.... {1 year... 3 years...

Fall River.... {1 year... 3 years...

Fall River..... {1 year.... 3 years...

Fall River..... {1 year... 3 years...

3 cities ..... 1 year ...

Total, all races: Fall River {1 year... 3 cities ....1 year...

..1 year ...

...1 year ....

...1 year ....

....1 year...

3 cities ......

3 cities ....

3 cities ...

3 cities.

Other races:

French Canadian:

49.8 b Total on which per cents are based.

#### EACH RACE AND SEX IN TOTAL POPULATION, AND PER CENT WHICH EACH OCCUPATION, SEX, AND RACE GROUP FORM OF TOTAL MANCHESTER, AND PAWTUCKET)—Concluded.

#### DEATHS, NONTUBERCULOUS.

Per cent of difference (+ or -) between death rate from specified causes in each specified class and death rate of both classes and both sexes from all causes.

	Males.		212	Females.			Both sexes.				
Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.			
- 49 - 56 - 46	-37 -41 -32	- 42 - 47 - 36	$-35 \\ -33 \\ -49$	$-55 \\ -41 \\ -45$	$-47 \\ -38 \\ -46$	$-42 \\ -44 \\ -48$	-47 -41 -39	-45 -42 -41			
	+ 54 + 37 + 28	$^{+ 26}_{+ 18}_{+ 15}$	$-28 \\ -45 \\ -28$	-33 + 1 - 14	-31 - 5 -19	$-26 \\ -13 \\ -27$	+ 6 + 17 + 5	- 7 + 5 - 4			
$^{+ 21}_{- 19}_{+ 20}$	- 59 - 69 - 50	- 49 - 63 - 43	$-40 \\ -26 \\ -52$	$     -51 \\     -51 \\     -56   $	-49 -47 -55	$-13 \\ -23 \\ -16$		49 55 50			
- 80 - 67 - 69	-41 -28 -30	-61 -48 -44	$     \begin{array}{r}       -50 \\       -46 \\       -45     \end{array} $	$-65 \\ -47 \\ -50$	$     -58 \\     -46 \\     -49   $	$-65 \\ -57 \\ -56$	-54 -39 -41	60 47 46			
$     \begin{array}{r}             -34 \\             -51 \\             -37         \end{array}     $	-21 -29 -27	- 27 - 40 - 30	$-21 \\ -23 \\ -46$	$-51 \\ -26 \\ -22$	$-38 \\ -24 \\ -32$	$ \begin{array}{c c} -27 \\ -37 \\ -42 \end{array} $	-37 -27 -24	-33 -32 -31			
51 58 58	-21 -25 +13	$   \begin{array}{r}     - 37 \\     - 39 \\     - 23   \end{array} $	$-33 \\ -33 \\ -61$		$-46 \\ -39 \\ -56$	$-43 \\ -46 \\ -59$	$-37 \\ -35 \\ -23$	40 39 39			
- 46 - 50 - 43	-22 -28 -21	-31 -37 -28	$-33 \\ -28 \\ -45$	$-51 \\ -34 \\ -39$	-44 -32 -41	$-39 \\ -39 \\ -44$	$-38 \\ -31 \\ -31$	-38 -34 -35			

#### DEATHS, ALL CAUSES.

					-		
-15 -20 -12	-13 -19 -11	+21 + 12 - (a)	$-37 \\ -24 \\ -26$	$-16 \\ -11 \\ -18$	+ 6 - 3 - 4	$-27 \\ -22 \\ -19$	-14 -15 -15
+164 +127 +115	+124 +102 + 98	+38 +65 +59	$^{+16}_{+33}_{+29}$	$^{+25}_{+46}_{+39}$	+44 +62 +53	+82 +75 +68	+67 +70 +64
$ \begin{array}{r} - 48 \\ - 53 \\ - 35 \end{array} $	$-28 \\ -42 \\ -26$	+19 +11 + 7	$-41 \\ -41 \\ -48$	-33 -34 -43	+64 +22 +38	-45 -47 -41	$ \begin{array}{c c} -31 \\ -38 \\ -35 \end{array} $
- 6 - 1 + 1	-31 -20 -15	-5 -20 -1	$     \begin{array}{r}       -50 \\       -33 \\       -37     \end{array} $	$-30 \\ -27 \\ -24$	$\begin{array}{c c} -31 \\ -29 \\ -20 \end{array}$	$-31 \\ -19 \\ -20$	$-31 \\ -24 \\ -20$
+ 7 - 7 - 5	+ 7 - 9 - 2	+45 +37 +10	$-28 \\ -3 \\ +13$	+ 4 +15 +12	+26 +13 + 7	-12 - 5 + 4	+ 6 + 4 + 5
-2 - 2 - 2 - 2 + 35	-2 -8 +9	$^{+15}_{+14}_{-27}$	$-24 \\ -16 \\ -20$	$   \begin{array}{r}     -9 \\     -4 \\     -23   \end{array} $	+ 5 - 2 -21	$-13 \\ -9 \\ +5$	-6 -6 -7
+ 14 + 5 + 12	+ 9 + (a) + 8	+25 +23 +12	$-28 \\ -14 \\ -15$	- 8 - 7	+13 + 9 + 6	- 8 - 5 - 2	c 6. 89 c 6. 18 c 7. 21
	$\begin{array}{c} -15\\ -20\\ -20\\ -12\\ \end{array}$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $

c Basic death rate.

### TABLE 29.—DEATHS AND DEATH RATES PER 1,000 POPULATION, 15 TO FEMALES FROM EACH SPECIFIED CAUSE, FALL RIVER, 1905 TO 1907, AND

	Number of deaths.									
Cause of death, locality,		Males.			Females.	4	в	Both sexes.		
and period.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	
Accident or violence:	21	27	48	3	13	16	24	40	64	
3 cities, 1 year	11	33	44	4	7	11	15	40	55	
Fall River, 3 years 3 cities, 1 year	9	25 21	$     \begin{array}{c}       34 \\       24     \end{array} $	$10 \\ 2$	39 29	49 31	19 5	64 50	83 55	
Parturition: Fall River, 3 years				26	31	57	26	31	57	
3 cities, 1 year Cancer:		•••••		15	24	39	15	24	39	
Fall River, 3 years 3 cities, 1 year Diseases of the nervous sys-	2 2	7 5	9 7	9 1	24 15	33 16	11 3	31 20	42 23	
tem: Fall River, 3 years 3 cities, 1 year Diseases of the digestive sys-	7 8	13 19	20 -27	8 6	12 18	20 24	15 14	25 37	40 51	
tem:- Fall River, 3 years 3 cities, 1 year	17 9	27 32	44 41	23 10	$\begin{array}{c} 22\\ 23 \end{array}$	45 33	40 19	49 55	89 74	
Nephritis: Fall River, 3 years 3 cities, 1 year	11 9	26 25	37 34	21 11	$\begin{array}{c} 24\\ 19\end{array}$	45 30	$32 \\ 20$	50 44	$\begin{array}{c} 82\\ 64\end{array}$	
Apoplexy: Fall River, 3 years 3 cities, 1 year	3 3	9 13	. 12 16	42	9 11	13 13	7 5	18 24	25 29	
Fall River, 3 years 3 cities, 1 year.	10 4	34 21	44 25	9	- 29 15	38 19	19 8	63 36	82 44	
Respiratory diseases other than tuberculosis: Fall River, 3 years 3 cities, 1 year	17 12	43 44	60 56	34 16	25 26	59 42	51 28	68 70	119 98	
Total, nontuberculous										
fall River, 3 years. 3 cities, 1 year	97 61	211 213	$\begin{array}{c} 308\\ 274 \end{array}$	147 71	228 187	$375 \\ 258$	244 132	439 400	683 532	
Fall River, 3 years 3 cities, 1 year	82 45	97 89	179 134	106 73	69 74	175 147	188 118	166 163	$\begin{array}{c} 354\\ 281 \end{array}$	
Total, all causes: Fall River, 3 years. 3 cities, 1 year	179 106	308 302	487 408	253 144	297 261	550 405	432 250	605 563	1,037 813	
Total, respiratory diseases: Fall River, 3 years 3 cities, 1 year Total, nonrespiratory dis-	99 57	140 133	239 190	140 89	94 100	234 189	239 146	234 233	473 379	
eases: Fall River, 3 years 3 cities, 1 year	80 49	168 169	248 218	113 55	203 161	316 216	193 104	371 330	564 434	
Total, all causes Fall River, 3 years. 3 cities, 1 year	179 106	308 302	487- 408	253 144	297 261	550 405	432 250	605 563	1,037 813	

### 44 YEARS OF AGE, OF OPERATIVE AND NONOPERATIVE MALES AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR.

				Death ra	tes.			
	Males.			Females.		-	Both sexes.	
Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.
0.67 .74	0.57	0.61 .84	0.09	0.23 .17	0.18	0.37 .46	0.39 .50	0.38 .49
. 29	. 53	. 43	.30	. 70	. 55	. 30	• . 62	. 49
. 20	. 56	. 46	.11	. 68	. 51	. 15	. 62	. 49
			.78 .84	. 56 . 57	. 64 . 65	. 41 . 46	. 29 . 30	.34 .34
.06 .13	$.15 \\ .13$	.12 .13	.27 .06	. 43 . 35	.37 .27	.17	. 30 . 25	$^{+25}_{-20}$
. 22	.27	.25	.24	.21	.22	. 23	. 24	.24
. 54	.51	.51	.34	.42	.40	. 43	. 46	.45
. 55 . 60	. 57 . 85	.56 .78	.70	.39 .54	. 51	.62	.48	. 53
. 35	- 55	. 47	.64	. 43	.51	. 50	48	49
. 60	. 67	. 65	.62	. 45	.50		55	57
$\begin{array}{c} .10\\ .20 \end{array}$	. 19	. 15	.12	.16	.14	.11	18	.15
	. 35	. 31	.11	.26	.21	.15	30	.26
$^{-32}_{-27}$	.71 .56		.27 .23	.52 .35	. 43 .31	30 25	61 45	.49
. 55	. 90	. 76	1.02	. 45	. 66	79	66	71
. 81	1. 17	1. 06		. 61	. 70	86	88	87
3. 11	4. 44	3. 91	4. 43	4.08	4. 21	3.80	4.25	4.07
4. 09	5. 68	5. 22	4. 00	4.40	4. 28	4.04	5.00	4.72
2.63 3.01	2.04 2.37	2. 28 2. 56	3.20 4.11	$1.23 \\ 1.74$	1.97 2.44	2. 92 3. 61	$\begin{array}{c}1.\ 60\\2.\ 03\end{array}$	2.11 2.49
5.74	6. 48	6. 19	7.63	5. 31	6. 18	6. 72	5.85	6.18
7.10	8. 05	7. 78	8.11	6. 14	6. 72	7. 65	7.03	7.21
3. 18	2.94	3. 04	4. 22	1.68	2.63	3.71	2. 26	2. 82
3. 82	3.54	3. 62	5. 01	2.35	3.14	4.47	2. 91	3. 36
2.56	3. 54	3.15	3. 41	3. 63	3.55	3.01	3.59	3. 36
3.28	4. 51	4.16	3. 10	3. 79	3.58	3.18	4.12	3. 85
5.74	6.48	6.19	7.63	5.31	6. 18	6.72	5.85	6. 18
7.10	8.05	7.78	8.11	6.14	6. 72	7.65	7.03	7. 21

### TABLE 30.—DEATHS AND DEATH RATES PER 1,000 POPULATION, 15 TO OCCUPATION GROUPS, AND SPECIFIED

		Number of deaths.										
Cause of death and race.		Males.			Females		Both sexes.					
	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.			
Accident or violence: Irish	7	5	12 36	12	85	97	8	13 27	21 43			
Unclassified diseases: Irish	1 8	5 20	6 28	1 9	5	6 43	2 17	10	10 12 71			
Parturition: Irish Aggregate non-Irish				4 22	7 24	11 46	4 22	7 24	11 46			
Cancer: Irish Aggregate non-Irish	1 1	7	1 8	3 6	8 16	11 22	<b>4</b> 7	8 23	12 30			
Diseases of the nervous sys- tem: Irish	7	112	1	4	3 9	7	4	4	8			
Diseases of the digestive sys- tem: Irish.	5	9	14	4	5	• 9	9	14	23			
Aggregate non-Irish Nephritis: Irish	12 4	18 15	30 19	19 11	17	36 22	31 15	35 26	66 41			
Aggregate non-Irish Apoplexy: Irish	7	11	18 5	10	13	23	17 2	24 6	41 8			
Aggregate non-Irish Heart disease: Irish Aggregate non-Irish	37	0 12 22	15 29	3 2 7	9 20	10 11 27	5 14	12 21 42	26 56			
Respiratory diseases other than tuberculosis: Irish.	2	16	18	8	3	11	10	19	29			
Aggregate non-Irish	15	- 27	42	26	22	48	41	49	90			
diseases: Irish.	24	67	91	39	61	100	63	128	191			
Irish Tuberculosis:	73	144	217	108	167	275	181	311	492			
IrishAggregate non-Irish	20 62	44 53	64 115	35 71	19 50	54 121	55 133	63 103	118 236			
Total, alı causes: Irish Aggregate non-	44	111	155	74	80	154	118	191	309			
Ĭrish	135	197	332	179	217	396	314	414	728			
Total, respiratory diseases: Irish Aggregate non-Irish Total, nonrespiratory dis-	22 77	60 80	82 157	43 97	22 72	65 169	65 174	82 152	147 326			
eases: Irish Aggregate non-Irish	22 58	51 117	73 175	31 82	58 145	89 227	53 140	109 262	162 402			
Total, all causes: Irish	44	111	155	74	80	154	118	191	309			
Irish	135	197	332	179	217	396	314	414	728			

### 44 YEARS OF AGE, OF IRISH AND OF NONIRISH RACES, BY SEX, CAUSE OF DEATH, FALL RIVER, 1905 TO 1907.

	Death rates.												
	Males.			Females.	John	Both sexes.							
Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.					
1.55 .53	0.63 .56	0.97 .54	0.14 .08	0.82 .11	0.53 .10	0.68 .30	$\begin{array}{c} 0.74\\ .31\end{array}$	0.71 .31					
.22 .30	. 63 . 50	.48 .42	. 14 . 35	. 51 . 74	.35	.17 .32	. 57 . 63	.41 .52					
			.55 .85	.72 .52	.65 .64	.34 .42	.40 .28	.37					
.22 .04	. 17	.08 .12	.41 .23	. 82 . 35	.65 .30	.34 .13	.45 .27	.41 .22					
. 26	. 12 . 30	.08 .29	. 55 . 15	.30 .19	.41 .18	.34 .21	. 23 . 25	.27 .23					
1. 11 . 45	$1.14 \\ .45$	1.13	. 55 . 73	. 51 . 37	. 53 . 50	.77 .59	.80 .41	.78 .48					
. 89 . 27	1.90 .28	$1.52 \\ .27$	$\begin{array}{c} 1.52\\.39\end{array}$	1.13 .28	$\substack{1.29\\.32}$	1.28 .32	1.47 .28	1.40 .30					
.22	. 51 13	.40 .11	.14 .12	.21 .15	. 17 . 14	.17 .10	.32 .14	.27					
.66 .26	$\begin{array}{c} 1.52\\ .56\end{array}$	1.21 .44	.28 .27	.92 .43	.65 .37	.42 .27	1.19 .49	.88 .40					
.44 .56	2.02 .68	1.45 .63	1.10 1.00	.31 .48	. 65 . 67	.85	1.07 .57	.99 .65					
F 01	0.47	7.00	F 00	0.05	F 90	F. 00	7.04	6.40					
2.74	8.47 3.63	3.27	5. 38 4. 17	6.25 3.62	3.82	3.44	3.63	3.56					
4.43 2.33	$5.56 \\ 1.34$	$5.15 \\ 1.74$	4.83 2.74	1.94 1.09	3.17 1.68	4.67 2.53	3.56 1.20	- 4.01 1.70					
9.74	14.03	12.47	10.21	8.19	9.05	10.03	10.80	10.50					
5.07	4.97	5.01	6.91	4.71	5.50	5.97	4.83	5.26					
4.87 2.89	7.58 2.02	6.60 2.37	5.93 3.74	2.25 1.57	3.82 2.35	<b>5.52</b> 3.31	4.63 1.77	5.00 2.35					
4.87 2.18	6.45 2.95	5.87 2.64	4.28 3.17	5.94 3.14	5.23 3.15	4.51 2.66	6.17 3.06	5.50 2.91					
9.74	14.03	12.47	10.21	8.19	9.05	10.03	10.80	10.50					
5.07	4.97	5.01	6.91	4.71	5.50	5.97	4.83	5.26					

# TABLE 31.—PER CENT OF DECEDENTS 15 TO 44 YEARS OF AGE OF TOTAL DECEDENTS 10 YEARS OF AGE AND OVER, BY SEX, OCCUPATION GROUPS, AND SPECIFIED CAUSE OF DEATH, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR.

	Per cent of decedents 15 to 44 years of age of total decedents 10 years of age and over.										
Cause of death, locality, and period.		Males.			Female	5.	Both sexes.				
2 att - 11	Oper- atives.	Non- oper- atives.	Both classes.	Oper- atives.	Non- oper- atives.	Both classes.	Oper- atives	Non- oper- atives.	Both classes.		
POPULATION.	-			4							
Fall River	80 80	59 61	65 65	91 90	56 59	66 66	85 85	57 59	65 65		
DEATHS.		7									
Accident or violence: Fall River, 3 years 3 cities, 1 year	66 55	44 49	52 50	60 80	<b>43</b> 26	46 35	65 60	44 42	50 46		
Fall River, 3 years	50 38	24 29	28 30	100 100	36 35	41 37	68 50	30 32	34 34		
Fall River, 3 years 3 cities, 1 year				100 100	94 100	97 100					
Fall River, 3 years 3 cities, 1 year	18 25	11 12	12 15	64 17	20 17	24 17	44 21	$\begin{array}{c} 16\\ 15\end{array}$	20 16		
Fall River, 3 years	78 89	25 34	34 42	80 67	32 30	42 35	79 78	28 32	37 38		
Fall River, 3 years	63 64	29 33	36 37	85 83	17 28	30 35	74 73	22 30	32 36		
Fall River, 3 years 3 cities, 1 year	42 53	24 23	27 27	64 69	19 19	28 26	54 61	$\begin{array}{c} 21\\ 21 \end{array}$	28 26		
Apoplexy: Fall River, 3 years 3 cities, 1 year	27 25	8 13	10 14	50 50	6 7	8 9	37 31	7 10	9 11		
Fall River, 3 years	38 27	20 18	23 19	53 40	$\begin{array}{c} 15\\11\end{array}$	18 13	44 32	17 15	20 16		
tuberculosis: Fall River, 3 years	53	32	36	92 73	15	29 25	74	23	32		
Total, nontuberculous dis-											
eases: Fall River, 3 years	50	22	27	79	19 10	28	64	20 22	28 27		
Tuberculosis: Fall River, 3 years	88	64	73	94	64 50	79	91	64	76		
Total all causes.				94		83					
Fall River, 3 years 3 cities, 1 year	62 60	28 33	35 36	84 80	23 25	35 33	73 71	26 28	35 35		
Total, respiratory diseases: Fall River, 3 years 3 cities, 1 year	79 81	<b>49</b> 52	58 58	94 89	35 40	55 54	87 86	42	57 56		
Total, nonrespiratory diseases: Fall River, 3 years	50 47	21 25	25 27	75	20 20	27 25	62 57	20 22	27 26		
Total, all causes: Fall River, 3 years 3 cities, 1 year	62 60	23 28 33	35 36	84 80	23 25	35 33	73 71	26 28	35		

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#### TABLE 32.—PER CENT OF IRISH AND OF NONIRISH DECEDENTS 10 YEARS OF AGE AND OVER DYING FROM EACH SPECIFIED CAUSE WHO WERE FROM 15 TO 44 YEARS OF AGE, BY SEX AND OCCUPATION GROUPS, FALL RIVER, 1905 TO 1907.

	Per cent of Irish and non-Irish decedents 10 years of age and over who were from 15 to 44 years of age.										
Cause of death and race.		Males.	fales. Fe			s.	E	Both sexes.			
	Oper- atives.	Non- oper- atives.	Both classes.	Oper- atives.	Non- oper- atives.	Both classes.	Oper- atives.	Non- oper- atives.	Both classes.		
POPULATION.			a la segur				-1				
IrishAggregate non-Irish	74 80	61 57	65 65	87 92	55 56	65 66	82 86	58 57	65 65		
DEATHS.				1				- 75	THE PARTY		
Accident or violence: Irish. Aggregate non-Irish	100 56	36 . 47	57 50	100 50	47 38	50 41	100 55	42 45	54 48		
Unclassified diseases: Irish. Aggregate non-Irish	50 50	*20 25	22 29	100 100	16 44	19 49	66 68	18 34	20 39		
Irish. Aggregate non-Irish.				100 100	100 92	100 96					
Irish. Aggregate non-Irish. Diseases of the nervous system:	20 17	15	4 15	60 67	31 16	35 21	40 47	18 16	22 -19		
Irish. Aggregate non-Irish. Diseases of the digestive system:	88	11 _29	10 38	67 100	30 32	44 41	57 92	21 30	30 39		
Irish. Aggregate non-Irish. Nephritis:	83 57	25 31	33 38	57 95	10 23	16 38	69 76	16 26	23 38		
Irish. Aggregate non-Irish. Apoplexy:	50 39	31 18	33 23	69 59	18 19	29 27	62 49	24 19	31 25		
Irish. Aggregate non-Irish. Heart disease:	50 22	11 7	13 8	50 50	39	5 11	50 33	6 8	8 10		
Aggregate non-Irish Respiratory diseases other than	38 39	20 21	22	29 70	12 17	13 21	33 50	15 19	17 22		
Irish. Aggregate non-Irish	33 58	31 33	33 39	89 93	6 20	17 35	67 76	18 26	24 37		
Total, nontuberculous dis- eases: Irish.	52	21	25	67	15	21	61	17	23		
Aggregate non-Irish Tuberculosis: Irish	50 83	23	28 67	- 84 90	22 59	32 76	66 87	23	30 71		
Aggregate non-Irish Total, all causes:	89	66	77	97	66	.81	93	66	79		
Irish Aggregate non-Irish	63 62	29 28	34 36	76 89	18 26	28 39	71 75	23 27	31 37		
Total, respiratory diseases: Irish. Aggregate non-Irish.	73 80	48 -50	53 65	90 96	26 39	49 59	83 88	39 44	51 60		
Total, nonrespiratory diseases: Irish Aggregate non-Irish	55 48	19 21	24 25	63 81	16 23	21 31	60 63	17 22	23 29		
Total, all causes: Irlsh Aggregate non-Irlsh	63 62	29 28	34 36	76 89	18 26	28 39	71 75	23 27	31 37		

## TABLE 33.—PER CENT OF DEATHS FROM EACH SPECIFIED CAUSE, IN EACH SEX AND OCCUPATION GROUP, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR.

and a strength of the	Per cent of decedents in each sex and occupation group dying each specified cause.									
Cause of death, locality, and period.		Males.			Female	s.	Both sexes.			
	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	
Accident or violence:	19	0	10	1			e	~		
3 cities, 1 year	10	11	11	3	3	3	6	7	7	
Unclassified diseases: Fall River, 3 years	5	8	7	4	13	9	4	11	8	
3 cities, 1 year Parturition:	3	7	6	1	11	8	2	9	7	
Fall River, 3 years				10	11 9	10	6	5	5	
Cancer: Fall Biver 2 years	1	2	2	4	. 8	6	3	5		
3 cities, 1 year.	2	2	$\tilde{2}$	1	6	4	1	4	3	
Fall River, 3 years	4	4	4	3	4	4	4	4	4	
3 cities, 1 year Diseases of the digestive system:	8	6	6	4	7	6	6	7	6	
Fall River, 3 years	9	9 11	9 10	97	7 9	8	98	8	9	
Nephritis: Fall River 3 years	6	8		8	8	8	7	8	8	
3 cities, 1 year	8	8	8	8	7	7	8	8	8	
Fall River, 3 years	2	3	2	2	3	2	2	3	2	
3 cities, 1 year Heart disease:	3	4	4	1	4	3	2	4	3	
Fall River, 3 years 3 cities, 1 year	6	11	96	4	10 6	75	4	10	85	
Respiratory diseases, other than										
Fall River, 3 years	9	14	12	13	9	11	11	12	12	
Total nentuboroulous dia		10			10	10	11			
eases:										
3 cities, 1 year	54 58	68 71	63 67	58 49	77	68 64	56 53	73	66 65	
Tuberculosis: Fall River, 3 years	46	32	37	42	23	32	44	27	34	
3 cities, 1 year	42	29	33	51	28	36	47	29	35	
Total, all causes:	100	100	100	100	100	100	100	100	100	
3 cities, 1 year	100	100	100	100	100	100	100	100	100	
Total, respiratory diseases:									10	
3 cities, 1 year.	53	40 44	49 47	55 62	32	43 46	58	39 41	40 47	
Total, nonrespiratory diseases: Fall River, 3 years	45	54	51	45	68	57	45	61	54	
3 cities, 1 year	47	56	53	. 38	62	54	42	59	53	
Total, all causes: Fall River, 3 years.	100	100	100	100	100	100	100	100	100	
3 cities, 1 year	100	100	100	100	100	100	100	100	100	
DEATH RATE PER 1,000 OF POPULA- TION.	-		115	1			-			
Total, all causes:		0.15	0.10			0.10	0.00	E OF	0.10	
3 cities, 1 year	5.74	6.48 8.05	6.19 7.78	7.63	5.31 6.14	6.18	6.72	5.85	7.21	
				1	1	1		1	·	

# TABLE 34.—PER CENT OF OPERATIVE AND OF NONOPERATIVE IRISH AND NONIRISH DECEDENTS DYING FROM EACH SPECIFIED CAUSE, BY SEX, FALL RIVER, 1905 TO 1907.

	Per cent of Irish and non-Irish decedents dying from each specified cause.									
Cause of death and race.		Males.	•		Females	3.	Both sexes.			
	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	
Accident or violence: Irish Aggregate non-Irish	16 10	4 11	8 11	1	10 2	6 2	75	7 6	76	
Unclassified diseases: Irish	$\frac{2}{6}$	4 10	4 8	1 5	6 16	4 11	2 5	5 13	4 10	
Aggregate non-Irish				$5 \\ 12$	9 11	7 12	3 7	<b>4</b> 6	46	
Cancer: Irish Aggregate non-Irish	$\frac{2}{1}$	4	$\frac{1}{2}$	4 3	10 8	75	$\frac{3}{2}$	4 6	3 4	
Diseases of the hervous system: Irish. Aggregate non-Irish.	5	$1 \\ 6$	$\begin{array}{c} 1\\ 6\end{array}$	6 2	4 4	53	3 4	2 5	3 4	
Aggregate non-Irish	11 9	8 9	9 9	6 11	6 8	6 9	8 10	7 8	7 9	
Aggregate non-Irish.	9 5	14 6	12 5	$15 \\ 6$	$ \begin{array}{c} 14\\ 6 \end{array} $	14 6	13 5	14 6	13 5	
Irish. Aggregate non-Irish. Heart disease:	2 2	4 2	3 2	$\frac{1}{2}$	2 3	2 2	$\frac{2}{2}$	33	3 2	
Irish	7 5	11 11	10 9	3 4	11 9	777	4 5	11 10	88	
Irish Aggregate non-Irish	5 11	14 14	11 13	11 14	4 10	7 12	8 13	10 12	10 13	
Total, nontuberculous dis- eases: Irish	54 54	60 73	59 65	53	76	65 60	53	67 75	62	
Tuberculosis: Irish Aggregate non-Irish	46 46	40 27	41 35	47 40	24 23	35 31	47 42	33 25	38 32	
Total, all causes: Irish. Aggregate non-Irish	100 100	100 100	100 100	100 100	100 100	100 100	100 100	100 100	100 100	
Total, respiratory diseases: Irish. Aggregate non-Irish. Total nonrespiratory diseases:	51 57	54 41	52 48	58 54	28 33	42 43	55 55	43 37	48 45	
Irish. Aggregate non-Irish.	49 43	46 59	48 52	42 46	72 67	58 57	45 45	57 63	52 55	
Total, all causes: Irish Aggregate non-Irish	100 100	100 100	100 100	100 100	100 100	100 100	100 100	100 100	100 100	
DEATH RATE PER 1,000 OF POPULA- TION.		0								
Total, all causes: Irish. Aggregate non-Irish	9.74 5.07	14.03 4.97	12.47 5.01	10. 21 6. 91	8.19 4.71	$9.05 \\ 5.50$	10.03 5.97	10.80 4.83	$10.50 \\ 5.26$	

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#### TABLE 35.—PER CENT OF OPERATIVE AND NONOPERATIVE DECE-DENTS OF TOTAL DYING FROM EACH SPECIFIED CAUSE, BY SEX, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR.

	Per cent of population, and per cent of decedents dying from each specified cause.									
	Males.			Females.			Both sexes.			
Cause of death, locality, and period.	Opera- tives.	Non- opera- tives.	Both classes.	Opera tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Deaths and popula- tion, both classes (100 per cent).	
POPULATION.										
Fall River	19 13	28 34	47 47	19 16	34 37	53 53	38 29	62 71	55,911 112,725	
DEATHS.										
Accident or violence: Fall River, 3 years 3 cities, 1 year	33 20	42 60	75 80	57	20 13	25 20	38 27	62 73	64 55	
Unclassified diseases: Fall River, 3 years 3 cities, 1 year	11 6	30 38	41 44	12 3	47 53	59 56	23 9	77 91	83 55	
Fall River, 3 years 3 cities, 1 year				46 38	54 62	100 100	46 38	54 62	57 39	
Fall River, 3 years 3 cities, 1 year	5 8	17 22	22 30	21 5	57 65	78 70	26 13	74 87	42 23	
Fall River, 3 years	17 16	33 37	50 53	20 12	30 35	50 47	37 28	63 72	40 51	
Fall River, 3 years	19 12	30 43	49 55	26 14	25 31	51 45	45 26	55 74	89 74	
Fall River, 3 years 3 cities, 1 year	13 14	32 39	45 53	26 17	29 30	55 47	39 31	61 69	82 64	
Fall River, 3 years 3 cities, 1 year	12 10	36 45	48 55	16 7	36 38	52 45	28 17	72 83	25 29	
Fall River, 3 years 3 cities, 1 year	12 9	41 48	53 57	11 9	36 34	47	23 18	77 82	82 44	

#### TABLE 35.—PER CENT OF OPERATIVE AND NONOPERATIVE DECE-DENTS OF TOTAL DYING FROM EACH SPECIFIED CAUSE, BY SEX, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR—Concluded.

	Per cent of population, and per cent of decedents dying from each specified cause.									
	Males.			Females.			Both sexes.			
Cause of death, locality, and period.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Deaths and popula- tion, both classes (100 per cent).	
Respiratory diseases, other than tuberculosis: Fall River, 3 years 3 cities, 1 year	14 12	36 45	50 57	29 16	21 27	50 43	43 28	57 72	119 98	
Total, nontuberculous dis- eases: Fall River, 3 years 3 cities, 1 year Tuberculosis:	14 12	31 40	<b>45</b> 52	22 13	33 35	55 48	36 25	64 75	683 532	
Fall River, 3 years 3 cities, 1 year	23 16	28 32	51 48	30 26	19 26	49 52	53 42	47 58	354 281	
Total, all causes: Fall River, 3 years 3 cities, 1 year	17 13	30 37	47 50	25 18	28 32	53 50	42 31	58 69	1,037 813	
Total, respiratory diseases: Fall River, 3 years 3 cities, 1 year Total nonrespiratory diseases:	21 15	29 35	50 50	30 24	20 26	50 50	51 39	49 61	473 379	
Fall River, 3 years	14 11	30 39	44 50	20 13	36 37	56 50	34 24	66 76	564 434	
Total, all causes: Fall River, 3 years 3 cities, 1 year	17 13	30 37	47 50	25 18	28 32	53 50	42 31	58 69	1,037 813	

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# TABLE 36.—DEATH RATES PER 1,000 POPULATION IN EACH 10-YEAR AGE GROUP, FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, BY SEX, OCCUPATION GROUPS, AND RACE, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR.

	Tuberculous.			Nontuberculous.			All causes.		
Race, age group, locality, and period.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.
American:									
Fall River, 3 years 3 cities, 1 year	3. 44 4. 53	1.56 1.36	1.95 1.78	4.31 7.54	0.90 2.28	1.60 2.97	7.75 12.07	2.46 3.64	3. 55 4. 75
Fall River, 3 years 3 cities, 1 year	2.38 3.28	1.33 .70	1.42 .87	7. 14 13. 11	2.22 4.21	2.64 4.81	9. 52 16. 39	3. 55 4. 91	4.06 5.68
Fall River, 3 years 3 cities, 1 year	4. 69	1. 18	. 26 1. 11	4.70 5.43	2.70 4.70	2.81 4.74	9.39 5.43	2.70 5.88	3. 07 5. 85
15 to 24 years— Fall River, 3 years	2.10	1.66	1.88	2.71	2.50	2.60	4.81	4.16	4, 48
3 cities, 1 year 25 to 34 years—	2.26	2.84	2.64	5.27	2.44	3. 43	7.53	5.28	6. 07
Fall River, 3 years 3 cities, 1 year	1.07 2.70	1.85 1.29	1.49 1.75	1.42	4.32 5.59	2.97 3.78	2.49 2.70	6.17 6.88	4. 46 5. 53
Fall River, 3 years 3 cities, 1 year	2.12 .88	1.52 2.56	1.88 1.86	1.77 .89	8.11 8.34	4.37 5.20	3. 89 1. 77	9.63 10.90	6.25 7.06
Irish: 15 to 24 years—		1 10	1.05	0 =1	0.00	0.00			
3 cities, 1 year.	2.22	1. 43 2. 14	1.00	3. /1	2. 29 3. 57	2.69 2.94	5.93	3.72 5.71	4.34 4.71
Fall River, 3 years 3 cities, 1 year	8.00 6.78	5. 03 8. 04	5.91 7.80	8.79 8.47	6.04 9.24	6. 85 9. 09	16. 79 15. 25	11. 07 17. 28	$12.76 \\ 16.89$
Fall River, 3 years 3 cities, 1 year	3.65 6.86	16.67 11.05	9. 23 9. 53	4.17 6.87	28. 47 19. 49	14.60 14.92	7.82 13.73	45. 14 30. 54	23. 83 24. 45
Is to 24 years- Fall River, 3 years	1.90		. 96	3. 33	1.68	2. 51	5.23	1.68	3.47
25 to 34 years— Fall River 3 years	.99	. 31	. 56 2.60	4.93 2.39	4.24 5.36	4.51	5.92	4.55 7.34	5.07
3 cities, 1 year 35 to 44 years—	4.84	3. 47	3.94	5. 44	5.68	5. 59	10. 28	9.15	9. 53
Fall River, 3 years 3 cities, 1 year	2.37 3.46	2.44 .76	2.41 1.59	3.56 2.60	6.72 6.10	5.34 5.02	5.93 6.06	9. 16 6. 86	7.75 6.61
15 to 24 years— Fall River, 3 years	1.68	1.06	1.44	1.34	5.82	3.08	3.02	6.88	4. 52
3 cities, 1 year 25 to 34 years—	2.76	2.98	2.82	2.21	14.90	5.64	4.97	17.88	8.46
Fall River, 3 years 3 cities, 1 year	1.94 3.10	2.22 .78	2. 11 1. 78	3.87 2.06	2.58 5.47	3.06 4.00	5.81 5.16	4.80 6.25	5. 17 5. 78
Fall River, 3 years 3 cities, 1 year	7.07 3.85	. 79 1. 61	$2.37 \\ 2.27$	4.71 7.71	5. 92 7. 24	5.62 7.38	11.78 11.56	6.71 8.85	7.99 9.65
Total, 15 to 24 years: Fall River, 3 years 3 cities, 1 year Total 25 to 34 years:	2.07 2.02	1. 14 1. 61	1. 53 1. 75	2. 84 4. 05	2. 21 3. 67	2. 48 3. 79	4. 91 6. 07	3.35 5.28	4.01 5.54
Fall River, 3 years 3 cities, 1 year	2.96 4.11	2.36 2.81	2.58 3.14	3.37 4.32	4.00 5.83	3.77 5.45	6. 33 8. 43	6.36 8.64	6.35 8.59
Fall River, 3 years 3 cities, 1 year	3. 12 3. 36	2. 86 2. 80	2.97 2.95	3.24 3.88	8.05 8.10	6. 16 6. 95	6.36 7.24	10. 91 10. 90	9.13 9.90

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#### MALES.

#### TABLE 36.—DEATH RATES PER 1,000 POPULATION IN EACH 10-YEAR AGE GROUP, FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, BY SEX, OCCUPATION GROUPS, AND RACE, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR—Continued.

#### Tuberculous. Nontuberculous. All causes. Race, age group, locality, and period. Non-Non-Non-Opera-Both Opera-Both Opera-Both operaoperaoperatives. classes. tives. tives. classes. classes. tives. tives. American: 15 to 24 years— Fall River, 3 years..... 2.50 0.79 1.20 5.00 1.78 2.56 7.50 2.57 3.76 3 cities, 1 year ..... 5.06 . 59 1.18 2. 53 2.14 2.19 7.59 2 73 3.37 25 to 34 years— Fall River, 3 years..... . 60 . 55 4.57 2.97 3.10 4.57 3 57 3.65 7.78 3 cities, 1 year ..... .20 20 3.08 7.78 3 31 3 28 3.51 35 to 44 years— Fall River, 3 years..... 6 29 . 25 . 48 4.74 6 29 4 00 5.04 4.56 3 cities, 1 year ..... 8.33 1.07 1.30 . . . . . . 4.81 4.66 8.33 5.88 5.96 English: 15 to 24 years— Fall River, 3 years..... .91 1.07 . 98 2.04 .81 1.48 2 05 1.88 2.46 3 cities, 1 year ..... 1.99 1.20 1.55 1.49 1.61 1.56 3.48 2.81 3.11 25 to 34 years— Fall River, 3 years..... 1.53 2.51 1 04 3.58 2.04 2.68 6.09 3. 57 4.62 3 cities, 1 year ..... 5.34 1.55 2.82 4.58 2.70 3.33 9.92 4.25 6.15 35 to 44 years— Fall River, 3 years..... . 59 2.04 6.79 7.17 7.06 8.83 7.17 7.65 3 cities, 1 year..... 2.71 . 68 9.47 6.84 7.50 12.18 6.84 8.18 . . . . . . . Irish: 15 to 24 years-Fall River, 3 years..... 3.09 .92 1.73 2.07 1.54 1.87 4.63 2.99 3.60 3 cities, 1 year..... 2.29 1.43 1.66 2.29 1.14 4.58 2.57 1.46 3.12 25 to 34 years— Fall River, 3 years..... 4.24 5.42 7.07 6.57 4.50 5.77 11.07 11.31 11.19 3 cities, 1 year ..... 6.48 3.97 6.00 8.60 5.27 7.16 12.57 12.43 12.48 35 to 44 years— Fall River, 3 years..... 4.54 1.16 2.53 12.47 12.39 12.42 17.01 13.55 14.95 3 cities, 1 year ..... 7.81 3.32 4.79 10.73 13.28 12.45 18.54 16.60 17.24 French Canadian: 15 to 24 years— Fall River, 3 years..... 2.95 . 83 2.16 3.11 1.95 2.68 6.06 2.78 4.84 3 cities, 1 year ..... 3.38 4.14 3.71 4.90 3.94 9.04 4.35 7.32 8.06 25 to 34 years-Fall River, 3 years..... 6.38 2.51 3.88 4.96 6, 19 11.34 8.70 5.75 9.63 3 cities, 1 year..... 2.16 7.02 10.19 3. 54 3, 60 6.59 5.95 9.18 9.49 35 to 44 years— Fall River, 3 years..... . 99 1.92 . 66 10.88 4.88 6.42 12.80 5.54 7.41 3 cities, 1 year ..... 2.03 1.64 1.73 4.58 6.10 4.07 4.46 6. 22 6.19 Other races: 15 to 24 years— Fall River, 3 years..... 4.08 2.64 2.67 2.65 3.82 4.68 6.46 7.35 6.73 3 cities, 1 year ..... 2.24 2.40 2.81 2.40 3.36 5.60 2.814.80 25 to 34 years— Fall River, 3 years..... 3.96 8.07 2 30 1 58 1.73 3 46 5.77 5.04 5.69 3 cities, 1 year..... 1.91 2.44 2.31 1.91 3.04 2.77 3.82 5.48 5.08 35 to 45 years— Fall River, 3 years..... 7.17 1.95 2.87 1.43 3.58 2.93 10.75 4.30 4.88 3 cities, 1 year ..... 5.59 2.072.46 5.53 4.92 5.59 7.60 7.38 . . . . . Total, 15 to 24 years: Fall River, 3 years..... 2.37 1.04 1.71 2.931.92 2.42 5.30 2.96 4.13 3 cities, 1 year..... Total, 25 to 34 years: 2.86 1.65 2.13 2.96 2.21 2.51 5.82 3.86 4.64 Fall River, 3 years.... 4, 69 1.94 2.84 4.48 4. 27 4.34 6.21 9.17 7.18 3 cities, 1 year..... Total, 35 to 44 years: 6.07 2.00 3.04 3.99 4.66 4.48 10.06 7.52 6.66 Fall River, 3 years..... 3.24 . 63 1.23 9.55 6.11 6.90 12.79 6.74 8.13 3 cities, 1 year ..... 4. 59 1.51 2.12 7.22 5.62 6.73 11.81 8.13 8.85

#### FEMALES.

#### TABLE 36.—DEATH RATES PER 1,000 POPULATION IN EACH 10-YEAR AGE GROUP, FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, BY SEX, OCCUPATION GROUPS, AND RACE, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR—Concluded.

#### Nontuberculous. Tuberculous. All causes. Race, age group, locality, and period. Non-Non-Non-Opera Opera-Opera-Both Both Both opera-tives. opera-tives. opera-tives. tives. tives. classes. classes. tives. classes. American: 15 to 24 years— Fall River, 3 years..... 2.90 1.16 1.55 4.71 1.36 2.11 2.55 7.61 2.52 3.66 3 cities, 1 year..... 4.82 .95 1.46 4.82 2.20 9.64 3. 15 4.01 25 to 34 years— Fall River, 3 years..... 2.62 1.16 . 94 .96 5.83 2.88 6.99 3.56 3.84 10. 68 . 43 3.61 4.02 12.46 4.04 3 cities, 1 year ..... 1.78 .51 4.53 35 to 44 years— Fall River, 3 years..... 4.09 5. 37 . 13 . 37 2.69 3.76 3.72 8.06 3.89 3.29 1.12 1.21 3.29 4.70 3 cities, 1 year ..... 4.76 6.58 5.88 5.91 English: 15 to 24 years— Fall River, 3 years..... 1. 39 1.64 3.00 1.42 1.36 2.33 1.99 3.75 3.38 3 cities, 1 year..... 2.10 2.02 2.05 2.99 2.02 2.41 5.09 4.04 4.46 25 to 34 years— Fall River, 3 years..... 1.78 1.68 1.72 2.50 3.07 2.82 4.28 4.75 4. 54 3 cities, 1 year ..... 2.48 4.13 1.42 2.32 4.07 3.54 6.61 5.49 5.86 35 to 44 years-Fall River, 3 years..... 2.09 1.21 3. 49 7.50 5.76 5.58 8.04 6.97 .54 3 cities, 1 year..... 1.60 1.07 1.24 4.28 7.46 6.40 5.88 8.53 7.64 Irish: h: 15 to 24 years— Fall River, 3 years..... 5.08 2.79 1.15 1.70 2.29 2.16 2.20 3. 31 3.90 3 cities, 1 year..... 1.71 2. 22 3.14 3.78 1.57 1.57 2.07 3.97 25 to 34 years— Fall River, 3 years..... 7.00 5.62 5.79 12,79 11. 19 11.85 4.65 6.54 6.23 3 cities, 1 year..... 8.16 8.09 6, 61 7.31 13.33 14.77 14.35 35 to 44 years-Fall River, 3 years..... 4.07 6 71 5.45 8.15 18 15 13 37 12.22 24.86 18.82 3 cities, 1 year ..... 6 85 15 00 22 48 20.38 7 37 8 05 13 53 16 32 6.58 French Canadian: 15 to 24 years-Fall River, 3 years..... 2.52 1.61 3 20 1.80 2.60 2 19 4.21 . 39 5.72 3 cities, 1 year..... 2.51 4.30 4.53 4.42 6.81 6 55 6.68 25 to 34 years— Fall River, 3 years..... 2.30 3.27 5.85 4.83 8.04 8.15 8.10 4.55 3 40 3 cities, 1 year ..... 5.78 5.72 2.76 3.73 4.51 6.40 10.23 9.16 9.51 35 to 44 years-Fall River, 3 years..... 2.20 1.69 6.35 3.27 5.65 5.28 5.89 8.55 7.06 7.58 1.41 3 cities, 1 year..... 6.39 2.80 1.23 4.73 6.07 6.51 Other races: 15 to 24 years-Fall River, 3 years..... 3 cities, 1 year 2.19 2,05 4.85 5.63 1.77 2.66 2.78 5.32 7.23 3.58 7.09 2. 50 2.61 2.89 4.02 5.28 10 12 25 to 34 years— Fall River, 3 years..... 2.07 1.93 3.06 6.63 4.93 1.87 4.56 3.49 5.42 2.68 3 cities, 1 year ..... 2,01 5.82 1.71 2.04 4.11 3.40 4.69 5.44 35 to 44 years-7.09 11.52 Fall River, 3 years..... 1.13 2.17 4.43 5.73 4.32 4.34 5.45 6.51 2.36 1.86 6. 32 10. 03 8.56 3 cities, 1 year..... 4.30 Total, 15 to 24 years: Fall River, 3 years..... 3 cities, 1 year... Total, 25 to 34 years: Fall River, 3 years... 2. 25 1.00 1.63 2.89 2.06 5.14 3.15 4.08 2.45 5. 05 2.52 2.92 1.63 1.96 3.40 3.09 5.92 4. 55 7.75 6.28 6.79 3 82 2.13 2.72 3.93 4.15 4.07 2.38 3 cities, 1 year..... Total, 35 to 44 years: 3.08 0 30 5.16 4.14 5.214.94 7.59 8.61 1.58 2.07 6.93 7.29 8.84 8.51 9.38 Fall River, 3 years..... 3. 17 5.67 5.35 6.54 6.84 9.35 3.91 9 26 3 cities, 1 year .....

#### BOTH SEXES.
TABLE 37.—DEATH RATES PER 1,000 POPULATION IN SPECIFIED AGE GROUPS, FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, OF IRISH AND NONIRISH, BY SEX AND OCCUPATION GROUPS, AND PER CENT BY WHICH DEATH RATES OF IRISH ARE MORE OR LESS THAN THOSE OF NONIRISH, FALL RIVER AND 3 CITIES (FALL RIVER, MAN-CHESTER, AND PAWTUCKET), 1 YEAR AND 3 YEARS.

		Males.			Female	5.	Both sexes.		
Cause of death, age group, locality, and period.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.
TUBERCULOUS.									
15 to 24 years:								-	
Fall River. {1 year		1.72	1.24	2.32	2.07	2.16	1.52	1.91	1.78
3 cities	2.22	1.45 2.14 2.14	1.05	2.29 3.31	1.43	1.75	2.79 1.57 2.97	1.15	1.70
25 to 44 years:									
Fall River	7.58	12.21 8.82 0.18	10.27	5.80	4.44	5.06 4.17	6.52 5.63	7.93	7.31
3 cities	5.24	7.78	7.10	6.44	3. 15	4.29	6.00	5.27	5.50
30 to 39 years:	0 70	15 45	10 47	2.06	1 54	4.07		0.41	-
Fall River	8.70 6.42 7.68	13.45 13.58 12.45	12.47	3.90 5.28 7.88	4.04 3.78 5.70	4.27	0.02 5.77 7.80	9.41	7.87
3 cities	5.55	9.96	8.72	6.57	3.80	4.79	6.18	6.69	6.52
NONTUBERCULOUS.							-		
15 to 24 years:								-	N
Fall River	3 71	3.43	2.48	1 54	. 69	.43	2 20	1.91	1.27
1 year	9.71	3.57	2.94	2.29	1.14	1.46	1.57	2.10	2.07
3 cities	3.34			2.28			2.61		
25 to 44 years: (1 year	7.57	16.28	12.65	7.73	7.76	7.75	7.67	11.59	9,85
Fall River	6.00	13.34	10.27	7.52	9.61	8.64	6.90	11.19	9.34
3 cities	7.51	13.16	11.05	6.70	9.87	8.77	6.17	11.37	10.01
30 to 39 years:									
Fall River	7.00	22.47	15.59	9.25	4.53	6.71	8.29	12.55	10.61
3 cities	7.68	16.43	13.97	7.88	7.90	7.89	7.81	11.90	10.57
ALL CAUSES.		-							
15 to 24 years:								_	_
Fall River. [1 year		5.15	3.72	2.32	2.76	2.59	1.52	3.82	3.05
(1 year	5.93	3.72	4.34	4.63	2.99	3.60	5.08	3.31	3.90
3 cities	5.56			5.59			5.58		
25 to 44 years: (1 year	15 15	28 49	22.92	13 53	12 20	12.81	14 10	10 52	17 16
Fall River	11.36	22.16	17.65	13.32	12.38	12.81	12.53	16.78	14.89
3 cities	14.34	22.34	20.21	14.98	14.28	14.52	14.75	17.97	16.97
30 to 39 years:	11.10			10.10			12.11		******
Fall River	15.76 13.43	37.92 30.43	28.06 22.86	13.21 13.21	9.07	10.98 12.20	14.31 13.30	21.96 19.87	18.48 16.88
3 cities	15.36 13.23	28.88	25.09	15.76 12.87	13.60	14.37	15.61 13.01	20.76	19.09

#### IRISH.

## TABLE 37.—DEATH RATES PER 1,000 POPULATION IN SPECIFIED AGE GROUPS, FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, OF IRISH AND NONIRISH, BY SEX AND OCCUPATION GROUPS, AND PER CENT BY WHICH DEATH RATES OF IRISH ARE MORE OR LESS THAN THOSE OF NONIRISH, FALL RIVER AND 3 CITIES (FALL RIVER, MAN-CHESTER, AND PAWTUCKET), 1 YEAR AND 3 YEARS—Continued.

#### Males. Females. Both sexes. Cause of death, age group, locality, and period. Non-Non-Non-Opera-Both Opera-Both Opera-Both opera-tives. opera-tives. opera-tives. tives. tives. classes. tives. classes. classes. TUBERCULOUS. 15 to 24 years: 2.572.062.231.86 {1 year... 3 years.. 1.27 2.70 1.73 2.24 2.65 1.50 2.06 Fall River..... 1.06 1.51 2.25 1.08 1.702.252.17 2.65 1.07 1.61 2.01 1 year... 3 years.. 1.48 2.95 1.73 1.60 3 cities.... 1.72 1.17 1.36 2.50 1.27 1.79 2.17 1.22 1.59 25 to 44 years: 3.01 {1 year... 3 years.. 1.65 2.15 5.48 1.02 2.11 4.02 1.30 2.13 Fall River..... 2.54 1.49 1.88 3.46 1.09 1.67 2.92 1.27 1.77 )1 year... 3 years... 3.13 1.51 1.93 4.33 1.25 1.86 3.67 1.37 1.90 3 cities.... 2.51 1.56 1.81 3.17 1.23 1.62 2.81 1.38 1.71 30 to 39 years: {1 year... 3 years.. 1.86 6.72 3.95 2.63 1.32 2.59 5.04 1.56 2.61 Fall River.... 3,16 2.01 2.442.274.07 1.26 1.92 3.52 1.60 2.18 1 year... 3 years... 4.01 1.67 5.11 1.49 2.20 4.49 1.58 2.23 3 cities..... 3.05 2.10 3.15 1.77 3.28 1.35 1.72 1.55 1.91 NONTUBERCULOUS. 15 to 24 years: {1 year... 3 years.. 4.88 2.74 $2.55 \\ 2.20$ 3.60 3.68 1.51 2.66 4.19 2.04 3.10 Fall River..... 2.44 3.16 1.88 2.55 2.98 2.04 2.50 1 year... 3 years... 4.46 3.69 3.96 3.07 2.54 2.77 3.65 3.12 3.32 3 cities..... 2.70 2.58 25 to 44 years; (1 year... 3 years... 2.40 2.74 3.41 4.29 5.30 4.23 5.78 3.82 3.79 4.47 4.26 Fall River..... 5.68 4.44 3.81 4.37 4.69 3.94 4.40 4.26 11 year... 3 years... 5.53 4.98 4.64 4.62 3.90 5.05 4.79 3 cities..... 2.94 3.98 3.41 30 to 39 years: {1 year... 3 years... 1.98 7.94 4.52 5.33 4.43 4.41 3.514.32 4.47 Fall River..... 2.642.864.57 3.85 6.52 4.95 4.16 4.50 4.46 4.40 1 year... years... 4.62 5.83 4.50 5.28 5.38 4.17 3.53 4.17 4.97 4.79 3 cities..... 2.77 ALL CAUSES. 15 to 24 years: {1 year... 3 years... 7.45 3.82 5.46 6.38 3.24 4.90 6.84 3.54 5.16 Fall River ..... 4.80 3.26 3.95 5.41 2.96 4.25 5.15 3.11 4.11 1 year... years.. 6.69 5.17 5.70 6.02 4.27 5.02 6.30 5.34 4.72 3 cities.... 5.20 4.75 4.12 25 to 44 years: {1 year... 3 years.. 7.81 5.41 6.95 6.38 11.26 4.84 6.40 5.77 6.39 Fall River..... 5.46 6.03 5.28 5.93 5.69 9.14 6.36 6.86 5.67 1 year... 6.54 7.04 6.91 8.82 5.89 6.48 7.57 6.42 6.69 3 cities ..... 1 year... 3 years... 5.45 7.15 6.22 30 to 39 years: 6.27 {1 year... 3 years... 7.04 Fall River..... 5.93 6.14 14.66 5.84 7.92 9.36 6.03 6.58 6.29 5.72 $6.87 \\ 7.58$ 5.80 6.29 10.59 7.68 6.10 6.58 1 year ... 6.87 6.44 10.94 6.77 8.66 6.55 7.023 cities..... 13 years. 5.82 7.78 . . . . .

### NONIRISH.

# TABLE 37.—DEATH RATES PER 1,000 POPULATION IN SPECIFIED AGE GROUPS, FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, OF IRISH AND NONIRISH, BY SEX AND OCCUPATION GROUPS, AND PER CENT BY WHICH DEATH RATES OF IRISH ARE MORE OR LESS THAN THOSE OF NONIRISH, FALL RIVER AND 3 CITIES (FALL RIVER, MAN-CHESTER, AND PAWTUCKET), 1 YEAR AND 3 YEARS—Concluded.

L12 2		Males.			Female	S.	Both sexes.		
Cause of death, age group, locality, and period.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.
TUBERCULOUS.									-,
15 to 24 years:	(mar ( )	-			-	100		1.1.1	
Fall River	+ 8	+ 35 + 35 + 45	$\begin{vmatrix} -33 \\ +9 \\ +2 \end{vmatrix}$	-14 + 37 - 22	$\begin{vmatrix} + & 20 \\ - & 15 \\ - & 17 \end{vmatrix}$	$ \begin{array}{r} - 4 \\ + 2 \\ - 26 \end{array} $	$ \begin{array}{r} - 43 \\ + 29 \\ - 41 \end{array} $	+ 27 + 7 + 9	$ \begin{array}{c c} -14 \\ + & 6 \\ - & 15 \end{array} $
3 years	+ 29	+ 83	+ 59	+ 32	- 32	- 15	+ 37	+ 17	+ 13
Foll Divor (1 year	+152	+640	+378	+ 6	+335	+140	+ 62	+510	+243
3 cities	+111 + 118 + 109	+492 +508 +399	+293 +344 +292	+ 68 + 91 + 103	+154 +253 +156	+150 +209 +165	+ 93 + 111 + 114	+332 +382 +282	+214 +266 +222
30 to 39 years:									
Fall River	+122 +103 + 92	+731 + 576 + 646	+374 + 326 + 390	-41 + 30 + 54	+244 +200 +283	+ 65 + 133 + 195	+ 19 + 64 + 74	+503 + 410 + 461	+202 +224 +282
3 years	+ 82	+463	+315	+100	+181	+178	+ 96	+332	+241
15 40 04				-				2	
15 to 24 years: (1 year		+ 35	- 31		- 54	- 84		- 6	- 59
Fall River	+ 35	+ 4	+ 10	- 51	+ 10	- 27	- 23	+ 6	- 12
3 cities	1 30	- 3	-26	-25 -16	- 55	- 47	- 57	- 29	- 38
25 to 44 years:	+ 00			- 10		,	TI		
Fall River	+215 +110	+207	+199 +170	+ 34	+103	+ 81	+102	+159	+131
3 cities \$1 year	+120	+138	+134	+ 49	+113	+ 90	+ 79	+125	+109
30 to 30 years.	+101		•••••	+ 59			+ 81		
Fall River /1 year	+254	+410	+344	+ 16	(a)	+ 26	+ 92	+181	+140
3 years.	+166	+269	+224	+ 22	+ 70	+ 56	+ 81	+160	+123
3 cities	+109 +177	+200	+ 200	+ 30 + 40	+ 50	+ 41	+ 87 + 93	+139	+121
ALL CAUSES.					_		1.00		
15 to 24 years:				-	-			-	-1-
Fall River	1 94	+ 35 + 14	-32 $\pm 10$	-64	-15	- 47	- 78	+ 8	- 41
3 cities \$1 year	T 41	+10	-17	-24	-40	-38	-50	-16	- 29
25 to 44 years.	+ 35			+ 8			+ 17		
Fall River /1 year	+180	+310	+259	+ 20	+152	+100	+ 82	+238	+169
3 years.	+115	+274	+210	+ 46	+127	+101	+ 83	+196	+147
3 cities	+105	+217	+192	+70 + 78	+142	+124	+ 95 + 96	+180	+154
30 to 39 years: (1 waar	1 100	1 505	1.957	10		1 00		1.004	
Fall River	+100 +132	+303 +362	+357 +263	+ 25	+ 55 + 98	+ 39 + 78	+ 53 + 73	+204 + 226	+163 +157
3 cities	+124 + 127	+359	+290	+ 44 + 65	+101	+ 90	+ 80 + 95	+217	+172

#### PER CENT OF DIFFERENCE.

Less than one-half of 1 per cent.

# TABLE 38.—PERCENTAGE DISTRIBUTION OF POPULATION AND OF CAUSES, BY SEX AND OCCUPATION GROUPS, AND COMPARISON OF MANCHESTER, AND PAWTUCKET), 1 YEAR.

#### PER CENT OF POPULATION AND OF DECEDENTS IN EACH OCCUPATION GROUP, BY SEX.

		Males	•	(	Female	es.	Both sexes.		
Cause of death, locality, and period.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.
POPULATION.									
Fall River	40 28	60 72	a 26, 228 a 52, 453	37 29	63 71	a 29,683 a 60,272	38 29	62 71	a 55,911 a 112,725
DEATHS.									
Tuberculous: Fall River, 3 years 3 cities, 1 year Nontuberculous:	46 34	54 66	a 179 a 134	61 50	39 50	a 175 a 147	53 42	47 58	a 354 a 281
Fall River, 3 years	31	69 78	a 308	39	61	a 375	36	64	a 683
All courses:		10						10	
Fall River, 3 years 3 cities, 1 year	37 26	63 74	a 487 a 408	46 36	54 64	a 550 a 405	42 31	58 69	a 1,037 a 813

#### PER CENT OF POPULATION AND OF DECEDENTS IN EACH SEX AND OCCUPATION GROUP OF TOTAL ALL OCCUPATIONS, BOTH SEXES.

POPULATION.									
Fall River	19 13	28 34	47 47	19 16	34 37	53 53	38 29	62 71	a 55,911 a 112,725
DEATHS.									
Tuberculous: Fall River, 3 years 3 cities, 1 year Nontuberculous:	23 16	28 32	51 48	30 26	19 26	49 52	53 42	47 58	a 354 a 281
Fall River, 3 years 3 cities, 1 year	14 12	31 40	45 52	22 13	33 35	55 48	36 25	64 75	a 683 a 532
All causes: Fall River, 3 years 3 citles, 1 year	17 13	30 37	47 50	25 18	28 32	53 50	42 31	58 69	a 1, 037 a 813

#### PER CENT IN EACH OCCUPATION GROUP DYING FROM EACH CLASSIFIED CAUSE, BY SEX.

	1	1	1	1	1	1			
DEATHS.			1 3				1000		
Tuberculous:									
Fall River, 3 years	17	20	37	19	13	32	18	16	34
3 cities, 1 year	11	22	33	18	18	36	15	20	35
Nontuberculous:									
Fall River, 3 years	20	43	63	27	41	68	24	42	66
3 cities, 1 year	15	52	67	18	46	64	16	49	65
All causes:			-						
Fall River, 3 years	37	63	a 487	46	54	a 550	42	58	a 1,037
3 cities, 1 year	26	74	a 408	36	64	a 405	31	69	a 813

#### PER CENT IN EACH SEX AND OCCUPATION GROUP DYING FROM EACH CLASSI-FIED CAUSE OF TOTAL ALL CLASSES.

DEATHS.									
Tuberculous: Fall River, 3 years 3 cities, 1 year Nontuberculous: Fall River, 3 years	7 6 10	10 11 20	- 17 17 30	11 9 14	6 9 22	17 18 36	18 15 24	16 20 42	34 35 66
3 cities, 1 year	7	26	33	9	23	32	16	49	65
Fall River, 3 years 3 cities, 1 year	17 13	30 37	47 50	25 18	28 32	53 50	42 31	58 69	a 1,037 a 813

"Total on which per cents are based.

b Basic death rate.

DECEDENTS DYING FROM TUBERCULOUS AND NONTUBERCULOUS DEATH RATES, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER,

### PER CENT BY WHICH DEATH RATES IN EACH OCCUPATION GROUP ARE MORE OR LESS THAN FOR TOTAL ALL OCCUPATIONS, BY SEX.

		Males	•		Female	<b>19.</b>	Both sexes.		
Cause of death, locality, and period.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.
POPULATION. Fall River									
DEATHS. Tuberculous: Fall River, 3 years 3 cities, 1 year Nontuberculous: Fall River, 3 years 2 cities 1 year	+15 +18 -20 -22	-11 - 7 + 14 + 9	b 2.28 b 2.56 b 3.91 b 5 22	+62 + 68 + 5 - 7	-38 -29 - 3 + 4	b 1.97 b 2.44 b 4.21 b 4.28	+38 +45 - 7 -14	$-24 \\ -18 \\ + 4 \\ + 6$	b 2. 11 b 2. 49 b 4. 07 b 4. 72
All causes: Fall River, 3 years 3 cities, 1 year	- 7 - 9	+ 5 + 3	b 6.19 b 7.78	+23 +21	-14 - 9	<sup>b</sup> 6.18 <sup>b</sup> 6.72	+ 9 + 6	- 5 - 2	b 6.18 b 7.21

#### PER CENT BY WHICH DEATH RATES IN EACH SEX AND OCCUPATION GROUP ARE MORE OR LESS THAN FOR TOTAL ALL OCCUPATIONS, BOTH SEXES.

POPULATION. Fall River									
3 cities DEATHS.									
Tuberculous: Fall River, 3 years 3 cities, 1 year	+25 +21	$-3 \\ -5$	+ 8 + 3	+52 +65	$-42 \\ -30$	- 7 - 2	+38 +45	-24 -18	b 2.11 b 2.49
Fall River, 3 years 3 cities, 1 year	$-24 \\ -13$	$^{+ 9}_{+ 20}$	- 4 +11	$^{+ 9}_{-15}$	+(c) - 7	$+3 \\ -9$	$-7 \\ -14$	+ 4 + 6	b 4.07 b 4.72
All causes: Fall River, 3 years 3 cities, 1 year	- 7 - 2	$^{+5}_{+12}$	+(0) + 8	+23 +12	$-14 \\ -15$	- 7	+9 + 6	$-5 \\ -2$	b 6.18 b 7.21

# PER CENT BY WHICH DEATH RATES IN EACH OCCUPATION AND CAUSE OF DEATH GROUP ARE MORE OR LESS THAN FOR ALL CAUSES AND OCCUPATIONS, BY SEX.

DEATHS.									
Tuberculous:	40	50	FF	00	24	20	50		
3 cities, 1 year	-62	-70	-55 -67	$-28 \\ -39$	-74	-32	-53 -50	-74	-66
Nontuberculous: Fall River, 3 years 3 cities, 1 year	$-40 \\ -35$	$-13 \\ -27$	24 33	-48 -41	80 35	$-68 \\ -36$	$-39 \\ -44$	$-31 \\ -31$	$-34 \\ -35$
All causes: Fall River, 3 years 3 cities, 1 year	- 7 - 9	+5 + 3	b 6.19 b 7.78	+23 +21	-14 - 9	b 6.18 b 6.72	+9 + 6	$-5 \\ -2$	b 6.18 b 7.21

#### PER CENT BY WHICH DEATH RATES IN EACH SEX, OCCUPATION, AND CAUSE OF DEATH GROUP ARE MORE OR LESS THAN FOR TOTAL ALL CLASSES.

DEATHS.							1		-
Tuberculous: Fall River, 3 years 3 cities, 1 year Nontuberculous: Fall River, 3 years 3 cities, 1 year	57 58 50 43	-67 -67 -28 -21	63 64 37 28	-48 -43 -28 -45	80 76 34 39	-68 -66 -32 -41	-53 -50 -39 -44	-74 -72 -31 -31	66 65 34 35
All causes: Fall River, 3 years 3 cities, 1 year	- 7 - 2	+ 5 + 12	+(c) + 8	+23 +12	14 15		+ 9 + 6	-51 -5 -2	b 6.18 b 7.21

c Less than one-tenth of 1 per cent.

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# TABLE 39.—PER CENT IN EACH SEX AND RACE GROUP OF TOTAL POP BERCULOUS CAUSES, FOR AGE GROUPS 15 TO 44 YEARS AND 10 YEARS AND PAWTUCKET). POPULATION.

	Ma	des.	Fen	nales.	Both sexes.		
Race and locality.	15 to 44 years.	10 years and over.	15 to 44 years.	10 years and over.	15 to 44 years.	10 years and over.	
All non-Irish races: Fall River 3 cities	42 39	44 41	40 43	37 40	82 82	81 81	
Irish: Fall River	7 6	8 7	11 12	11 12	18 18	19 19	
Fall River	3 4	3 4	4 3	3	7 7	6 7	
Fall River	14 11	16 13	13 12	13 12	27 23	29 25	

## DEATHS.

			67	Tuberculous.					
Race, locality, and	period.	Ма	les.	Fem	ales.	Both	sexes.		
11 Same		15 to 44 years.	10 years and over.	15 to 44 years.	10 years and over.	15 to 44 years.	10 years and over.		
All non-Irish races:							-		
Fall River	{1 year	32	33	43	39	75	72		
3 cities	(3 years {1 year 3 years	33 30 29	34 30 30	38 42 40	35 39 38	71 72 69	69 69 68		
Irish:									
Fall River	{1 year 3 years	11 11	13 12	14 18	15 19	25 29	28 31		
3 cities	1 year	8	10	21 22	21 21	29 31	31		
American:	(0 ) 001011					UA	04		
Fall River	{1 year	5	4	4	4	9	8		
2 oition	1 year	4	3	3 4	5	8	5 8		
D'mallah.	····· \3 years	3	3	4	4	7	7		
English:	(1 year	6	8	12	11	18	10		
Fall River	(3 years	9	9	7	8	16	17		
3 cities	{1 year	6	8	11	10	17	18		
French Canadian:	to years	1	ð	ð	8	15	10		
Fall River	∫1 year	13	14	21	18	34	32		
	3 years.	14	14	21	19	35	33		
3 cities	3 years.	12	12	21 22	21	33	31 32		
Other races:	(- )					0.	0.0		
Fall River	1 year	8 7	7	6 7	6	14	13		
• aitias	1 year	8	7	5	5	14	14 12		
3 CITIES	(3 years	7	8	6	5	13	13		
Total, all races:					-				
Fall River	∫1 year	43	46	57	54	a 77	a 87		
- 044 - 01 7 04	3 years	44	46	56	54	a 188	a 206		
3 cities	3 years	38	40 41	62 62	60 59	a 288	a 131 a 310		
the set of the set of the set of the	(0 ) 00000000			54	00		- 013		

a Total on which per cents are based.

# ULATION AND OF TOTAL DEATHS FROM TUBERCULOUS AND NONTU-AND OVER, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER,

	Ma	les.	Fen	ales.	Both sexes.		
Race and locality.	15 to 44 years.	10 years and over.	15 to 44 years.	10 years and over.	15 to 44 years.	10 years and over.	
French Canadian: Fall River. 3 cities.	17 15	17 15	16 19	15 18	33 34	32 33	
Other races: Fall River 3 cities	8 10	8 9	7 8	6 7	15 18	14 16	
All races: Fall River	49 46	52 48	51 54	48 52	a 21, 444 a 32, 636	a 25, 158 a 38, 445	

#### POPULATION.

#### DEATHS.

			Nontub	erculous.					AI	l causes.	ies.		
	Ma	lles.	Fer	nales.	Both	sexes.	Ма	ales.	Fen	nales.	Both	sexes.	
2	15 to	10 years	15 to	10 years	15 to	10 years							
	44	and	44	and	44	and	44	and	44	and	44	and	
	years.	over.	years.	over.	years.	over.	years.	over.	years.	over.	years.	over.	
	34 30 38 32	40 39 41 41	44 44 39 41	34 34 31 31	78 74 77 73	74 73 72 72	34 31 34 30	37 37 37 37 37	43 42 40 41	36 34 34 34 34	77 73 74 71	73 71 71 71 71	
	9 10 8 10	13 12 13 12	13 16 15 17	13 15 15 16	22 26 23 27	26 27 28 28	9 10 8 10	13 12 12 12 11	14 17 18 19	14 17 17 18	23 27 26 29	27 29 29 29	
	5	4	4	4	9	8	5	4	4	4	9	8	
	4	3	4	4	8	7	3	3	4	3	7	6	
	8	6	3	4	11	10	6	5	3	4	9	9	
	4	6	5	4	9	10	4	5	4	4	8	9	
	4	16	11	10	15	26	6	13	11	11	17	24	
	7	17	12	11	19	28	8	14	10	10	18	24	
	6	15	12	11	18	26	6	12	12	11	18	23	
	8	16	12	11	20	27	7	13	11	10	18	23	
	18	14	21	15	39	29	16	14	21	16	37	30	
	13	13	20	14	33	27	13	13	21	16	34	29	
	17	13	18	13	35	26	19	13	20	15	39	28	
	13	10	17	12	30	22	12	11	20	15	32	26	
	7	6	8	5	15	11	7	6	7	5	14	11	
	6	6	8	5	14	11	7	7	7	5	14	12	
	7	7	6	3	13	10	8	7	5	4	13	11	
	7	9	7	4	14	13	7	8	6	5	13	13	
	43	53	57	47	a 90	a 148	43	50	57	50	a 167	a 235	
	40	51	60	49	a 244	a 380	41	49	59	51	a 432	a 586	
	46	54	54	46	a 132	a 222	42	49	58	51	a 250	a 353	
	42	53	58	47	a 328	a 554	40	48	60	52	a 616	a 873	

# TABLE 40.—PER CENT IN EACH SEX, OCCUPATION, AND RACE GROUP FOR AGE GROUPS 15 TO 44 YEARS AND 10 YEARS AND OVER, FALL

**POPULATION.** 

			Ма	les.		
Race, locality, and period.	Opera	atives.	Nonope	oratives.	Both o	lasses.
	15 to 44 years.	10 years and over.	15 to 44 years.	10 years and over.	15 to 44 years.	10 years and over.
All non-Irish races: Fall River	16 11	12 9	23 28	27 30	39 39	39 39
Irish: Fall River	3 2	3 2	5 6	5 6	8 8	8 8
American: Fall River	1 1	1	8 11	7 11	9 12	8 12
Fall River	53	4 3	56	6 6	10 9	10 9
Fail River	4	3	8	89	13 12	13
Fall River	3	2	3	4	6	6
Fall River	19 13	15 11	28 34	32 36	47 47	47 47

## DEATHS FROM TUBERCULOSIS.

All non-Irish races: Fall River	{1 year	17	16	14	14	31	30
3 cities	1 year 3 years	13 12	10 11 10	16 18	9 21	29 30	30 31
Irish:							
Fall River	1 year 3 years	6 5 2	6	13 13	17 15	19 18	23 21 20
3 cities	3 vears	3	4	17	16	20	20
American:	(0 ) 00-000	Ű				20	
Fall River	1 year 3 years	3	· 2 1	24.	350	556	567
3 cities	1 year	1	1	D D B	7	07	6
English:	(0 y caus			0			0
Fall River	{1 year 3 years	3 5	4 4	54	5 5	8 9	9 9
3 cities	1 year 3 years	3	32	4	55	77	87
French Canadian:	(- )						
Fall River	1 year 3 years	77	76	55	44	12 12	11 10
3 cities	1 year	5 5	4	5	6	10	10
Other races:	(0 ) 001.5	v	×		0		10
Fall River	1 year	4 5	3	2	23	67	57
3 cities	1 year 3 years	43	33	222	23	6 5	5 6
Total, all races:			1				
Fall River	{1 year 3 years	23 23	22 21	27 28	31 32	50 51	53 53
3 cities	{1 year 3 years	16 15	14 14	32 35	36 37	48 50	50 51

• Total on which per cents are based.

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# OF TOTAL POPULATION AND OF TOTAL DEATHS FROM TUBERCULOSIS RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET).

		Fen	ales.			Both sexes.						
Opera	atives.	Nonope	eratives.	Both	classes.	Opera	atives.	Nonope	eratives.	Both	lasses.	
15 to 44 years.	10 years and over.	15 to 44 years.	10 ye and o	ars ver.								
15 13	11 9	28 29	32 33	• 43 42	<b>43</b> 42	31 24	23 18	51 57	59 63	82 81		82 81
43	3 2	6 8	7 9	10 11	10 11	7 5	6 4	11 14	12 15	18 19	E	18 19
1 1	1	8 12	9 12	9 13	10 13	2 2	2 2	16 23	16 23	18 25	0	18 25
5 4	4 3	7 6	8 7	12 10	12 10	10 7	8 6	12 12	14 13	22 19	- 1	22 19
6 6	4	8 8	10 10	14 14	14 14	13 10	9 7	14 16	18 19	27 26		27 26
3 2	2 1	5 3	5 4	8 5	7 5	6 5	43	9 6	11 8	15 11		15 11
19 16	14 11	34 37	39 42	53 53	53 53	38 29	29 22	62 71	71 78	a 55, 911 a 112, 725	€ 85 € 172	, 666 , 861

# POPULATION.

DEATHS FROM TUBERCULOSIS.

22	19	13	13	35	32	39	35	27	27	66	62
20	16	14	16	34	32	38	31	29	33	67	64
17	14	17	18	34	32	30	25	33	37	63	62
16	13	18	20	34	33	28	23	36	41	64	64
8	7	7	8	15	15	14	13	20	25	34	38
10	8	5	7	15	15	15	14	18	22	33	36
9	8	9	10	18	18	12	11	25	27	37	38
9	7	7	9	16	16	12	11	24	25	36	36
2 2 2 2 2	2 1 2 1	2 2 3 4	- 3 - 4 6	4 4 5 6	5 4 6 7	5 3 3 3	4 2 3 2	4 6 8 10	6 8 10 13	9 9 11 13	10 10 13 15
6 4 4 3	6 4 4 3	3 3 3 3	3 4 3 4	9 7 7 6	9 8 7 7	9 9 7 6	10 8 7 5	8 7 7 7 7	8 9 8 9	17 16 14 13	18 17 15 14
10	8	5	4	15	12	17	15	10	8	27	23
11	8	5	5	16	13	18	14	10	9	28	23
9	7	8	8	17	15	14	11	13	14	27	25
9	7	8	8	17	. 15	14	11	14	14	28	25
4	3	3	3	7	6	8	6	5	5	13	11
3	3	4	4	7	7	8	7	6	7	14	14
2	1	3	3	5	4	6	4	5	5	11	9
2	2	3	2	5	4	5	5	5	5	10	10
30	26	20	21	50	47	53	48	47	52	a 147	6 182
30	24	19	23	49	47	53	45	47	55	a 234	6 466
26	22	26	28	52	50	42	36	58	64	a 281	6 360
25	20	25	29	50	49	40	34	60	66	a 713	6 953

# TABLE 41.—POPULATION, DEATHS, AND DEATH RATES PER 1,000 POP TUBERCULOUS CAUSES, OF OPERATIVES AND NONOPERATIVES, FOR CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR.

		Males.	-	•	Females		Both sexes.			
Age group and locality.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	
104.14							_		-	
10 to 14 years: Fall Biyor	201	4 085	5 976	232	5 161	5 303	523	10 146	10 660	
3 cities	340	9,825	10,165	302	9,929	10,231	642	19,754	20, 396	
15 to 24 years:	010	0,010	10,100	001	0,040	10,101		10,101		
Fall River	4,342	5,874	10,216	6,039	6,075	12,114	10,381	11,949	22,330	
3 cities	6,428	13,625	20,053	9,448	14,496	23,944	15,876	28,121	43,997	
25 to 34 years:										
Fall River	3,267	5,659	8,926	3,271	6,713	9,984	6,538	12,372	18,910	
3 CITIES	4, 628	13,530	18,104	5,209	15,405	20,734	9,897	29,001	38,898	
55 to 44 years:	9 770	4 207	7 096	1 746	5 920	7 595	4 595	10 146	14 671	
3 cities	3,866	10 370	14 236	3 047	12 547	15 594	6 913	22 917	29 830	
45 to 54 years:	0,000	10,010	11,200	0,011	12,011	10,001	0,010	22,011	20,000	
Fall River	1,619	2,940	4,559	682	4,464	5,146	2,301	7,404	9,705	
3 cities	2,331	7,107	9,438	1,290	9,296	10,586	3,621	16,403	20,024	
55 to 64 years:			-			_				
Fall River	574	2,092	2,666	161	2,904	3,065	735	4,996	5,731	
3 citles	891	4,464	5,355	316	5,971	0,287	1,207	10,435	11,642	

## **POPULATION.**

## DEATHS, TUBERCULOUS.

				Num	ber of de	aths.	_		-
Age group, locality, and	-	Males.			Females.		В	oth sexe	s.
	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.
10 to 14 years: Fall River, 3 years. 3 cities, 1 year. 15 to 24 years: Fall River, 3 years. 3 cities, 1 year. 5 to 34 years: Fall River, 3 years. 3 cities, 1 year. 3 cities, 1 year. 5 to 44 years: Fall River, 3 years. 3 cities, 1 year. 5 to 54 years: Fall River, 3 years. 3 cities, 1 year. 5 to 64 years: Fall River, 3 years. 3 cities, 1 year. 5 to 64 years. Fall River, 3 years. 5 cities, 1 year. 5 to 64 years. Fall River, 3 years. 6 years. 5 years and over:	27 13 29 19 26 13 7 6 5 2	20 22 40 38 37 29 28 19 15 11	47 35 69 57 63 42 35 25 20 13	1 43 27 46 32 17 14 6 4	8 3 19 24 39 31 11 19 17 6 10 13	8 4 62 51 85 63 28 33 28 33 20 10 10	1 70 40 75 51 43 27 13 10 5 2	8 3 39 46 79 69 48 48 48 48 45 25 25 25 25	8 4 109 86 154 120 91 75 58 35 30 26
Fall River, 3 years 3 cities, 1 year		12 8	12 8		4 6	4 6		$\frac{16}{14}$	$\frac{16}{14}$
Fall River, 3 years 3 cities, 1 year	94 53	152 127	246 180	112 78	108 102	220 180	206 131	260 229	466 360
15 to 44 years: Fall River, 3 years 3 cities, 1 year 45 to 64 years: Fall River, 3 years 3 cities, 1 year	82 45 12 8	97 89 43 30	179 134 55 38	106 73 6 4	69 74 27 19	175 147 33 23	188 118 18 18 12	166 163 70 49	354 281 88 61

# CHAPTER IV.-POPULATION AND MORTALITY TABLES. 289

# AGES 10 YEARS AND OVER-POPULATION AND DEATHS.

ULATION 10 YEARS OF AGE AND OVER FROM TUBERCULOUS AND NON-EACH 10-YEAR AGE GROUP, BY SEX, FALL RIVER, 1905 TO 1907, AND 3

In the second									
		Males.			Females.		Both sexes.		
Age group and locality.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.
65 years and over: Fall River. 3 cities.	138 247	$1,468 \\ 3,268$	1,606 3,515	17 45	2,027 4,514	<b>2</b> , 044 4, 559	155 292	3,495 7,782	3,650 8,074
Total 10 years and over: Fall River. 3 cities	13, 010 18, 731	27,325 62,195	<b>40, 335</b> 80, 926	12, 148 19, 717	33, 183 72, 218	<b>45, 331</b> <b>91, 935</b>	25,158 38,448	60, 508 134, 413	85,666 172,861
15 to 44 years: Fall River	10, 388 14, 922	15,840 37,531	26, 228 52, 453	11,056 17,764	18, 627 42, 508	29,683 60,272	21, 444 32, 686	34, 467 80, 039	55,911 112,725
Fall River	2, 193 3, 222	$5,032 \\ 11,571$	7, 225 14, 793	843 1,606	7, 368 15, 267	8, 211 16, 873	3,036 4,828	12, 400 26, 838	15, 436 31, 666
1.1.2				14	T.		- 1		

## **POPULATION.**

## DEATHS, TUBERCULOUS.

	Death rate per 1,000 population.											
	Males.			Females.			Both sexes.					
Operatives.	Nonopera- tives.	Both classes.	Opera- tives. Nonopera- tives. c		Both classes.	Opera- tives.	Nonopera- tives.	Both classes.				
			3.31	$\begin{array}{c} 0.52\\.30\end{array}$	0.50 .39	1.56	0.26 .15	0.25 .20				
<b>2</b> . 07 <b>2</b> . 02	<b>1</b> . 14 1. 61	$1.53 \\ 1.75$	<b>2.</b> 37 <b>2.</b> 86	$\begin{array}{c} 1.04\\ 1.65\end{array}$	1.71 2.13	2.25 2.52	$\begin{array}{c} 1.09\\ 1.63\end{array}$	1.63 1.96				
2.96 4.11	2.36 2.81	2.58 3.14	4.69 6.07	1.94 2.00	<b>2.</b> 84 3.04	$3.82 \\ 5.16$	2.13 2.38	2.72 3.08				
$\begin{array}{c} 3.12\\ 3.36\end{array}$	$2.86 \\ 2.80$	2.97 2.95	3.24 4.59	.63 1.51	1.23 2.12	3.17 3.91	1.58 2.09	2.07 2.51				
1.44 2.58	3.17 2.67	2.56 2.65	2.93 3.10	$\begin{array}{c} 1.27\\ .65\end{array}$	1.49 .95	1.89 2.76	2.03 1.52	1.99 1.75				
2.90 2.24	2.39 2.46	2.50 2.43		1.15 2.18	$1.09 \\ 2.07$	2.27 1.66	$1.67 \\ 2.30$	1.75 2.23				
	$2.72 \\ 2.45$	2.49 2.27		.66 1.33	. 65 1. 32		$1.53 \\ 1.80$	$\begin{array}{c} 1.46\\ 1.73\end{array}$				
2.41 2.83	1.85 2.04	2.03 2.22	3.07 3.96	1.09 1.41	1.62 1.96	<b>2.</b> 73 3.41	1.43 1.71	1.81 2.08				
2.63 3.01	2.04 2.37	2.23 2.56	3.20 4.11	1.23 1.74	1.97 2.44	2.92 3.61	1.60 2.03	<b>2.11</b> <b>2.4</b> 9				
1.82 2.48	2.85 2.59	2.54 2.57	2. 37 2. 49	$1.22 \\ 1.24$	1.34 1.36	1.98 2.49	1.88 1.83	1.90 1.93				

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TABLE 41.—POPULATION, DEATHS, AND DEATH RATES PER 1,000 POP TUBERCULOUS CAUSES, OF OPERATIVES AND NONOPERATIVES, FOR CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR—

				Num	ber of de	eaths.		•	
Age group locality and		Males.			Females		В	oth sexe	s.
period.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.
10 to 14 years: Fall River, 3 years 3 cities, 1 year	33	33 23	36 26	1	23 24	24 25	4 4	56 47	60 51
Fall River, 3 years 3 cities, 1 year	37 26	39 50	76 76	53 28	35 32	88 60	90 54	74 82	164 136
Fall River, 3 years 3 cities, 1 year	33 20	68 79	101 99	44 21	86 72	130 93	77 41	154 151	231 192
Fall River, 3 years 3 cities, 1 year	27 15	104 84	131 99	50 22	107 83	157 105	77 37	211 167	288 204
Fall River, 3 years 3 cities, 1 year	36 18	142 112	178 130	24 19	171 134	195 • 153	60 37	313 246	373 283
Fall River, 3 years 3 cities, 1 year 65 years and over	37 21	224 182	261 203	13 9	301 189	314 198	50 30	525 371	575 401
Fall River, 3 years 3 cities, 1 year	20 18	335 293	355 311	2 1	440 411	442 412	22 19	775 704	797 723
Total 10 years and over: Fall River, 3 years 3 cities, 1 year	193 121	945 823	1,138 944	187 101	1,163 945	$1,350 \\ 1,046$	380 222	2,108 1,768	2, 488 1, 990
15 to 44 years: Fall River, 3 years 3 cities, 1 year	97 61	211 213	308 274	147 71	228 187	375 258	244 132	439 400	683 532
Fall River, 3 years 3 cities, 1 year	73 39	366 294	439 333	37 28	472 323	509 351	110 67	838 617	948 684

## DEATHS, NONTUBERCULOUS.

## DEATHS, ALL CAUSES.

				-						
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	10 to 14 years:					1		5		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Fall River. 3 years	3	33	36	1	31	32	4	64	68
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	3 cities, 1 year	3	23	26	2	27	29	5	50	55
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	15 to 24 years:									
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Fall River, 3 years	64	59	123	96	54	150	160	113	273
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3 cities 1 year	39	72	111	55	56	111	94	128	922
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	95 to 34 years.	00		111	00	00		01	120	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Foll Divor 2 voors	69	109	170	00	195	915	159	922	295
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	2 aiting 1 moor	20	117	156	53	103	156	02	220	212
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	o cities, i year	35	111	100	00	100	100	54	220	012
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Eall Dimen 2 man	50	1.41	104	07	110	105	120	950	970
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Fall River, 3 years	00	141	194	07	110	100	120	209	3/9
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	3 cities, 1 year	28	113	141	30	102	138	04	215	279
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	45 to 54 years:	10	170	010		100	010		050	101
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Fall River, 3 years	43	170	213	30	188	218	13	358	431
45         to 64         years:         42         239         281         13         311         324         55         550         605           3         cities, 1         year.         23         193         216         9         202         211         32         395         427           65         years and over:         -	3 cities, 1 year	24	131	155	23	140	163	47	271	318
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	55 to 64 years:									
3 citiles, 1 year	Fall River, 3 years	42	239	281	13	311	324	55	550	605
65 years and over:         20         347         367         2         444         446         22         791         813           3 cities, 1 year         18         301         319         1         417         418         19         718         737	3 cities, 1 year	23	193	216	9	202	211	32	395	427
Fall River, 3 years         20         347         367         2         444         446         22         791         813           3 cities, 1 year         18         301         319         1         417         418         19         718         737	65 years and over:									
3 cities, 1 year 18 301 319 1 417 418 19 718 737	Fall River, 3 years	20	347	367	2	444	446	22	791	813
	3 cities, 1 year	18	301	319	1	417	418	19	718	737
Total 10 years and over:	Total 10 years and over:									
Fall River, 3 years 287 1,097 1,384 299 1,271 1,570 586 2,368 2,954	Fall River, 3 years	287	1,097	1,384	299	1,271	1,570	586	2,368	2,954
3 cities, 1 year	3 cities, 1 year	174	950	1,124	179	1,047	1,226	353	1,997	2,350
15 to 44 years:	15 to 44 years:	-								
Fall River, 3 years	Fall River, 3 years	179	308	487	253	297	550	432	605	1.037
3 cities, 1 year,	3 cities, 1 year.	106	302	408	144	261	405	250	563	813
45 to 64 years:	45 to 64 years:									
Fall River, 3 years	Fall River, 3 years	85	409	494	43	499	542	128	908	1.036
3 cities, 1 year,	3 cities, 1 year	47	324	371	32	342	374	79	666	745
				0.11	02	011	011	10	000	1.00

ULATION 10 YEARS OF AGE AND OVER FROM TUBERCULOUS AND NON-EACH 10-YEAR AGE GROUP, BY SEX, FALL RIVER, 1905 TO 1907, AND 3 Concluded.

	Death rate per 1,000 population.													
	Males.			Females:			Both sexes							
Operatives.	Nonopera-	Both	Opera-	Nonopera-	Both	Opera-	Nonopera-	Both						
	tives.	classes.	tives.	tives.	classes.	tives.	tives.	classes.						
3.44	2.21	2.27	1.44	1.48	1.48	2.55	1.84	1.87						
8.82	2.34	2.56	3.31	2.42	2.44	6.23	2.38	2.50						
2.84	2.21	2.48	2. 93	1.92	2.42	2.89	<b>2.</b> 06	2.45						
4.05	3.67	3.79	2. 96	2.21	2.51	3.40	<b>2.</b> 92	3.09						
3.37	4.00	3.77	4.48	4.27	4.34	3.93	4.15	4.07						
4.32	5.83	5.45	3.99	4.66	4.48	4.14	5.21	4.94						
3.24	8.05	6.16	9.55	$\begin{array}{c} 6.11\\ 6.62 \end{array}$	6.90	5.67	6.93	6.54						
3.88	8.10	6.95	7.22		6.73	5.35	7.29	6.84						
7.41	16.10	13.01	11.73	12.77	12.63	8.69	14.09	12.81						
7.72	15.76	13.77	14.73	14.41	14.45	10.22	15.00	14.13						
21. 49	35.69	32.63	26.92	34.55	34.15	22.67	35.03	33. 44						
23. 57	40.77	37.91	28.48	31.65	31.49	24.85	35.55	34. 45						
48.31	76.07	73.68	39. 22	72.35	72.08	47.31	73.91	72.79						
72.87	89.66	88.48	22. 22	91.05	90.37	65.07	90.46	89.55						
4.94	11. 53	9. 41	5.13	11.68	9.92	5.03	$     \begin{array}{r}       11.62 \\       13.15     \end{array} $	9.68						
6.46	13. 23	11. 67	5.12	13.09	11.38	5.77		11.51						
3.11	4. 44	3.91	4.43	4.08	4.21	3.80	4.25	4.07						
4.09	5. 68	5.22	4.00	4.40	4.28	4.05	5.00	4.72						
11.10	24. 24	20. 25	14.63	21.35	20. 66	12.07	22.53	20.47						
12.11	25. 41	22. 51	17.44	21.16	20. 81	13.87	22.99	21.60						

## DEATHS, NONTUBERCULOUS.

DEATHS, ALL CAUSES.

3. 44 8. 82		$\begin{array}{c} \textbf{2.21}\\ \textbf{2.34} \end{array}$	2.27 2.56	1.44 6.62	<b>2.00</b> <b>2.72</b>		1.98 2.83	2.55 7.79	2.10 2.53	<b>2.12</b> <b>2.70</b>
4.91 6.07		3.35 5.28	4.01 5.54	5.30 5.82	2.96 3.86		4.13 4.64	5.14 5.92	<b>3</b> . 15 4. 55	4.08 5.05
6. 33 8. 43		6.36 8.64	6.35 8.59	9.17 10.06	6.21 6.66	6	7.18 7.52	7.75 9.30	6.28 7.59	6.79 8.02
6.36 7.24		10.91 10.90	9.13 9.90	12.79 11.81	6.74 8.13		8.13 8.85	8.84 9.26	8.51 9.38	8.61 9.35
8.85 10.30	-	19. 27 18. 43	$15.57 \\ 16.42$	14.66 17.83	14.04 15.06		14.12 15.40	10.58 12.98	16.12 16.52	14.80 15.88
$24.39 \\ 25.81$		38.08 43.23	35.13 40.34	26.92 28.48	35. 70 33. 83		$35.24 \\ 33.56$	24. 94 26. 51	36.70 37.85	35.19 36.68
48. 31 72. 87		78.79 92.11	76.17 90.75	39. 22 22. 22	73.01 92.38		72.73 91.69	47.31 65.07	75.44 92.26	74. 25 91. 28
7.35 9.29		13.38 15.27	11. 44 13. 89	8.20 9.08	12.77 14.50		$\begin{array}{c} 11.54\\ 13.34 \end{array}$	7.76 9.18	13.05 14.86	11. 49 13. 59
5.74 7.10		6.48 8.05	6.19 7.78	7.63 8.11	5.31 6.14		6.18 6.72	6.72 7.65	5.85 7.03	6. 18 7. 21
12.92 14.59		27.09 28.00	22.79 25.08	17.00 19.93	22.58 22.40		22.00 22.17	14.05 16.36	24. 41 24. 82	22.37 23.53

# 292 CAUSES OF DEATH AMONG COTTON-MILL OPERATIVES.

## AGES 10 YEARS AND OVER-POPULATION AND DEATHS.

TABLE 42.—AGE PERCENTAGE DISTRIBUTION OF OPERATIVE AND OF<br/>NONOPERATIVE MALES AND FEMALES, FOR POPULATION AND FOR<br/>DEATHS FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES,<br/>FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER,<br/>AND PAWTUCKET), 1 YEAR.

	1			1				1		
		Males.				Females.		I	Both sexe	s.
Age group and locality.	Opera- tives.	Non- opera- tives.	Both classes.	Or tiv	oera- ves.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.
10 to 14 years: Fall River	2 2	18 16	13 13		2 2	16 14	12 11	2 2	17 15	13 12
Fall River	34 34	22 22	25 25		50 48	18 20	27 26	41 41	- 20 21	26 25
25 to 34 years: Fall River	25	21	22		27	20 22	22	26 26	20	22
35 to 44 years: Fall River	21	16	18		14	18	17	18	17	17
45 to 54 years: Fall River	13	17	18		15 6	17	17	18	17	17
3 cities 55 to 64 years:	12	11	12		7	13	11	9	12	12
3 cities 65 years and over:	5	7	6		1	8	7	3	8	6
Fall River 3 cities	1	55	4			6 6	4 5	1	6 6	45
Total population 10 years and over:	10.010	07 005	40.005	10	1.40	00 100	45 001	05 150		05 000
3 cities	13,010	27, 325 62, 195	40,335 80,926	12,	717	33,183 72,218	45,331 91,935	25,158 38,448	60, 508 134, 413	85,666
15 to 44 years: Fall River	80 80	59 61	65 65		91 90	56 59	66 66	85 85	57	65
45 to 64 years: Fall River	17	18	18	-	7	22	18	12	20	18
3 Citles	17	18	18		8	21	18	12	20	18
	E	EATHS	5, TUB	ERC	CUL	ous.				
10 to 14 years: Fall River, 3 years						7	4		3	2
15 to 24 years: Fall River, 3 years	29	13	19		39	18	28	34	15	23
3 cities, 1 year 25 to 34 years: Fall River, 3 years	25	17	20 28		35 42	24	29 39	31 36	20	24
3 cities, 1 year 35 to 44 years:	35	30	31		41	30	35	39	30	34
3 cities, 1 year. 45 to 54 years:	24	23	20		18	10	12	20	21	20
55 to 64 years:	7 12	18 15	14 14		6 5	16 6	10 5	• <sup>6</sup>	17 11	13 10
Fall River, 3 years 3 cities, 1 year	5 4	10 9	8 7			9 13	5 7	$3 \\ 1$	10 11	6 7
Fall River, 3 years 3 cities, 1 year		8 6	5 5			4 6	2 3		6 6	3 4
Total deaths from tuberculo- sis of persons 10 years and over:			-							
Fall River, 3 years 3 cities, 1 year	94 53	152 127	246 180		112 78	108 102	220 180	206 131	260 229	466 360
15 to 44 years: Fall River, 3 years 3 cities, 1 year	88 84	64 70	73 74		94 94	64 73	79 83	91 90	64 71	76 78
45 to 64 years: Fall River, 3 years 3 cities, 1 year	12 16	28 24	22 21		6 5	25 19	15 12	9 9	27 22	19 17

**POPULATION.** 

# CHAPTER IV.—POPULATION AND MORTALITY TABLES. 293

# AGES 10 YEARS AND OVER-POPULATION AND DEATHS.

**TABLE 42.**—AGE PERCENTAGE DISTRIBUTION OF OPERATIVE AND OF NONOPERATIVE MALES AND FEMALES, FOR POPULATION AND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR—Concluded.

	Males.			1	Females		Both sexes.			
Age, group, locality, and period.	Opera- tives.	Non- opera- cives.	Both classes.	Opera- tives.	Non- opera- tives,	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	
10 to 14 years:						_				
3 cities, 1 year.		3	3		$\frac{2}{2}$	22	1 2	3	23	
15 to 24 years: Fall Biver 3 years	10	4	7	28	2	7	94		7	
3 cities, 1 year	21	6	8	28	3	6	24	4	7	
Fall River, 3 years	17	7	8	24	7	9	20	7	9	
3 cities, 1 year	16	10	10	21	8	9	18	8	10	
Fall River, 3 years	14	11	12	27	9	12	20	10	12	
45 to 54 years:	12	10	11	21	8	10	17	10	10	
Fall River, 3 years	19	15	16	12	15	14	16	15	15	
55 to 64 years:	10	10	11	10	11	17	11	14	14	
3 cities, 1 year	19 18	24 23	23 21	9	26 20	23 19	13 13	$25 \\ 21$	23 20	
65 years and over:	10	36	21	1	20	22	6	97	20	
3 cities, 1 year	15	35	33	1	45	40	9	40	36	
Total deaths from non-										
tuberculous causes of per-			-	1	2					
Fall River, 3 years	193	945	1,138	187	1,163	1,350	380	2,108	2,488	
3 cities, 1 year	121	823	944	101	945	1,046	222	1,768	1,990	
15 to 44 years: Fall River 3 years	50	99	97	70	10	28	64	20	00	
3 cities, 1 year.	49	26	29	70	19	25	59	20	27	
Fall River, 3 years	38	39	39	19	41	37	29	40	38	
3 cities, 1 year	33	36	35	28	34	33	30	35	34	
		DEATH	IS, ALI	CAUS	ES.					
10 to 14 years:						1				
Fall River, 3 years	1	3-	3		2	2	1	3	2	
15 to 24 years:	4	4	2	1	0	2	1	3	2	
Fall River, 3 years 3 cities, 1 year	22 22	5	9	32 31	4 5	10	27 27	5	9	
25 to 34 years:	21	10	10	20	10	19	06	10	10	
3 cities, 1 year	21 22	13	14	29	10	13	20 26	10.	13	
35 to 44 years: Fall River, 3 years	19	13	14	22	9	12	20	11	13	
3 cities, 1 year	16	12	12	20	10	11	18	10	12	
Fall River, 3 years	15	15	16	10	15	14	13	15	15	
3 cities, 1 year 55 to 64 years:	14	14	14	13	13	14	13	13	14	
Fall River, 3 years	15	22	20	5	25	21	9	23	21	
65 years and over:	10	20	15		15	11	0	20	10	
3 cities, 1 year.	11	32 31	• 26 29	1	35 40	28 34	4	33 36	27 31	
Total deaths from all causes										
of persons 10 years and				1.1	115		-			
Fall River, 3 years	287	1,097	1,384	299	1,271	1,570	586	2,368	2,954	
3 cities, 1 year	174	950	1,124	179	1,047	1,226	353	1,997	2,350	
15 to 44 years: Fall River 3 years	69	20	25	84	92	25	72	26	25	
3 cities, 1 year	60	33	36	80	25	33	71	28	35	
Fall River, 3 years.	30	37	36	15	40	35	22	38	36	
3 cities, 1 year	27	34	33	18	32	31	22	33	32	

#### DEATHS, NONTUBERCULOUS.

TABLE 43.—SEX PERCENTAGE DISTRIBUTION OF OPERATIVES AND AND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCULOUS OVER THE OTHER, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL

-1	Operatives. Nonoperatives.					ves.	Both classes.			
Age group and locality.	Per	cent.	Num- ber,	Per	cent.	Num- ber,	Pero	eent.	Num- ber,	
	Males.	Fe- males.	both sexes (100 per cent).	Males.	Fe- males.	both sexes (100 per cent).	Males.	Fe- males.	both sexes (100 per cent).	
10 to 14 years: Fall River	56	44	523	49	51	10,146	49	51	10,669	
3 cities	53	47	642	50	50	19,754	50	50	20, 396	
Fall River 3 cities.	42 40	58 60	10,381 15,876	49 48	51 52	11,949 28,121	46 46	54 54	22, 330 43, 997	
25 to 34 years: Fall River	50	50 53	6,338	46 47	54	12,372	47	53	18,910	
35 to 44 years: Fall River	61	39	4,525	42	58	10,146	48	52	14,671	
3 cities 45 to 54 years:	56	44	6,913	45	55	22,917	48	52	29,830	
3 cities	64	36	3,621	40	57	16,403	47	53	20,024	
Fall River.	78 74	22 26	735 1,207	42 43	58 57	4,996 10,435	47 46	53 54	5,731 11,642	

# **POPULATION.**

### DEATHS, TUBERCULOUS.

	0	perative	s.	No	noperativ	ves.	В	oth class	2S.
Age group, locality, and	Per	eent.	Num- ber,	Per	eent.	Num- ber,	Per	eent.	Num- ber,
period.	Males.	Fe- males.	both sexes (100 per cent).	Males.	Fe- males.	both sexes (100 per cent).	Males.	Fe- males.	both sexes (100 per cent).
10 to 14 years: Fall River, 3 years 3 cities, 1 year		100	1		. 100	83		10) 100	84
Fall River, 3 years 3 cities, 1 year	39 52	61 68	70 40	51 48	49 52	39 46	43 41	57 59	109 86
20 to 34 years: Fall River, 3 years 3 cities, 1 year	39 37	61 63	75 51	<b>51</b> 55	49 45	79 69	45 47	55 53	154 120
Fall River, 3 years 3 cities, 1 year	60 48	40 52	<b>43</b> 27	77 60	23 40	48 48	69 56	31 44	91 75
Fall River, 3 years 3 cities, 1 year 55 to 64 years:	54 60	46 40	13 10	62 76	38 24	45 25	60 71	40 29	58 35
Fall River, 3 years 3 cities, 1 year 65 years and over:	100 100		5 2	60 46	40 54	25 24	67 50	33 50	30 26
Fall River, 3 years 3 cities, 1 year		•••••		75 57	25 43	16 14	75 57	25 43	16 1 <b>4</b>
Total, 10 years and over: Fall River, 3 years 3 cities, 1 year	46 40	5 t 60	206 131	58 55	42 45	260 229	53 50	47 50	466 260
15 to 44 years: Fall River, 3 years 3 cities, 1 year	44 38	<b>5</b> 6 62	188 118	58 55	42 45	166 163	51 48	49 52	354 281
45 to 64 years: Fall River, 3 years 3 cities, 1 year	67 67	33 33	18 12	61 61	39 39	70 49	63 62	37 38	88 61

• Less than one-half of 1 per cent.

# CHAPTER IV.—POPULATION AND MORTALITY TABLES. 295

# AGES 10 YEARS AND OVER-POPULATION AND DEATHS.

OF NONOPERATIVES IN EACH 10-YEAR AGE GROUP FOR POPULATION CAUSES, WITH PER CENT OF EXCESS IN DEATH RATE OF ONE SEX RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR.

	C	perative	×s.	No	noperati	ves.	Both classes.			
Age group and locality.	Per	cent.	Num- ber,	Per	cent.	Num- ber.	Per	cent.	Num- ber, both sexes (100 per cent).	
	Males.	Fe- males.	both sexes (100 per cent).	Males.	Fe- males.	both sexes (100 per cent).	Males.	Fe- males.		
65 years and over: Fall River	89 <b>85</b>	11 15	155 292	42 42	58 58	3,495 7,782	44 44	<b>5</b> 6 <b>5</b> 6	3,650 8,074	
Total 10 years and over: Fall River	52 49	48 51	25,158 38,448	45 46	55 54	60, 508 1 4, 413	47 47	5 <b>3</b> 53	85,660 172,861	
15 to 44 years: Fall River. 3 cities. 45 to 64 years:	48 46	52 54	21,444 32,686	46 47	54 53	34, 467 80, 039	47 47	53 53	55,911 112,725	
Fall River. 3 cities.	72 67	28 33	3,036 4,828	41 43	59 57	12,400 26,838	47 47	53 53	15,436 31,666	
1. N. 19. 1		14		-	- 1					

## **POPULATION.**

#### DEATHS, TUBERCULOUS.

	Operatives.		N	onoperative		Both classes	5.	
Per cent	t excess.	Death	Per cen	t excess.	Death	Per cen	t excess.	Death
Males.	Females.	both sexes.	Males.	Females.	both sexes.	Males.	Females.	both sexes.
				1.1				
		1.56	•••••		0.26 .15			0.25 .20
	14 42	2. 25 2. 52	10	2	1.09 1.63		12 22	1.63 1.96
	58 48	3.82 5.16	21 41		2.13 2.38	3	10	2.72 3.08
	4 37	3. 17 3. 91	<b>3</b> 54 85		1.58 2.09	141 39		2. 07 2. 51
	103 20	1.89 2.76	150 311		2.03 1.52	72 179		1.99 1.75
•••••		2.27 1.66	108 13		1.67 2.30	129 17		1.75 2.23
			312 84		1.53 1.80	283 72	· · · · · · · · · · · · · · · · · · ·	1.46 1.73
	27 40	2.73 3.41	70 45		1. 43 1. 71	25 13		1.81 2.08
	22 37	2.92 3.61	66 36		1.60 2.03	16 5		2.11 2.49
	(a) <sup>30</sup>	1.98 2.49	134 109		1.88 1.83	90 87	· · · · · · · · · · · · · · · · · · ·	1.90 1.93

# 296 CAUSES OF DEATH AMONG COTTON-MILL OPERATIVES.

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## AGES 10 YEARS AND OVER-POPULATION AND DEATHS.

TABLE 43.—SEX PERCENTAGE DISTRIBUTION OF OPERATIVES ANDAND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCULOUSOVER THE OTHER, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL

DEATHS, NONTUBERCULOUS.

	0	perative	s.	No	noperati	ves.	В	oth class	es.
Age group, locality, and period.	Per	cent.	Num- ber, both	Per	cent.	Num- ber, both	Per	cent.	Num- ber, both
	Males.	Fe- males.	sexes (100 per cent).	Males.	Fe- males.	sexes (100 per cent).	Males.	Fe- males.	sexes (100 per cent).
10 to 14 years: Fall River, 3 years	75	55	4	59	41	56	60	40	60
3 cities, 1 year 15 to 24 years:	75	25	4	49	51	47	51	49	51
Fall River, 3 years 3 cities, 1 year	41 48	59 52	90 54	53 61	47 39	74 82	46 56	54 44	$\begin{array}{c}164\\136\end{array}$
Fall River, 3 years	43	57 51	77	44	56	154	44	56	231
35 to 44 years: Fall River, 3 years	35	65	77	49	51	211	45	55	288
3 cities, 1 year 45 to 54 years:	41	59	37	50	50	167	49	51	204
Fall River, 3 years 3 cities, 1 year	60 49	40 51	60 37	45 46	55 54	313 246	48 46	52 54	373 283
Fall River, 3 years 3 cities, 1 year	74 70	26 30	50 30	43 49	57 51	525 371	45 51	<b>55</b> 49	575 401
65 years and over: Fall River, 3 years	91	9	22	43	57	775	45	55	797
3 cities, 1 year	95	5		42	58	704	43	57	723
Fall River, 3 years 3 cities. 1 year	51 55	49 45	380 222	45 47	55 53	2,108	46 47	54 53	2,488 1,990
15 to 44 years:									
Fall River, 3 years 3 cities, 1 year	40 46	60 54	244 132	48 53	• 52 47	439 400	45 52	55 48	683 532
Fall River, 3 years 3 cities, 1 year	66 58	34 42	$\begin{array}{c}110\\67\end{array}$	44 48	56 52	838 617	46 49	54 51	948 684
		DEATH	IS, ALI	CAUS	SES.				-
10 to 14 years:			-						1
Fall River, 3 years 3 cities, 1 year	75 60	25 40	4 5	52 46	48 54	$\begin{array}{c} 64 \\ 50 \end{array}$	53 47	47 53	68 55
Fall River, 3 years 3 cities, 1 year	40	60 59	160	52 56	48 44	113 128	45 50	55 50	273 222
25 to 34 years: Fall River, 3 years	41	59	152	46	54	233	44	56	385
3 cities, 1 year 35 to 44 years:	42	58	92	53	47 48	220	50	50	312
3 cities, 1 year	44 44	56	64	53 53	40 47	259 215	51 51	49 49	279
Fall River, 3 years 3 cities, 1 year	59 51	41 49	73 47	47 48	53 52	358 271	49 49	51 51	431 318
55 to 64 years: Fall River, 3 years 3 cities 1 year	76	24	55	43	57 51	550 395	46	54 49	605
55 years and over: • Fall River, 3 years	91	9	22	. 44	56	791	45	55	813
3 cities, 1 year	95	5	19	42	58	718	43	57	737
Fall River, 3 years 3 cities, 1 year	49 49	51 51	586 353	46 48	54 52	2,368 1,997,	47 48	53 52	2,954 2,350
15 to 44 years: Fall River, 3 years	41	59	432	51	49	605	47	53	1,037
3 cities, 1 year 15 to 64 years:	42	58	:50	54	46	563	50	50	813
Fall River, 3 ye rs 3 cities, 1 year	66 59	34 41	128 79	45 49	55 51	<b>908</b> 666	48 5)	52 50	1,036 745
		1						1	

a Less tha - one-half of 1 per cent.

#### 297 CHAPTER IV .--- POPULATION AND MORTALITY TABLES.

# AGES 10 YEARS AND OVER-POPULATION AND DEATHS.

# OF NONOPERATIVES IN EACH 10-YEAR AGE GROUP FOR POPULATION CAUSES, WITH PER CENT OF EXCESS IN DEATH RATE OF ONE SEX RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR-Concluded.

Operatives.			N	onoperative	s.	Both classes.			
Per cent	excess.	Death	Per cent	t excess.	Death	Per cent	t excess.	Death	
Males.	Females.	rate, both sexes.	Males.	Females.	rate, both sexes.	Males.	Females.	rate, both sexes.	
139 166		2, 55 6, 23	49	3	1.84 2.38	53 5		1.87 2.50	
37	3	2.89 3.40	15 66		2.06 2.92	2 51		2.45 3.09	
8	33	3. 93 4. 14	25	7	4. 15 5. 21	22	15	4.07 4.94	
	195 86	5.67 5.35	32 22		6. 93 7. 29	3	12	6. 54 6. 84	
•	58 91	8.69 10.22	26 9		14.09 15.00	3	5	12.81 14.13	
	25 21	22.67 24.85	3 29		35. 03 35. 55	20	5	33. 44 34. 45	
23 228		47. 31 65. 07	. 5	2	73. 91 90. 46	2	2	72.79 89.55	
26	4	5. 03 5. 77	1	1	11.62 13.15	3	5	9.68 11.51	
2	42	$3.80 \\ 4.05$	9 29		4. 25 5. 00		8	4. 0 <b>7</b> 4. 7 <b>2</b>	
	32 44	12.07 13.87	13 20		22. 53 22. 99	8	2	20. 47 21. 60	

### DEATHS, NONTUBERCULOUS.

#### DEATHS, ALL CAUSES.

120		0.55	-11		0.10			0.10
33	•••••	7.79		16	2.10	15	11	2.12 2.70
4	8	5.14 5.92	13 37	••••••	3.15 4.55	19	3	4.08 5.05
	45 19	7.75 9.30	2 30		6. 28 7. 59	14	13	6. 79 8. 02
	101 63	8. 5 ± 9. 26	62 34		8. 51 9. 38	12 12		8.61 9.35
	66 73	10. 58 12. 98	37 22		$16.12 \\ 16.52$	10 7		14.80 15.88
	10 10	24. 94 26. 51	7 28		36. 70 37. 85	20	(a)	35. 19 36. 68
23 228		47.31 65.07	8	( <i>a</i> )	* 75.44 92.26	5	1	74.25 91.28
2	12	7.76 9.18	55		13.05 14.86	4	1	11. 49 13. 59
	· 33 14	6.72 7.65	22 31		5.85 7.03	(a) 16		6. 18 7. 21
••••••••••••	32 37	14.05 16.36	20 25		24. 41 24. 82	4 13		22. 37 23. 5 <b>3</b>

 TABLE 44.—PER CENT OF OPERATIVES AND NONOPERATIVES AMONG

 ULATION AND FOR DEATHS FROM TUBERCULOUS AND NONTUBER

 OCCUPATION CLASS OVER THE OTHER, FALL RIVER, 1905 TO 1907, AND

- and the		Males.	-		Females		I	Both sexe	s.
Age group and locality.	Per	cent.	Num- ber,	Per	cent.	Num- ber,	Per	cent.	Num- ber,
	Opera- tives.	Non- opera- tives.	both classes (100 per cent).	Opera- tives.	Non- opera- tives.	both classes (100 per cent).	Opera- tives.	Non- opera- tives.	both classes (100 per cent).
10 to 14 years: Fall River	6	°94	5,276	4	96	5, 393	5	. 95	10,669
3 cities 15 to 24 years: Fall River	3 43	97 57	10, 165	3 50	97 50	10, 231 12, 114	3 46	97 54	20,396 22,330
3 cities. 25 to 34 years: Fall River	32 37	68 63	20, 053 8, 926	39 33	61 67	23, 944	36	64 65	43,997 18,910
3 cities	25 39	75 61 72	7,086	25	75	20,734	25 31	75 69	38, 898
45 to 54 years: Fall River.	35	65 75	4, 559	20 13	80 87	5,146	23 24	77	29,830 9,705
55 to 64 years: Fall River	23 22 17	75 78 83	9,438 2,666 5,355	55	95 95	3,065 6 287	18 13 10	82 87	5,731

# POPULATION.

## DEATHS, TUBERCULOUS.

		Males.			Females		B	oth sexe	s.
Age group, locality, and period.	Per	cent.	Num- ber,	Per	cent.	Num- ber,	Per	cent.	Num- ber,
	Opera- tives.	Non- opera- tives.	classes (100 per cent).	Opera- tives.	Non- opera- tives.	classes (100 per cent).	Opera- tives.	Non- opera- tives.	both classes (100 per cent).
10 to 14 years: Fall River, 3 years 3 cities, 1 year				25	100 75	84	25	100 75	84
15 to 24 years: Fall River, 3 years 3 citles, 1 year 25 to 34 years:	57 37	43 63	47 35	69 53	31 47	62 51	64 47	36 53	109 86
Fall River, 3 years 3 cities, 1 year	42 33	58 67	69 57	54 51	46 49	85 63	49 42	51 58	154 120
Fall River, 3 years 3 cities, 1 year	41 31	59 69	63 42	61 42	39 58	28 33	47 36	53 64	91 75
Fall River, 3 years 3 cities, 1 year	20 24	80 76	35 25	26 40	74 60	23 10	22 29	78 71	58 35
Fall River, 3 years 3 cities, 1 year	25 15	75 85	20 13		100 100	10 13	17 8	83 92	30 26
Fall River, 3 years 3 cities, 1 year		100 100	12 8		100 100	<b>4</b> 6		100 100	16 14
Total, 10 years and over: Fall River, 3 years 3 cities, 1 year	38 29	62 71	246 180	51 43	49 57	220 180	44 36	56 64	466 360
15 to 44 years: Fall River, 3 years 3 cities, 1 year	46 34	54 66	179 134	61 50	39 50	175 147	53 42	47 58	354 281
Fall River, 3 years 3 cities, 1 year	22 21	78 79	55 38	18 17	82 83	33 23	20 20	80 80	88 61

MALES AND AMONG FEMALES IN EACH 10-YEAR AGE GROUP, FOR POP-CULOUS CAUSES, WITH PER CENT OF EXCESS IN DEATH RATE OF ONE 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), FOR 1 YEAR.

		Males.			Females		Both sexes.			
Age group and locality.	Per	cent.	Num-	Per	ent.	Num- ber.	Pero	ent.	Num- ber.	
	Opera- tives.	Non- opera- tives.	both classes (100 per cent).	Opera- tives.	Non- opera- tives.	both classes (100 per cent).	Opera- tives.	Non- opera- tives.	both classes (100 per cent).	
65 years and over: . Fall River	9 7	91 93	1,606 3,515	1 1	99 99	2,044 4,559	44	96 96	3,650 8,074	
Total, 10 years and over: Fall River 3 cities	32 23	68 77	40, 335 80, 926	27 21	73 79	45, 331 91, 935	29 22	71 78	85,666 172,861	
15 to 44 years: Fall River	40 28	60 72	26, 228 52, 453	37 29	63 71	29, 683 60, 272	38 29	62 71	55,911 112,725	
Fall River	30 22	70 78	7,225 14,793	10 10	90 90	8,211 16,873	20 15	80 85	15, 436 31, 666	

#### DEATHS, TUBERCULOUS.

	Males.			Females.		Both sexes.				
Per cent	excess.	2	Per cent	t excess.	Death	Per cen	t excess.	Death		
Opera- tives.	Non- operatives.	Death rate, both classes.	Opera- tives.	Non- operatives.	Death rate, both classes.	Opera- tives.	Non- operatives.	Death rate, both classes.		
			1,003		0.50 .39	940		0.25 .20		
82 25		$\begin{array}{c} 1.53\\ 1.75\end{array}$	128 73		1.71 2.13	106 55		1.63 • 1.96		
25 46		2.58 3.14	142 204		2.84 3.04	79 117		2.72 3.08		
9 20		2.97 2.95	414 204		1.23 2.12	101 87		2.07 2.51		
	120 3	2.56 2.65	131 377		1.49 .95	82	7	1.99 1.75		
21	10	2.50 2.43			1.09 2.07	36	39	1.75 2.23		
		2.49 2.27			$\begin{smallmatrix} & .65\\ 1.32 \end{smallmatrix}$			1.46 1.73		
30 39		2.03 2.22	182 181		1.62 1.96	91 99		1.81 2.08		
29 27		2.28 2.56	160 136		1.97 2.44	83 78		2.11 2.49		
	57 4	2.54 2.57	94 101		1.34 1.36	5 36		1.90 1.93		

#### **POPULATION.**

TABLE 44.—PER CENT OF OPERATIVES AND NONOPERATIVES AMONG ULATION AND FOR DEATHS FROM TUBERCULOUS AND NONTUBER ONE OCCUPATION CLASS OVER THE OTHER, FALL RIVER, 1905 TO 1907, 1 YEAR—Concluded.

		Males.	. Females.			es.		oth sexe	s.
Age group, locality, and period,	Per	cent.	Num- ber,	Per	cent.	Num- ber,	Per	cent.	Num- ber,
	Opera- tives.	Non- opera- tives.	both classes (100 per cent).	Opera- tives.	Non- opera- tives.	both classes (100 per cent).	Opera- tives.	Non- opera- tives.	both classes (100 per cent).
10 to 14 years:									
Fall River, 3 years 3 cities, 1 year	8 12	92 88	36 26	4	96 96	24 25	78	93 92	60 51
15 to 24 years: Fall River, 3 years	49	51	76	60	40	88	55	45	164
3 cities, 1 year	34	66	76	47	53	60	40	60	136
Fall River, 3 years	33	67	101	34	66	130	33	67	231
3 cities, 1 year 35 to 44 years:	20	80	99	23	77	93	21	79	192
Fall River, 3 years	21 15	79	131	32	68 70	157	27	73	288
45 to 54 years:	10	00	99	21	19	105	18	82	204
Fall River, 3 years 3 cities. 1 year	20 14	80 86	178 130	$     12 \\     12   $	88 88	195 153	16 13	84 87	373 283
55 to 64 years:	14	88	961	4	06	214	0	01	575
3 cities, 1 year	10	90	201	5	95	198	7	93	401
65 years and over: Fall River, 3 years	6	94	355		100	442	3	97	797
3 cities, 1 year	6	94	311		100	412	3	97	723
Total, 10 years and over:	17	00	1 100	14	0.0	1 950	15	05	0.400
3 cities, 1 year	13	83 87	944	14	80 90	1, 350	15	89 89	2,488
15 to 44 years:									
Fall River, 3 years	31	69 78	308 274	39 28	61 72	375	36	64 75	683 532
45 to 64 years:	10	10	400	20		200	10	10	040
3 cities, 1 year	17 12	83 88	439	8	93 92	351	12	88 90	948 684
		DEATI	IS, ALI	L CAUS	ses.				
10 to 14 years:				100		-	-		
Fall River, 3 years	8	92	36	. 3	97	32	6	94	68
15 to 24 years:	12	00	20		90	29	9	91	00
Fall River, 3 years 3 cities. 1 year	52 35	48 65	123 111	64 50	36 50	150 111	59 42	41 58	273 222
25 to 34 years:	26	64	170	49	58	915	30	61	385
3 cities, 1 year	25	75	156	34	66	156	29	71	312
35 to 44 years: Fall River, 3 years	27	73	194	36	64	185	32	68	379
3 cities, 1 year	20	80	141	26	74	138	23	77	279
Fall River, 3 years	20	80	213	14	86	218	17	83	431
3 cities, 1 year 55 to 64 years:	15	85	155	14	80	103	10	80	318
Fall River, 3 years	15	85	281	4	96 96	324 211	9	91 93	605 427
65 years and over:		05	0.07		100	440		07	019
3 cities, 1 year	5 6	95 94	319		100	440 418	3	97	737
Total, 10 years and over:									
Fall River, 3 years	21	79	1,384	19	81	1,570	20	80	2,954
15 44 44	10		1,124						2,000
Fall River, 3 years	37	63	487	46	54	550	42	58	1,037
3 cities, 1 year 45 to 64 years:	26	74	408	36	64	405	31	69	813
Fall River, 3 years	17	83	494	. 8	92	542	12	88	1,036
o cities, i year	10	01	0/1	9	51	1 110		00	110

DEATHS, NONTUBERCULOUS CAUSES.

a Less than one-half of 1 per cent.

# CHAPTER IV.—POPULATION AND MORTALITY TABLES. 301

# AGES 10 YEARS AND OVER-POPULATION AND DEATHS.

MALES AND AMONG FEMALES IN EACH 10-YEAR AGE GROUP, FOR POP-CULOUS CAUSES, WITH PER CENT OF EXCESS IN DEATH RATE OF AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), FOR

	Males.			Females.		Both sexes.				
Per cen	t excess.	-	Per cen	t excess.		Per cen	t excess.			
Opera- tives.	Non- operatives.	Death rate, both classes.	Opera- tives.	Non- operatives.	Death rate, both classes.	Opera- tives.	Non- operatives.	Death rate, both classes.		
56 277		<b>2.</b> 27 <b>2.</b> 56	37	3	1.48 2.44	39 162		1.87 2.50		
29 10		2.48 3.79	53 34		$2.42 \\ 2.51$	<b>40</b> 16		$2.45 \\ 3.09$		
	19 35	3.77 5.45	5	17	4.34 4.48		6 26	4.07 4.94		
	148 109	$     \begin{array}{r}       6.16 \\       6.95     \end{array} $	56 9		6.90 6.73		22 36	6.54 6.84		
	117 104	13.01 13.77	2	9	$12.63 \\ 14.45$		62 47	12.81 14.13		
	66 73	32.63 37.91		28 11	$34.15 \\ 31.49$		55 43	33.44 34.45		
	57 23	73.68 88.48		84 310	72.08 90.37		56 39	72.79 89.55		
	133 105	9.41 11.67		128 156	9.92 11.38		131 128	9.68 11.51		
	43 39	3.91 5.22	9	• 10	4.21 4.28		12 24	4.07 4.72		
	118 111	20. 25 22. 51		46 21	20.66 20.81		87 66	20.47 21.60		
			DEATHS	5, ALL CA	USES.		9			
56 277	•••••	2.27 2.56	143	39	1.98 2.83	21 208		2.12 2.70		
47 15		4.01 5.54	79 51		4.13 4.64	63 30		4.08 5.05		
•••••	(a) 2	6.35 8.59	48 51		7.18 7.52	23 23		6,79 8,02		
	72 51	9.13 9.90	90 45		8. 13 8. 85	4	1	8.61 9.35		
	118 79	$15.57 \\ 16.42$	5 18		$14.12 \\ 15.40$		52 27	14.80 15.88		
•••••	56 67	$\begin{array}{c} 35.13\\ 40.34\end{array}$		<b>3</b> 3 19	35.24 33.56		47 43	<b>35.</b> 19 <b>36.</b> 68		
	63 26	76.17 90.75		86 <b>31</b> 6	72.73 91.69		59 42	74.25 91.28		
	82 64	11.44 13.89		56 60	$\begin{array}{c} 11.54\\ 13.34\end{array}$		68 62	11.49 13.59		
	13 13	6.19 7.78	44 32		$\begin{array}{c} 6.18\\ 6.72\end{array}$	15 9		6.18 7.21		
	110	22.79		33	22.00		74 52	22.37		

]

## DEATHS, NONTUBERCULOUS CAUSES.

# 302 CAUSES OF DEATH AMONG COTTON-MILL OPERATIVES.

# AGES 10 YEARS AND OVER-POPULATION AND DEATHS.

TABLE 45.—PER CENT OF OPERATIVE AND NONOPERATIVE MALES AND FEMALES IN TOTAL FOR EACH 10-YEAR AGE GROUP, FOR POPU-LATION AND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCU-LOUS CAUSES, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR.

		Males.	-		Females		Both sexes.			
Age group, locality, and period.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes (100 per cent).	
10 to 14 years: Fall River. 3 cities.	3 2	46 48	49 50	2 1	49 49	51 50	5 3	95 97	10, 669 20, 396	
Fall River	20 15	26 31	46 46	27 21	27 33	54 54	47 36	53 64	22, 330 43, 997	
25 to 34 years: Fall River. 3 cities	17 12	30 35	47 47	18 13	35 40	53 53	35 25	65 75	18,910 38,89 <b>8</b>	
35 to 44 years: Fall River	19 13	29 35	48 48	12 10	40 42	52 52	31 23	69 77	14, 671 29, 830	
45 to 54 years: Fall River	17 12	30 35	47 47	7 6	46 47	53 53	24 18	76 82	9, 705 20, 02 <b>4</b>	
55 to 64 years: Fall River	10 7	37 39	47 46	3 3	50 51	53 54	13 10	87 90	5,731 11,642	
65 years and over: Fall River. 3 cities	4 3	40 41	44 44	(a) 1	56 55	56 56	4	96 96	3,650 8,074	
Total,10 years and over Fall River 3 cities	15 11	32 36	47 47	14 11	39 42	53 53	29 22	71 78	85,666 172,861	
15 to 44 years: Fall River	19 13	28 34	47 47	19 16	34 37	53 53	38 29	62 71	55, 911 112, 72 <b>5</b>	
Fall River	14 10	33 37	47 47	6 5	47 48	53 53	20 15	80 85	15, 436 31, 666	
0	D	EATHS	, TUBI	ERCUL	ous.					

**POPULATION.** 

•									
10 to 14 years: Fall River, 3 years 3 cities, 1 year				25	100 75	100 100	25	100 75	84
15 to 24 years: Fall River, 3 years 3 cities, 1 year	25 15	18 26	43 41	39 31	18 28	57 59	64 46	36 54	109 86
25 to 34 years: Fall River, 3 years 3 cities, 1 year	19 16	- 26 32	45 48	30 26	25 26	55 52	49 42	<b>51</b> 58	154 120
Fall River, 3 years 3 cities, 1 year 45 to 54 years:	29 17	40 39	69 56	18 19	13 25	31 44	47 36	53 64	91 75
Fall River, 3 years 3 cities, 1 year 55 to 64 years:	12 17	48 54	60 71	10 12	30 17	40 29	22 29	78 71	58 35
Fall River, 3 years 3 cities, 1 year 65 years and over:	17 8	50 42	67 50		- 33 50	33 50	17 8	83 92	30 26
<ul> <li>Fall River, 3 years</li> <li>3 cities, 1 year</li> <li>Total.10 years and over:</li> </ul>	•••••	75 57	75 57		25 43	25 43		100	16
Fall River, 3 years. 3 cities, 1 year	21 14	32 36	53 50	24 22	23 28	47 50	45 36	55 64	466 360
Fall River, 3 years 3 cities, 1 year	23 16	28 32	51 48	30 26	19 26	49 52	53 42	47 58	354 281
Fall River, 3 years 3 cities, 1 year	13 13	49 49	62 62	77	31 31	38 38	20 20	80 80	88 61

• Less than one-half of 1 per cent.

# CHAPTER IV.—POPULATION AND MORTALITY TABLES. 303

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# AGES 10 YEARS AND OVER-POPULATION AND DEATHS.

TABLE 45.—PER CENT OF OPERATIVE AND NONOPERATIVE MALES AND FEMALES IN TOTAL FOR EACH 10-YEAR AGE GROUP, FOR POPU-LATION AND FOR DEATHS FROM TUBERCULOUS AND NONTUBERCU-LOUS CAUSES, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR—Concluded.

# DEATHS, NONTUBERCULOUS.

Age group, locality, and period.         Opera- tives.         Both opera- lives.         Opera- classes.         Both tives.         Opera- opera- classes.         Opera- opera- pera- lives.         Both opera- lives.         Opera- opera- lives.         Both opera- lives.         Opera- opera- lives.         Both opera- lives.         Opera- lives.         Non- opera- lives.         Both opera- lives.         Opera- lives.         Non- opera- lives.         Both opera- lives.         Opera- lives.         Non- opera- lives.         Both lives.         Opera- lives.         Non- lives.         Both lives.         Opera- lives.         Non- lives.         Both lives.         Opera- lives.         Non- lives.         Inclasses lives.         Inclasses.         Inclasses lives.         Inclasses lives.         Inclasses.         Inclas				Males.			Females.		Both sexes.			
10       10 <th< th=""><th>1</th><th>Age group, locality, and period.</th><th>Opera- tives.</th><th>Non- opera- tives.</th><th>Both classes.</th><th>Opera- tives.</th><th>Non- opera- tives.</th><th>Both classes.</th><th>Opera- tives.</th><th>Non- opera- tives.</th><th>Both classes (100 per cent).</th></th<>	1	Age group, locality, and period.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes (100 per cent).	
Fail River, 3 years	10 t	o 14 years:									1 - 1	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		Fall River, 3 years 3 cities, 1 year	56	55 45	60 51	22	38 47	40 49	8	93 92	60 51	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	<b>15</b> t	o 24 years: Fall River, 3 years	23	23	46	32	22	54	55	45	164	
Total River, 3 years	95 t	3 cities, 1 year	19	37	56	21	23	44	40	60	136	
35 to 44 years;       10       20       12       13       20       14       15       20       15       15       15       15       15       15       15       15       16       15       15       15       15       15       15       16       15       15       16       16       16       18       85       15       16       16       16       18       85       16       16       16       16       15       15       16       16       16       16       16       16       16       16       16       16       16       16       16       16       17       16       16       16       16       16       17       16       16       17       16       17       16       17       16       17       16       17       16       17       16       17       16       17       16       17       16       17       16       17       16       17       16       17       16       17       16       17       16       17       16       17       17       18       14       11       14       16       17       17       18       16       17       17<		Fall River, 3 years	14 10	30	44	- 19	37	56	33	67	231	
a mill fure, a years	<b>35</b> t	0 44 years:	10	26	45	10	27	55	97	70	102	
51 to 3 years:       10       38       48       6       46       52       16       84       37         3 cities, 1 year       6       40       46       7       47       54       13       87       28         Fall River, 3 years:       7       38       45       2       53       55       9       91       57         7       38       45       2       53       55       9       91       57         7       38       45       2       43       (a)       57       57       3       97       79         3 cities, 1 year.       3       40       43       (a)       57       57       3       97       72         Total, 10 years and over:       3       40       43       (a)       55       55       3       97       72         Total, 10 years:       8       38       46       7       47       54       15       85       2,48         3 cities, 1 year.       12       40       52       13       35       48       25       75       55       55       56       64       48       47       51       56       64	17 4	3 cities, 1 year	7	42	49	10	40	51	18	82	204	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1 G1	Fall River, 3 years	10	38	48	6	46	52	16	84	373	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	<b>5</b> 5 t	3 cities, 1 year o 64 years:	6	40	46	. 7	47	54	13	87	283	
65 years and over:         Tail River, 3 years       3       42       45       (a)       55       55       3       97       79         Total, 10 years and over:       3       40       43       (a)       55       55       3       97       72         Total, 10 years and over:       8       38       46       7       47       54       15       85       2,48         3 cities, 1 year       6       42       48       5       47       52       11       89       1,99         15 to 44 years:       7       12       40       52       13       35       48       25       75       53         Fall River, 3 years       8       38       46       4       50       54       12       88       94         3 cities, 1 year       6       43       49       4       47       51       10       90       68         DEATHS, ALL CAUSES.         DEATHS, ALL CAUSES.         Tall River, 3 years		Fall River, 3 years 3 cities, 1 year	7 5	38 46	45 51	$\frac{2}{2}$	53 47	55 49	97	91 93	575 401	
3 diversion of the set	65 y	ears and over: Fall River. 3 years	3	42	45	(a)	55	55	3	97	797	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		3 cities, 1 year	3	40	• 43	(a)	57	57	3	97	723	
3 cities, 1 year		Fall River, 3 years.	8	38	46	7	47	54	15	85	2,488	
Difference       Pail River, 3 years	15 f	3 cities, 1 year	6	42	48	5	47	52	11	89	1,990	
41       50 Hos, 1 year.       12       40       52       13       50       45       20       73       53         Fall River, 3 years.       6       43       49       4       47       51       10       90       66         DEATHS, ALL CAUSES.         DEATHS, ALL CAUSES.         International State S	10 1	Fall River, 3 years	14	31	45	22	33	55	36	64	683	
And RAPE, 3 years	45 t	o 64 years:	12	40	52	10	50	40	20	10	034	
DEATHS, ALL CAUSES.           In the probability of t		3 cities, 1 year	6	38 43	40 49	44	50 47	51	12 10	88 90	948 684	
10 to 14 years:         Fall River, 3 years	_	•		DEATH	IS, ALI	L CAUS	SES.					
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	10 t	o 14 years:										
15       to 24, years:       to 33, 50, 25, 25, 50, 42, 56, 22, 50, 44, 25, 25, 50, 44, 25, 25, 50, 44, 25, 25, 50, 44, 25, 25, 50, 44, 25, 25, 50, 44, 25, 25, 50, 44, 25, 25, 50, 44, 25, 25, 50, 50, 26, 50, 50, 50, 50, 50, 50, 50, 50, 50, 50		Fall River, 3 years	5	48	53	1	46	47	6	94	68	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	15 t	0 24 years:				2	10	00	50	91	070	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	05.4	3 cities, 1 year	17	33	40 50	30 25	25	50	42	41 58	273	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	20 1	Fall River, 3 years	16	28	44	23	33	56	39	61	385	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	<b>35</b> t	o 44 years:	12	38	50	17	33	50	29	71	312	
		Fall River, 3 years 3 cities, 1 year	14 10	37 41	51 51	18 13	31 36	49 49	32 23	68 77	379 279	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	<b>4</b> 5 t	o 54 years: Fall River, 3 years	10	39	49	7	44	51	17	83	431	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	55 t	3 cities, 1 year o 64 years:	8	41	49	7	44	51	15	85	318	
		Fall River, 3 years	7 5	39	46	2	52	54	97	91	605	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	65 J	years and over: Fall River 3 years	2	42	45	(a)	55	55		07	019	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		3 cities, 1 year	3	40	- 43	(a).	57	57	3	97	737	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		Total,10 years and over: Fall River, 3 years.	10	37	47	10	43	53	20	80	2,954	
	16 4	3 cities, 1 year	7	41	48	8	44	52	15	85	2,350	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	10 1	Fall River, 3 years.	17	30	47	25	28	53	42	58	1,037	
Fall River, 3 years       8       40       48       4       48       52       12       88       1,03         3 cities, 1 year       7       43       50       4       46       50       11       89       74	45 t	o 64 years:	13	37	50	18	32	50	31	69	813	
		3 cities, 1 year.	87	40 43	48 50	4	48 46	52 50	12 11	88 89	1,036 745	

• Less than one-half of 1 per cent.

# 304 CAUSES OF DEATH AMONG COTTON-MILL OPERATIVES.

## AGES 10 YEARS AND OVER-POPULATION AND DEATHS.

TABLE 46.—PER CENT OF OPERATIVES AND OF NONOPERATIVES OF EACH SEX AND AGE GROUP IN TOTAL OF ALL CLASSES, FOR POPU-LATION AND FOR DEATHS FROM TUBERCULOSIS, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR.

		Males.	_	Females.			Both sexes.			
Age group, locality	and period.	Op- era- tives.	Non- op- era- tives.	Both class- es.	Op- era- tives.	Non- op- era- tives.	Both class- es.	Op- era- tives.	Non- op- era- tives.	Both class- es.
10 to 14 years	{Fall River 3 cities	$\begin{pmatrix} (a)\\ (a) \end{pmatrix}$	6 6	6 6	1 (a)	6 6	7 6	(a) <sup>1</sup>	$     \begin{array}{c}       12 \\       12     \end{array} $	13 12
15 to 19 years	Fall River	3 2	3 4	- 6 6	3 3	4 4	77	6 5	78	13 13
20 to 24 years	{Fall river 3 cities	$\frac{2}{1}$	3 4	5 5	43	4 4	8 7	6 4	78	13 12
25 to 29 years	{Fall River 3 cities	$\frac{2}{2}$	4 4	6 6	2 2	4 5	6 7	4 4	8 9	12 13
30 to 34 years	Fall River	$\frac{2}{2}$	3	5 5	$\frac{1}{1}$	4	5 5	33	777	10 10
<b>35 to 39 year</b> 3	Fall River	$2 \\ 1$	33	5 4	1	3 4	45	$\frac{3}{2}$	67	9
40 to 44 years	Fall River	$\frac{1}{1}$	3	4	$\frac{1}{1}$	33	4	2	6	8
45 to 54 years	Fall River	2	3	5	$(b)^{1}$	5	6	32	8	11 12
55 to 64 years	Fall River	1 (b)	23	3	$\begin{pmatrix} a \\ a \end{pmatrix}$	. 4	4	(b) <sup>1</sup>	6	7
65 years and over	Fall River	(a) (a)	22	2	$\begin{pmatrix} a \\ a \end{pmatrix}$	23	23	(a) (a)	4.	45
10 years and over	Fall River	15 11	32 36	47 47	14 11	39 42	53 53	29 22	71 78	c 85,666 c172,861

POPULATION.

DEATHS FROM TUBERCULOSIS.

	(T. 1) Dt	1			1	0	1 0			
10 to 14 months	Fall River, 3 years.				(a)	2		(a)		2
10 to 14 years	3 cities 3 years		(a)	(a)	(a)	2	2	(a)	2	2
	(Fall River 3 vears	3	2	5	4	2	6	7	4	11
15 to 19 years	1 vear	(b)	2	2	3	3	6	3	5	
	1 <sup>3</sup> cities (3 years	2	2	4	3	2	5	5-	4	9
	(Fall River, 3 years	3	2	5	5	2	7	8	4	12
20 to 24 years	3 cities 1 year	3	4	7	5	4	9	8	8	16
	(3 years	2	4	6	5	2	1 1	1	0	13
05 4. 00	[Fall River, 3 years	2	3	5	6	3	9	8	6	14
25 to 29 years	3 cities 3 years			45	5	45	10	6	9	15
	(Toll Divor 2 room		6	10		5	10	0	11	10
30 to 34 years	(1 year	4	9	13	4	4	8	8	13	21
	3 cities 3 years	3	7	10	3	5	8	6	12	18
	(Fall River, 3 years.	3	6	9	3	2	5	6	8	14
35 to 39 years	3 cities f1 year	1	4	5	3	3	6	4	7	11
	(3 years.	2	5	7	2	3	5	4	8	12
10.1.1.1	[Fall River, 3 years	3	2	5	1	(a)	1	4	2	6
40 to 44 years	3 cities {1 year	2	4	0 5		2	3	3	0	97
	(Tall Dimon 2 -cons.		0	0		-	1 -	2	10	19
45 to 54 vears	f all River, 3 years.	2	5	7		4 2	3	3	10	10
20 00 01 9 0010	3 cities 3 years.	ĩ	6	7	î	4	5	2	10	12
	(Fall River, 3 years.	1	3	4		2	2	1	5	6
55 to 64 years	3 cities /1 year	(b)	4	4		3	3	(b)	7	7
	( J3 years.	. 1	4	5	(a)	3	3	1	7	8
	[Fall River, 3 years.		2	2		1	1		3	3
65 years and over	3 cities {1 year		2	2		2	2		4	4
	(Tell Die're 2 stars.		2	2		2	2		4	4
10 years and over	fall Kiver, 3 years.	21	32	53	24	23	47	40	55 64	c 360
to yours and over	3 cities 3 years	14	37	51	20	29	49	34	66	c 953
			1		-	-				

a Less than one-half of 1 per cent.

b Less than 1 per cent.

c Total on which per cents are based.

TABLE 47.—PER CENT IN SPECIFIED AGE GROUPS OF TOTAL DEATHS FROM EACH SPECIFIED CAUSE, BY SEX AND OCCUPATION GROUPS, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR.

	Operatives.			Nonoperatives.				Both classes.				
Cause of death, locality, and period.	10 to 14 years.	15 to 44 years.	45 to 64 years.	65 years and over.	10 to 14 years.	15 to 44 years.	45 to 64 years.	65 years and over.	10 to 14 years.	15 to 44 years.	45 to 64 years.	65 years and over.
POPULATION (1906).					-1				-			_
Fall River	$\frac{2}{2}$	80 80	17 17	1	18 16	59 61	18 -18	55	13 13	65 65	18 18	4
DEATHS.												
Accident or violence: Fall River, 3 years 3 citles, 1 year Senility:	9 15	66 55	19 15	6 15	7 7	44 49	34 32	15 12	7 9	52 50	29 28	12 13
Fall River, 3 years 3 cities, 1 year Unclassified diseases:	•••••		•••••	100 100		•••••	93	91 97			9 3	91 97
Fall River, 3 years 3 cities, 1 year	•••••	50 38	44 37	6 25	7 6	24 29	43 36	26 29	6 5	28 30	43 36	23 29
Fall River, 3 years 3 cities, 1 year Diseases of the nervous sys-		18 25	64 63	18 12		11 12	49 45	40 43		12 15	51 48	37 37
Fall River, 3 years 3 cities, 1 year Diseases of the digestive		78 89	22	····ii	16 18	25 34	24 29	35 19	13 15	34 42	23 25	30 18
System: Fall River, 3 years 3 cities, 1 year		63 64	37 36		5 2	29 33	40 40	26 25	42	36 37	39 39	21 22
Nephritis: Fall River, 3 years 3 cities. 1 year		42 53	35 35	23 12	1	24 23	46 40	29 37	1	27 27	44 39	28 34
Apoplexy: Fall River, 3 years 3 cities, 1 year		27 25	64 58	9 17	1	8 13	41 34	50 53	1	10 14	42 37	47 49
Heart disease: Fall River, 3 years 3 cities, 1 year Baspiratory diseases other		38 27	46 33	16 40	12	20 18	47 43	32 37	12	23 19	46 42	30 37
than tuberculosis: Fall River, 3 years 3 cities, 1 year		53 71	38 29	9	3	32 34	30 33	35 33	2	36 38	32 33	30 29
Total, nontubercu- lous causes: Fall River,3 years 3 cities, 1 year	23	50 49	38 33	10 15	33	22 26	39 36	36 35	33	27 29	39 35	31 33
Tuberculosis: Fall River, 3 years 3 cities, 1 year		88 84	12 16			64 70	28 24	8 6		73 74	22 21	55
Total, all causes: Fall River, 3 years 3 cities, 1 year	12	62 60	30 27	7 11	32	28 33	37 34	32 31	3 2	35 36	36 33	26 29
Total, respiratory causes: Fall River, 3 years 3 cities, 1 year T o t a 1, nonrespiratory	•••••	79 81	19 19	2	2	49 52	29 28	20 20	1	58 58	26 27	15 15
Causes: Fall River, 3 years 8 citles, 1 year	23	50 47	38 33	10 17	33	21 25	40 36	36 36	33	26 27	<b>40</b> 36	31 34
Total, all causes: Fall River,3 years 3 cities, 1 year	12	62 60	30 27	7	82	28 33	37 84	82 81	82	35 36	36 83	26 29

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MALES.

TABLE 47.—PER CENT IN SPECIFIED AGE GROUPS OF TOTAL DEATHS FROM EACH SPECIFIED CAUSE, BY SEX AND OCCUPATION GROUPS, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR—Continued.

	Operatives.				Nonoperatives.				Both classes.			
Cause of death, locality, and period.	10 to 14 years.	15 to 44 years.	45 to 64 years.	65 years and over.	10 to 14 years.	15 to 44 years.	45 to 64 years.	65 years and over.	10 to 14 years.	15 to 44 years.	45 to 64 years.	65 years and over.
POPULATION (1906).												
Fall River 3 cities	2 2	91 90	78		16 14	56 59	22 21	6	12 11	66 66	18 18	45
DEATHS.												
Accident or violence: Fall River, 3 years 3 cities, 1 year Senility:	20	60 80	20 20		4	<b>43</b> 26	40 29	17 41	33	46 35	37 28	14 34
Fall River, 3 years 3 cities, 1 year	•••••		•••••		•••••	•••••	94	91 96			9 4	91 96
Unclassified diseases: Fall River, 3 years 3 cities, 1 year		100 100			47	36 35	37 27	23 31	47	<b>41</b> 37	34 26	21 30
Fall River, 3 years 3 cities, 1 year		100 100				94 100	6			97 100	3	
Cancer: Fall River, 3 years 3 cities, 1 year		64 17	36 83		1 1	20 17	50 55	29 27	1 1	24 17	49 57	26 25
Diseases of the nervous sys- tem: Fall River, 3 years		80	20		8	- 32	29	31	6	42	27	25
Diseases of the digestive system:		85	11		10	17	44	32	10	30	28	27
3 cities, 1 year Nephritis:	••••••	83	17		5	28	32	35	4	35	30	31
3 cities, 1 year	•••••	69	31		1	19	42	35 33	8 1	28 26	40 45	29 28
Fall River, 3 years 3 cities, 1 year Heart disease:	•••••	50 50	50 50	•••••	•••••	6 7	50 40	44 53	• • • • • • •	8 9	50 40	42 51
Fall River, 3 years 3 cities, 1 year Respiratory diseases other		53 40	47 50	10	2 1	15 11	46 35	37 53	1	18 13	46 36	35 50
Fall River, 3 years 8 cities, 1 year		92 73	8 27		<b>2</b> 3	15 18	<b>42</b> 31	41 48	$\frac{2}{2}$	29 25	36 31	33 42
Total nontuberculous causes: Fall River, 3 years	1	79	19	1	2	19	41	38	2	28	37	33
3 cities, 1 year Tuberculosis:	ī	70	28	ī	2	19	34	45	2	25	33	40
3 cities, 1 year	1	94 94	5	•••••	3	04 72	25 19	46	4 2	79 83	15 12	3
Total, all causes: Fall River, 3 years 3 cities, 1 year	<u>i</u>	84 80	15 18	1	2 3	23 25	40 32	35 40	22	35 33	35 31	28 34
Total, respiratory causes: Fall River, 3 years 3 cities, 1 year Total, nonrespiratory	·····i	94 89	6 10		4 3	35 40	35 26	26 31	3 2	55 54	25 22	17 22
causes: Fall River, 3 years 3 cities, 1 year	1 1	75 70	23 28	1 1	2 2	20 20	41 35	37 43	2 2	27 25	38 34	33 39
Total, all causes: Fall River, 3 years 3 cities, 1 year	1	84 80	15 18	1	23	23 25	40 32	35 40	2 2	35 33	35 31	28 34

FEMALES.

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# AGES 10 YEARS AND OVER-POPULATION AND DEATHS.

TABLE 47.-PER CENT IN SPECIFIED AGE GROUPS OF TOTAL DEATHS FROM EACH SPECIFIED CAUSE, BY SEX AND OCCUPATION GROUPS, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR-Concluded.

	Operatives.			Nonoperatives.				Both classes.				
Cause of death, locality, and period.	10 to 14 years.	15 to 44 years.	45 to 64 years.	65 years and over.	10 to 14 years.	15 to 44 years.	45 to 64 years.	65 years and over.	10 to 14 years.	15 to 44 years.	45 to 64 years.	65 years and over.
POPULATION (1906).										-		-
Fall River 3 cities	22	85 85	12 12	1	17 15	57 59	20 20	6	13 12	65 65	18 18	45
DEATHS.	- 1								-			1
Accident or violence: Fall River, 3 years 3 cities, 1 year Senility:	11 12	65 60	19 16	5 12	56	44 42	36 32	15 20	6 8	50 46	31 28	13 18
Fall River, 3 years 3 cities, 1 year							93	91 97			93	91 97
Unclassified diseases: Fall River, 3 years 3 cities, 1 year	•••••	68 50	29 30	3 20	67	30 32	40 31	24 30	56	34 34	39 31	22 29
Fall River, 3 years 3 cities, 1 year		100 100				94 100	6			97 100	3	
Cancer: Fall River, 3 years 3 cities, 1 year		44 21	48 72	87	1 1	16 15	50 52	33 32	1	20 16	· 50 54	30 29
Fall River, 3 years 3 cities, 1 year	5	79 78	21 11	6	12 14	28 32	26 28	34 26	10 13	37 38	25 26	28 23
system: Fall River, 3 years 3 cities, 1 year		74 73	24 27	2	33	22 30	43 37	32 30	33	32 36	<b>39</b> 35	26 26
Nephritis: Fall River, 3 years 3 cities, 1 year		54 61	34 33	12 6	3	21 21	44 44	32 35	2 1	28 26	42 42	28 31
Fall River, 3 years 3 cities, 1 year Heart disease:	•••••	37 31	58 56	5 13		7 10	46 37	47 53		9 11	47 39	44 50
Fall River, 3 years 3 cities, 1 year Respiratory diseases other	•••••	44 32	47 40	9 28	2 1	17 15	46 39	35 45	1 1	20 16	47 39	32 44
than tuberculosis:      Fall River, 3 years      3 cities, 1 year		74 72	22 28	4	3 1	23 26	36 32	38 41	2 1	32 31	34 32	32 36
Total nontuberculous causes:						-					1	
Fall River, 3 years 3 cities, 1 year	12	64 59	29 30	6 9	33	20 22	40 35	37 40	23	28 27	38 34	32 36
Fall River, 3 years 3 cities, 1 year	<u>1</u>	91 90	9		3 1	64 71	27 22	<b>6</b> 6	2 1	76 78	19 17	34
Total, all causes: Fall River, 3 years 3 cities, 1 year	1	73 71	22 22	4	33	26 28	38 33	33 36	22	35 35	36 32	27 31
Total, respiratory causes: Fall River, 3 years 3 cities, 1 year Total, nonrespiratory	·····i	87 86	12 13	1	32	42 46	32 27	23 25	2 1	57 56	25 24	16 19
causes: Fall River, 3 years 3 cities, 1 year	12	62 57	31 31	6 10	33	20 22	40 35	37 40	23	27 26	39 35	32 36
Total, all causes: Fall River, 3 years 3 cities, 1 year	1	73 71	22 22	4	33	26 28	38 33	33 36	22	35 35	36 32	27 31

## BOTH SEXES.

 
 TABLE 48.—DEATHS OF OPERATIVES AND NONOPERATIVES FROM 1907, AND 3 CITIES (FALL RIVER,

OPERATIVES.

	Males.									
Cause of death, locality, and period.	Non- Irish.	Irish.	Ameri- can.	English.	French Canadian.	Other races.	All races.			
POPULATION.				Sel.	- 11 -					
Fall River	10, 980 15, 937	2,030 2,794	690 1,496	4,072 4,868	<b>4,215</b> 5,888	2,003 3,685	13,010 18,731			
DEATHS.		1			-					
Accident or violence: Fall River, 3 years 3 cities, 1 year Senility:	25 17	73	1	14 8	6 4	5 4	32 20			
Fall River, 3 years 3 cities. 1 year.		1					1			
Unclassified diseases: Fall River, 3 years 3 cities, 1 year Parturition: Fall River, 3 years	16 7	2 1	2	10 3	5 1	1	18 8			
3 cities, 1 year Cancer:	•••••									
Fall River, 3 years 3 cities, 1 year	6 4	5 4		5 2	1 2		11 8			
Fall River, 3 years 3 cities, 1 year Diseases of the digestive sys-	8 8	1		2 2	4	2 2	9 9			
tem: Fall River, 3 years 3 cities, 1 year	21 11	6 3	2 1	63	9 3	4 4	27 14			
Nephritis: Fall River, 3 years 3 cities, 1 year.	18 12	85	43	8	4	22	26 17			
Apoplexy: Fall River, 3 years 3 cities, 1 year	9 11	2	1 2	55	22	1 2	11 12			
Heart disease: Fall River, 3 years	18	8	1	8 5	5	4	26			
Respiratory diseases other than tuberculosis:	00	0			10		10			
3 cities, 1 year	20 12	5	3	3	6		17			
Total, nontuberculous causes:										
Fall River, 3 years 3 cities, 1 year	147 91	46 30	11 13	65 34	48 28	23	193 121			
Tuberculosis: Fall River, 3 years 3 cities, 1 year	70 40	24 13	6 4	19 10	28 16	17 10	94 53			
Total, all causes: Fall River, 3 years 3 cities, 1 year	217 131	70 43	17 17	84 44	76 44	40 26	287 174			
Total, respiratory causes: Fall River, 3 years 3 cities, 1 year	96 52	30 18	9 7	26 13	40 22	21 10	126 70			
Fall River, 3 years 3 cities, 1 year	121 79	40 25	8 10	58 31	36 22	19 16	161 104			
Total, all causes: Fall River, 3 years 3 cities, 1 year	217 131	70 43	17 17	84 44	76 44	40 26	287 174			

EACH SPECIFIED CAUSE, BY SEX AND RACE, FALL RIVER, 1905 TO MANCHESTER, AND PAWTUCKET), 1 YEAR.

	Females.								
Cause of death, locality, and period.	Non- Irish.	Irish.	Ameri- can.	English.	French Canadian.	Other races.	All races.		
POPULATION.			•						
Fall River. 3 cities.	9,376 15,260	2,772 4,457	784 1,341	3,254 4,613	3,764 6,720	1,574 2,586	12,148 19,717		
DEATHS.									
Accident or violence: Fall River, 3 years 3 cities, 1 year Senility: Fall River, 3 years 2 cities 1 years	<b>4</b> 5	1	1	23	12		5		
Unclassified diseases:		1		5			10		
3 cities, 1 year	1	i		1			10 2		
Fall River, 3 years 3 cities, 1 year	22 13	4 2		8 3	7 6	7	26 15		
Fall River, 3 years	94	52		43	4	1	14		
Diseases of the nervous system: Fall River, 3 years	4	6		1	2	1	10		
3 cities, 1 year Diseases of the digestive sys-	4	5.			4	•••••	9		
Fall River, 3 years 3 cities, 1 year	20 9	73	32	53	83	4 1	27 12		
September 12: Fall River, 3 years	17 9	16 7	· 5 3	73	32	2	33 16		
Apoplexy: Fall River, 3 years	6	2	1	3	2		8		
Heart disease: Fall River, 3 years.	10	7	2	2	5	1	17		
3 cities, 1 year Respiratory diseases other than	4	6	1	2	1		10		
tuberculosis: Fall River, 3 years	28	9	2	5	19	2	37		
Total nontuberculous	10			*	9				
causes: Fall River, 3 years 3 cities 1 year	129	58	14	42 24	54 29	19	187 101		
Tuberculosis: Fall River, 3 years	73	39	5	- 16	39	13	112		
3 cities, 1 year	51	27	6	14	25	6	78		
Fall River, 3 years 3 cities, 1 year	202 119	97 60	19 14	58 - 38	93 54	32 13	299 179		
Total, respiratory causes: Fall River, 3 years	101	48	7	21	58	15	149		
Total, nonrespiratory causes: Fall River, 3 years	101	34	12	18	34	17	100		
3 cities, 1 year	53	26	7	20	20	6	79		
Total, all causes: Fall River, 3 years 3 cities, 1 year	· 202 119	t 97 60	19 14	58 38	93 54	32 13	299 179		

OPERATIVES.

# TABLE 48.—DEATHS OF OPERATIVES AND NONOPERATIVES FROM 1907, AND 3 CITIES (FALL RIVER, MANCHESTER,

	Males.										
Cause of death, locality, and period.	Non- Irish.	Irish.	Ameri- can.	English.	French Canadian.	Other races.	All races.				
POPULATION.		•									
Fall River 3 cities	22,982 51,270	4, 343 10, 925	6, 732 18, 899	5,044 10,433	6,796 15,606	4,410 6,332	27, 325 62, 195				
DEATHS.							-				
Accident or violence:											
Fall River, 3 years 3 cities, 1 year	47 55	14 13	7 12	19 18	14 13	7 12	61 68				
Senility: Fall River 3 years	32	14	0	19	0	2	46				
3 cities, 1 year	25	6	12	7	6	<i><sup>2</sup></i> .	31				
Unclassified diseases:	80	05	10	01	00	10	105				
Fall River, 3 years 3 cities, 1 year	52	20	18	12	29	12	105				
Parturition:											
Fall River, 3 years			•••••	•••••							
Cancer:		•••••	•••••	•••••		•••••					
Fall River, 3 years	47	18	11	17	11	8	65				
3 cities, 1 year	32	8	14	7	8	3	40				
Fall River, 3 years	42	9	12	10	15	5	51				
3 cities, 1 year.	48	8	19	5	19	5	56				
Diseases of the digestive sys-	-				-		162				
Fall River, 3 years	59	36	13	21	18	7	95				
3 cities, 1 year	59	39	23	11	21	4	98				
Fall River, 3 years	61	49	15	22	17	7	110				
3 cities, 1 year	74	36	30	19	17	8	110				
Apoplexy:	74	97	10		02		111				
3 cities, 1 year	76	29	26	28	23	4	105				
Heart disease:			~~				100				
Fall River, 3 years.	107	61	36	34	25	12	168				
3 cities, 1 year.	18	30	30	10	18	8	114				
tuberculosis:							/				
Fall River, 3 years	81	52	18	28	22	13	133				
3 cities, 1 year	80	49	28	25	17	10	129				
Total, nontuberculous											
Causes:	620	915	150	010	100	70	0.15				
3 cities, 1 year	579	244	217	141	183	62	945				
Tuberculosis:				1	100		020				
Fall River, 3 years	80	72	20	24	20	16	152				
3 Cities, 1 year	07	00	21	10	21	1	127				
Total, all causes:											
Fall River, 3 years	710	387	178	236	203	93	1,097				
0 010100, 1 year	010		200	100	100	00	900				
Total, respiratory causes:	101	in									
Fall River, 3 years	101	124	38	43	42 38	29	285				
Total, nonrespiratory causes:			10				200				
Fall River, 3 years.	549	263	140	184	161	64	812				
3 cities, 1 year	498	195	199	110	142	52	694				
Total, all causes:											
Fall River, 3 years	710	387	178	236	203	93	1,097				
o citics, i year	040	1 206	200	198	190	09	900				

#### NONOPERATIVES.

EACH SPECIFIED CAUSE, BY SEX AND RACE, FALL RIVER, 1905 TO AND PAWTUCKET), 1 YEAR-Concluded.

## NONOPERATIVES.

	Females.										
Cause of death, locality, and period.	Non- Irish.	Irish.	Ameri- can.	English.	French Canadian	Other races.	All races.				
POPULATION.											
Fall River 3 cities	27,297 58,204	5, 886 14, 014	7,512 21,415	6,900 12,681	8,339 17,100	4,546 7,008	33,183 72,218				
DEATHS.				-							
Accident or violence: Fall River, 3 years 3 cities, 1 year	13 17	17 10	5 8	45	32	12	30 27				
Fall River, 3 years 3 cities, 1 year	48 39	27 16	22 24	15 7	87	3 1	75 55				
Fall River, 3 years 3 cities, 1 year	78 63	31 19	25 24	23 9	20 20	10 10	109 82				
Fall River, 3 years 3 cities, 1 year	26 17	77	1 2	3 3	15 10	72	33 24				
Cancer: Fall River, 3 years 3 cities, 1 year	97 69	26 20	24 31	42 23	26 13	52	123				
Diseases of the nervous system: Fall River, 3 years 3 cities, 1 year.	28 42	10 18	9 18	10 8	7 15	2 1	38 60				
Diseases of the digestive sys- tem: Fall River, 3 years	75	50	20	21	31	3	125				
Nephritis: Fall River, 3 years	67	60	22	20	13	3 10	83				
Apoplexy: Fall River, 3 years	82	39 61	25 31	16	15	6	101				
Heart disease: Fall River, 3 years	99 119	47	47	26 33	23 34	3 14	146 195				
Respiratory diseases other than tuberculosis:	88	44	41	15	24	8	132				
3 cities, 1 year.	90	- 54 56	28 32	29 19	- 33	15 6	165 146				
Total, nontuberculous causes:			007								
3 cities, 1 year	642	419 303	227	228 142	212 182	77 44	1, 163 945				
Fall River, 3 years 3 cities, 1 year	76 66	32 36	16 17	19 12	24 27	17 10	108 102				
Total, all causes: Fall River, 3 years 3 cities, 1 year	820 708	451 339	243 291	247 154	236 209	94 54	1,271 1,047				
Total, respiratory causes: Fall River, 3 years 3 cities, 1 year	187 156	86 92	<b>44</b> 49	48 31	63 60	32 16	273 248				
Fall River, 3 years 3 cities, 1 year	633 552	- 365 247	199 242	199 123	173 149	62 38	998 <b>799</b>				
Total, all causes: Fall River, 3 years 3 citles, 1 year	820 708	451 339	243 291	247 154	236 209	94 54	1,271 1,047				

 
 TABLE 49.—DEATH RATES OF OPERATIVES AND NONOPERATIVES PER CAUSE, BY SEX AND RACE, FALL RIVER, 1905 TO 1907, AND 3

Males. Cause of death, locality, and period. Non-Ameri-French Other Trish. English. All races. Irish. can. Canadian. races. Accident or violence: Fall River, 3 years ..... 0.76 1.15 1.14 0.47 0.84 0.82 1.07 0.67 3 cities, 1 year..... 1.07 1.64 . 68 1.09 1.07 Senility: Fall River, 3 years..... .16 . 03 3 cities, 1 year..... Unclassified diseases: .36 . 05 . . . . . .... .48 . 33 Fall River, 3 years..... .82 .40 .17 . 46 1.33 3 cities, 1 year..... .44 .36 . 61 . 27 . 43 Parturition: Fall River, 3 years..... 3 cities, 1 year..... ..... Cancer: Fall River, 3 years ..... .82 . 41 .18 .08 . 28 . . . . . . . . . . . ..... 3 cities, 1 year..... Diseases of the nervous system: .25 1.43 . 41 .34 . 43 ......... Fall River, 3 years..... .24 .16 .16 .32 .33 .23 -----3 cities, 1 year.... Diseases of the digestive system: . 50 .36 .41 . 68 . 48 . . . . . . . . . . Fall River, 3 years..... 3 cities, 1 year..... . 64 . 99 .97 . 49 .66 . 69 .711.07 . 67 . 62 . 51 . 69 . 75 Nephritis: Fall River, 3 years..... 1.31 1.93 . 66 .31 . 55 .33 .67 3 cities, 1 year..... 1.79 2.01 . 62 . 68 . 54 . 91 .76 Apoplexy: Fall River, 3 years..... .17 .48 . 41 .16 .28 .27 .33 3 cities, 1 year..... Heart disease: .36 1.03 .34 . 64 . 69 . 54 Fall River, 3 years...... 3 cities, 1 year... Respiratory diseases other than tuberculosis: . 66 . 40 . 66 . 66 . 55 1.31 .48 1.03 . 27 . 56 2.15 . 67 .34 .80 Fall River, 3 years...... 3 cities, 1 year..... .79 .82 .99 1.45 2.01 .57 . 95 . 67 1.79 1.02 . 62 .91 Total, nontuberculous causes: Fall River, 3 years... 3 cities, 1 year..... 4.46 7.55 5.31 5.32 3.80 3.83 4.94 8.69 6.99 4.76 4.34 6.46 Tuberculosis: Fall River, 3 years..... 2.13 3.94 2.90 1.56 2.21 2.83 2.41 3 cities, 1 year..... 2.51 4.65 2.67 2.05 2.71 2.72 2.83 Total, all causes: Fall River, 3 years... 3 cities, 1 year..... 7.35 6.59 11.49 8.21 6.88 6.01 6.66 8.22 15.39 11.36 9.04 7.47 7.06 9.29 Total, respiratory causes: Fall River, 3 years..... 3.23 2.92 4.93 4.35 2.13 3.16 3.50 3 cities, 1 year..... 3.26 6.44 4.68 2.67 3.73 2.72 3.74 Total, nonrespiratory causes: Fall River, 3 years..... 3.67 6.56 3.86 4.75 2.85 3.16 4.12 1.34 5. 55 4.96 20.18 6.68 3 cities, 1 year..... Total, all causes: Fall River, 3 years... 3 cities, 1 year..... 6.59 11.49 8.21 11.36 6.01 6.66 7.35 9.29 6.88

**OPERATIVES.** 

# 1,000 POPULATION 10 YEARS OF AGE AND OVER FROM EACH SPECIFIED CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR.

# **OPERATIVES.**

Cause of death locality and	Females										
period.	Non- Irish.		Irish.		Ameri- can.		nglish.	French Canadian.	Other races.	All races.	
Accident or violence: Fall River, 3 years 3 cities, 1 year. Senility: Fall River, 3 years 3 cities 1 year	0.	14 33	0. 12		0. 42		0.21 .65	0.09			0.14
Unclassified diseases: Fall River, 3 years 3 citles, 1 year Parturition:		32 )7	. 12 . 22				.51 , 22	. 27	0.21		. 27 . 10
Fall River, 3 years 3 cities, 1 year Cancer:	:	78 35	. 48 . 45				. 82 . 65	.62 .89	1.49 1.54		.71 .76
Fall River, 3 years 3 cities, 1 year. Diseases of the nervous system: Fall River, 3 years		32 26	.60 .45				.41 .65	.35 .15	. 21	-	.38 .30
3 cities, 1 year Diseases of the digestive system: Fall River, 3 years		26	1. 12		1.28		. 10	.58	.85		.46
Nephritis: Fall River, 3 years 3 cities, 1 year		59 51 59	1.93 1.57		1.49 2.13 2.23		.05 .71 .65	. 45 . 27 . 30	. 39 . 42 . 39		.62 .91 .81
Apoplexy: Fall River, 3 years. 3 cities, 1 year. Heart disease:		21	.24		. 42 . 75		.31 .44	. 18			. 22 . 20
Fall River, 3 years. 3 cities, 1 year Respiratory diseases other than tuberculosis:		36 26	.84 1.35		. 85 . 75		. 21 . <b>43</b>	.44 .15	.21		.47
Fall River, 3 years 3 cities, 1 year	1.0	0	1.08 1.57		. 85 . 75		.51 .86	1.68 1.34	.42 .39		1.02 1.11
Total, hontuberculous causes: Fall River, 3 years 3 cities, 1 year	4.5 4.4	9	6.97 7.40		5.95 5.97		4.30 5.20	4.78 4.32	4.02 2.71		5.13 5.12
Fall River, 3 years 3 cities, 1 year	2.5 3.3	94	4.69 6.06	•	2. 13 4. 47		1.64 3.04	3.46 3.72	2.76 2.32	1	3.07 3.96
Total, all causes: Fall River, 3 years 3 cities, 1 year	7.1 7.8	8	11.66 13.46		8.08 10.44		5.94 8.24	8.24 8.04	6.78 5.03		8.20 9.08
Total, respiratory causes: Fall River, 3 years 3 cities, 1 year	3.5 4.3	93	5.77 7.63		2.98 5.22		2.15 3.90	5.14 • 5.06	3. 18 2. 71	5	4.05 5.07
Fall River, 3 years 3 cities, 1 year	3.5 3.4	9	5.89 5.83		5.10 5.22		3.79 4.34	3.10 2.98	3.60 2.32		4.11 4.01
Total, all causes: Fall River, 3 years 3 cities, 1 year	7.1 7.8	80	11.66 13.46		8.08 10.44		5.94 8.24	8.24 8.04	6.78 5.03		8.20 9.08

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# TABLE 49.—DEATH RATES OF OPERATIVES AND NONOPERATIVES PER CAUSE, BY SEX AND RACE, FALL RIVER, 1905 TO 1907, AND 3 CITIES

Course of dooth locality and	Males.										
period.	Non- Irish.	Irish.	Ameri- can.	English.	French Canadian.	Other races.	All races.				
		-									
Accident or violence: Fall River 3 years	0.68	1 07	0.35	1 26	0.60	0.53	0.75				
3 cities, 1 year	1.07	1.19	. 63	1.73	.83	1.90	1.09				
Senility:											
Fall River, 3 years	.47	1.07	.45	.79	.44	.15	. 56				
Unclassified diseases:	. 49	.00	.05	.07	.08		. 90				
Fall River, 3 years	1.16	1.92	.89	1.39	1.42	.91	1.28				
3 cities, 1 year	1.02	1.83	.90	1.15	1.09	.95	1.16				
Fall River 2 years	-										
3 cities. 1 year.											
Cancer:											
Fall River, 3 years	. 68	1.38	. 55	1.12	.54	. 60	.79				
Diseases of the nervous system:	. 02	. 13	. /4	.01	.01	. 47	. 04				
Fall River, 3 years	.61	. 69	. 59	. 66	.74	. 38	. 62				
3 cities, 1 year	.94	.73	1.00	. 48	1.22	.79	. 90				
Diseases of the digestive system:	90	9 77	64	1 20	00	59	1 16				
3 cities, 1 year	1.15	3.57	1.22	1.06	1.35	. 63	1.10				
Nephritis:											
Fall River, 3 years	. 89	3.76	.74	1.45	.83	. 53	1.34				
A poplexy	1.44	3.30	1. 59	1.82	1.09	1.20	1.77				
Fall River, 3 years	1.07	2.84	.94	1.85	1.13	.30	1.35				
3 cities, 1 year	1.48	2.65	1.38	2.01	1.47	.95	1.69				
Heart disease:	1 55	4 69	1 70	0.05	1 92	01	2.05				
3 cities, 1 year	1.50	3.30	1.91	1.53	1. 20	1.26	1.83				
Respiratory diseases other than											
tuberculosis:	1.17	1.00		1.05	1.00	00	1.00				
3 cities 1 years	1.17	4.00	. 89	1.80	1.08	. 98	1.03				
o cruco, i y current contraction of the cruco of the cruc	1.00	1. 10	1.10	2.00	1.00	1.00	2.00				
Total, nontuberculous											
Causes: Fall Piwer 2 weers	0.14	94 19	7 00	14 01	0 00	5 00	11 52				
3 cities. 1 year.	11.29	24.10	11.48	13.51	10, 19	9.79	13.23				
Tuberculosis:											
Fall River, 3 years	1.16	5.52	. 99	1.59	.98	1.21	1.85				
o cities, i year	1.31	0.49	1.11	1.73	1.34	1.11	2.04				
Total, all causes:	-			-							
Fall River, 3 years	10.30	29.70	8.81	15.60	9.96	7.03	13.38				
3 cities, 1 year	12.60	27.83	12.59	15.24	11.53	10.90	15.27				
Total, respiratory causes:											
Fall River, 3 years	2.33	9.52	1.88	3.44	2.06	2.19	3.48				
3 cities, 1 year	2.87	9.98	2.59	4.12	2.43	2.69	4.12				
Fall River. 3 years	7.97	20,18	6,93	12,16	7,90	4.84	9,90				
3 cities, 1 year	9.73	17.85	10.00	11.12	9.10	8.21	11.15				
Motol all anymous											
Fall River, 3 years	10.30	29,70	8,81	15,60	9.96	7.03	13.38				
3 cities, 1 year	12.60	27.83	12.59	15.24	11.53	10.90	15.27				

## NONOPERATIVES.

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# 1,000 POPULATION 10 YEARS OF AGE AND OVER FROM EACH SPECIFIED (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR—Concluded.

				Females.			
Cause of death, locality, and period.	Non- Irish.	Irish.	Ameri- can.	English.	French Canadian.	Other races.	All races.
Accident or violence:							
Fall River, 3 years	0.16	0.96	0.22	0.19	0.12	0.07	0.30
Senility:	. 29	. /1	.31	. 40	.12	. 29	.31
Fall River, 3 years	. 59	1.53	.98	.73	.32	. 22	.75
Unclassified diseases:	.01	1.14	1.12	.00	. *1	• 14	. 10
Fall River, 3 years	.95	1.76	1.11	1.11	.80	.73	1.09
Parturition:	1.09	1.00	1.14		1.1/	1. 44	1.14
Fall River, 3 years	. 32	.40	.04	.15	.59	.51	.33
Cancer:	. 23		.00	• 43		. 40	
Fall River, 3 years	1.18	1.47	1.06	2.03	1.04	.37	1.24
Diseases of the nervous system:	1.13	1.20	1. 10	1.01		. 40	1.20
Fall River, 3 years	.34	.57	.40	.48	.28	.15	.38
Diseases of the digestive system:	.12	1.40	.01				.00
Fall River, 3 years	.92	2.83	. 89	1.02	1.24	.22	1.26
Nephritis:		1.00	1.00				1.10
Fall River, 3 years 3 cities, 1 year	.82	3.40	1.06	.97	.52	.73	1.28
Apoplexy:	1.00						
Fall River, 3 years 3 cities, 1 year	1.00	3.45	1.38	1.35	.64	.51	1.44
Heart disease:	1.10	0.00					
Fall River, 3 years 3 cities, 1 year.	1.45	4.30	1.69	1.59	1.30	1.03	1.90
Respiratory diseases other than							
Fall River, 3 years	1.35	3.06	1.24	1.40	1.56	1.10	1.65
3 cities, 1 year	1.55	3.99	1.50	1.50	1.93	. 86	2.03
Total, nontuberculous							in the second se
Causes:	0.00	02 70	10.07	11 01	0 47	5.04	11 69
3 cities, 1 year	11.03	23.73	12.80	11.01	10.64	6.28	13.09
Tuberculosis:	02	1 01	71	02	. 06	1.95	1.00
3 cities, 1 year.	1.13	2.57	.79	.94	1.58	1.43	1.41
Total all causes							
Fall River, 3 years	10.01	25. 54	10.78	11.93	9.43	6.89	12.77
3 cities, 1 year	12.16	24.19	13.59	12.14	12.22	7.71	14.50
Total, respiratory causes:							
3 cities, 1 year	2.28	4.87	1.95	2.32	2.52	2.35	2.74
Total, nonrespiratory causes:		0.00			0.01		10.00
3 cities, 1 year.	7.73	20.67	8.83	9.61	6.91 8.71	4.54	10.03
Motol all courses							
Fall River, 3 years	10.01	25.54	10.78	11.93	9.43	6.89	12.77
3 cities, 1 year	12.16	24.19	13.59	12.14	12.22	7.71	14.50

#### NONOPERATIVES.

## TABLE 50.—RACE PERCENTAGE DISTRIBUTION OF OPERATIVE AND DEATH, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL

				Males.			
Cause of death, locality, and period.	Non- Irish.	Irish.	Ameri- can.	English.	French Canadian.	Other races.	Number, all races (100 per cent).
POPULATION.						les 1	0
Fall River, 3 years 3 cities, 1 year	84 85	16 15	5 8	31 26	33 31	15 - 20	13,010 18,731
DEATHS.						1.	
Accident or violence: Fall River, 3 years 3 citles, 1 year Senility:	78 85	22 15	5	44 40	19 20	15 20	32 20
Fall River, 3 years 3 cities, 1 year Unclassified diseases:		100 100		•••••			1
Fall River, 3 years 3 cities, 1 year Parturition: Fall River, 3 years 3 cities, 1 year	89 87	11 13	25	56 38	28 12	5 12	18 8
Cancer: Fall River, 3 years 3 cities, 1 year Diseases of the nervous system:	55 50	45 50	••••••	45 25	10 25		11 8
Fall River, 3 years 3 cities, 1 year	89 89	11 11	•••••	22 22	45 45	22 22	9
Fall River, 3 years 3 cities, 1 year	78 78	22 22	8 7	22 22	33 22	15 27	27 14
Fall River, 3 years 3 cities, 1 year	69 71	31 29	15 18	31 18	15 23	8 12	26 17
Fall River, 3 years 3 citles, 1 year	82 92	18 8	9 17	46 41	18 17	9 17	11 12
Fall River, 3 years 3 cities, 1 year	69 60	31 40	47	31 33	19 13	15 7	26 15
tuberculosis: Fall River, 3 years 3 cities, 1 year	81 71	19 29	10 18	22 18	37 35	12	32 17
Total, nontuberculous causes:							
Tuberculosis:	76 75	24 25	6 11	33 28	25 23	12 13	193 121
Fall River, 3 years 3 cities, 1 year	74 75	26 25	6 7	20 19	30 30	18 19	94 53
Total, all causes: Fall River, 3 years 3 cities, 1 year	76 75	24 25	6 10	30 25	26 25	- 14 15	287 174
Total, respiratory causes: Fall River, 3 years 3 citles, 1 year	76 74	24 26	7 10	20 19	32 31	17 14	126 70
Fall River, 3 years S cities, 1 year	75 76	25 24	5 10	36 30	22 21	12 15	<sup>3</sup> 161 104
Total, all causes: Fall River, 3 years 3 cities, 1 year	76 75	24 25	6 10	30 25	26 25	14 15	287 174

**OPERATIVES.** 

# CHAPTER IV.—POPULATION AND MORTALITY TABLES. 317

## AGES 10 YEARS AND OVER-POPULATION AND DEATHS.

NONOPERATIVE MALE AND FEMALE DECEDENTS, BY CAUSE OF RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR.

		1		Fema	lles.		
Cause of death, locality, and period.	Non- Irish.	Irish.	Ameri- can.	English.	French Canadian.	Other races.	Number, all races (100 per cent).
POPULATION.							
Fall River, 3 years 3 cities, 1 year	77 77	23 23	6 7	27 23	31 34	13 13	12,148 19,717
DEATHS.							
Accident or violence: Fall River, 3 years 3 cities, 1 year. Senility: Fall River, 3 years	80 100	20	20	40	20 60	40	5 5
Unclassified diseases: Fall River, 3 years 3 cities, 1 year	90 50	10 50		50 50	30	10	10 2
Fall River, 3 years 3 cities, 1 year	85 87	15 13		31 20	27 40	27 27	26 15
Fall River, 3 years 3 cities, 1 year	64 67	36 33		28 50	28 17	8	14 6
Fall River, 3 years 3 cities, 1 year.	40 44	60 56		10	20 44	10	10 9
Fall River, 3 years 3 cities, 1 year	74 75	26 25	11 17	18 25	30 25	15 8	27 12
Fall River, 3 years 3 cities, 1 year	52 56	48 44	15 19	22 19	9 12	6 6	33 16
Fall River, 3 years 3 cities, 1 year Heart disease:	75 100	25	12	38 25	25 50	25	8 4
Fall River, 3 years 3 cities, 1 year Respiratory diseases other than	59 40	41 60	12 10	12 20	19 10	6	17 10
tuberculósis: Fall River, 3 years 3 cities, 1 year	76 68	24 32	6 4	13 19	51 41	6 4	37 22
Total, nontuberculous causes: Fall River, 3 years	69	31	8	22	29	10	187
3 ities, 1 year Tuberculosis: Fall River, 3 years	-68 65	32 35	8	24	29	7	101
3 cities, 1 year	65	35	8	18	32	7	
Total, all causes: Fall River, 3 years 3 cities, 1 year	67 66	33 34	<b>6</b> 8	19 21	31 30	11 7	299 179
Total, respiratory causes: Fall River, 3 years 3 cities, 1 year	68 66	32 34	57	14 18	39 34	10 7	149 100
Fall River, 3 years 3 cities, 1 year	67 67	° 33 33	8 9	25 25	23 25	11 8	150 79
Total, all causes: Fall River, 3 years 3 cities, 1 year	67 66	33 34	6 8	19 21	31 30	11 7	299 179

OPERATIVES.

 TABLE 50.—RACE PERCENTAGE DISTRIBUTION OF OPERATIVE AND DEATH, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL

NONOPERATIVES.

	Males.									
Cause of death, locality, and period.	Non- Irish.	Irish.	Ameri- can.	English.	French Canadian.	Other races.	Number, all races (100 per cent).			
POPULATION.		_					-			
Fall River 2 cities	84 82	16 18	25 30	18 17	25 25	16 10	27, 325 62, 195			
DEATHS.		-			-	-				
Accident or violence: Fall River, 3 years 3 cities, 1 year	77 81	23 19	11 18	31 26	24 19	11 18	61 68			
Fall River, 3 years	70 81	30 19	20 39	26 23	20 19	4	46			
Unclassified diseases: Fall River, 3 years	76	24	17	20	28	11	105			
3 cities, 1 year Parturition: Fall River, 3 years 3 cities, 1 year	72	28	24	16	24	8	72			
Cancer: Fall River, 3 years 3 cities, 1 year	72 80	28 20	17 35	26 18	17 20	12 7	65 40			
Fall River, 3 years	82 86	18 14	23 34	20 9	29 34	10 9	51 56			
Diseases of the digestive system: Fall River, 3 years 3 cities, 1 year	62 60	38 40	14 24	22 11	19 21	74	95 98			
Nephritis: Fall River, 3 years 3 citles, 1 year	55 67	45 33	14 27	20 17	15 16	6 7	110 110			
Apopiexy: Fall River, 3 years 3 cities, 1 year	67 72	33 28	17 25	25 20	21 22	4 5	111 105			
Heart disease: Fall River, 3 years 3 cities, 1 year	64 68	36 32	22 31	20 14	15 16	77	168 114			
Respiratory diseases other than tuberculosis: Fall River, 3 years	61 62	39 38	14 22	21 19	16 13	10 8	133 129			
Total, nontuberculous										
Fall River, 3 years 3 cities, 1 year	67 70	33 30	17 26	23 17	19 19	8 8	945 823			
Tuberculosis: Fall River, 3 years 3 cities, 1 year	53 53	47 47	13 17	16 14	13 17	11 5	152 127			
Total, all causes: Fall River, 3 years 3 cities, 1 year	65 68	35 32	16 25	22 17	19 19	8 7	1,097 950			
Total, respiratory causes: Fall River, 3 years 3 cities, 1 year	56 57	44 43	13 19	18 17	15 15	10 6	285 256			
Fall River, 3 years 3 cities, 1 year	68 72	32 28	17 27	23 17	20 20	8	812 694			
Total, all causes: Fall River, 3 years 3 cities, 1 year	65 68	35 32	16 25	· 22 17	19 19	8 7	1, 097 950			

NONOPERATIVE MALE AND FEMALE DECEDENTS, BY CAUSE OF RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR-Concluded.

#### NONOPERATIVES.

	Females.										
Cause of death, locality, and period.	Non- Irish.	Irish.	Ameri- can.	English.	French Canadian.	Other races.	Number, all races (100 per cent).				
POPULATION.											
Fall River	82 81	18 19	23 30	21 17	25 24		33, 183 72, 218				
DEATHS.				-							
Accident or violence:	40		10	10	10						
3 cities, 1 year	40 63	37	30	13	10	7	30 27				
Senility: Fall River 2 years	64	26	90	20	11		75				
3 cities, 1 year	71	29	43	13	13	2	55				
Unclassified diseases: Fall River 3 years	7,	28	23	91	10	0	100				
3 cities, 1 year	77	23	29	11	25	12	82				
Fall River 3 years	79	91	3	0	46	91	22				
3 cities, 1 year	71	29	8	13	42	8	24				
Cancer: Fall River, 3 years	79	21	20	34	21	4	193				
3 cities, 1 year	78	22	35	26	15	2	89				
Fall River, 3 years	74	26	24	26	19	5	38				
3 cities, 1 year.	75	30	30	13	25	2	60				
Diseases of the digestive system: Fall River, 3 years	60	40	16	17	25	2	125				
3 cities, 1 year	67	33	26	13	- 24	4	83				
Nephritis: Fall River 3 years	53	47	19	16	10	8	197				
3 cities, 1 year	61	39	24	16	15	6	101				
Apoplexy: Fall River, 3 years	57	43	22	10	11	5	143				
3 cities, 1 year	68	32	32	18	16	2	146				
Heart disease: Fall River 3 years	61	30	20	17	17	7	105				
3 cities, 1 year	67	33	31	12	18	6	132				
Respiratory diseases other than			_								
Fall River, 3 years	67	33	17	17	24	9	165				
3 cities, 1 year	62	38	22	13	23	4	146				
Total, nontuberculous							-				
Fall River, 3 years	64	36	19	20	18	7	1,163				
3 cities, 1 year	68	32	29	15	19	5	945				
Fall River, 3 years	70	30	15	17	22	16	108				
3 cities, 1 year	71	29	20	14	27	10	102				
Total, all causes:											
Fall River, 3 years	64	36	19	19	18	8	1,271				
3 cities, 1 year	08	32	28	15		0	1,047				
Total, respiratory causes:	00	00	10	177	02	10	072				
3 cities, 1 year	63	32	20	17	23	6	213				
Total, nonrespiratory causes:	62	94	20		17	e	000				
3 cities, 1 year	69	37	20 30	20 15	17	5	799				
Total all causes											
Fall River, 3 years	64	36	19	19	18	8	1,271				
3 cities, 1 year	68	32	28	15	20	5	1,047				

TABLE 51.—PER CENT THAT MALE AND FEMALE DECEDENTS OF EACH OPERATIVES OF BOTH SEXES DYING FROM EACH SPECIFIED CAUSE, AND PAWTUCKET), 1 YEAR.

**OPERATIVES.** 

				Males.			
Cause of death, locality, and period.	Non- Irish.	Irish.	Ameri- can.	English.	French Cana- dian.	O ther races.	All races.
POPULATION.							
Fall River, 3 years	44	8	3	16	17	8	52
3 cities, 1 year	42	7	4	13	15	10	
DEATHS.			_			1	
Fall River, 3 years	67	19		38	16	13	86
Senility:	68	12	4	32	16	16	80
Fall River, 3 years 3 cities, 1 year		1		• • • • • • • • • • • • • • • • • • • •			100 100
Unclassified diseases: Fall River, 3 years	57	7		36	18	3	64
3 cities, 1 year Parturition:	70	10	20	30	10	10	80
Fall River, 3 years							
Cancer:						•••••	
3 cities, 1 year	24 28	20 29		20 14	4 14		44 57
Diseases of the nervous system: Fall River, 3 years	42	5		10	22	10	47
3 cities, 1 year Diseases of the digestive system:	44	6		11	22	11	50
Fall River, 3 years	39	11	4	11	17	7	50
Nephritis:	12	12	3	14	12	15	04
3 cities, 1 year	30 37	14 15	9	14 9	13	3 6	44 52
Apoplexy: Fall River, 3 years	47	11	5	26	11	5	58
3 cities, 1 year Heart disease:	69	6	12	31	13	13	75
Fall River, 3 years	42 36	18	2	19	12	9	60
Respiratory diseases other than		21	T	20		Ĩ	00
Fall River, 3 years	37	9	4	10	17	6	46
3 cities, 1 year	31	13	8	8	15		44
Causes:	P	-		-		1,000	
Fall River, 3 years 3 cities. 1 year	39 41	12 14	3	17 15	13 13	67	51
Tuberculosis: Fall River 3 years	34	19	2	0	14		48
3 cities, 1 year	30	10	3	7	13	7	40
Total, all causes:	0.7	10			10	_	
3 cities, 1 year	37 37	12 12	3 4	14 13	13	77	49 49
Total, respiratory causes:					= ;		
Fall River, 3 years 3 cities, 1 year	35 31	11 10	3 4	9	15 13	8	46 41
Total, nonrespiratory causes: Fall River, 3 years	39	13	2	19	12	6	52
3 cities, 1 year	43	14	5	17	12	9	57
Total, all causes:	27	10		14	19	7	40
3 cities, 1 year	37	12	4	14 13	13	7	49

SPECIFIED RACE FORM OF TOTAL OPERATIVES AND OF TOTAL NON-FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER,

				Females				Total popu- lation, and
Cause of death, locality, and period.	Non- Irish.	Irish.	Ameri- can.	Eng- lish.	French Cana- dian.	Other races.	All races.	total deaths from each specified cause, both sexes and all races (100 per cent).
POPULATION.						-		
Fall River, 3 years 3 cities, 1 year	37 40	11 11	3 4	13 12	15 17	6 7	48 51	25, 158 38, 448
DEATHS.								
Accident or violence: Fall River, 3 years 3 cities, 1 year. Senility: Fall River, 3 years 3 cities, 1 year.	11 20	3	3	5 12	38		14 20	37 25 1 1
Fall River, 3 years	32	4		18	11	3	36	28
Parturition: Fall River, 3 years	85 87	10 15 13		31 20	27	27	100	10 26
Cancer: Fall River, 3 years	36	20 14		16	16 7	4	56	25
Diseases of the nervous system: Fall River, 3 years	29	32		5	11	5	43 53	14 19
Diseases of the digestive system: Fall River, 3 years	22 37	28 13	6	9	22 15	7	50 50	18 54
3 cities, 1 year Nephritis: Fall River, 3 years	35 29	11 27	7	12 12	12 5	4	46 56	26 59
3 cities, 1 year Apoplexy: Fall River 3 years	27	21	9	9	6	3	48	33
3 cities, 1 year Heart disease:	25		6	13	6	• • • • • • • • • •	25	19
Fall River, 3 years 3 cities, 1 year Respiratory diseases other than	23 16	17 24	5 4	5 8	11 4	2	40 40	43 25
Fall River, 3 years 3 cities, 1 year	41 38	13 18	3 2	7 11	28 23	3 2	54 56	69 39
Total, nontuberculous causes:			-					
Fall River, 3 years 3 cities, 1 year Tuberculosis:	34 30	15 15	<b>4</b> 3	11 11	14 13	5 3	49 45	380 222
Fall River, 3 years. 3 cities, 1 year.	35 39	19 21	2 5	8 10	19 19	6 5	54 60	206 131
Total, all causes: Fall River, 3 years 3 cities, 1 year	34 34	17 17	34	10 11	16 15	5	51 51	586 353
Total, respiratory causes: Fall River, 3 years	37	17	3	8	21	5	54	275
3 cities, 1 year Total, nonrespiratory causes: Fall River, 3 years	39 32	20 16	4	11 12	20 11	4	59 48	170
3 cities, 1 year	29	14	4	11	11	3	43	183
Fall River, 3 years 3 cities, 1 year	34 34	17 17	3 4	10 11	16 15	5 4	51 51	586 353

**OPERATIVES.** 

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#### TABLE 51.—PER CENT THAT MALE AND FEMALE DECEDENTS OF EACH OPERATIVES OF BOTH SEXES DYING FROM EACH SPECIFIED CAUSE, AND PAWTUCKET), 1 YEAR—Concluded.

				Males.			
Caus cof death, locality, and period.	Non- Irish.	Irish.	Ameri- can.	English.	French Cana- dian.	Other races.	All races.
POPULATION. Fall River, 3 years	38 38	7 8	11	9	11	75	45 46
DEATHS.							
Accident or violence: Fall River, 3 years 3 cities, 1 year Senility:	52 58	15 14	8 13	21 19	15 13	8 13	67 72
Fall River, 3 years 3 cities, 1 year	26 29	12 7	7 14	10 8	77	2	38 36
Fall River, 3 years Parturition: Fall River, 3 years	• 37 34	12 13	8 11	10 8	13 11	6 4	49 47
3 cities, 1 year Cancer: Fall River, 3 years 3 cities, 1 year. Disease of the nervous system:	25 25	10 6	6 12	9 5	6 6	4 2	35 31
Fall River, 3 years 3 cities, 1 year	47 41	10 7	13 17	11 4	17 16	6 4	57 48
Diseases of the digestive system: Fall River, 3 years 3 cities, 1 year Nephritis:	27 33	16 21	6 13	10 6	8 12	3 2	43 54
Fall River, 3 years 3 cities, 1 year	26 35	20 17	7 14	9 9	7 8	3 4	46 52
Fall River, 3 years 3 cities, 1 year Heart disease:	29 30	15 12	7 10	11 8	9 9	2 3	44 42
Fall River, 3 years. 3 cities, 1 year. Respiratory diseases other than tuberculosis	29 32	17 14	10 15	9 7	7 7	3 3	46 46
Fall River, 3 years 3 cities, 1 year	27 29	18 18	6 10	10 9	7 6	4	45 47
Total, nontuberculous causes: Fall River, 3 years	30	15	7	10	9	4	45
3 cttles, 1 year Tuberculosis: Fall River, 3 years 3 cities, 1 year	33 31 20	14 27 26	12 8 0	8 9 8	9 8 0	4 6 3	47 58 55
Total, all causes: Fall River, 3 years 3 cities, 1 year	30 33	16 15	7 12	10 8	999	4	46 48
Total, respiratory causes: Fall River, 3 years 3 cities, 1 year	29 29	22 22	7 10	9 9	87	53	51 51
Fall River, 3 years	30 33	15 13	8 12	10 8	9 9	3 4	45 46
Total, all causes: Fall River, 3 years 3 cities, 1 year	30 33	16 15	7 12	10 8	9 9	4	46 48

#### NONOPERATIVES.

SPECIFIED RACE FORM OF TOTAL OPERATIVES AND OF TOTAL NON-FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER,

#### NONOPERATIVES.

		-	Total popu- lation, and					
Cause of death, locality, and period.	Non- Irish.	Irish.	Ameri- can.	Eng- lish.	French Cana- dian.	Other races.	All races.	total deaths from each specified cause, both sexes and all races (100 per cent).
POPULATION.					-			
Fall River, 3 years 3 cities, 1 year	45 44	10 10	12 16	11 10	14 13	8 5	55 54	00,508 134,413
DEATHS.								
Accident or violence: Fall River, 3 years 3 cities, 1 year	14 18	19 10	<b>6</b> 8	4 6	3 2	1 2	33 28	91 95
Fall River, 3 years 3 cities, 1 year Unclassified diseases:	40 45	22 19	18 28	12 8	7 8	3 1	62 62	121 86
Fall River, 3 years 3 cities, 1 year	36 41	15 12	12 16	11 6	9 13	4 6	51 53	214 154
Fall River, 3 years 3 cities, 1 year	79 71	21 29	3 8	9 13	46 42	21 8	100 100	33 24
Fall River, 3 years 3 cities, 1 year	51 53	14 16	13 24	22 18	14 10	<b>2</b> 1	65 69	188 129
Fall River, 3 years. 3 cities, 1 year.	32 36	11 16	10 · 15	11 7	8 13	3 1	43 52	89 116
Fall River, 3 years	34 31	23 15	9 12	10 6	14 11	$1 \\ 2$	57 46	220 181
Fall River, 3 years	28 30	26 18	10 12	8 8	6 7	43	54 48	237 211
Fall River, 3 years 3 cities, 1 year	32 39	24 19	12 19	11 10	6 9	3 1	56 58	254 251
Fall River, 3 years 3 cities, 1 year Respiratory diseases other than	33 36	<b>21</b> 18	11 17	- 9 6	9 10	4 3	54 54	363 246
tuberculosis: Fall River, 3 years 3 cities, 1 year	37 33	18 20	10 12	10 7	12 12	5 2	55 53	298 275
Total, nontuberculous causes:								
Fall River, 3 years 3 cities, 1 year Tuberculosis:	35 36	20 17	11 16	11 8	10 10	3 2	55 53	2,108 1,768
Fall River, 3 years 3 cities, 1 year	29 29	13 16	6 8	7 5	9 12	7 4	42 45	260 229
Total, all causes: Fall River, 3 years 3 cities, 1 year	35 35	19 17	10 14	11 8	10 10	43	54 52	2, 368 1, 997
Total, respiratory causes: Fall River, 3 years 3 cities, 1 year.	34 31	15 18	8	9	11	6	49 49	558
Total, nonrespiratory causes: Fall River, 3 years 3 cities, 1 year	35 37	20 17	11 16	11 8	10 10	33	55 54	1,810 1,493
<ul> <li>Total, all causes:</li> <li>Fall River, 3 years</li> <li>3 cities, 1 year</li> </ul>	35 35	19 17	10 14	11 8	10 10	43	54 52	2,368 1,997

TABLE 52.—PER CENT OF DEATHS DUE TO EACH SPECIFIED CAUSE WITHIN EACH SPECIFIED AGE GROUP, BY SEX AND BY OCCUPA-TION GROUPS, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR.

	Males. Females.					Both sexes.			
Cause of death, locality, and period.	Oper- atives.	Non- opera- tives.	Both classes.	Oper- atives.	Non- opera- tives.	Both classes.	Oper- atives.	Non- opera- tives.	Both classes.
Accident or violence: Fall River, 3 years 3 cities, 1 year Senility:	100 100	12 22	19 31	100	3	34	100 60	6 12	12 16
Fall River, 3 years 3 cities, 1 year Unclassified diseases: Fall River, 3 years 3 cities, 1 year Parturition: Fall River, 3 years		25 17	22 15		16 22	16 21		20 20	19 18
3 cities, 1 year Cancer: Fall River, 3 years 3 cities, 1 year					3 4	33		2 2	12
Diseases of the nervous system: Fall River, 3 years. 3 cities, 1 year. Diseases of the digestive system:		24 43	22 38	50	10 22	9 24	20	17 32	16 31
S cities, 1 year Nephritis: Fall River, 3 years 3 cities, 1 year		15 9 3	14 8 3		15 16 4	14 16 3		11 12 9 2	10 11 9
Apoplexy: Fall River, 3 years 3 cities, 1 year Heart disease:		3	3					2	1
Fall River, 3 years 3 cities, 1 year. Respiratory diseases other than tuberculosis:		6 9	6 8		10 4	93		86	85
Fall River, 3 years 3 cities, 1 year Total, nontuberculous					13 15	13 14		12 8	12 8
Fall River, 3 years 3 cities, 1 year Tuberculosis: Fall River, 3 years	100 100	100 100	100 100	100 50	74 89 26	75 86 25	100 80	87 94 13	· 88 · 93
3 cities, 1 ýear Total, all causes: Fall River, 3 years	100	100	100	50 100	11	14	20	-6 100	100
3 cities, 1 year Total, respiratory causes: Fall River, 3 years	100	100	100	100	100 39	100 	100	100 25	24
Total, nonrespiratory causes: Fall River, 3 years	100 100	88 100	89 100	100 50	20 61 74	62 72	100 80	75 86	15 76 85
Total, all causes: Fall River, 3 years 3 cities, 1 year	100 100	100 100	100 100	100 100	109 100	100 100	100 100	100 100	100 100
DEATH RATE PER 1,000 POPULATION. Total, all causes: Fall River, 3 years 3 cities, 1 year	3. 44 8. 82	2. 21 2. 34	2.27 2.56	1. 44 6. 62	2.00 2.72	1.98 2.83	2.55 7.79	2.10 2.53	2.12 2.70

#### 11 TO 14 YEARS.

TABLE 52.—PER CENT OF DEATHS DUE TO EACH SPECIFIED CAUSE WITHIN EACH SPECIFIED AGE GROUP, BY SEX AND BY OCCUPA-TION GROUPS, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR—Continued.

	-	Males.		-	Female	s.	B	oth sex	es.
Cause of death, locality, and period.	Oper- atives.	Non- opera- tives.	Both classes.	Oper- atives.	Non- opera- tives.	Both classes.	Oper- atives.	Non- opera- tives.	Both classes.
Accident or violence: Fall River, 3 years 3 cities, 1 year Senility: Fall River. 3 years.	15 13	78	12 10	1 2	4 2	22	7 6	5 5	6
3 cities, 1 year. Unclassified diseases: Fall River, 3 years. 3 cities, 1 year. Parturition: Fall River. 3 years.	8 5	7 4	7 5	6 2 11	13 5 2	9 3 7	7 3 6	10 5 1	8 4 4
3 cities, 1 year Cancer: Fall River, 3 years 3 cities, 1 year				15 1	2 2	8	9	1	4
Diseases of the nervous system: Fall River, 3 years. 3 cities, 1 year. Diseases of the digestive system:	6 15	10 14	8 14	4 7	7 14	5 11	5 11	9 14	7 12
Fall River, 3 years 3 cities, 1 year Nephritis: Fall River, 3 years	9 10 5	7 14 10	8 13 7	10 5 7	7 16 8	9 11 8	9 7 6	7 15 9	8 12 7
3 cities, 1 year. Apoplexy: Fall River, 3 years 3 cities, 1 year.	5	3	6 2	5 1 2	7 2 2	6 1 2	5 1 1	1 2	12
Fall River, 3 years 3 cities, 1 year. Respiratory diseases other than tuberrulosis:	5 8	18 7	12 7	3 2	9 4	5 3	44	14 6	8 5
Fall River, 3 years 3 cities, 1 year Total. nontuberculous	10 11	7 12	8 11	11	11 5	12 8	10 11	8 9	10 10
causes: Fall River, 3 years 3 cities, 1 year Tuberculosis:	58 67	66 69	62 68	55 51	65 57	59 54	56 57	65 64	60 61
Fall River, 3 years 3 cities, 1 year Total, all causes:	42 33	34 31	38 32	45 49	35 43	41 46	44 43	35 36	40 39
Fall Kiver, 3 years 3 cities, 1 year Total, respiratory causes:		100 100	100 100	100 100	100 100	100		100 100	100
Fall River, 3 years. 3 cities, 1 year. Total, nonrespiratory causes: Fall River, 3 years.	52 44 48	41 43 59	46 43 54	56 60 44	46 48 54	53 54 47	54 53 46	43 45 57	50 49 50
Total, all causes: Fall River, 3 years 3 cities, 1 year	100 100	100 100	100 100	100	52 100 100	40 100 100	100 100	100 100	100 100
DEATH RATE PER 1,000 POPULATION.									-
Total, all causes: Fall River, 3 years 3 cities, 1 year	4.91 6.07	3.35 5.28	4.01 5.54	5.30 5.82	2.96 3.86	4.13 4.64	5. 14 5. 92	3.15 4.55	4.08 5.05

#### 15 TO 24 YEARS.

TABLE 52.—PER CENT OF DEATHS DUE TO EACH SPECIFIED CAUSE WITHIN EACH SPECIFIED AGE GROUP, BY SEX AND BY OCCUPA-TION GROUPS, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR—Continued.

	Males. Females.			Both sexes.					
Cause of death, locality, and period.	Oper- atives.	Non- opera- tives.	Both classes.	Oper- atives.	Non- opera- tives.	Both classes.	Oper- atives.	Non- opera- tives.	Both classes.
Accident or violence: Fall River, 3 years 3 cities, 1 year Senility: Fall River, 3 years	8 13	9 11	9 · 12	2	333	23	3 7	6 7	5 7
3 cities, 1 year Unclassified diseases: Fall River, 3 years 3 cities, 1 year Parturition:	6 3	13 9	11 8	3	14 13	10 9	5 1	 14 11	 10 8
Fall River, 3 years. 3 cities, 1 year.				12 8	17 13	15 11	7 5	9 6	8 6
Fall River, 3 years 3 cities, 1 year	2	$\frac{1}{2}$	1 1	1	4 3	3 2	1	3 2	2 2
Fall River, 3 years	5 2	4 3	4 3	5 4	3 5	4 4	5 3	$3 \\ 4$	4
Fall River, 3 years	5 2	6 7	6 6	9 7	5 7	6 7	7 5	$ \begin{array}{c} 6\\ 7 \end{array} $	6 6
Fall River, 3 years 3 cities, 1 year	8 10	7 10	7 10	6 11	8 9	7 10	7 11	7 10	- 7 10
Fall River, 3 years 3 cities, 1 year	3 8	2 4	$\frac{2}{5}$	$\frac{1}{2}$	$^2_1$	1 1	2 4	2 3	· 2 3
Fall River, 3 years 3 cities, 1 year Respiratory diseases other than tyberulaeier	5	7 6	6 4	2 2	3 3	3 3	3 1	5 5	5 3
Fall River, 3 years 3 cities, 1 year	11 13	14 16	13 14	10 4	10 13	9 10	11 8	11 14	11 13
Total, nontuberculous causes:			1						
Tuberculosis:	53 51	63 68	59 63	49 40	69 70	60 60	51 45	66 69	60 62
Fall River, 3 years      3 cities, 1 year	47 49	37 32	41 37	51 60	31 30	40 40	49 55	34 31	40
Total, all causes: Fall River, 3 years 3 cities, 1 year	100 100	100 100	100 100	100 100	100 100	100 100	100 100	100 100	100 100
Total, respiratory causes: Fall River, 3 years 3 cities, 1 year	58 62*	51 48	54 51	61 64	41 43	49 50	60 63	45 45	51 51
Fall River, 3 years 3 cities, 1 year	42 38	49 52	46 49	39 36	51 57	51 50	40 37	55 55	49 49
Total, all causes: Fall River, 3 years 3 cities, 1 year	100 100	100 100	100 100	100 100	100 100	100 100	100 100	100 100	100 100
DEATH BATE PEB 1,000 POPULATION.					1		( L.		
Total, all causes: Fall River, 3 years 3 cities, 1 year	6.33 8.43	6.36 8.64	6.35 8.59	9.17 10.06	6. <b>21</b> 6. 66	7.18 7.52	7.75 9.30	6.28 7.59	6.79 8.02

#### 25 TO 34 YEARS.

TABLE 52.—PER CENT OF DEATHS DUE TO EACH SPECIFIED CAUSE WITHIN EACH SPECIFIED AGE GROUP, BY SEX AND BY OCCUPA-TION GROUPS, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR—Continued.

		Males.			Female	s.	B	oth sex	es.
Cause of death, locality, and period.	Oper- atives.	Non- opera- tives.	Both classes.	Oper- atives.	Non- opera- tives.	Both classes.	Oper- atives.	Non- opera- tives.	Both classes.
Accident or violence: Fall River, 3 years 3 cities, 1 year	11 4	9 12	10 11	3 6	6 3	5 4	75	8	777
Fall River, 3 years 3 cities, 1 year									
Unclassified diseases: Fall River, 3 years 3 cities 1 year		5	4	23	12 11	8	, 1	8	67
Parturition: Fall River, 3 years				8	8	8	4	3	- 4
3 cities, 1 year Cancer: Foll River 3 years				. 8 10	9 15	9 14	5	4	4
3 cities, 1 year. Diseases of the nervous system:	7	3	3	3	12	9	5	7	7
Fall River, 3 years 3 cities, 1 year Diseases of the digestive system:	3	2 5	1 5		3 5	2 4	1	3 5	2 4
Fall River, 3 year	15 14	11 13	12 13	9 - 8	10 7	10 7	12 11	11 10	11 10
Fall River, 3 years	6 11	9 7	8 8	13 6	9 6	10 6	10 8	9 6	97
Apoplexy: Fall River, 3 years	2	5	. 4	3	5	4	. 2	5	4
Heart disease: Fall River, 3 years	7	11	10	6	17	13	6	13	11
Respiratory diseases other than tuberculosis:	4	8	7	5	.10	9	5	9	8
Fall River, 3 years 3 cities, 1 year	8 11	17 15	15 14	21 22	6 9	11 13	15 17	12 13	13 14
Total, nont uberculous causes: Fall River 3 years	51	74	69	75	01	95	6A	01	76
3 cities, 1 year Tuberculosis:	54	74	70	61	81		58	78	73
Fall River, 3 years 3 cities, 1 year	<b>49</b> <b>4</b> 6	26 26	32 30	25 39	9 19	15 24	36 42	19 22	24 27
Total, all causes: Fall River, 3 years 3 cities, 1 year	100 100	100 • 100	100 100	100 100	100 100	100 100	100 100	100 100	100 100
Total, respiratory causes: Fall River, 3 years. 3 cities, 1 year.	57 57	43 41	47 44	46 61	15 28	26 37	51 59	31 35	37 41
Total, nonrespiratory causes: Fall River, 3 years 3 cities, 1 year	<b>43</b> 43	57 59	53 56	54 39	85 72	74 63	49 41	69 65	63 59
Total, all causes: Fall River, 3 years	100	100	100	100	100	100	100	100	100
DEATH RATE PER 1,000 POPULATION.			100	100	100	100	100	100	
Total, all causes: Fall River, 3 years 3 cities, 1 year	6.36 7.24	10. 91 10. 90	9.13 9.90	12.79 11.81	6.74 8.13	8. 13 8. 85	8.84 9.26	8.51 9.38	8.61 9.35

#### 35 TO 44 YEARS.

TABLE 52.—PER CENT OF DEATHS DUE TO EACH SPECIFIED CAUSE WITHIN EACH SPECIFIED AGE GROUP, BY SEX AND BY OCCUPA-TION GROUPS, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR—Continued.

		Males.			Female	s.	B	oth sex	es.
Cause of death, locality, and period.	Oper- atives.	Non- opera- tives.	Both classes.	Oper- atives.	Non- opera- tives.	Both classes.	Oper- atives.	Non- opera- tives.	Both classes.
Accident or violence: Fall River, 3 years	7	5	5	2	2	3	5	4	4
3 cities, 1 year Senility:	6	7	7	3	2	2	5	5	4
Fall River, 3 years 3 cities, 1 year		1	1		1	1	•••••	1	1
Fall River, 3 years 3 cities, 1 year.	10 6	11 8	11 8		8 6	7 6	6 4	9 7	97
Parturition: Fall River, 3 years									
Cancer: Fall River. 3 years	8	. 8	8	12	13	12	9	10	10
3 cities, 1 year. Diseases of the nervous system:	11	6	6	16	14	14	13	10	10
Fall River, 3 years 3 cities, 1 year Diseases of the digestive system:	2	3 5	34	5 6	5	35	32	3 5	3 5
Fall River, 3 years 3 cities, 1 year	12 11	9 12	10 12	7 6	11 8	11 8	10 9	10 10	10 10
Nephritis: Fall River, 3 years 3 cities 1 year	11	12	12 13	25 16	11	12	16	11	12
Apoplexy: Fall River, 3 years	8	11	11	9	14	14	.9	13	13
3 cities, 1 year Heart disease: Fall River 3 years	15	11	12 18	6 10	17	16	11	14	14
3 cities, 1 year. Respiratory diseases other than	îî	15	15	16	14	14	13	14	14
Fall River, 3 years 3 cities, 1 year	14 10	10 13	10 13	7 19	14 14	13 14	12 14	12 14	12 14
Total, nontuberculous causes:								-	
Fall River, 3 years 3 cities, 1 year	86 83	89 91	89 90	86 88	94 95	94 94	86 85	92 93	92 92
Fall River, 3 years 3 cities, 1 year	14 17	11 9	11 10	14 12	6 5	6 6	14 15	8 7	8 8
Total, all causes: Fall River 3 years	100	100	100	100	100	100	100	100	100
3 cities, 1 year	100	100	100	100	100	100	100	100	100
Total, respiratory causes: Fall River, 3 years 3 cities, 1 year	28 27	21 22	21 23	21 31	20 19	19 20	26 29	20 21	20 22
Total, nonrespiratory causes: Fall River, 3 years	72	79 78	79 77	79 60	80 81	81 80	74	80 79	80 78
Total, all causes:									
Fall River, 3 years 3 cities, 1 year	100 100	100 100	100 100	100 100	100 100	100 100	100 100	100 100	100 100
DEATH RATE PER 1,000 POPULATION.						-			1
Total, all causes: Fall River, 3 years 3 cities, 1 year	12. 92 14. 59	27.09 28.00	22.79 25.08	17.00 19.93	22.58 22.40	22. 00 22. 17	14.05 16.36	24. 41 24. 82	22. 37 23. 53

#### 45 TO 64 YEARS.

TABLE 52.—PER CENT OF DEATHS DUE TO EACH SPECIFIED CAUSE WITHIN EACH SPECIFIED AGE GROUP, BY SEX AND BY OCCUPA-TION GROUPS, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR—Continued.

and a second	-	Males.			Female	8.	B	oth sex	es.
Cause of death, locality, and period.	Oper- atives.	Non- opera- tives.	Both classes.	Oper- atives.	Non- opera- tives.	Both classes.	Oper- atives.	Non- opera- tives.	Both classes.
Accident and violence:	10	3	3		1	1	0	2	2
3 cities, 1 year	17	3	3		3	3	16	3	3
Fall River, 3 years	56	12 10	12 10		15 13	15 13	45	14 11	14 12
Unclassified diseases: Fall River, 3 years	5	8	8		6	6	4	6	6
3 cities, 1 year Parturition: Fall River, 3 years		7	7	•••••	6	6	10	6	7
Cancer:									
Fall River, 3 years 3 cities, 1 year	10 6	8 6	8 6		8 6	8 6	9 5	8	86
Diseases of the nervous system: Fall River, 3 years		5	5		3	3		4	4
Diseases of the digestive system:	5	4	4		10	4	5	4	2
3 cities, 1 year		. 8	8		7	7		8	7
Fall River, 3 years 3 cities. 1 year	30 11	9 13	10 13	50	10 8	10 8	32 11	10 10	10 10
Apoplexy: Fall River, 3 years	5	16	15		14	14	5	15	15
3 cities, 1 year Heart disease:	11	18	18		18	18	11	18	. 18
Respiratory diseases other than	20 33	16 14	16 15	100	17	16 17	18 37	16	16
Fall River, 3 years 3 cities. 1 year.	15	13 14	13 13		15 17	15 17	14	14 16	14 15
Total, nontuberculous									
Causes: Fall River, 3 years 3 cities, 1 year	100 100	97 97	97 97	100 100	99 99	99 99	100 100	98 98	98 98
Tuberculosis: Fall River, 3 years 3 cities, 1 year		33	3 3		1	1 1		22	2 2
Total, all causes: Fall River, 3 years 3 cities, 1 year	100 100	100 100	100 100	100 100	100 100	100 100	100 100	100 100	100 100
Total, respiratory causes: Fall River, 3 years 3 cities, 1 year	15	16 17	16 16		16 18	16 18	14	16 18	16 17
Fall River, 3 years 3 cities, 1 year	85 100	84 83	84 84	100 100	84 82	84 82	86 100	84 82	84 83
Total, all causes: Fall River, 3 years 3 cities, 1 year	100 100	100 100°	100 100	100 100	100 100	100 100	100 100	100 100	100 100
DEATH RATE PER 1,000 POPULATION.			·					-	-
Total, all causes: Fall River, 3 years. 3 cities, 1 year.	48. 31 72. 87	78. 79 92. 11	76.17 90.75	39.22 22.22	73. 01 92. 38	72.73 91.69	47.31 65.07	75.44 92.26	74. 25 91. 28

#### 65 YEARS AND OVER.

## 330 CAUSES OF DEATH AMONG COTTON-MILL OPERATIVES.

#### AGES 10 YEARS AND OVER-POPULATION AND DEATHS.

TABLE 52.—PER CENT OF DEATHS DUE TO EACH SPECIFIED CAUSE WITHIN EACH SPECIFIED AGE GROUP, BY SEX AND BY OCCUPA-TION GROUPS, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR—Continued.

		Males.			Female	s.	E	oth sex	es.
Cause of death, locality, and period.	Opera- tives.	Non- opera- tives.	Bóth classes.	Opera- tives.	Non- opera- tives.	Both classes.	Opera- tives.	Non- opera- tives.	Both classes.
Accident or violence:	11	5	7	1	2	2	7		E
3 cities, 1 year	11	7	8	3	2	3	7	5	5
Fall River, 3 years		4	3		6	5		5	4
Unclassified diseases:	6	10	0	2	0	7		Ť	1
3 cities, 1 year	5	8	57	1	8	7	3	8	7
Fall River, 3 years				9	32	4	5	1	22
Cancer: Fall River 3 years	4	6	5	5	10	Q		8	7
3 cities, 1 year	4	4	4	3	8	8	4	6	6
Fall River, 3 years	3 5	5 6	<b>4</b> 6	3 5	3 6	3 6	3 5	46	4
Diseases of the digestive system: Fall River, 3 years	10	9	9	9	10	10	9	9	9
3 cities, 1 year Nephritis:	8	10	10	11	8	10	8	9	9
3 cities, 1 year.	10	10	11	9	10	9	9	10	10
Fall River, 3 years 3 cities, 1 year	47	10 11	9 10	3 2	11 14	10 12	35	11 13	9 11
Heart disease: Fall River, 3 years 3 cities, 1 year Respiratory diseases other than	9	15 12	14 12	6 6	15 13	13 12	777	18 12	14 11
tuberculosis: Fall River, 3 years 3 cities, 1 year.	11 10	12 14	12 13	13 12	13 14	13 13	12 11	13 14	12 11
Total, nontuberculous									
causes: Fall River, 3 years	67	86	82	63	92	86	65	. 89	84
Tuberculosis:	10	87	84	00	90	80	03	89	80
3 cities, 1 year	33	14 13	18 16	37 44	8 10	14 15	35 37	11	16
Total, all causes: Fall River, 3 years 3 cities, 1 year	100 100	100 100	100 100	100 100	100 100	100 100	100 100	100 100	100 . 100
Total, respiratory causes:						07			
3 cities, 1 year.	44 40	- 27	30 29	50 56	21 24	27	47 48	24 25	28 29
Fall River, 3 years 3 cities, 1 year	56 60	74 73	70 71	50 44	79 76	73 72	53 52	76 75	72 71
Total, all causes: Fall River, 3 years	100	100	100	100	100	100	100	100	100
3 cities, 1 year	100	100	100	100	100	100	100	100	100
DEATH RATE PER 1,000 POPULATION.				- 1	150	-	100	-0-	
Fall River, 3 years 3 cities, 1 year	7.35 9.29	13.38 15.27	11.44 13.89	8.20 9.08	12.77 14.50	11.54 13.34	7.76 9.18	13.05 14.86	11.49 13.59

#### 10 YEARS AND OVER.

# CHAPTER IV.-POPULATION AND MORTALITY TABLES. 331

## AGES 10 YEARS AND OVER-POPULATION AND DEATHS.

TABLE 52.—PER CENT OF DEATHS DUE TO EACH SPECIFIED CAUSE WITHIN EACH SPECIFIED AGE GROUP, BY SEX AND BY OCCUPA-TION GROUPS, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR—Continued.

	-	Males.		u 1	Female	s.	в	oth sex	05.
Cause of death, locality, and period.	Oper- atives.	Non- opera- tives.	Both classes.	Oper- atives.	Non- opera- tives.	Both classes.	Oper- atives.	Non- opera- tives.	Both classes.
Accident or violence: Fall River, 3 years	10	6	6	1	2	2	6	4	4
3 cities, 1 year Senility: Fall River 3 years	10	4	3	3	3	3	0	5	5
3 cities, 1 year Unclassified diseases:		3	3		5	5		4	4
Fall River, 3 years 3 cities, 1 year	6 5	9 7	9 7	3 1	8 7	7 6	5 3	9 7	8 7
Fall River, 3 years 3 cities, 1 year				9 8	3 2	43	5 4	1 1	22
Cancer: Fall River, 3 years	4	6	6	5	10	9	4	8	7
Diseases of the nervous system: Fall River, 3 years	3	4	4	3	3	3	3	3	4
3 cities, 1 year Diseases of the digestive system: Fall Biver 3 years	5	5	5	5	5 10	5	5	5	5
3 cities, 1 year Nephritis:	8	11	10	7	8	8	7	9	9
Fall River, 3 years 3 cities, 1 year	9 10	10 12	10 11	11 9	10 10	10 10	10 10	10 11	10 10
Fall River, 3 years 3 cities, 1 year	4 7	10 11	9 11	3 2	12 14	10 12	3 5	11 13	10 11
Fall River, 3 years 3 cities, 1 year	9	16 12	14 12	6	15 13	13 12	87	16 12	14 12
Respiratory diseases other than tuberculosis:	11	19	19	12	12	12	19	19	19
3 cities, 1 year	10	14	14	12	14	13	12	13	13
Total, nontuberculous causes: Fall River, 3 years 3 cities 1 years	67	86 86	82 84	62 56	92 90	86 85	65 63	89	84
Tuberculosis: Fall River, 3 years	33	14	18	38	8	14	35	11	16
3 cities, 1 year	31	14	16	44	10	_ 15	. 37	12	16
Fall River, 3 years 3 cities, 1 year	100 100	100 100	100 100	100 100	100 100	100 100	100 100	100 100	10 100
Total, respiratory causes: Fall River, 3 years	44 41	26 28	30 30,	50 56	21 24	27 28	47 49	24 26	28 29
Fall River, 3 years 3 cities, 1 year	56 59	74 72	70 70	50 44	79 76	73 72	53 51	76 74	72 71
Total, all causes: Fall River, 3 years 3 cities, 1 year	100 100	100 100	100	100 100	100 100	100 100	100 100	100 100	100 100
DEATH BATE PER 1,000 POPULATION.	-		-		-	1		-	-
Total, all causes: Fall River, 3 years 3 cities, 1 year	7.44 9.30	15.88 17.70	12.82 15.52	8.34 9.12	14.75 16.38	12.84 14.65	7.87 9.20	15.25 16.98	12.83 15.05

#### 15 YEARS AND OVER.

TABLE 52.—PER CENT OF DEATHS DUE TO EACH SPECIFIED CAUSE WITHIN EACH SPECIFIED AGE GROUP, BY SEX AND BY OCCUPA-TION GROUPS, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR—Concluded.

		Males	<b>.</b> .		Female	s	I	Both sex	es.
Cause of death, locality, and period.	Oper- atives.	Non- opera- tives.	Both classes.	Oper- atives.	Non- opera- tives.	Both classes.	Oper- atives.	Non- opera- tives.	Both classes.
Accident or violence:	0	0			ß	2		7	
3 cities, 1 year.	5	11	10		1	ı 1	2	6	5
Fall River, 3 years									
3 cities, 1 year		•••••		•••••	••••			•••••	
Fall River, 3 years	3	6	6	4	14	10	3	10	7
Parturition:		1	5	2	14	10.	1	10	8
Fall River, 3 years	•••••	•••••		14	13	14	8 7	6	7
Cancer:		•••••		12	12	12		0	0
Fall River, 3 years 3 cities, 1 year.	3	3		42	77	5	32	4 5	4
Diseases of the nervous system:			-						
3 cities, 1 year.		34		2	46	4		45	3
Diseases of the digestive system:	10	a	0	11	4	7	11	7	e
3 cities, 1 year.	6	6	6	10	5	7	8	5	6
Fall River. 3 years	6	5	6	7	7	7	7	6	6
3 cities, 1 year	11	8	9	10	8	9	11	8	9
Fall River, 3 years	4	3	3	1	3	3	3	3	3
3 cities, 1 year	6	5	5	2	5	4	4	5	4
Fall River, 3 years	5	11	9	5	9	7	5	10	8
Respiratory diseases other than	•••••	1	0	2	4	3	1	0	Ð
tuberculosis:	0	15	12	12		0	10	19	19
3 cities, 1 year.	13	15	15	10	10	10	12	13	12
Total, nontuberculous							1.0.0	-	
Causes: Fell River 3 years	48	63	50	61	75	60	55	60	64
3 cities, 1 year	44	66	61	52	72	66	49	69	63
Fall River, 3 years	52	37	41	39	25	31	45	31	36
3 cities, 1 year	56	34	39	48	28	34	51	31	37
Total, all causes:									
3 cities, 1 year	100 100	100	100	100	100	100	100	100 100	100
Total respiratory causes.									
Fall River, 3 years	60	52	54	51	33	40	55	43	48
Total, nonrespiratory causes:	69	49	54	58	38	44	63	44	49
Fall River, 3 years	40	48	46	49	67	60	45	57	52
5 cities, 1 year			OF	40					
Total, all causes: Fall River, 3 years	100	100	100	100	100	100	100	100	100
3 cities, 1 year	100	100	100	100	100	100	100	100	100
DEATH RATE PER 1,000 POPULATION.									
Total, all causes:				1					
Fall River, 3 years 3 cities, 1 year	7.20 8.42	9.96	8.91 9.61	11.42	6.52 7.91	7.88	9.04	8.06	8.38 9.26
			1						

#### 30 TO 39 YEARS.

TABLE 53.—PER CENT OF FOREIGN BORN OF TOTAL DECEDENTS DYING FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES, BY SEX AND BY OCCUPATION GROUPS, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 AND 3 YEARS.

	Mal	e deceder	nts.	Fema	ale deced	ents.	Male a	and fema ceden <u>ts.</u>	le de-
Occupation group, classified cause of death, locality, and period.		Foreign	ı born.		Foreig	ı born.		Foreign	ı born.
	Total.	Num- ber.	Per cent.	Total.	Num- ber.	Per cent.	Total.	Num- ber.	Per cent.
OPERATIVES.	-		-				-		
Tuberculous: Fall River	40 94 53 130	28 69 37 90	70 73 70 69	47 112 78 189	30 67 43 106	64 60 55 56	87 206 131 319	58 136 80 196	67 66 61 61
Nontuberculous: (1 year	78	61	78	70	48	69	148	109	74
3 cities	193 121 293	152 91 217	79 75 74	187 101 261	132 68 181	71 67 69	380 222 554	284 159 398	75 72 72
Fall River{1 year 3 years 3 cities{1 year 3 years	118 287 174 423	89 221 128 307	75 77 74 73	117 299 179 450	78 199 111 287	67 67 62 64	235 586 353 873	167 420 239 594	71 72 68 68
NONOPERATIVES.									
Tuberculous: , Fall River	56 152 127 355	29 88 59 177	52 58 46 50	39 108 102 279	18 56 50 137	46 52 49 49	95 260 229 634	47 144 109 314	49 55 48 50
Nontuberculous: Fall River	346 945 823	228 645 483	66 68 59	409 1,163 945	284 834 573	69 72 61	755 2,108 1,768	512 1,479 1,056	68 70 60
Total, all causes: Fall River {1 year 3 cities {1 year 3 years	402 1,097 950	257 733 542	64 67 57	448 1,271 1,047	302 890 623	67 70 59	850 2,368 1,997	559 1,623 1,165	66 69 58
BOTH CLASSES.		-							
Tuberculous: <sup>1</sup> year	96 246 180 485	57 157 96 267	59 64 53 55	86 220 180 468	48 123 93 243	56 56 52 52	182 466 360 953	105 280 189 510	58 60 52 54
Fall River	424 1,138 944	289 797 574	68 70 61	479 1,350 1,046	332 966 641	69 72 61	903 2, 488 1, 990	621 1,763 1,215	69 71 61
Total, all causes: Fall River{1 year	520 1.384	346 954	67 69	565 1,570	380 1,089	67 69	1,085	726	67 69
3 cities {1 year 3 years	1,124	670	60	1,226	734	60	2,350	1,404	60

TABLE 54.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTUBER-CULOUS DECEDENTS HAVING TUBERCULOUS KINDRED, BY RACE AND SEX, AND BY OCCUPATION GROUPS, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1905 to 1907.

			Ame	rican.					Eng	lish.	-	
		Males.		F	emale	5.		Males.		. F	emale	3.
Classified cause of death, occupation group, and locality.	Num- ber of	Decee havin bercu kind	dents ig tu- ilous ired.	Num- ber of	Dece havir berei kind	dents ng tu- ilous lred.	Num- ber of	Dece havin bercu kind	dents 1g tu- 1lous Ired.	Num- ber of	Dece havir bercu kind	dents ng tu- nlous lred.
1	dents.	Num- ber.	Per cent.	dents.	Num- ber.	Per cent.	dents.	Num- ber.	Per cent.	dents.	Num- ber.	Per cent.
TUBERCULOUS.				1								1
Operatives: Fall River 3 cities Nonoperatives:	6 9	<b>4</b> 6	66.7 66.7	5 14	1 6	20. 0 42. 9	19 25	5 7	26.3 28.0	16 25	9 15	56. 3 60. 0
Fall River 3 cities	20 65	13 25	65.0 38.5	16 57	2 16	12.5 28.1	24 45	10 17	41.7	19 39	6 11	31.6 28.2
Both classes: Fall River 3 cities	26 74	17 31	65. 4 41. 9	21 71	3 22	14.3 31.0	43 70	15 24	34.9 34.3	35 64	15 26	42.9 40.6
NONTUBERCULOUS.			-									
Operatives: Fall River	11 31 158	2 4 18	18.2 12.9 11.4	$     \begin{array}{r}       14 \\       22 \\       227     \end{array} $	4 4 17	28.6 18.2 7.5	65 86 212	5 6 9	7.7 7.0 4.2	42 61 228	5 6 8	· 11.9 9.8 3.5
Both classes: Fall River	169	20	11.8	241	21	8.7	· 277	14	5.1	270	13	4.8
ALL CAUSES.								· · · · ·			-	
Fall River	17 40 178	6 10 31	35.3 25.0 17.4	19 36 243	5 10 19	26.3 27.8 7.8	84 111 236	10 13 19	11.9 11.7 8.1	58 86 247	14 21 14	24.124.45.7
Both classes: Fall River	195	37	19.0	262	24	9.2	320	29	9.1	305	28	9.2
					.	. <u> </u>						.]
		-	In	ish.		-		F	rench (	Canadi	an.	
Operatives: Fall River	24 33	9 12	37.5 36.4	39 68	15 31	38.5 45.6	28 37	13 14	46.4 37.8	39 66	18 34	46.2 51.5
Nonoperatives: Fall River 3 cities	72 159	27 69	37.5 43.4	32 81	19 39	59.4 48.1	20 58	6 28	30. 0 48. 3	24 75	12 29	50.0 38.7
Both classes: Fall River 3 cities	96 192	36 81	37.5 42.2	71 149	34 70	47.9 47.0	48 95	19 42	39.6 44.2	63 141	30 -63	47.6 44.7
Operatives:					-							
Fall River 3 cities Nonoperatives, Fall River	46 68 315	3 10 8	6.5 14.7 2.5	58 89 419	7 14 21	$\begin{array}{c c} 12.1 \\ 15.7 \\ 5.0 \end{array}$	48 60 183	9 11 4	18.8 18.3 2.2	54 64 212	19 19 11	35. 2 29. 7 5. 2
Both classes: Fall River	. 361	11	3.0	477	28	5.9	231	13	5.6	266	30	11.3
Operatives: Fall River	70 101	12 22	17.1 21.8	97 157	22 45	22.7 28.7	76 97	22 25	28.9 25.8	93 130	37 53	39.8 40.8
Nonoperatives, Fall River.	. 387	35	9.0	451	40	8.9	203	10	4.9	236	23	9.7
Fall River	457	47	10.3	548	62	11.3	279	32	11.5	329	60	18.2

## TABLE 54.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTUBER-CULOUS DECEDENTS HAVING TUBERCULOUS KINDRED, BY RACE AND SEX, AND BY OCCUPATION GROUPS, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1905 TO 1907—Concl'd.

		-	Othe	r races.		•			All	races.	-	
		Males.		F	emale	5.		Males		F	emale	s.
Classified cause of death, occupation group, and locality.	Num- ber of	Dece havii berce kind	dents ng tu- ulous ired.	Num- ber of	Dece havin berce kind	dents ng tu- ulous ired.	Num- ber of	Dece havin berch kind	dents ng tu- ulous ired.	Num- ber of	Dece havin berce kind	dents ng tu- ulous lred.
	dents.	Num- ber.	Per cent.	dents.	Num- ber.	Per cent.	dents.	Num- ber	Per cent.	dents.	Num- ber.	Per cent.
TUBERCULOUS.												
Operatives: Fall River 3 cities Nonoperatives:	17 26	8 10	47.1 38.5	13 16	7 8	53. 8 50. 0	94 130	39 49	41. 4 37. 7	112 189	50 94	44. 6 49. 7
Fall River	16 28	4 7	$25.0 \\ 25.0$	17 27	7 9	41. 2 33. 3	$     \begin{array}{r}       152 \\       355     \end{array} $	60 146	39.5 41.1	108 279	46 104	42.6 37.3
Both classes: Fall River 3 cities	33 54	12 17	36. 4 31. 5	30 43	14 17	46. 7 39. 5	246 485	99 195	40. 2 40. 2	220 468	96 198	43. 6 42. 3
NONTUBERCULOUS.										_		
Operatives: Fall River 3 cities Nonoperatives, Fall River	23 48 77	3 7 1	13.0 14.6 1.3	19 25 77	2 2 2	10.5 8.0 2.6	193 293 945	22 38 40	11.4 13.0 4.2	187 261 1,163	37 45 59	19.8 17.2 5.1
Both classes: Fall River	100	4	4.0	96	. • 4	4.2	1,138	62	5.4	1,350	96	7.1
ALL CAUSES.												
Operatives: Fall River 3 cities Nonoperatives, Fall River	40 74 93	11 17 5	27.5 23.0 5.4	32 41 94	9 10 9	28.1 24.4 9.6	287 423 1,097	61 87 100	21.3 20.6 9.1	299 450 1,271	87 139 105	29.1 30.9 8.3
Both classes: Fall River	133	16	12.0	126	18	14.3	1,384	161	11.6	1,570	192	12. 2

## TABLE 55.—AVERAGE NUMBER OF TUBERCULOUS KINDRED TO EACH TUBERCULOUS AND NONTUBERCULOUS DECEDENT, BY RACE AND SEX, AND BY OCCUPATION GROUPS, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1905 TO 1907.

_			Ame	rican.					Eng	lish.		
-		Males.		F	emale	s.		Males.		F	emales	5.
Classified cause of death, occupation group, and locality	Num- ber of dece-	Tube lo kind	ercu- us lred.	Num- ber of dece-	Tub lo kind	ercu- us Ired.	Num- ber of dece-	Tub- lo kind	ercu- us Ired.	Num- ber of dece-	Tube lot kind	ercu- us ired.
incarty.	with tuber- cu- lous kin- dred.	Num- ber.	Aver- age per dece- dent.	with tuber- cu- lous kin- dred.	Num- ber.	Aver- age per dece- dent.	with tuber- cu- lous kin- dred.	Num- ber.	Aver- age per dece- dent.	with tuber- cu- lous kin- dred.	Num- ber.	Aver- age per dece- dent.
TUBERCULOUS.												
Operatives: Fall River 3 cities Nonoperatives:	46	7 9	1.75	16	17	1.00	57	· 6 8	1.20 1.14	9 15	13 20	1.44
Fall River 3 cities	13 25	24 41	1.85	16	28 50	14.00	10 17	20 28	2.00	6 11	13 23	2.17 2.09
Both classes: Fall River 3 cities	17 31	31 50	1.82 1.61	3 22	29 57	9.67 2.59	15 24	26 36	1.73 1.50	15 26	26 43	1.73 1.65
NONTUBERCULOUS.												
Fall River. 3 cities. Nonoperatives, Fall River.	2 4 18	2 4 23	$1.00 \\ 1.00 \\ 1.28$	4 4 17	6 6 56	$1.50 \\ 1.50 \\ 3.29$	5 6 9	7 11 10	1.40 1.83 1.11	5 6 8	7 8 25	1.40 1.33 3.13
Both classes, Fall River	20	25	1.25	21	62	2.95	14	17	1.21	13	32	2.46
ALL CAUSES.				•								
Operatives: Fall River 3 cities Nonoperatives, Fall River	6 10 31	9 13 47	$1.50 \\ 1.30 \\ 1.52$	5 10 19	7 13 84	1.40 1.30 4.42	10 13 19	13 19 30	$1.30 \\ 1.46 \\ 1.58$	14 21 14	20 28 38	1.43 1.33 2.71
Both classes, Fall River	37	56	1.51	24	91	3.79	29	43	1.48	28	58	2.07
			- Iri	ish.			-		Fre	nch.		
TURERCULOUS.		_	-		-	-		-	-			
Fall River 3 cities	9 12	10 13	1.11 1.08	15 31	26 44	1.73 1.42	· 13 14	18 19	1.38 1.36	18 34	18 37	1.00 1.09
Fall River	27 69	5/ 117	2.11 1.70	19 39	25 64	$1.32 \\ 1.64$	6 28	9 47	$1.50 \\ 1.68$	12 29	1.5 45	1.08 1.55
Both classes: Fall River 3 cities	36 81	65 130	1.81 1.60	34 70	51 108	1.50 1.54	19 42	27 66	1.42 1.57	30 63	31 82	1.03 1.30
NONTUBERCULOUS.												
Fall River. 3 cities. Nonoperatives, Fall River.	3 10 8	3 10 16	$     \begin{array}{c}       1.00 \\       1.00 \\       2.00     \end{array}   $	7 14 21	<b>8</b> 19 51	$1.14 \\ 1.36 \\ 2.43$	9 11 4	10 12 11	$1.11 \\ 1.09 \\ 2.75$	19 19 11	56 56 35	2.95 2.95 3.18
Both classes, Fall River	11	19	1.73	28	59	2.11	13	21	1.62	30	91	3.03
ALL CAUSES.												
Fall River. 3 cities. Nonoperatives, Fall River.	12 22 35	13 23 71	1.08 1.05 2.03	22 45 40	34 63 76	1.55 1.40 1.90	22 25 10	28 31 20	$1.27 \\ 1.24 \\ 2.00$	37 53 23	74 93 48	2.00 1.75 2.09
Both classes, Fall River	47	84	1.79	62	110	1.77	32	48	1.50	60	122	2.03

# CHAPTER IV.—POPULATION AND MORTALITY TABLES. 337

#### AGES 10 YEARS AND OVER-MISCELLANEOUS FACTORS.

## TABLE 55.—AVERAGE NUMBER OF TUBERCULOUS KINDRED TO EACH TUBERCULOUS AND NONTUBERCULOUS DECEDENT, BY RACE AND SEX, AND BY OCCUPATION GROUPS. FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1905 TO 1907—Concl'd.

			Other	races.			All races.					
		Males.		H	emale	s.		Males.		ł	emale	s.
Classified cause of death, occupation group, and locality.	Num- ber of dece-	Tub lo kinc	ercu- us ired.	Num- ber of dece-	Tub lo kine	ercu- us ired.	Num- ber of dece-	Tub lo kinc	ercu- us ired.	Num- ber of dece-	Tub lo k no	ercu- us lred.
	dents with tuber- cu- lous kin- dred.	Num- ber.	A ver- age per dece- dent.	dents with tuber- cu- lous kin- dred.	Num- ber.	A ver- age per dece- dent.	dents with tuber- cu lous kin- dred.	Num- ber.	A ver- age per dece- dent.	dents with tuber- cu- lous kin- dred.	Num- ber.	Aver- age per deco- dent.
TUBERCULOUS.												
Operatives: Fall River 3 cities Nonoperatives:	8 10	8 10	$1.00 \\ 1.00$	7 8	7 8	1.00 1.00	39 49	49 59	1.26 1.20	50 94	65 116	1.30 1.23
Fall River 3 cities	47	8 13	$\begin{array}{c} 2.00\\ 1.86 \end{array}$	7 9	8 12	$\begin{array}{c} 1.14\\ 1.33 \end{array}$	60 146	$\begin{array}{c} 116\\ 246\end{array}$	$\begin{array}{c} 1.93\\ 1.68 \end{array}$	46 104	87 194	1.89 1.87
Both classes: Fall River 3 cities	12 17	16 23	$1.33 \\ 1.35$	14 17	15 20	1.07 1.18	99 195	165 305	1.67 1.56	96 198	152 310	1.58 1.57
NONTUBERCULOUS.	1											
Operatives: Fall River 3 cities Nonoperatives, Fall River	3 7 1	3 7 1	$1.00 \\ 1.00 \\ 1.00 \\ 1.00$	2 2 2	2 2 7	$1.00 \\ 1.00 \\ 3.50$	22 38 40	25 44 61	$1.14 \\ 1.16 \\ 1.53$	37 45 59	79 91 174	2.14 2.02 2.95
Both classes, Fall River	4	4	1.00	4	9	2.25	62	86	1.39	96	253	2.64
ALL CAUSES.				-		-						
Operatives: Fall River 3 cities Nonoperatives, Fall River	11 17 5	11 17 9	$1.00 \\ 1.00 \\ 1.80$	9 10 9	9 10 15	$1.00 \\ 1.00 \\ 1.67$	61 87 100	74 103 177	$1.21 \\ 1.18 \\ 1.77$	87 139 105	$     \begin{array}{r}       144 \\       207 \\       261     \end{array} $	$1.66 \\ 1.49 \\ 2.49$
Both classes, Fall River	16	20	1.25	16	20	1.25	161	251	1.56	192	405	2.11

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#### TABLE 56.—NUMBER AND PERCENTAGE DISTRIBUTION OF TUBERCU BERCULOUS DECEDENTS IN EACH SEX, OCCUPATION, AND CAUSE PAWTUCKET), 1905 TO 1907.

		Tuber	culous re	latives a	nd intim	ates of d	ecedent	male-		
Relationship.	Operat deaths	ives v were du	vhose ie to—	Nonop deaths	eratives s were du	whose ie to—	Operatives and nonop- eratives whose deaths were due to—			
2 3 -	Tuber- culosis.	Other causes.	All causes.	Tuber- culosis.	Other causes.	All causes.	Tuber- culosis.	Other causes.	All causes.	
Grandfathers		1	1					1	1 2	
Fathers. Mothers. Husbands	8 8		14 10	18 18	8 1	26 19	26 26	14 3	40 29	
Wives. Sons. Daughters	6 3 6	4 6 7	10 9 13	$     \begin{array}{r}       12 \\       35 \\       25     \end{array} $	2 26 50	14 61 75	18 38 31	6 32 57	24 70 88	
Brothers. Sisters.	14 13	10 5	24 18	56 67	34 14	90 81	70 80	44 19	114 99	
A unts Nephews		1	1	4	2	432	4 1 3	$1 \\ 2$	533	
Cousins, male Cousins, female		. 2	2	23		23	23	2	43	
Males in same house Females in same house Other male intimates Other female intimates	3 7 2	3 3 1	$     \begin{array}{r}       6 \\       10 \\       2 \\       1     \end{array} $	19 17 , 3	1	19 17 4	22 24 5	3 3 1 1	$25 \\ 27 \\ 6 \\ 1$	
Total males Total females	30 41	28 23	58 64	135 150	71 67	206 217	165 191	99 90	264 281	
Grand total	71	51	122	285	138	423	356	189	545	

Tuberculous relatives and intimates of decedent female-

Relationship.	Operat deaths	ives v sweredu	vhose ie to—	Nonop deaths	eratives s were di	whose ie to—	Operatives and nonop- eratives whose deaths were due to—			
1	Tuber- culosis.	Other causes.	All causes.	Tuber- culosis.	Other causes.	All causes.	Tuber- culosis.	Other causes.	All causes.	
Grandfathers. Grandmothers. Fathers. Mothers. Husbands. Wives		1 3 5 7 1	$     \begin{array}{c}       1 \\       3 \\       22 \\       32 \\       1     \end{array} $	1 2 22 21 8	1 15 17 9	2 3 37 38 17	$     \begin{array}{c}       1 \\       2 \\       39 \\       46 \\       8     \end{array} $	2 4 20 24 10	3 6 59 70 18	
Sons. Daughters. Brothers. Sisters. Uncles. Aunts. Nenbews		3 3 22 31 1 4	8 7 47 65 1 6	14 22 31 46 3 14	53 71 22 52 4 9 2		19 26 56 80 3 16	56 74 44 83 5 13 2	75 100 100 163 8 29 2	
Cousins, male Cousins, female Males in same house Females in same house Other male intlmates Other female intlmates		4 6 1 19 4 5	4 4 6 4 30 7 13	$     \begin{array}{c}       2 \\       3 \\       5 \\       16 \\       18 \\       1 \\       5     \end{array} $	8 1 5 8 4 6	$     \begin{array}{r}       10 \\       3 \\       6 \\       21 \\       26 \\       5 \\       11     \end{array} $	$     \begin{array}{r}       6 \\       3 \\       5 \\       19 \\       29 \\       4 \\       13 \\       \end{array} $	8 4 7 6 27 8 11	14 7 12 25 56 12 24	
Total males Total females	53 88	42 78	95 166	99 135	115 173	214 308	152 223	157 251	309 474	
Grand total	141	120	261	234	288	522	375	408	783	

· Less than one-half of 1 per cent.

# LOUS RELATIVES AND INTIMATES OF TUBERCULOUS AND NONTU-OF DEATH GROUP, FOR 3 CITIES (FALL RIVER, MANCHESTER, AND

	Percenta	ge distribu	tion of tub	erculous rela	tives and int	timates of de	cedent male-	-			
Operative w	es whose ere due to	deaths	Nonopera	tives whose o due to—	leaths were	Operatives and nonoperatives whose deaths were due to—					
Tuber- culosis.	Other causes.	All causes.	Tubercu- losis.	Other causes.	All causes.	Tubercu- losis.	Other causes.	All causes.			
 11 11	2 12 4	1 11 8	1 6 6	6 1	1 6 4	1 7 7	1 7 2	(a) (a) 7 5			
9 4 9 20 18	8 12 13 19 10	8 7 10 20 15	4 12 9 20 24 (a)	1 19 36 25 10	3 14 18 21 19 (a)	5 11 9 20 22 (a)	3 17 30 23 10	4 13 16 21 18 (a)			
1 	4	1 1 2 5 8 2	(a) 1 1 1 1 7 6 1	1  	1 1 1 1 4 4 4	(a) 1 1 1 1 6 7 1	1 1 1 1 1 1 1	1 1 1 1 5 5			
42 58	55 45	48 52	47 53	51 49	49 51	46 54	1 52 · 48	(a) 48 52			
100	100	100	100	100	100	100	100	100			

Percentage distribution of tuberculous relatives and intimates of decedent female-

Operative w	es whose ere due to	deaths	Nonopera	tives whose o due to—	leaths were	Operatives and nonoperatives whose deaths were due to—						
Tuber- culosis.	Other causes.	All causes.	Tubercu- losis.	Other causes.	All causes.	Tubercu- losis.	Other causes.	All causes.				
12 18	1 2 4 6 1	(a) 1 8 12 (4)	1 1 9 9 3	(a) (a) 5 6 3	(a) 1 7 7 3	(*) 1 10 12 2	(a) 1 5 6 2	(a) 1 8 9 2				
3 3 18 24 1	3 3 18 26 1 3	3 18 25 (*) 2	6 9 13 20 1 6	19 25 8 18 1 3	13 18 10 19 1 5	5 7 15 21 1 4	14 18 11 20 1 3	10 13 13 21 1 4				
3 2 8 2 6	3 5 1 16 3 4	2 2 2 12 3 5	1 1 2 7 8 1 2	(e) 2 3 1 2	(-) 1 1 4 5 1 2	2 1 1 5 8 1 4	(-) 2 1 2 2 7 2 3	(*) 1 1 3 7 1 3				
38 62	35 65	36 64	42 58	40 60	41 59	41 59	38 62	39 61				
100	100	100	100	100	100	100	100	100				

TABLE 56.—NUMBER AND PERCENTAGE DISTRIBUTION OF TUBERCU BERCULOUS DECEDENTS IN EACH SEX, OCCUPATION, AND CAUSE PAWTUCKET), 1905 TO 1907—Concluded.

	Tuberculous relatives and intimates of decedent male and female-											
Relationship.	Operat deaths	ives w were du	vhose ie to—	Nonope deaths	eratives were du	whose ie to—	Operatives and nonop- eratives whose deaths were due to—					
	Tuber- culosis.	Other causes.	All causes.	Tuber- culosis.	Other causes.	All causes.	Tuber- culosis.	Other causes.	All causes.			
Grandfathers. Grandmothers. Fathers. Mothers. Husbands. Wives. Sons. Daughters. Brothers. Sisters. Uncles. A unts. Nephews. Nieces. Cousins, males. Cousins, female. Males in same house Females in same house Other male intimates. Other female intimates.	25 33 6 8 10 39 47 2 2 5 5 5 8 8	2 3 11 9 9 1 4 9 10 322 366 1 5 5 	2 3 3 6 4 2 2 1 1 0 7 7 200 7 7 1 8 3 3 1 7 5 6 6 10 400 9 9 14	1 40 39 49 47 87 113 4 18 1 1 4 5 8 35 35 35 35 35 35 35 35 35 35 35 35 35	$1 \\ 1 \\ 23 \\ 9 \\ 2 \\ 79 \\ 121 \\ 566 \\ 66 \\ 4 \\ 9 \\ 4 \\ 8 \\ 1 \\ 5 \\ 8 \\ 5 \\ 6 \\ 6 \\ 1 \\ 1 \\ 5 \\ 8 \\ 5 \\ 6 \\ 1 \\ 1 \\ 5 \\ 8 \\ 5 \\ 6 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1$	$\begin{array}{c} 2\\ 5\\ 63\\ 57\\ 17\\ 14\\ 128\\ 168\\ 143\\ 179\\ 8\\ 27\\ 5\\ 5\\ 12\\ 5\\ 5\\ 9\\ 40\\ 43\\ 9\\ 11\end{array}$	$1 \\ 4 \\ 65 \\ 72 \\ 8 \\ 18 \\ 57 \\ 57 \\ 1260 \\ 4 \\ 200 \\ 4 \\ 200 \\ 4 \\ 20 \\ 1 \\ 9 \\ 5 \\ 8 \\ 41 \\ 53 \\ 9 \\ 13 \\ 13 \\ 13 \\ 13 \\ 13 \\ 13 \\ 14 \\ 14$	$\begin{array}{c} 3\\ 4\\ 34\\ 27\\ 10\\ 6\\ 88\\ 131\\ 88\\ 102\\ 5\\ 14\\ 4\\ 8\\ 6\\ 6\\ 7\\ 9\\ 300\\ 9\\ 9\\ 12\\ \end{array}$	4 8 99 99 18 24 145 262 9 34 5 5 17 11 15 50 83 88 18 25			
Total males Total females	83 129	70 101	153 230	234 285	186 240	420 525	317 414	256 341	573 755			
Grand total	212	171	383	519	426	945	731	597	1,328			

• Less than one-half of 1 per cent.

## LOUS RELATIVES AND INTIMATES OF TUBERCULOUS AND NONTU-OF DEATH GROUP, FOR 3 CITIES (FALL RIVER, MANCHESTER, AND

Percer	ntage of di	stribution	of tubercule	ous relatives	and intimat	es of deceder	nt male and	female—		
Operative w	es whose ere due to-	deaths	Nonoperat	tives whose of due to—	leaths were	Operatives and nonoperatives whose deaths were due to—				
Tuber- cutosis.	Other causes.	All causes.	Tubercu- losis.	Other causes.	All causes.	Tubercu- losis.	Other causes.	All causes.		
12 16 3 4 5 18 22 1  1  2  3 8 8 2 4 4	1 2 7 5 6 19 21 (a) 3 3 4 4 4 4 2 13 2 2 4	$(a) \\ 1 \\ 9 \\ 111 \\ (a) \\ 3 \\ 4 \\ 5 \\ 199 \\ 22 \\ (a) \\ 2 \\ (a) \\ 4 \\ (b) \\ (c) \\ (c)$	(a) 1 8 8 1 2 9 9 9 17 22 1 3 (a) 1 1 1 1 1 1 1 1	(a) (a) 5 4 2 1 1 9 29 1 1 6 1 2 2 (a) 1 2 2 (a) 1 2 2 1 1 1	(a) 1 7 6 2 1 14 18 15 19 1 (a) 1 (a) 1 (a) 1 4 5 1 1 1 1 1 1 1 1 1 1 1 1 1	(a) (a) 9 10 1 3 8 8 8 17 22 (a) 3 (a) 1 1 1 1 6 7 7 1 2	(a) 1 6 2 2 1 15 22 2 2 2 1 1 5 17 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1	(a) 1 8 8 1 1 2 11 14 16 20 1 2 (a) 1 1 1 4 6 1 2 (a) 1 1 1 1 1 1 1 1 1 1 1 1 1		
39 61	41 59	40 (0	45 55	44 56	44 56	43 57	43 57	43 57		
100	100	100	100	100	100	100	100	100		

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#### AGES 10 YEARS AND OVER-MISCELLANEOUS FACTORS.

#### TABLE 57.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-BERCULOUS DECEDENTS WHO HAD TUBERCULOUS RELATIVES AND INTIMATES, FOR OPERATIVES AND NONOPERATIVES, BY SEX, FOR 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1905 TO 1907.

	Males.										
Items.	Op	eratives	8.	Nor	noperati	ves.	Total.				
	Tuber- culous.	Non- tuber- culous.	All causes.	Tuber- culous.	Non- tuber- culous.	All causes.	Tuber- culous.	Non- tuber- culous.	All causes.		
Decedents having tuberculous rela- tives and intimates Per cent of all decedents	49 38	49 17	98 23	146 41	60 3	206 8	195 40	109 4	304 10		
		1			Fema	les.		-			
Decedents having tuberculous rela- tives and intimates Per cent of all decedents	96 51	46 18	142 32	108 39	80 3	188 7	204 44	126 4	330 10		
		•			Both s	exes.	1	1			
Decedents having tuberculous rela- tives and intimates Per cent of all decedents	145 45	95 17	240 28	254 40	140 3	394 7	399 42	235 4	634 10		

## TABLE 58.—AVERAGE NUMBER OF TUBERCULOUS RELATIVES AND INTIMATES TO EACH TUBERCULOUS AND NONTUBERCULOUS DECE-DENT, BY SEX AND BY OCCUPATION GROUPS, FOR 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1905 TO 1907.

· _ · _ · _ ·	A verage number of tuberculous relatives and intimates of decodent male—										
Sex.	Oper deaths	Operatives whose leaths were due to—			Nonoperatives whose deaths were due to—			Persons whose deaths were due to			
	Tuber- culo- sis.	Other causes.	All causes.	Tuber- culo- sis.	Other causes.	All causes.	Tuber- culo- sis,	Other causes.	All causes.		
Males Females	0.6	0.6	0.6	0.9 1.1	1.2 1.1	1.0 1.1	0.8 1.0	0.9	0.9		
Total	1.4	1.0	1.2	2.0	2.3	2.1	1.8	1.7	1.8		

A verage number of tuberculous relatives and intimates of decedent female-

Ay . 5

Males	0.6	0.9	0.7	0.9	$\begin{array}{c} 1.4\\ 2.2 \end{array}$	1.1	0.7	1.2	1.0
Females	.9	1.7	1.1	1.3		1.7	1.1	2.0	1.4
Total	1.5	2.6	1.8	2.2	3.6	-2.8	1.8	3.2	2.4

	A verage number of tuberculous relatives and intimates of decedent male and female—											
Males Females	0.6	0.7 1.1	0.6 1.0	0.9 1.1	1.3 1.7	1.1 1.3	0.8 1.0	1.1 1.4	0.9 1.2			
Total	1.5	1.8	1.6	2.0	3.0	2.4	1.8	2.5	2.1			

# TABLE 59.—NUMBER AND PER CENT OF OPERATIVES OF THREE NEW IN SPECIFIED WORKROOM AND

## THREE NEW ENGLAND CITIES.

	Number.											
		Ма	les.			Fen	nales.			Both	sexes.	
Workroom and occupa-	Und years	ler 16 of age.	All	All ages.		ler 16 of age.	All	ages.	Und years	ler 16 of age.	All	ages.
tion or trade.	Fall Riv- er.	Fall Riv- cr, Man- ches- ter, Paw- tuck- et.	Fall Riv- er.	Fall Riv- er, Man- ches- ter, Paw- tuck- et.	Fall Riv- er.	Fall Riv- er, Man- ches- ter, Paw- tuck- et.	Fall Riv- er.	Fall Riv- er, Man- ches- ter, Paw- tuck- et.	Fall Riv- er.	Fall Riv- er, Man- ches- ter, Paw- tuck- et.	Fall Riv- er.	Fall Riv- er, Man- ches- ter, Paw- tuck- et.
Picker room: Bosses			71	87							71	87
Picker tenders			317	540							317	540
Total			388	627							388	627
Card room: Bosses. Roving men. Grinders. Strippers. Drawing-frame tenders Slubber tenders. Speeder tenders. Doffers. Unclassified.	9 	1 19 	277 105 122 347 286 216 458 103 240	376 179 208 513 364 310 544 131 445	4131	1 1 1 145	$ \begin{array}{c}     146 \\     141 \\     1.366 \\     422 \\     2 \end{array} $	267 187 1,882 494 29	9 9 4 153 12	1 20 4 167 12	$277 \\ 105 \\ 122 \\ 347 \\ 432 \\ 357 \\ 1, 824 \\ 525 \\ 242 \\ 242 \\ \end{array}$	376 179 208 513 631 497 2, 426 625 474
Total	43	54	2,154	3,070	135	150	2,077	2,859	178	204	4, 231	5,929
Spinning room: Bosses Roving men Spinners Doffers Unclassified	184 61 64	1 3 294 101 120	521 184 1,160 1,029 476	6932741,5811,235712	168 47 15	231 56 17	2, 536 49 34	3, 527 236 63	352 108 79	1 3 525 157 137	521 184 3,696 1,078 510	693 274 5, 108 1, 471 775
Total	309	519	3,370	4, 495	230	304	2,619	3,826	539	823	5,989	8,321
Spooler room: Bosses Spooler tenders Warper tenders Unclassified	18	2 4 18	146 329 67	236 381 78	94 17 2	136 17 7	1, 473 406 73	4 2,478 651 171	94 35 2	2 140 35 7	146 1,802 473 73	240 2.859 729 171
Total	18	24	542	695	113	160	1,952	3,304	131	184	2, 494	3,999
Drawing-in room: Bosses Drawing-in girls Machine drawing in Unclassified		 7 5	6 6 6 6 6 6 6 6 	7 2 71 78	16	58	471 1 37	$     \begin{array}{c}       1 \\       676 \\       41 \\       56     \end{array} $	16	58 7 8	6 471 45 82	8 678 112 134
Total		12	95	158	19	61	509	774	19	73	604	932
Slasher room: Bosses Slasher tenders Unclassified		2	22 198 90	42 321 218						2	22 198 90	42 321 218
Total		2	310	581						2	310	581
Weave room: Bosses Loom fixers Weavers Spare hands Unclassified	155 32	155 32 10	137 604 4,678 121 350	239 1,017 6,394 127 482	243 11	243 11 40	4, 307 18 1	7,676 36 99	398 43	398 43 50	137 604 8,985 139 351	239 1,017 14,070 163 581
Total	187	197	5,890	8,259	254	294	4,326	7,811	441	491	10, 216	16, 070

# ENGLAND AND THREE SOUTHERN COTTON-MILL CITIES, EMPLOYED OCCUPATION, BY SEX AND BY AGE GROUPS.

			Per cent.											
	M٤	les.			Fen	nales.			Both	sexes.				
Und years	ler 16 of age.	All	ages.	Und years	ler 16 of age.	All	All ages.		ler 16 of age.	Alla	iges.			
Fall River.	Fall River, Man- chester, Paw- tucket.	Fall River.	Fall River, Man- chester, Paw- tucket.	Fall River.	Fall River, Man- chester Paw- tucket.	Fall River.	Fall River, Man- chester, Paw- tucket.	Fall River.	Fall River, Man- chester, Paw- tucket.	Fall River.	Fall River, Man- chester, Paw- tucket.			
		0.54 2.44	0.47 2.88							6.28 1.26	0.23 1.40			
		2.95	3.35							1.54	1.63			
1. 61 	0.12 2.34 2.71 1.47	$\begin{array}{c} 2.13 \\ .94 \\ 2.67 \\ 2.20 \\ 1.66 \\ 3.52 \\ .79 \\ 1.84 \end{array}$	$\begin{array}{c} 2.01\\ .96\\ 1.11\\ 2.74\\ 1.94\\ 1.65\\ 2.90\\ .70\\ 2.38\end{array}$	0.52	0. 10 . 40 14. 59	1.20 1.16 11.25 3.47 .02	1.35 .95 9.54 2.51 .15	0. 67 .30 11. 46 .90	0.05  1.11  9.24 .67	$1.10 \\ .42 \\ .48 \\ 1.38 \\ 1.72 \\ 1.42 \\ 7.25 \\ 2.09 \\ .96$	$\begin{array}{r} .98\\ .47\\ .54\\ 1.33\\ 1.64\\ 1.29\\ 6.31\\ 1.63\\ 1.23\end{array}$			
7.69	6.64	16.56	16.39	17.40	15.09	17.10	14.50	13.33	11.29	16.82	15.42			
32. 92 10. 91 11. 45	. 13 . 36 36. 16 12. 43 14. 76	4.00 1.41 8.92 7.91 3.66	3.70 1.46 8.44 6.60 3.80	21.65 6.06 1.93	23.24 5.63 1.71	20.83 .40 .28	17.89 1.19 .32	26.37 8.09 5.92	.05 .17 29.05 8.69 7.58	2.07 .73 14.69 4.29 2.03	1.80 .71 13.28 3.83 2.02			
55.28	63.84	25.90	24.00	29.64	30.58	21.56	19.40	40.38	45.55	23.81	21.64			
3. 22	. 25 . 49 2.21	1.12 2.53 .52	1.26 2.03 .42	12.11 2.19 .26	13.68 1.71 .71	12.13 3.34 .60	.02 12.57 3.30 .87	7.04 2.62 .15	.11 7.75 1.93 .39	.58 7.16 1.88 .29	.62 7.44 1.90 .44			
3.22	2.95	4.17	3. 71	14.56	16.10	16.07	16.76	9.81	10.18	9.91	10.40			
	. 86 . 62	.05 .34 .34	.04 .01 .38 .41	2.06 .39	5.84 .30	3.88 .01 .30	.01 3.43 .20 .28	· 1.20	3.21 .39 .44	.02 1.87 .18 .33	.02 1.77 .29 .35			
	1.48	. 73	. 84	2.45	6.14	4.19	3.92	1.43	4.04	2.40	2.43			
	. 25	.17 1.52 .69	.23 1.71 1.16							. 09 . 78 . 36	.11 .83 .57			
	. 25	2.38	3.10						. 11	1.23	1.51			
27.73 5.72	19.06 3.94 1.23	1.05 4.64 35.96 .93 2.69	$1.28 \\ 5.43 \\ 34.13 \\ .68 \\ 2.57$	31. 31 1. 42	24.45 1.11 4.02	<b>35.4</b> 5 .15 .01	38. 93 .18 .51	29.81 3.22	22. 02 2. 38 2. 77	.55 2.40 35.71 .55 1.40	.62 2.65 36.60 .42 1.51			
33.45	24.23	45.27	44.09	32.73	29.58	35.61	39.62	33.03	27.17	40. 61	41.80			

#### THREE NEW ENGLAND CITIES.

#### TABLE 59.—NUMBER AND PER CENT OF OPERATIVES OF THREE NEW IN SPECIFIED WORKROOM AND OCCUPA

•		1 -				Nun	iber.					
	Males.					Fem	ales.		Both sexes.			
Workroom and occupa-	Und years	Under 16 years of age. All ages.		Under 16 years of age. All a		iges.	Under 16 years of age.		Alla	ages.		
tion or trade.	Fall Riv- er.	Fall Riv- er, Man- ches- ter, Paw- tuck- et.	Fall Riv- er.	Fall Riv- er, Man- ches- ter, Paw- tuck- et.	Fall Riv- er.	Fall Riv- er, Man- ches- ter, Paw- tuck- et.	Fall Riv- er.	Fall Riv- er, Man- ches- ter, Paw- tuck- et.	Fall Riv- er.	Fall Riv- er, Man- ches- ter, Paw- tuck- et.	Fall Riv- er.	Fall Riv- er, Man- ches- ter, Paw- tuck- et.
Cloth room: Bosses Folders. Trimmers. Inspectors. Unclassified	2	32	46 120 10 7 78	57 619 16 41 113	9 3 13		53 319 163 130	9 209 549 219 157	2 9 3 13	3 2 9 3 13	46 173 329 170 208	66 828 565 260 270
Total Total, all rooms	2 559	5 813	261 13, 010	846 18, 731	25 776	25 994	665 12, 148	1,143 19,717 -	27 1,335	30 1,807	926 25, 158	1,989 38,448

#### THREE NEW ENGLAND CITIES-Concluded.

#### THREE SOUTHERN CITIES.

() (* j	Number.											_
	Males.				Females.				Both sexes.			
Workroom and occupa- tion or trade.	Under 16 years of age.		All ages.		Under 16 years of age.		All ages.		Under 16 years of age.		All ages.	
	Au- gusta.	Au- gusta, At- lanta, Ra- leigh.	Au- gusta.	Au- gusta, At- lanta, Ra- leigh.	Au- gusta.	Au- gusta, At- lanta, Ra- leigh.	Au- gusta.	Au- gusta, At- lanta, Ra- leigh.	Au- gusta.	Au- gusta, At- lanta, Ra- leigh.	Au- gusta.	Au- gusta, At- lanta, Ra- leigh.
Picker room: Bosses Picker tenders	3	3	7 49	9 59	3	3	3	3	6	6	7 52	9 62
Total	3	3	56	68	3	3	3	3	6	6	59	71
Card room: Bosses. Roving men. Card grinders. Strippers. Drawing-frame tenders Slubber tenders Speeder tenders	5 4 	5 4 1 8	31 23 24 44 23 41 65	47 32 30 60 45 56 106		1	27	32 91	5 4 	5 4 1 9	31 23 24 44 50 41 131	47 32 30 60 77 56 197
Unclassified	12	13	44	23 64		1		12	12	14	44	28 76
Total	30	32	312	463		3	93	140	30	35	405	603
Spinning room: Bosses. Roving men. Spinners. Doffers. Unclassified.	70	1 12 131 4	45 26 12 164 42	71 38 37 284 77	43	8 78 12 9	269 9	28 396 12 32	43 70 13	9 90 143 13	45 26 281 164 51	71 66 433 296 109
Total	74	148	289	507	52	107	278	468	126	255	567	975

# ENGLAND AND THREE SOUTHERN COTTON-MILL CITIES, EMPLOYED TION, BY SEX AND BY AGE GROUPS—Continued.

Per cent.												
Males.				•	Fem	ales.		Both sexes.				
Und years	Under 16 years of age. All ages.		Und years	er 16 of age.	All a	ages.	Und years	er 16 of age.	All ages.			
Fall River.	Fall River, Man- chester, Paw- tucket.	Fall River.	Fall River, Man- chester, Paw- tucket.	Fall River.	Fall River, Man- chester, Paw- tucket.	Fall River.	Fall River, Man- chester Paw- tucket.	Fall River.	Fall River, Man- chester, Paw- tucket.	Fall River.	Fall River, Man- chester, Paw- tucket.	
0.36	0.36	0.36 .92 .08 .05 .60	0. 31 3. 30 . 09 . 22 . 60	01. 16 . 39 1. 67	0.90 .30 1.31	0.44 2.62 1.34 1.07	0.05 1.06 2.78 1.11 .80	0.15 .67 .22 .98	0.17 .11 .49 .17 .72	0.18 .69 1.31 .67 .83	0.17 2.15 1.47 .68 .70	
. 36	. 61	2.01	4. 52	3.22	2.51	5.47	5.80	2.02	1.66	3.68	5.17	
10.000	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	<b>100.0</b> 0	100.00	100.00	

#### THREE NEW ENGLAND CITIES-Concluded.

THREE SOUTHERN CITIES.

					Per ce	nt.					
	Ма		Fen	ales.		Both sexes.					
Under 16 years of age. All ages.		Und years	er 16 of age.	All	ages.	Und years	er 16 of age.	All ages.			
Augusta.	Augusta, Atlanta, Raleigh.	Augusta.	Augusta, Atlanta, Raleigh.	Au- gusta.	Au- gusta, At- lanta, Ra- leigh.	Au- gusta.	Au- gusta, At- lanta, Ra- leigh.	Au- gusta.	Au- gusta, At- lanta, Ra- leigh.	Au- gusta.	Au- gusta, At- lanta, Ra- leigh.
2. 25	1.39	0.60 4.17	0.46 3.03	3.62	1. 98	0. 29	0. 21	2.78	1.64	0. 32 2. 37	0. 27 1. 84
2.25	1.39	4.77	3. 49	3.62	1.98	. 29	. 21	2.78	1.64	2.69	2.11
3.76	2. 32	2.64 1.96	2.41 1.64					2.32	1.36	1.41 1.05	1.39
3. 01 6. 02 . 75	1.85 .46 3.70 .46	2.05 3.74 1.90 3.49 5.54 1.45	1. 54 3. 08 2. 31 2. 87 5. 43 1. 18	· · · · · · · · · · · · · · · · · · ·	. 66	2.65 6.47	2.26 6.42 .35	1.85 3.70 .46	1.09 .27 2.45 .55	1.09 2.01 2.28 1.87 5.97 .77	. 89 1. 78 2. 29 1. 66 5. 85 . 83
22.56	14.81	26.57	23.74		1.98	9.12	9.87	13.89	9, 53	18, 46	17.90
52.63 3.01	. 46 5. 56 60. 65 1. 85	3. 83 2.21 1.02 13.97 3.58	3.64 1.95 1.90 14.56 3.95	51. 81 10. 84	5.30 51.65 7.95 5.96	26.38	1.98 27.93 .84 2.26	19.91 32.40 6.02	2.45 24.52 38.97 3.54	2.05 1.19 12.81 7.47 2.32	2.11 1.96 12.85 8.79 3.24
05.04	08. 52	24. 62	26.00	02.65	70.86	27.26	33.01	58.33	09.48	20.84	28.95

## TABLE 59.—NUMBER AND PER CENT OF OPERATIVES OF THREE NEW IN SPECIFIED WORKROOM AND OCCUPA

#### THREE SOUTHERN CITIES-Concluded.

		. Number.											
	-	Ma	le 3.		Females.				Both sexes.				
Workroom and occupa- tion or trade.	Und years	Under 16 years of age. All ages.		Under 16 years of age.		All ages.		Under 16 years of age.		All ages.			
음 문 물	Au- gusta.	Au- gusta, At- lanta, Ra- leigh.	Au- gusta.	Au- gusta, At- lanta, Ra- leigh.	Au- gusta.	Au- gusta, At- lanta, Ra- leigh.	Au- gusta.	Au- gusta, At- lanta, Ra- leigh.	Au- gusta.	Au- gusta, At- lanta, Ra- leigh-	Au- gusta.	Au- gusta, At- lanta, Ra- leigh.	
Spooler room: Bosses Spooler tenders Warper tenders Unclassified	2	2	13 10 6	19 53 16 6	15	15 4	151 8 6	6 162 11 19	15 6	15 6	13 151 18 12	25 215 27 25	
Total	2	2	29	94	19	19	165	198	21	21	194	292	
Drawing-in room: Bosses. Drawers in Machine drawing in Unclassified.			1 5 6	1 1 7 7			21	47 1 8			$\begin{array}{c}1\\21\\5\\6\end{array}$	1 48 8 15	
Total			12	16		- 4	21	56		4	33	72	
Slasher room: Bosses. Slasher tenders Unclassified			1 18 6	2 29 19				2			1 18 6	2 29 21	
Total			25	50				2			25	52	
Weave room: Bosses. Loom fixers. Weavers. Spare hands. Unclassified.	 14 6	 18 7	12 60 243 18 64	20 97 398 33 116	7	13 2	418 26 3	491 37 9	21 8	31 9	12 60 661 44 67	20 97 889 70 125	
Total	20	25	397	664	9	15	447	537	29	40	844	1,201	
Cloth room: Bosses. Folders. Trimmers. Inspectors. Unclassified.	4	4	4 13 9 11 17	6 32 12 12 26				1 13	4	4	4 13 9 24 17	6 33 12 25 26	
Total	4	6	54	88			13	14	4	6	67	102	
Total, all rooms	133	216	1,174	1,950	83	151	1,020	1, 418	216	367	2,194	3,368	

# ENGLAND AND THREE SOUTHERN COTTON-MILL CITIES, EMPLOYED TION, BY SEX AND BY AGE GROUPS—Concluded.

Per cent.											
	Ма		Fem	ales.		Both sexes.					
Und years	er 16 of age.	Alla	ages.	Und years o	er 16 of age.	All a	ıge3.	Und years o	er 16 of age.	All ages.	
Augusta.	Augusta, Atlanta, Raleigh.	Augusta.	Augusta, Atlanta, Raleigh.	Au- gusta.	Au- gusta, At- lanta, Ra- leigh.	Au- gusta.	Au- gusta, At- lanta Ra- leigh.	Au- gusta.	Au- gusta, At- lanta, Ra- Jeigh.	Au- gusta	Au- gusta, At- lanta, Ra- leigh.
1.50	0.93	1.11 .85 .51	0.98 2.72 .82 .30	18. 07 4. 82	9.94	- 14.80 .79 .59	0. 42 11. 42 .78 1. 34	6. 94 2. 78	4.03	.059 6.88 .82 .55	0.74 6.39 .80 .74
		. 09	4. 82 . 05 . 05 . 36 . 36		2.65	2.06	3. 32 .07 .56	9.72	1.09	. 05 . 96 . 23 . 27	.03 1.42 .24 .45
		1.02 .09 1.53 .51 2.13	. 82 . 10 1. 49 98 		2.65	2.06	3.95 	· · · · · · · · · · · · · · · · · · ·	1.09	1.51 .05 .82 .27	2.14 .06 .86 .62
10. 53 4. 51	8. 33	1.02 5.11 20.70 1.53 5.46	1. 03 4. 97 20. 41 1. 69 5. 95	8. 43 2. 41	8. 61 1. 33	40. 98 2. 55 . 29	34. 63 2. 61 . 63	9·72 3.71	8. 45 2. 45	. 55 2. 73 30. 13 2. 01 3. 05	.59 2.88 26.40 2.08 3.71
15. 04 3. 01	11.57	33.82 .34 1.11 .76	34.05 .30 1.64 .62	10.84	9.94	43.82	37.87	13. 43	10.90	38.47 .18 .59 .41	35.66 .18 .98 .36
3.01	. 93	. 94 1. 45 4. 60	. 62 1. 33 4. 51			1.27	. 92	1.85	.55	1.09 .78 3.05	.74 .77 <u>3.03</u>
100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

#### THREE SOUTHERN CITIES-Concluded.

TABLE 60.—NUMBER OF DEATHS OF OPERATIVES FROM EACH SPECI EMPLOYED, FALL MALES.

	Number of deaths from each specified cause.											
Race and place of work.	Accident or violence.	Senility.	Unclassi- fied diseases.	Parturi- tion.	Cancer.	Diseases of the nervous system.	Diseases of the digestive system.					
OPERATIVES.	-											
American: Picker and card rooms Spooler and slasher rooms Weave room Cloth room Room unspecified												
Total							2					
English: Picker and card rooms Spinning room. Spooler and slasher rooms Weave room Cloth room. Room unspecified.	3 10 1		1 7 2		4	2	1 1					
(Data)	14		10				C					
10041												
Irish: Picker and card rooms Spinning room Spooler and slasher rooms Weave room	3 2 2	1	····· 1 1		1 1 1		1					
Room unspecified	· · · · · · · · · · · · · · ·				2	1	1					
Total	7	1	2			1	6					
French Canadians: Picker and card rooms Spooler and slasher rooms Weave room Cloth room Room unspecified	3		2 2 		1	1 1 	2 6 1					
Total	6		5		1	4	9					
Other races: Picker and card rooms Spinning room Spooler and slasher rooms Weave room	2 1 1		1			1	2 1 1					
Cloth room	1		•••••	•••••			•••••					
Total	F		1									
101241	0						+					
All races: Picker and card rooms Spinning room Spooler and slasher rooms Weave room	5 9 16		$1 \\ 3 \\ 1 \\ 10$		$\frac{1}{2}$	1 1 6	3 4 15					
Room unspecified	1		3		3	1	23					
Total	32	1	18		11	9	27					
NONOPERATIVES.												
American English Irish French Canadian Other races.	7 19 14 14 7	9 12 14 9 2	18 21 25 29 12		11 17 18 11 8	$     \begin{array}{r}       12 \\       10 \\       9 \\       15 \\       5     \end{array} $	13 21 36 18 7					
All races	61	46	105		65	51	95					
# FIED CAUSE, BY SEX, OCCUPATION, RACE, AND WORKROOM WHERE RIVER, 1905 TO 1907. MALES.

		N	lumber of e	leaths fron	n each spec	ified cause.			
Ne- phritis.	A po- plexy.	Heart disease.	Respira- tory dis- cases other than tubercu- losis,	Total, non- tuber- culous causes.	Tuber- culosis.	Total, all causes	Total, respira- tory causes.	Total, non- respira- tory causes.	Total, all causes.
1			2	12	2	14	4	1	1
1 2	1 				4	8 1 3	6	3 1 3	8 1 3
4	1	1	3	11	6	17	9	8	17
2 1	2	4	2 1	14	5	19 3	7	12 2	19
			1	1	1	2	2		49
		2	7	9	10			. 0	11
					19				84
1 3 1 3	2	1 2 1 3 1	3 2 1	7 14 2 16 2 5	9 1 10 4	7 23 3 26 2 9	$\begin{array}{c} 12\\1\\12\\1\\1\\4\end{array}$	· · 7 11 2 14 1 5	7 23 3 26 2 9
8	2	8	6	46	24	70	30	40	70
1 1 2	1	1	3 4 3	4 15 1 24	2 9 2 14	6 24 3 38	5 13 2 17	1 11 1 1 21	6 24 3 38
			2	4	1	5	3	2	5
4	2	5	12	48	28	76	- 40	36	76
1		3	2 1	12 3	6 5	18 8	6	10 2	18 8
				3 1	3	6 1	3	3	61
		1		4	3		4	3	
2	1	4	4		17	40			40
4 6 2 11 3	5 4 2	4 7 1 9 5	5 12 1 8 2 4	24 48 6 85 5 25	8 30 3 42 1 10	32 78 9 127 6 35	13 42 4 50 3 14	19 36 5 77 3 21	-32 78 9 127 6 35
26	11	26	32	193	94	287	126	161	287
15 22 49 17 7	19 28 37 23 4	36 34 61 25 12	18 28 52 22 13	158 212 315 183 77	20 24 72 20 16	178 236 387 203 93	38 52 124 42 29	140 184 263 161 64	178 236 387 203 93
110	111	108	100	(74.)	102	\$,001	200	C12	1,001

#### AGES 10 YEARS AND OVER-MISCELLANEOUS FACTORS.

TABLE 60.-NUMBER OF DEATHS OF OPERATIVES FROM EACH SPECI EMPLOYED, FALL RIVER,

FEMALES.

		Numbe	er of death	s from each	specified (	cause.	
Race and place of work.	Accident or violence.	Senility.	Unclassi- fied diseases.	Parturi- tion.	Cancer.	Diseases of the nervous system,	Diseases of the digestive system.
OPERATIVES.							
American: Picker and card rooms Spinning room Spooler and slasher rooms Weave room. Cloth room Room unspecified	·····						2
Total	1						3
English: Picker and card rooms Sponler and slasher rooms Weave room Cloth room Room unspecified	2		1 1 3	1	2		1 
Total	2		5	8	4	1	5
Irish: Picker and card rooms Spooler and slasher rooms Weave room Cloth room. Boom unspecified	1		1	1 2 1	2 2 1 1 1 1	2 1 2 1	2
Total	1		1		5	6	7
French Canadian: Picker and card rooms Spinning room Spooler and slasher rooms Weave room Cloth room. Room unspecified.	 		1 1 1 1	* 1 3 1 2	1 3	1 1 	2 1 5
Total			3	7	4	2	
Other races: Picker and card rooms Sponler and slasher rooms. Weave room. Cloth room. Room unspecified			1	3 2 1 1	  1	1	1 1 2
Total			1	7	1	1	4
All races: Picker and card rooms Spooler and slasher rooms Weave room Cloth room Room unspecified	 1 3 1		3 1 2 4	6 5 2 12 1	4 1 4 3 1 1	3 1 2 2 2	3 4 6 12 2
Total	5		10	26	14	10	27
NONOPERATIVES. American English Irish French Canadian Other races.	5 4 17 3 1	22 15 27 8 3	25 23 31 20 10	1 3 7 15 7	24 42 26 26 5	9 10 10 7 2	20 21 50 31 3
All races	30	75	109	33	123	38	125

FIED CAUSE, BY SEX, OCCUPATION, RACE, AND WORKROOM WHERE 1905 TO 1907—Concluded. FEMALES.

		:	Number of	deaths fro	m each spe	cified cause	·		•
Ne- phritis.	A po- plexy.	Heart disease.	Respira- tory dis- cases other than tubercu- losis.	Total, non- tuber- culous causes.	Tuber- culosis.	Total, all causes.	Total, respira- tory causes.	Total, non- respira- tory causes.	Total, all causes.
1	1	1	1	1 1 5 4 2 1	1 1 1 2	2 1 6 5 4 1	1 1 1 1 3	1 5 4 1 1	. 2 1 6 5 4 1
5	1	2	2	14	5	19	7	12	19
2	3	2	4	7 1 1 31 2	5 1 2 7 1	12 2 3 38 3	6 1 2 11 1 1	6 1 1 27 2	12 2 3 38 3
7	3	2	5	42	16	, 58	21	37	58
5 2 8 1	2	3	2 1 5 1	18 6 29 4 1	15 2 3 18 1	33 2 9 47 5 1	17 2 4 23 2	16 5 24 3 1	33 2 9 47 5 1
16	2	7	9	58	39	97	48	49	97
2 1	1 1 1	-1	1 7 6 4 1	3 17 15 18 1	4 13 14 7 1	7 30 29 25 2	5 20 20 11 2	2 10 9 14	7 30 29 25 2
3	2	5	19	54	39	93	58	35	93
1 1		1	2	7 6 4 1	3 6 1 1	10 12 5 2	3 8 1 1	7 4 4 1	10 12 5 2
				1	2	3	2	1	3
8 3 4 17	26	5 	4 10 7 13 3	36 25 31 83 9 3	28 22 21 34 5 2	64 47 52 117 14 5	32 32 28 47 8 2	32 15 24 70 6 3	64 47 52 117 14 5
33	8	17	37	187	112	299	149	150	299
24 20 60 13 10	31 28 61 16 7	38 33 76 34 14	28 29 54 39 15	227 228 419 212 77	16 19 32 24 17	243 247 451 236 94	44 48 86 63 32	199 199 365 173 62	243 247 451 236 94
127	143	195	165	1,163	108	1,271	273	998	1,271

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#### TABLE 61.—NUMBER AND AVERAGE AGE AT DEATH OF DECEDENT OPERATIVES, BY SEX, CAUSE OF DEATH, AND OCCUPATION, FOR 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1905 TO 1907.

		Deced	ent ope	ratives	who ha	d been e	employe	ed as-		
Sex and cause of death.	Pick- ers.	Card- ers and speed- ers.	Doff- ers.	Spin- ners.	Slash- ers and spool- ers.	Loom fixers.	Weav- ers.	Cloth- room hands.	Mis- cella- neous em- ploy- ees.	Total.
MALES.										
Accident or violence		7	4	7		1	20	1	4	44
Unclassified diseases		3	2	3	2	3	13		4	30
Diseases of the nervous system.	1		1	. 3	1	3	8		3	20
tem	1	3	1	4		1	16	3	3	32
Apoplexy	1	1		6	3	2	6	1	04	42
Nontuberculous respiratory	2	4	2	10	3	3	12		8	44
d19eases		6	2	13	1	2		2	4	42
Nontuberculous diseases. Tuberculosis	85	28 8	12 15	57 22	14 5	16 13	112 44	73	39 15	293 130
Respiratory diseases	6	14	17	35	6	15	55	5	19	172
Nonrespiratory diseases	7	22	10	44	13	14	101	5	35	251
Total	13	36	27	79	19	29	156	10	54	423
FEMALES.							_	_		
Unclassified diseases		2	1	1	22		9		2	11 16
Cancer		6 6		72	24		14	1	1	31 21
Diseases of the nervous system. Diseases of the digestive sys-		4	• • • • • • • • •	5	4		3	3-		19
tem Nephritis		36	3	4	6		13 19	2	$\frac{1}{2}$	30 40
Apoplexy		$\frac{1}{7}$	1	2	22		- 7	2		12 29
Nontuberculous respiratory diseases		4		12	12		19	3	2	52
Nontuberculous diseases.		39	5	37	43		114	13	10	261
Tuberculosis		30	8	29	42		56	ÎĨ	13	189
Respiratory diseases Nonrespiratory diseases		34 35	8 5	41 25	54 31		75 95	14 10	15 8	241 209
Total		69	13	66	85		170	24	23	450
BOTH SEXES.								-		
Accident or violence		7	4	7	2	1	27	1	6	55 1
Unclassified diseases		5	3	47	4	3	22	1	5	46
Cancer Diseases of the nervous system	1	7		5	4		15	1	4	36
Diseases of the digestive sys-	1	6	1	6	7	1	20	5	4	62
Nephritis.	2	9	3	12	10	1	36	1	8	82
Heart disease	2	11	3	12	5	3	28	1	8	55 73
diseases	1	10	2	25	13	2	30	5	6	94
Nontuberculous diseases. Tuberculosis	8 5	67 38	17 23	94 51	37 47	16 13	226 100	20 14	49 28	554 319
Respiratory diseases Nonrespiratory diseases	· 6 7	48 57	25 15	76 69	60 44	15 14	130 196	19 15	34 43	413 460
Total	13	105	40	145	104	29	326	34	77	873

NUMBER.

TABLE 61.—NUMBER AND AVERAGE AGE AT DEATH OF DECEDENT OPERATIVES, BY SEX, CAUSE OF DEATH, AND OCCUPATION, FOR 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1905 TO 1907— Concluded.

#### AVERAGE AGE AT DEATH.

	A	verage	age at	death c	of opera loyed as	tives w	ho had	been e	<u>m</u>	
Sex and cause of death.	Pick- ers.	Card- ers and speed- ers.	Doff- ers.	Spin- ners.	Slash- ers and spool- ers.	Loom fixers.	Weav- ers.	Cloth- room hands.	Mis- cella- neous em- ploy- ees.	Total.
MALES.									-	
Accident or violence		30	22	35		39	40	45	29	35
Unclassified diseases		47	17	47	76	48	49		39	47
Cancer	25	57	16	55	26	46	50 28		57 28	54
Diseases of the digestive sys-	47	22	10	40		27	41	90	50	40
tem Nephritis	47	33 48	19	50	46	46	41 51	31	41	40
Apoplexy	53	76		49	72	57	55		55	56
Nontuberculous respiratory	40	40	21	51	00		- 27		00	49
diseases	36	48	21	42	62	36	43	47	41	42
Nontuberculous diseases.	41	43	20	46	56	46	45	41	45	44
Tuberculosis	44	40		32	34	42	35		41	35
Respiratory diseases	42	44	24	36	39	42	36	36	41	37
Additespiratory diseases	12									
Total	42	42		42	51	45	42	37	44	41
FEMALES.								-		
Accident or violence			15	10	19	•••••	43		20	34
Parturition		28	10	24	20		28	20	42	25 27
Cancer.		49		39	42		46	40	24	44
Diseases of the digestive system.		31		27	30	•••••	31	18		28
tem		37		28,	30		34	15	55	31
Apoplexy	•••••	40	20	22	30		45 46		40	40
Heart disease		42	13	27	34		43	61		41
diseases		30		25	35		38	23	49	33
Nontubanaylaya dimanan		20	10	00	22		30		29	
Tuberculosis		29	20	27	24		31	26	30	28
Respiratory diseases		30	20	27	27		33	25	33	29
Nonrespiratory diseases		39	19	26	32		39	29	35	35
Total.		34	19	26	29		36	27	33	32
Accident or violence		30	22	25	10	30	41	45	26	35
Senility					15		71			71
Unclassified diseases	•••••	41	16	40	51	48	41		39	41
Cancer.		50		49	42		48	40	49	48
Diseases of the nervous system.	25	31	16	33	29	46	29	18	28	31
tem	47	35	19	34	30	37	- 38	29	51	36
Nephritis.	43	47	20	41	40	46	48	31	42	44
Heart disease	42	49	18	49	47	50	45	61	55	46
Nontuberculous respiratory	26	41	01	24	27	26	40	22	44	27
							40		7.7	
Nontuberculous diseases. Tuberculosis.	41	40	19	38	39 25	46	42	33 26	44	40
Demission diseases										20
Nonrespiratory diseases	42 42	34 40	23 20	31 39	28	42 48	34 42	28	38 43	32 40
Total	42			25	32	45	20	30	41	36
	12	01	21	00	00	10	00	00	11	00

#### TABLE 62.—NUMBER OF DEATHS AND DEATH RATE PER 1,000 OF OPER WHICH DECEDENT WAS EMPLOYED, FALL RIVER AND 3 CITIES (FALL

[In a number of cases the workroom in which decedents were employed could not be determined, and this reason the death rates for the workrooms may be too low, excepting those for the female operatives

MALES.

							D	eaths	s due	to—		1			
Room in which opera- tives were employed, locality, and period.	Total per- sons em- ployed.	A de viole	cci- ent or ence.	Sen	ility.	Class dise	n- sified eases.	P turi	ar- ition.	Ca	ncer.	Di oi ne sy:	seases f the rvous stem.	Dis of dig sy	seases f the stem.
		No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000
Picker room: Fall River {1 year 3 cities {1 year 3 years 3 years	388 388 627 627											 1 	0.86	 1 1	1.60 .53
Card room: Fall River. {1 year 3 cities {1 year 3 years 5 pinping room.	2, 154 2, 154 3, 070 3, 070	1 5 3 7	0.47 .77 .98 .76			$     \begin{array}{c}       1 \\       1 \\       1 \\       3     \end{array}   $	0.47 .16 .32 .32	 	· · · · · · · · · · · · · · · · · · ·	11 11	0.46 .16 .33 .11			1 3 1 3	. 47 . 46 . 32 . 33
Fall River{1 year 3 cities{1 year 3 cities 5 pooler room:	3,370 3,370 4,495 4,495	4 9 6 11	1.19 .89 1.33 .82			1 3 2 5	.30 .30 .44 .37	 		1 2 1 3	.30 .20 .22 .22 .22	2 4	 . 44 . 30	2 4 3 5	. 59 . 40 . 67 . 37
Fall River {1 year 3 years 3 cities {1 year 3 years \$_asher room:	637 637 853 853	· · · · · ·		 				 	· · · · · · · · · · · · · · · · · · ·	· · · · · ·		••••		 	
Fall River{1 year 3 years 3 cities{1 year 3 years Weave room:	310 310 581 581					1 1 2	1.07 1.73 1.15	 				1 1 1 1	3.23 1.08 1.72 .58		
Fall River {1 year 3 years 3 cities {1 year 3 years Cloth room:	5,890 5,890 8,259 8,259	8 16 9 21	1.35 .90 1.09 .85	1 1 1 1	0.17 .06 .12 .04	3 10 3 16	.51 .57 .36 .65	••••	  	3 5 4 8	. 51 . 28 . 48 . 32	4 6 5 11	. 68 .34 .61 .44	4 15 4 17	.58 .85 .48 .69
Fall River {1 year 3 years 3 cities {1 year 3 years Room not specified:	261 261 846 846	1  1	1.28 .39	 	· · · · · · · · · · · · · · · · · · ·			·····	  		· · · · · · · · · · · · · · · · · · ·	•••••		$     \begin{array}{c}       1 \\       2 \\       2 \\       3     \end{array} $	3.83 2.55 2.36 1.19
Fall River{1 year 3 years 3 cities{1 year 3 years		1 2 4								2 3 2 3		1 1 3		3333	
Total, all work- rooms: Fall River{1 year 3 cities{1 year 3 years	13,010 13,010 18,731 18,731	13 32 20 44	1.00 .82 1.07 .78	1 1 1 1	.08 .03 .05 .02	6 18 8 30	.46 .46 .43 .53	· · · · · · · · · · · · · · · · · · ·		7 11 8 15	. 54 . 28 . 43 . 27	5 9 9 20	. 38 . 23 . 48 . 36	11 27 14 32	.85 .69 .75 .57

# CHAPTER IV.-POPULATION AND MORTALITY TABLES. 357

#### AGES 10 YEARS AND OVER-MISCELLANEOUS FACTORS.

# ATIVES, BY SPECIFIED CAUSE OF DEATH AND BY WORKROOM IN RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR AND 3 YEARS.

in such cases the deaths have been omitted in computing the death rates of the several workrooms. For of Fail River, which are practically correct. See page 136 for detailed explanation.]
MALES.

			-	_			]	Deat	hs due t	.0-		7			-		
Nej	phritis.	Apo	oplexy.	H di:	leart sease.	Nor cu resp: dis	ntubér- ilous iratory eases.	Nor cu dis	ntuber- ilous seases.	Tu	bercu- osis.	Re 1 dis	spira- ory eases.	N spi dis	onre- ratory seases.	cai	All uses.
No	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000
2 2 2 2 2	5.15 1.72 3.19 1.06	 1 1	1.59 .53	2  2	1.71 1.06	 1 1	0.86	2 6 4 8	5.15 5.15 6.38 4.25	1 3 2 5	2.58 2.58 3.19 2.66	1 4 2 6	2.58 3.44 3.19 3.19	2 5 4 7	5.15 4.29 6.38 3.72	3 9 6 13	7.73 7.73 9.57 6.91
2 1 3	.31 .33 .33	····· ····· 1	.11	1 2 2 4	. 46 . 31 . 65 . 43	1 4 2 6	. 46 . 62 . 65 . 65	6 18 11 28	2.79 2.79 3.58 3.04	1 5 4 8	.46 .77 1.30 .87	2 9 6 14	.93 1.39 1.95 1.52	5 14 9 22	$\begin{array}{c} 2.32 \\ 2.17 \\ 2.93 \\ 2.39 \end{array}$	7 23 15 36	3.25 3.56 4.88 3.91
2638	. 59 . 59 . 67 . 59	2 5 3 6	. 59 . 49 . 67 . 45	$\begin{array}{c}1\\7\\4\\12\end{array}$	. 30 . 69 . 89 . 89	5 12 7 15	$1.48 \\ 1.19 \\ 1.56 \\ 1.11$	18 48 31 69	5.34 4.75 6.89 5.12	17 30 19 37	5.05 2.97 4.23 2.74	$22 \\ 42 \\ 26 \\ 52$	6.53 4.16 5.78 3.86	13 36 24 54	3.86 3.56 5.34 4.00	$35 \\ 78 \\ 50 \\ 106$	$     \begin{array}{r}       10.39 \\       7.72 \\       11.12 \\       7.86     \end{array} $
<sub>1</sub>	. 52							1	. 52					1	. 52	····· 1	. 52
1	. 39							1	. 39					1	. 39	1	. 39
1 1 3	$ \begin{array}{c} 1.08 \\ 1.72 \\ 1.72 \end{array} $	 1 3	$1.72 \\ 1.72 \\ 1.72$	1 1 3	$1.07 \\ 1.72 \\ 1.72 \\ 1.72$	1  1	1.08 .57		5.38 5.61 7.46	3 1 5	$3.22 \\ 1.72 \\ 2.87$	4 1 6	4.30 1.72 3.44	1 4 5 12	3.23 4.30 8.61 6.89	8 6 18	3.23 8.60 10.33 10.33
4 11 5 18	.68 .62 .61 .73	3 4 5 8	.51 .23 .61 .32	$     \begin{array}{c}       1 \\       9 \\       2 \\       15     \end{array} $	.17 .51 .24 .61	3 8 5 13	.51 .45 .61 .52	34 85 43 128	5.77 4.81 5.21 5.17	15 42 19 57	2.55 2.38 2.30 2.30 2.30	18 50 24 70	3.06 2.83 2.91 2.83	31 77 38 115	5.26 4.36 4.60 4.64	49 127 62 185	8.32 7.19 7.51 7.47
 1 1	1.18 .39			· · · · · · · · · · · · · · · · · · ·		$\begin{array}{c c}1\\2\\1\\2\end{array}$	3.83 2.55 1.18 .79	2 5 4 7	7.66 6.38 4.72 2.76	1 1 3 3	$\begin{array}{c} 3.83 \\ 1.28 \\ 3.55 \\ 1.18 \end{array}$	2 3 4 5	7.66 3.83 4.72 1.97	$     \begin{array}{c}       1 \\       3 \\       3 \\       5     \end{array}   $	3.83 3.83 3.55 1.97	3 6 7 10	11.49 7.66 8.27 3.94
234		2 2 2 4		356 8		2 4 2 4		15 25 23 39		5 10 5 15		7 14 7 19		13 21 21 35		20 35 28 54	
10 26 17 42	.77 .67 .91 .75	7 11 12 28	. 54 . 28 . 64 . 41	6 26 15 44	. 46 . 67 . 80 . 78	12 32 17 42	.92 .82 .91 .75	78 193 121 293	: 6.00 4.94 6.46 5.22	40 94 53 130	3.07 2.41 2.83 2.31	52 126 70 172	4.00 3.23 3.74 <b>3.</b> 06	66 161 104 251	5.07 4.12 5.55 4.47	118 287 174 423	9.07 7.35 9.26 7.53

### TABLE 62.—NUMBER OF DEATHS AND DEATH RATE PER 1,000 OF OPER WHICH DECEDENT WAS EMPLOYED, FALL RIVER AND 3 CITIES (FALL FEMALES.

Deaths due to-Un-Acci-Diseases Diseases Total classified dent Parof the of the Senility. Room in which opera-Cancer. peror diseases. turition. nervous digestive sons tives were employed, locality, and period. violence. system. system. employed. Rate Rate Rate Rate Rate Rate Rate per No. 1,000 per No. 1,000 per No. 1,000 No. No. per No. per No. per per 1,000 1,000 1,000 1,000 Card room: 2,0772,0772,8593 1.45 2 0.96 1 0.48 0.48 1 year. Fall River. 3 0.48 6 .97 4 . 64 3 3 3 years .. . 48 .48 3 3 . 35 1 year ... 3 cities ... 3 years. 2,859 3 .35 6 6 4 ŝ . 35 .70 . 70 . 46 Spinning room: 2,6192,6193,8262,626. 38 3 1.15  $1 \\ 1 \\ 1 \\ 2$ 1 . 38 3 1.15 1 year. Fall River. . 13 1 . 13 5 .63 1.31 .51 .78 .35 3 years .. 1 . 13 43 5 .26 1.05 45 year .... 3 ci'ies... .17 1 . 09 7 .61 3 years. 3,826 . 44 4 Spooler room: Fall River...{1 year.... 3 years... 2,461 2,461 4,078 4,078 1 0.41 12 . 41 . 27 . 24 2 . 80 .14 2 .27 2 1 .27 .81 4 . 54 6 2 7 ī . 49 1 year .... 1 3 cities .... 2 . 17 3 years.  $\hat{2}$ . 16 2 .33 . 16 4 <del>4</del> .33 . 57 Weave room: 4,326 .23 . 46 . 46 . 69 11 1 6 1.39 2 223 3 year. Fall River. . 23 .31 . 23 4,326 7,811 7,811 3 .93 3 12 . 93 12 . 15 3 years.. 4 . 38 .90 . 26 3 .13  $\tilde{2}$ 3 . 38 .38 .13 year ... 3 cities. 7 . 60 7 .30 ž 13 .30 9 14 3 years. . 55 Cloth room: 665 22 3.01 1 year.. Fall River  $\ddot{2}$ 1 . 50 1 . 50 1.01  $1.00 \\ 1.75$ 3 years. 665 2 1,143 1 year.. 3 cities ... 3 3 years. i . 29 i 2 . 29 . 88 . 59 1,143 Room not specified: fl year. Fall River. 1 1 3 years.. 1 ï ĩ 1 year . 3 cities .... i 3 years .. 2 ĩ 1 ĩ . . . . Total, all workrooms: Fall River...{1 year... 3 years. 12,14812,14819,717. 99 .91 .74 .62 . 16 12 5 . 41 . 38 . 30 5 · 41 · 27 11 255 .71 .76 .52 .14 .25 10 26 15 14 10 27 12 . 27 .10 6 9 . 46 year ... 2 1 3 cities.. 11 . 19 31 21 19 30 19,717 16 . 36 . 51 13 years. . 32

# CHAPTER IV .- POPULATION AND MORTALITY TABLES.

# AGES 10 YEARS AND OVER-MISCELLANEOUS FACTORS.

# ATIVES, BY SPECIFIED CAUSE OF DEATH AND BY WORKROOM IN RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR AND 3 YEARS—Cont'd:

FEMALES.

							D	eath	s due to	-							
Nep	hritis.	Apo	oplexy.	H di	leart sease.	Nor cu resp dis	ntuber- ilous iratory seases.	Nor ei dis	ntuber- ulous seases.	Tu	bercu- osis.	Re 1 dis	espira- tory seases.	N spi dis	onre- ratory seases.	ca	All uses.
No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000
3 8 4 9	1.451.291.401.05	1 1 1	0, 35 , 12	2528	0.96 .80 .70 .93	4	0.64	12 36 15 44	5.78 5.78 5.25 5.13	15 28 19 38	7.22 4.49 6.64 4.43	15 32 19 42	7.22 5.13 6.64 4.90	$12 \\ 32 \\ 15 \\ 40$	5.78 5.14 5.25 4.66	27 64 34 82	13.00 10.27 11.89 9.56
2 3 2 4	.76 .38 .52 .35			 1 2	. 26 . 17	-5 10 5 12	$1.91 \\ 1.27 \\ 1.31 \\ 1.04$	15 25 21 37	5.73 3.18 5.49 3.22	10 22 14 29	3.82 2.80 3.66 2.53	15 32 19 41	5.73 4.07 4.97 3.57	$     \begin{array}{c}       10 \\       15 \\       16 \\       25     \end{array} $	3.82 1.91 4.18 2.18	$25 \\ 47 \\ 35 \\ 66$	9.55 5.98 9.15 5.75
4	. 54	$\begin{array}{c}2\\2\\2\\2\\2\end{array}$	.81 .27 .49 .16	$\begin{array}{c}1\\1\\2\\2\end{array}$	.41 .14 .49 .16	<b>4</b> 7 7 12	$1.63 \\ .95 \\ 1.72 \\ .99$	11 31 15 43	4.47 4.20 3.68 3.52	7 21 12 42	2.84 2.84 2.94 3.43	11 28 19 54	4.47 3.79 4.66 4.42	7 24 8 31	$\begin{array}{c} 2.84 \\ 3.25 \\ 1.96 \\ 2.53 \end{array}$	18 52 27 85	$\begin{array}{c} 7.31 \\ 7.04 \\ 6.62 \\ 6.95 \end{array}$
8 17 10 19	$1.85 \\ 1.31 \\ 1.28 \\ .81$	1 6 1 7	.23 .46 .13 .30	1 11 5 16	.23 .85 .64 .68	6 13 10 19	$1.38 \\ 1.00 \\ 1.28 \\ .81$	30 83 45 114	$\begin{array}{c} 6.93 \\ 6.40 \\ 5.76 \\ 4.86 \end{array}$	$     \begin{array}{r}       11 \\       34 \\       20 \\       56     \end{array} $	$2.55 \\ 2.62 \\ 2.56 \\ 2.39$	17 47 30 75	3.93 3.63 3.84 3.20	24 70 35 95	5.55 5.39 4.48 4.05	41 117 65 170	9.48 9.02 8.32 7.25
		2			. 29	3	1.50	2 9 2 13	$\begin{array}{r} 3.01 \\ 4.51 \\ 1.75 \\ 3.79 \end{array}$	3 5 4 11	4.51 2.51 3.50 3.21	3 8 4 14	4.51 4.01 3.50 4.08	$2 \\ 6 \\ 2 \\ 10$	$\begin{array}{c} 3.01 \\ 3.01 \\ 1.75 \\ 2.92 \end{array}$		$\begin{array}{r} 7.52 \\ -7.02 \\ 5.25 \\ 7.00 \end{array}$
1 2						 2		3 3 10		$\begin{vmatrix} 1 \\ 2 \\ 9 \\ 13 \end{vmatrix}$		$     \begin{array}{c}       1 \\       2 \\       9 \\       15     \end{array} $		3 3 8		1 5 12 23	
13 33 16 40	1.07 .91 .81 .67	3 8 4 12	.25 .22 .20 .20	4 17 10 29	. 33 . 47 . 51 . 49	15 37 22 52	1.23 1.02 1.11 .88	70 187 101 261	5.76 5.13 5.12 4.41	47 112 78 189	3.87 3.07 3.96 3.20	62 149 100 241	5.10 4.09 5.07 4.08	55 150 79 209	4.53 4.11 4.01 3.53	117 299 179 450	9.63 8.20 9.08 7.61

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# TABLE 62.—NUMBER OF DEATHS AND DEATH RATE PER 1,000 OF OPER WHICH DECEDENT WAS EMPLOYED, FALL RIVER AND 3 CITIES (FALL

#### BOTH SEXES.

							D	eaths	s due	to—					
Room in which opera- atives were employed, locality, and period.	Total per- sons em-	A de viol	cci- ent or ence.	Seni	lity.	U class dise	Un- sified ases.	P turi	ar- tion	Car	icer.	Dis of ner sys	eases the vous tem.	Dis of dige sys	eases the estive tem.
3-3-5	ployed	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000
Picker room.			_												
Fall River{1 year 3 cities{1 year 3 years 3 years	388 388 627 627			·····		· · · · · ·		· · · · · ·	· · · · · · · · · · · · · · · · · · ·		·····	 1 	0.86	 1 1	1.59 .53
Fall River /1 year	4,231	1	0.24			1	0.24	3	0.71	3	0.71	1	.24	2	. 47
11 years.	4,231 5,929	5	.39			4	.32	6	. 48	5	.39	3	. 24	62	.48
3 cities {3 years	5,929	7	. 39			6	.34	6	. 34	7	.39	4	.23	6	.34
Spinning room:	5,989	4	. 67			1	.17	3	. 50	2	. 33	1	. 17	5	. 83
Fair River. 3 years	5,989	9	.50	••••	•••••	4	. 22	5	.28	39	.17	1	.06	8	.44
3 cities {3 years	8,321	11	.44			6	.24	7	.28	5	.20	9	.36	9	.36
Spooler room: (1 vear	3.098	1	.32									1.	. 32	2	. 65
Fall River. {3 years	3,098	1	.11			2	.22	2	. 21	4	. 43	2	.21	6	.65
3 cities 3 years	4,931	1 2	.20			2	. 13	2	.14		.27	4	.20	7	.40
Slasher room:	210											-	2 02		
Fall River 3 years	310					1	1.07					1	3.23		
3 cities 1 year	581					1 2	1.73					1	1.72		•••••
Weave room:	001					-	1.10					1	.00	••••	
Fall River {1 year	10,216	9	.88	1	0.10	3	.29	6	. 59	5	. 49	6	. 59	27	. 68
3 cities 11 year	16,070	12	.75	1	.06	4	.24	7	. 44	6	.37	8	. 50	7	.44
Cloth room: (3 years	16,070	28	. 58	1	.02	25	. 52	14	. 29	15	. 31	14	. 29	30	. 62
Fall River 1 year	926													3	3.24
3 years	926	1	.30					1	. 30	1	.36	2	.72	4	1.44
3 cities 3 years	1,989	1	. 17					1	:17	1	. 17	3	. 50	5	. 84
Room not specified:						1				2				3	
ran niver 3 years		2				3				4		1	•••••	3	
3 cities {3 years		6				5		1		4		3		4	
Total, all work- rooms:															
Fall River {1 year	25,158 25,158	15	.60		.04	6	.25	12 26	.47	12 25	.47	10	. 40	22 54	.87
3 cities{1 year 3 years	38, 448 38, 448	25 55	.65	11	.03	10 46	.26 .40	15 31	.39 .27	14 36	.36	18 39	. 47 . 34	26 62	. 67 . 54

# ATIVES, BY SPECIFIED CAUSE OF DEATH AND BY WORKROOM IN RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR AND 3 YEARS—Concl'd.

#### BOTH SEXES.

							D	eath	s due to								
Nep	britis.	Аро	oplexy.	F di	Ieart sease.	Not ct rest dis	ntuber- ulous piratory seases.	No: ei di:	ntuber- ulous seases.	Tu	bercu- osis.	Re r. dis	espira- utory seases.	N spi dis	onre- iratory seases.	ca	All uses.
No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000	No.	Rate per 1,000
22222	5.15 1.72 3.19 1.06	 1 1	1.59 .53	2	1.72 1.06	 1 	0.08	2 6 4 8	5.15 5.15 6.38 4.25	1 3 2 5	2.58 2.58 3.19 2.66	1 4 2 6	2.58 3.44 3.19 3.19	2 5 4 7	5.15 4.29 6.38 3.72	3 9 6 13	7.73 7.73 9.57 6.91
$     \begin{array}{c}       3 \\       10 \\       5 \\       12     \end{array} $	.71 .79 .84 .67	 1 2	 .17 .11	3 7 4 12	.71 .55 .67 .67	1 8 2 10	.24 .63 .33 .57	18 54 26 72	4.26 4.25 4.38 4.05	16 33 23 46	3.78 2.60 3.88 <b>2.5</b> 8	17 41 25 56	4.02 3.23 4.21 3.15	17 46 24 62	4.02 3.62 4.05 3.48	34 87 49 118	8.04 6.85 8.26 6.63
4 9 5 12	. 67 . 50 . 60 . 48	2 5 3 6	.33 .28 .37 .24	1 7 5 14	.17 .39 .60 .56	10 22 12 27	$     \begin{array}{r}       1.67 \\       1.22 \\       1.44 \\       1.09     \end{array} $	33 73 52 106	5.51 4.06 6.25 4.25	27 52 33 66	<b>4.5</b> 1 2.90 3.97 2.64	37 74 45 93	6.18 4.12 5.41 3.73	23 51 40 79	3.84 2.84 4.81 3.16	60 125 85 172	10.02 6.96 10.22 6.89
5 7	. 54	2 2 2 2 2	. 65 . 21 . 41 . 14	1 1 2 2	.32 .11 .41 .13	4 7 7 12	1.29 .75 1.42 .81	11 32 15 44	3.55 3.44 3.04 2.97	7 21 12 42	$2.26 \\ 2.26 \\ 2.44 \\ 2.84$	11 28 19 54	3.55 3.01 3.86 3.65	7 25 8 32	2.26 2.69 1.62 2.16	18 53 27 86	5.81 5.70 5.48 5.81
1 1 3	1.08 1.72 1.72	 1 3	1.72 1.72	1 1 3	$     \begin{array}{r}       1.07 \\       1.72 \\       1.72 \\       1.72     \end{array} $	1 1 1	1.08	1 5 5 13	3.23 5.38 8.61 7.46	3 1 5	$3.22 \\ 1.72 \\ 2.87$	4 1 6	4.30 1.72 3.44	1 4 5 12	3.23 4.30 8.61 6.89	1 8 6 18	3.23 8.60 10.33 10.33
12 28 15 37	$1.17 \\ .92 \\ .93 \\ .77$	4 10 6 15	. 39 . 33 . 37 . 31	$     \begin{array}{c}       2 \\       20 \\       7 \\       31     \end{array} $	. 20 . 65 . 44 . 65	9 21 15 32	.88 .68 .93 .66	64 168 88 242	6.26 5.48 5.47 5.02	26 76 39 113	2.55 2.48 2.43 2.34	35 97 54 145	3.43 3.16 3.36 3.00	55 147 73 210	5.38 4.80 4.54 4.36	90 244 127 355	8.81 7.96 7.90 7.36
 1 1	 . 50 . 17	 2	. 33	 1	.16	1 5 1 5	$1.08 \\ 1.80 \\ .50 \\ .84$	4 14 6 20	4.32 5.04 3.02 3.35	4 6 7 14	4.32 2.16 3.52 2.35	5 11 8 19	5. 40 -3. 96 4. 02 3. 19	3 9 5 15	$\begin{array}{c} 3.24 \\ 3.24 \\ 2.52 \\ 2.51 \end{array}$	8 20 13 34	8.64 7.20 6.54 5.70
2 4 4 8		2 2 2 4		3 5 6 8		2 4 2 6		15 28 26 49		6 12 14 23		8 16 16 34		13 24 24 43		21 40 40 77	
23 59 33 82	.91 .79 .86 .71	10 19 16 35	. 40 . 25 . 42 . 30	10 43 25 73	. 40 . 57 . 65 . 63	27 69 39 94	1.07 .91 1.01 .81	148 380 222 554	5.88 5.03 5.77 <b>4.</b> 80	87 206 131 319	3. 46 2. 73 3. 41 2. 77	114 275 170 413	4.53 3.64 4.42 3.98	121 311 183 460	4.81 4.12 4.76 3.99	235 586 353 873	9.34 7.76 9.18 7.57

#### AGES 10 YEARS AND OVER-MISCELLANEOUS FACTORS.

# TABLE 63.—NUMBER AND PER CENT OF TUBERCULOUS AND OF NON DURATION, BY SEX AND OCCUPATION GROUPS, FOR 3 CITIES

	1										1
		N	umber o	of decede	nts whos	e fatal	illness	lasted	-		Aver-
Sex, occupation group, and disease classification.	Less than 3 wks	3 and under 8 wks	2 and under 5	5 and under 6	7 and under 24	2 and under 3	3 and under 4	4 and under 5	5 and under 6	6 years and	age mos. of fa- tal ill- ness.
						J cu. J.	J curb.	J clarg.	years.	Over.	
MALES.	-										
Operatives: Tuberculous Nontuberculous	4 97	1 14	15 31	17 11	39 18	19 6	9 6	1	1		13 5
'Total, all causes	101	15	46	28	57	25	15	1	1	1	7
Nonoperatives: Tuberculous Nontuberculous	3 942	3 213	23 283	38 101	89 197	62 114	16 55	11 24	7 38	13 56	19 7
Total, all causes	945	216	306	139	286	176	71	35	45	69	9
Both classes: Tuberculous Nontuberculous	7 1,039	4 227	38 314	55 112	128 215	81 120	25 61	11 25	8 38	13 57	17 7
Total, all causes	1,046	231	352	167	343	201	86	36	46	70	9
FEMALES.											
Operatives: Tuberculous Nontuberculous	2 65	$\frac{1}{21}$	14 38	26 21	62 25	23 12	13 1	2	$\frac{2}{2}$	7	$16 \\ 5$
Total, all causes	67	22	52	47	87	35	14	2		7	10
Nonoperatives: Tuberculous Nontuberculous	1 777	2 195	13 280	30 132	63 227	34 134	26 63	4 40	6 37	18 97	22 10
Total, all causes	778	197	293	162	290	168	89	44	43	115	13
Both classes: Tuberculous Nontuberculous	3 842	3 216	27 318	56 153	$125 \\ 252$	57 146	39 64	6 40	8 39	25 97	20 10
Total, all causes	845	219	345	209	377	203	103	46	47	122	11
BOTH SEXES,											
Operatives: Tuberculous Nontuberculous	6 162	2 35	29 69	43 32	101 43	42 18	$\frac{22}{7}$	2 1	3 2	7	15 6
Total, all causes	168	37	98	75	. 144	60	29	3	5	8	9
Nonoperatives: Tuberculous Nontuberculous	4 1,719	5 408	36 563	68 233	152 424	96 248	42 118	15 64	13 75	31 153	20 9
Total, all causes	1,723	413	599	301	576	344	160	79	88	184	11
Both classes: Tuberculous Nontuberculous	10 1, 881	7 443	65 632	 111 265	253 467	138 266	64 125	17 65	16 77	38 154	18 8
Total, all causes	1,891	450	697	376	720	404	189	82	93	192	10

# TUBERCULOUS DECEDENTS WHOSE LAST ILLNESS WAS OF SPECIFIED (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1905 TO 1907.

				]	Per cent	of decede	ents who	se fatal	illness l	asted-		-111
Total report- ed.	Total not re- ported.	Grand total.	Less than 3 weeks.	3 and under 8 weeks.	2 and under 5 months.	5 and under 6 months.	7 and under 24 months.	2 and under 3 years.	3 and under 4 years.	4 and under 5 years.	5 and under 6 years.	6 years and - over.
				3	2.1.7	•						
105 185	25 108	130 293	4 52	17	14 17	16 6	37 10	18 3	93	1	1	1
290	133	423	35	5	16	10	20	9	5			
265 2,023	90 302	355 2,325	1 46	1 10	9 14	14 5	33 10	24 6	6 3	4	3 2	53
2,288	392	2,680	41	9	13	6	13	8	3	2	2	3
370 2,208	115 410	485 2,618	2 47	1 10	10 14	15 5	35 10	22 5	73	31	2 2	33
2, 578	525	3, 103	41	9	14	6	13	8	3	1	2	3
					2.00							-
$\begin{array}{c} 152\\ 185 \end{array}$	37 76	189 261	1 35	1 11	9 21	17 11	41 14	15 6	9 1	1	1	5
337	113	450	20	7	15	14	26	10	4	1	1	2
197 1,982	82 624	279 2,606	1 39	1 9	7 14	15 7	32 12	17 7	13 3	2 2	$\frac{3}{2}$	9 5
2,179	706	2, 885	36	9	14	7	13	8	4	2	2	5
349 2, 167	119 700	468 2, 867	1 43	1 10	8 14	16 7	36 11	16 6	11 3	2 1	2 1	74
2, 516	819	3,335	33	9	14	8	15	8	4	2	2	5
			_								1	. A.
257 370	62 184	319 554	2 44	1 9	11 19	17 9	39 12	16 5	9 2	1	1	3
627	246	873	27	6	16	12	23	10	4		1	1
462 4,005	172 926	634 4,931	1 43	1 10	8 14	15 6	32 10	21 6	9 3	3 2	32	7
4, 467	1,098	5, 565	39	9	13	7	13	8	3	2	2	4
719 4,375	234 1,110	953 5, 485	2 43	1 10	9 14	16 6	35 10	19 6	9 3	2 1	$2 \\ 1$	56
5,094	1,344	6, 438	37	9	14	7	14	8	4	1	2	4

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#### AGES 10 YEARS AND OVER-MISCELLANEOUS FACTORS.

TABLE 64.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-BERCULOUS DECEDENTS IN SPECIFIED PHYSICAL CONDITION PRIOR TO FATAL ILLNESS, BY SEX AND BY OCCUPATION GROUPS, FOR THREE CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1905 TO 1907.

	Serie la	Numb prio	per of r to fa	dece tal ill	dents ness, v	who, vere—				Per c prio	Per cent of decedents who, prior to fatal illness, were—				
Sea	, occupation		A	ffecte	d b <b>y</b> —	-	Total	Total not	Grand			Affect	ted by-	_	
e	ase classification.	In good health.	Ear- lier dis- ease.	Ac- ci- dent	De- form- ity.	Un- der de- velop- ment.	ed.	port- ed.	total.	In good health.	Ear- lier dis- ease.	Ac- cl- dent	De- form- ity.	Un- der de- velop- ment.	
	MALES.							-							
Op	eratives: Tuberculous Nontuberculous .	77 198	11 23	3 11	3	14 18	108 250	22 43	130 293	71 79	10 9	3 5	3	13 7	
	Total, allcauses	275	34	14	3	32	358	65	423	77	9	4	1	9	
No	noperatives: Tuberculous Nontuberculous .	234 1,010	43 109	11 60	33	°8 3	299 1,185	56 1, 140	355 2,325	· 78 86	14 9	4 5	1	3	
	Total, allcauses	1,244	152	71	6	11	1,484	1,196	2,680	84	10	5		1	
Во	th classes: Tuberculous Nontuberculous .	311 1,208	54 132	14 71	6 3	22 21	407 1, 435	78 1, 183	485 2,618	76 84	13 9	45	2	52	
	Total, all causes	1,519	186	85	9	43	1,842	1,261	3,103	82	10	5	1	2	
	FEMALES.		-			1.0									
Op	eratives: Tuberculous Nontuberculous .	136 195	9 18	4	2 1	-14 7	161 225	28 36	189 261	84 87	6 8	2	1	9 3	
	Total, allcauses	331	27	4	3	21	386	64	450	86	7	1	1	5	
No	noperatives: Tuberculous Nontuberculous .	204 1, 572	27 172	2 26	47	6 2	243 1,779	36 827	279 2,606	84 88	11 10	$\frac{1}{2}$	2	2	
	Total, allcauses	1,776	199	28	11	8	2,022	863	2,885	88	10	1	1		
Bo	th classes: Tuberculous Nontuberculous .	340 1,767	36 190	2 30	6 8	20 9	404 2,004	64 863	468 2,867	84 88	9 10	$\frac{1}{2}$	1	5	
	Total, all causes	2,107	226	32	14	29	2,408	927	3,335	88	9	1	1	1	
	BOTH SEXES.						-			0		10			
Op	eratives: Tuberculous Nontuberculous.	213 393	20 41	3 15	5 1	28 25	269 475	50 79	319 554	79 83	8 9	$\frac{1}{3}$	2	10 5	
	Total, allcauses	606	61	18	6	53	744	129	873	82	8	2	1	7	
No	noperatives: Tuberculous Nontuberculous .	438 2, 582	70 281	13 86	7 10	14 5	542 2,964	92 1,967	634 4, 931	81 87	13 10	$\frac{2}{3}$	1	3	
	Total, all causes	3,020	351	99	17	19	3, 506	2,059	5,565	86	10	3		1	
Bo	th classes: Tuberculous Nontuberculous.	651 2,975	90 322	16 101	12 11	42 30	811 3, 439	142 2,046	953 5, 485	80 87	11 9	2 3	2	5 1	
	Total, allcauses	3,626	412	117	23	72	4,250	2, 188	6,438	85	10	3		2	

#### TABLE 65.—NUMBER OF MALE TUBERCULOUS AND NONTUBERCULOUS DECEDENTS REPORTED AS ADDICTED TO THE EXCESSIVE USE OF ALCOHOLIC BEVERAGES, BY RACE AND BY AGE AND OCCUPATION GROUPS, FALL RIVER, 1905 TO 1907.

Age and occupation groups and disease classification.	American.	English.	Irish.	French Canadian.	Other races.	All races.
OPERATIVES.				_		
10 to 44 years: Tuberculous Nontuberculous	2 1	4	55	. 27	<b>2</b> 1	15 15
Total, all causes	3	5	10	9	3	30
45 years and over: Tuberculous. Nontuberculous.	1	1 · 12	27	32	1	0 23
Total, all causes	1	13	9	5	1	29
All ages: Tuberculous Nontuberculous	2 2	5 13	- 7 12	5 9	22	21 38
Total, all causes	4	18	19	14	4	59
NONOPERATIVES.						
10 to 44 years: Tuberculous 45 years and over: Tuberculous.	1	1 3	15 8	1 1	1	18 13
Total, all ages: Tubercu- lous	1	4	23	2	1	31
BOTH CLASSES.						
10 to 44 years: Tuberculous 45 years and over: Tuberculous.	3	5 4	20 10	3 4	2 1	33 19
Total, all ages: Tubercu- lous	3	9	30	7	3	52

#### TABLE 66.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-BERCULOUS DECEDENTS OF EACH CONJUGAL CONDITION, BY SEX AND BY OCCUPATION GROUPS, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1905 TO 1907.

#### MALES.

Occupation group, dissort obssification	Number conj	of deceden ugal condi	ts of each tion.	Per cent of decedents of each conjugal condition.			
and locality.	Single and un- known. Married.		Widowed and divorced.	Single and un- known.	Married.	Widowed and divorced.	
OPERATIVES.	0	-					
Tuberculous: Fall River. 3 cities. Nonfuberculous:	36 50	51 66	7 14	38 38	54 51	8 11	
Fall River 3 cities	62 90	108 169	23 34	32 31	56 58	12 11	
All causes: Fall River	98 140	159 235	30 48	34 33	55 56	11	
NONOPERATIVES.							
Tuberculous: Fall River	62 155 164	76 168 565	14 32 216	41 44 17	50 47 60	9 9 23	
All causes: Fall River	226	641	230	20	59	21	
BOTH CLASSES.							
Fall River. 3 cities. Nontuberculous: Fall River	98 205 226	127 234 673	21 46 239	40 42 20	51 48 59	9 10 21	
All causes: Fall River	324	800	260	23	58	19	

#### FEMALES.

OPERATIVES. Tuberculous: Fall River 3 cities. Fall River Fall River 3 cities. All causes: The set of the set of t	57 97 69 115	55 86 105 123	6 13 23	51 51 37 44	49 46 56 47	3 7 9
Fall River 3 cities NONOPERATIVES.	126 212	160 209	29	42 47	54 47	4 6
Tuberculous:	•					
Fall River. 3 cities. Nontuberculous: Fall River.	42 105 156	55 141 517	11 33 490	39 38 13	51 50 45	10 12 42
All causes: Fall River	198	572	501	16	45	39
BOTH CLASSES.						
Tuberculous: Fall River 3 cities. Nontuberculous: Fall River	99 202 225	110 227 622	11 39 503	45 43 17	50 49 46	5 8 37
All causes: Fall River	324	732	514	21	46	33

TABLE 66.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-BERCULOUS DECEDENTS OF EACH CONJUGAL CONDITION, BY SEX AND BY OCCUPATION GROUPS, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1905 TO 1907—Concluded.

#### BOTH SEXES.

Occupation group, discass closelfloation	Number con	of deceder jugal condi	its of each	Per cent of decedents of each conjugal condition.			
and locality.	Single and un- known.	Married.	Widowed and divorced.	Single and un- known.	Married.	Widowed and divorced.	
OPERATIVES.	-						
Tuberculous: Fall River	93 147	106 152	7 20	45 46	52 48	36	
Fall River	131 205	213 292	- 36 57	35 37	56 53	9 10	
All causes: , Fall River	224 352	319 444	43 77	38 40	55 51	79	
NONOPERATIVES.							
Tuberculous: Fall River	104 260 320	131 309 1,082	25 65 706	40 41 15	50 49 51	10 10 34	
All causes: Fall River	424	1,213	731	18	51	31	
BOTH CLASSES. Tuberculous: Fall River	197 407 451	237 461	32 85 742	42 43	51 48 52	7 9	
All causes: Fall River	648	1,293	742	22	52	26	

# TABLE 67.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU AGE, BY SEX AND BY OCCUPATION GROUPS, FOR 3 CITIES

	Number of decedents who were married at the age of-										
Sex, occupation group, and disease classification.	16 years.	17 years.	18 years.	19 and under 21 years.	21 years.	22 years.	23 and under 26 years.	26 years and over.			
MALES.			1								
Operatives: Tuberculous Nontuberculous	1	1	3 9	14 27	4 28	7 17	20 · 53	22 38			
Total, all causes	1	1	12	41	32	24	73	60			
Nonoperatives: Tuberculous Nontuberculous	3	222	<b>4</b> 19	30 210	16 168	13 202	51 688	49 253			
Total, all causes	3	4	23	240	184	215	739	302			
Both classes: Tuberculous Nontuberculous	4	2 3	7 28	44 237	20 196	20 219	71 741	71 291			
Total, all causes	4	5	35	281	216	239	812	362			
FEMALES.							1				
Operatives: Tuberculous Nontuberculous	6 3	8 5	9	15 38	8 8	10 16	19 26	11 15			
Total, all causes	9	13	18	53	16	26	45	26			
Nonoperatives: Tuberculous Nontuberculous	17 56	12 60	13 144	32 464	11 105	10 186	33 549	24 244			
Total, all causes	73	72	157	496	116	196	582	268			
Both classes: Tuberculous Nontuberculous	23 59	20 65	22 153	47 502	19 113	20 202	52 575	35 259			
Total, all causes	82	85	175	549	132	222	627	294			
BOTH SEXES.											
Operatives: Tuberculous Nontuberculous	- 6 4	8	12 18	29 65	12 36	17 33	39 79	* 33 53			
Total, all causes	10	14	30	94	48	50	118	86			
Nonoperatives: Tuberculous Nontuberculous	17 59	14 62	17 163	62 674	27 273	23 388	84 1,237	73 497			
Total, all causes	76	76	180	736	300	411	1,321	570			
Both classes:								-			
Tuberculous Nontuberculous	23 63	22 68	29 181	91 739	39 309	40 421	123 1,316	106 550			
Total, all causes	86	90	210	830	348	461	1,439	656			

• Less than one-half of 1 per cent.

# BERCULOUS DECEDENTS WHO WERE MARRIED AT EACH SPECIFIED (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1905 TO 1907.

		1		Per cent	of decede	nts who v	vere marri	ied at the	age of-	
Total reported.	Total not re- ported.	Grand total.	16 years.	17 years.	18 years.	19 and under 21 years.	21 years.	22 years.	23 and under 26 years.	26 years and over.
70 174	10 29	• 80 203	1		45	20 15	6 16	10 10	29 30	31 22
244	39	283	(a)	(a)	5	17	13	10	30	25
165 1,545	35 286	200 1,831	(a)	(a) 1	2 1	18 14	10 11	8 13	31 45	30 16
1,710	321	2,031	(a)	(a)	1	14	11	13	43	18
235 1,719	45 315	280 2,034	(a)	(a) 1	3 2	18 14	9 11	9 13	30 43	30 17
1,954	360	2,314	(a)	(a)	2	14	11	12	42	19
86 120	6 26	92 146	73	94	11 7	17 32	9 7	12 13	22 22	13 12
206	32	238	4	6	9	25	8	13	22	13
152 1,808	22 379	174 2,187	11 3	8 3	8 8	· 21 26	7 6	7 10	22 30	16 14
1,960	401	2,361	4	4	8	25	6	10	30	13
238 1,928	28 405	266 2, 333	10 3	83	9 8	20 26	8	8 11	22 30	15 13
2,166	433	2, 599	4	4	8	25	6	10	- 29	14
									-	
156 294	16 55	172 349	42	5 2	86	18 22	- 8 12	11 11	25 27	21 18
450	71	521	.2	3	7	21	11	11	26	19
317 3,353	57 665	374 4,018	5 2	42	5 5	20 20	98	7	27 37	23 15
3,670	722	4, 392	2	2	5	20	8	11	36	16
473 3,647	73 720	546 4,367	5 2	52	6 5	19 20	88	9 12	26 36	22 15
4,120	793	4, 913	2	2	. 8	20	9	11	35	16

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TABLE 68.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-BERCULOUS DECEDENTS WHOSE AGE AT MARRIAGE WAS REPORTED WHO WERE MARRIED AT OR BEFORE THE AGE OF 18 IN THE CASE OF FEMALES OR THE AGE OF 20 IN THE CASE OF MALES, BY RACE AND BY OCCUPATION GROUPS, FALL RIVER, 1905 TO 1907.

#### NUMBER.

Sex occupation group and disease	Decedents who were married at or before the age of 18 in the case of females or the age of 20 in the case of males.									
classification.	Ameri- can.	English.	Irish.	French Canadian.	• Other races.	Total.				
MALES.					(57)					
Operatives: Tuberculous Nontuberculous	1	3 9	2 7	3 7	4 5	13 28				
- Total, all causes	1	12	9	10	9	41				
Nonoperatives: Tuberculous Nontuberculous		1 20	11 44	3 25	2 9	17 115				
Total, all causes	17	21	55	28	11	132				
Both classes: "Tuberculous Nontuberculous	1 17	4 29	13 51	6 32	6 14	30 143				
Total, all causes	18	33	64	38	20	173				
FEMALES. Operatives: Tuberculous Nontuberculous.	1	23	3	73	42	17 12				
Total, all causes	1	5	7	10	6	29				
Nonoperatives: Tuberculous Nontuberculous	2 21	3 23	7 66	2 50	5 24	19 184				
Total, all causes	23	26	73	52	29	203				
Both classes: Tuberculous. Nontuberculous.	3 21	5 26	10 70	9 53	9 26	36 196				
Total, all causes	24	31	80	. 62	35	232				
BOTH SEXES. Operatives: Tuberculous Nontuberculous Total all causes	2	5 12	5 11 16	10 10	87	30 40 70				
Nononerstives.			10		10					
Tuberculous. Nontuberculous.	2 38	4 43	18 110	5 75	7 33	36 299				
Total, all causes	40	47	128	80	40	335				
Both classes: Tuberculous Nontuberculous	4 38	9 55	23 . 121	15 85	15 40	66 339				
Total, all causes	42	64	144	100	55	405				

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TABLE 68.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-BERCULOUS DECEDENTS WHOSE AGE AT MARRIAGE WAS REPORTED WHO WERE MARRIED AT OR BEFORE THE AGE OF 18 IN THE CASE OF FEMALES OR THE AGE OF 20 IN THE CASE OF MALES, BY RACE AND BY OCCUPATION GROUPS, FALL RIVER, 1905 TO 1907—Concluded.

#### PER CENT.

Sex, occupation group, and disease	Decedents who were married at or before the age of 18 in the case of females or the age of 20 in the case of males.									
classification.	Ameri- can.	English.	Irish.	French Canadian.	Other races.	Total.				
MALES.										
Tuberculous	100	25 21	15 24	19 28	36 36	25 25				
Total, all causes	20	22	21	24	36	25				
Nonoperatives: Tuberculous Nontuberculous	14	7 13	31 17	30 21	17 22	21 17				
Total, all causes	13	12	19	22	21	17				
Both classes: Tuberculous Nontuberculous	9 14	15 15	27 18	23 22	26 25	22 18				
Total, all causes	13	15	20	22	26	19				
FEMALES. Operatives: Tuberculous Nontuberculous.	100	18 12	20 15	32 10	67 13	31 12				
Total, all causes	20	14	17	19	29	18				
Nonoperatives: Tuberculous. Nontuberculous.	40 13	25 13	32 20	14 28	50 46	30 19				
Total, all causes	14	14	21	27	47	21				
Both classes: Tuberculous Nontuberculous	50 13	22 13	27 20	25 26	56 39	31 20				
Total, all causes	17	14	21	26	42	21				
BOTH SEXES. Operatives: Tuberculous. Nontuberculous.	100	22 18	18 20	26 18	47 24	28 19				
Total, all causes	20	19	19	22	33	22				
Nonoperatives: Tuberculous Nontuberculous.	13 14	15 13	31 19	19 25	32 35	25 19				
Total, all causes	14	13	20	25	35	19				
Both classes: Tuberculous Nontuberculous	24 13	18 14	27 19	22 24	38 33	26 19				
Total, all causes	14	14	20	24	34	20				

TABLE 69.—PER CENT OF TUBERCULOUS AND NONTUBERCULOUS MARRIED DECEDENTS WHO HAD HAD NO CHILDREN, BY RACE AND SEX AND BY OCCUPATION GROUPS, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET).

	MAI	LEIS.				
Occupation group, disease classification, and locality.	Ameri- can.	English.	Irish.	French.	Other races.	All races.
OPERATIVES.						
Tuberculous:		17	01	11		10
3 cities.		13	16	8	11	11
Nontuberculous: Fall River	17	19	7	22	13	16
All causes: Fall River	14	19	11	18	7	15
NONOPERATIVES.		_				
Tuberculous:	10		16			0
3 cities	18	4	10	5		12
Nontuberculous: Fall River	21	12	9	11	14	13
All cauess: Fall River	21	11	10	10	11	12
BOTH CLASSES.						
Tuberculous:						
Fall Kiver	17	8	17	6	5	10
Nontuberculous: Fall River	21	14	9	13	14	13
All causes: Fall River	21	13	10	12	10	13
	FEMA	TES	·	,		
	L'AATTAZ	1	1			
OPERATIVES.						
Fall River		9	13	23	50	20
3 cities	40	21	13	18	38	18
	10				10	
All causes: Fall River	33	14	10	17	23	16
NONOPERATIVES.						_
Tuberculous: Fall River		8	5	19		8
3 cities	17	8	6	16	5	11
Nontuberculous: Fall River	10	14	9	9	3	9
All causes: Fall River	10	14	9	6	3	9
BOTH CLASSES.						
Tuberculous: Fall River			8	21	18	13
3 cities	15	14	8	17	14	14
Nontuberculous: Fall River	11	14	9	6	5	10
All causes: Fall River	11	14	9	8	7	10
	BOTH S	SEXES.				
OPERATIVES.						
Tuberculous:		12	17	10	16	16
3 cities		17	14	15	10	15
Nontuberculous: Fall River	27	18	8	17	13	15
All causes: Fall River	23	17	11	17	14	15
NONOPERATIVES.						
Tuberculous:	10		10	10		
3 cities.	13	6	12	10	3	11
Nontuberculous: Fall River	15	13	9	7	8	11
All causes: Fall River	15	12	9	8	7	10
BOTH CLASSES.						
Tuberculous:			10			10
3 cities.	11	10	13	14 12	9	12
Nontuberculous: Fall River	15	14	9	9	9	11
All causes: Fall River	15	13	10	10	9	11

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TALES.

# CHAPTER IV.—POPULATION AND MORTALITY TABLES. 373

#### AGES 10 YEARS AND OVER-MISCELLANEOUS FACTORS.

TABLE 70.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-BERCULOUS FEMALE DECEDENTS WHO HAD BEEN MARRIED LESS THAN 4 YEARS, BY RACE AND BY OCCUPATION GROUPS, FALL RIVER, 1905 TO 1907.

Occupation group and disease classifi-	Number of female decedents who had been married less than 4 years.										
cátion.	Ameri- can.	English.	Irish.	French Canadian.	Other races.	Total.					
Operatives: Tuberculous Nontuberculous	1	1 3	2 2	9 4	<b>4</b> 9	16 19					
Total, all causes	1	4	4	13	13	35					
Nonoperatives: Tuberculous Nontuberculous.	3	1	12	2	3	2 10					
Total, all causes	3	1	<u> </u>	2	3	12					
Both classes: Tuberculous Nontuberculous	4	2 3	3 4	9 6	4 12	18 29					
Total, all causes	4	5	7	15	16	47					
Occupation group and disease classifi- cation.	Per cent 4 years 11 year Ameri- can.	of female c of those r s. English.	lecedents eported as Irish.	who had be having be French Canadian.	een married en married Other races.	l less than l less than Total.					
Operatives: Tuberculous Nontuberculous.	50	20 33	22 29	60 31	67 64	46 42					
Total, all causes	50	29	25	46	65	44					
Nonoperatives: Tuberculous Nontuberculous.	38	17	20 20	13	50	9 21					
Total, all causes	33	7	20	8	33	17					
Both classes: Tuberculous.		18	21	39	44	21					
1	40	18	24	21	60	31					

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#### AGES 10 YEARS AND OVER-MISCELLANEOUS FACTORS.

TABLE 71.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-BERCULOUS FEMALES DYING UNDER 11 YEARS AFTER MARRIAGE WHO DIED WITHIN EACH SPECIFIED PERIOD OF TIME, BY OCCU-PATION GROUPS, FOR 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1905 TO 1907.

		Nun un ria sp	nber ider 1 ige v ecified	r of females dying r 11 years after mar- who died in each fied period.					Total		Per cent of females dying under 11 years after marriage who died in each specified period.				
	Decupation group and disease classification.	Un- der 2 yrs.	2 and un- der 3 yrs.	3 and un- der 4 yrs.	4 and un- der 6 yrs.	6 and un- der 11 yrs.	To- tal un- der 11 yrs.	re- port- ed.	not re- port- ed.	Grand total.	Un- der 2 yrs.	2 and un- der 3 yrs.	3 and un- der 4 yrs.	4 and un- der 6 yrs.	6 and un- der 11 yrs.
(	Operatives: Tuberculous Nontuberculous	15 11	6 6	<b>4</b> 6	12 10	18 18	55 51	86 120	- 6 26	92 146	27 21	11 12	7 12	22 20	33 35
	Total, all causes	26	12	10	22	36	106	206	32	238	25	11	9	21	34
-]	Nonoperatives: Tuberculous Nontuberculous	4 13	1 4	5 8	10 20	31 86	51 131	$152 \\ 1,808$	22 379	174 2, 187	8 10	23	10 6	19 15	61 66
	Total, all causes	17	5	13	30	117	182	1,960	401	2,361	9	3	7	17	64
]	Both classes: Tuberculous Nontuberculous	19 24	7 10	9 14	22 30	49 104	106 182	238 1,928	28 405	266 2,333	18 13	7 6	8 8	21 16	46 57
	Total, all causes	43	17	23	52	153	288	2, 166	433	2,599	15	6	8	18	53

# CHAPTER IV.—POPULATION AND MORTALITY TABLES. 375

#### AGES 10 YEARS AND OVER-MISCELLANEOUS FACTORS.

TABLE 72.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-BERCULOUS DEATHS OCCURRING DURING THE PERIODS OCTOBER TO MARCH AND APRIL TO SEPTEMBER, BY SEX AND BY OCCUPA-TION GROUPS, FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR.

	I	Numbe	er of de	eaths fr		Per cent of deaths from-						
Sex, occupation group, lo- cality, and period.	Tubercu- losis.		Causes other than tubercu- losis.		All causes.		Tubercu- losis.		Causes other than tubercu- losis.		All causes.	
	Oct. to Mar.	Apr. to Sept.	Oet. to Mar.	Apr. to Sept.	Oet. to Mar.	Apr. to Sept.	Oct. to Mar.	Apr. to Sept.	Oct. to Mar.	Apr. to Sept.	Oet. to Mar.	Apr. to Sept.
MALES.	-											
Operatives: Fall River, 3 years 3 cities, 1 year	49 30	45 23	97 61	96 60	146 91	141 83	52 57	48 43	50 50	50 50	51 52	49 48
Fall River, 3 years 3 cities, 1 year	72 71	80 56	497 424	448 399	569 495	528 455	47 56	53 44	53 52	47 48	52 52	48 48
Both classes: Fall River, 3 years 3 cities, 1 year	121 101	125 79	594 485	544 459	715 586	669 538	49 56	51 44	52 51	48 49	52 52	48 48
FEMALES.												
Operatives: Fall River, 3 years 3 cities, 1 year.	61 42	51 36	100 55	87 46	161 97	138 82	54 54	46 46	53 54	47 46	54 54	46 46
Fall River, 3 years 3 cities, 1 year	63 57	45 45	653 557	510 388	716 614	555 433	58 56	42 44	56 59	44 41	56 59	44 41
Both classes: Fall River, 3 years 3 cities, 1 year	124 99	96 81	753 612	597 434	877 711	693 515	56 55	44 45	56 59	44 41	56 58	44 42
BOTH SEXES.												
Operatives: Fall River, 3 years 3 cities, 1 year Nononeratives:	110 72	96 59	197 116	183 106	307 188	279 165	53 55	47 45	52 52	48 48	52 53	48 47
Fall River, 3 years 3 cities, 1 year	135 128	125 101	1, 150 981	958 787	$1,285 \\ 1,109$	1,083 888	52 56	48 44	55 55	45 45	54 56	46 44
Both classes: Fall River, 3 years 3 cities, 1 year	245 200	221 160	1,347 1,097	1, 141 893	1,592 1,297	1,362 1,053	53 56	47 44	54 55	46 45	54 55	46 45

#### AGES 10 YEARS AND OVER-MISCELLANEOUS FACTORS.

TABLE 73.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU ING EACH SPECIFIED NUMBER OF APARTMENTS, BY SEX AND BY 1905 TO 1907.

MALES.

Occurrentian menure disease clearifice	Number of decedents who had lived in buildings containing the specified number of apartments.										
tion, and locality.	1.	2.	3.	4.	5 and 6.	7 and under 13.	13 and under 16.	16 and over.			
OPERATIVES.		213		-							
Tuberculous: Fall River Manchester Pawtucket	4 2 1	20 9 4	14 3	22 $2$ $1$	15 1 1	5 4	1 1	3			
Total, 3 cities	7	33	17	25	17	9	2	3			
Nontuberculous: Fall River Manchester Pawtucket	15 10 4	41 20 10	40 11 4	41 12 2	24 2	14 3	1	 4 1			
Total, 3 cities	29	71	55	55	26	17	2	5			
All causes: Fall River Manchester Pawtucket	19 12 5	61 29 14	54 14 4	63 14 3	39 3 1	19 7	22	 7 1			
Total, 3 cities	36	104	72	80	43	26	4	8			
NONOPERATIVES.						0					
Tuberculous: Fall River. Manchester. Pawtucket.	15 12 21	37 31 39	25 20 12	36 9 9	16 6 6	7 11 1	7	5			
Total, 3 cities	48	107	57	54	28	19	7	5			
Nontuberculous: Fall River Manchester	175 197	249 145	151 59	169 61	112 13	34 19	2	3 18			
Tatel 2 atties	190	697	950		105						
All causes:		021	200		=====						
Fall River. Manchester. Pawtucket.	190 209 217	286 176 272	176 79 52	205 70 39	128 19 6	41 30 1	2 7	3 23 7			
Total, 3 cities	616	734	307	314	153	72	9	33			
BOTH CLASSES.		2					_				
Tuberculous: Fall River	19 14 22	57 40 43	39 23 12	58 11 10	31 7 7	12 15 1	1 8	8			
Total, 3 cities	55	140	74	79	45	28	9	• 8			
Nontuberculous: Fall River. Manchester. Pawtucket.	190 207 200	290 165 243	191 70 44	210 73 32	136 15	48 22	3 1	3 22 8			
Total, 3 cities	597	698	305	315	151	70	4	33			
All causes:	000				107						
Manchester. Pawtucket	209 221 222	347 205 286	230 93 . 56	268 84 42	167 22 7	60 37 1	4 9	3 30 8			
Total, 3 cities	652	838	379	394	196	98	13	41			

# BERCULOUS DECEDENTS WHO HAD LIVED IN BUILDINGS CONTAIN-OCCUPATION GROUPS, FALL RIVER, MANCHESTER, AND PAWTUCKET,

MALES.

		-	Per cent of decedents who had lived in buildings containing the specified number of apartments.											
Total reported.	Total not reported.	Grand total.	1.	2.	3.	4.	5 and 6.	7 and under 13.	13 and under 16.	16 and over.				
							-							
81 25 7	13 4	94 29 7	5 8 14	25 36 58	17 12	27 8 14	19 4 14	6 16	1 4	12				
113	17	130	6	29	15	22	15	8	2	3				
176 63 21	17 9 7	193 72 28	8 16 19	23 32 48	23 17 19	23 19 9	14 3	8 5	1 2	 6 5				
260	33	293	11	28	21	21	10	6	1	2				
257 88 28	30 13 7	287 101 35	7 14 18	24 33 50	21 16 14	25 16 10	15 3 4	78	12	84				
373	50	423	10	28	19	21	12	7	1	2				
136 101 88	16 12 2	152 113 90	11 12 24	27 30 44	18 20 14	27 9 10	12 6 7	5 11 1	7	5				
325	30	355	15	33	17	17	9	6	2	1				
895 512 506	50 196 166	945 708 672	20 38 39	28 28 46	17 11 8	19 12 6	12 3	4		 4 1				
1,913	412	2, 325	30	33	13	14	6	3		1				
1,031 613 594	66 208 168	1,097 821 762	19 34 36	28 29 46	17 13 9	20 11 7	12 3 1	45	1	4				
2,238	442	2,680	28	33	14	14	7	3		1				
217 126 95	29 16 2	246 142 97	- 9 11 23	26 32 <b>45</b>	18 18 13	27 9 11	14 6 7	6 12 1	6	6				
438	47	485	13	32	17	18	10	6	2	2				
1, 071 575 527	67 205 173	1,138 780 700	18 36 38	27 29 46	18 12 8	20 13 6	13 2	4 4		42				
2,173	445	2, 618	27	32	14	15	7	/ 3		2				
1,288 701 622	96 221 175	1,384 922 797	16 32 36	27 30 46	18 13 9	21 12 7	13 3 1	5 5	1	4 1				
2, 611	492	3,103	25	32	15	15	7	4		2				

#### AGES 10 YEARS AND OVER-MISCELLANEOUS FACTORS.

# TABLE 73.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU ING EACH SPECIFIED NUMBER OF APARTMENTS, BY SEX AND BY 1905 TO 1907-Continued.

Second Second	Number of decedents who had lived in buildings containing the specified number of apartments.										
Occupation group, disease classifica- tion, and locality.	1	2.	3.	4.	5 and 6.	7 and under 13.	13 and under 16.	16 and over.			
OPERATIVES.								_			
Tuberculous: Fall River Manchester Pawtucket	4 7 7	22 11 25	17 1	25 7 4	30 1 1	73	33	1 4			
Total, 3 cities	18	58	18	36	32	10	6	5			
Nontuberculous: Fall River. Manchester. Pawtucket.	.6 5 5	39 13 7	33 7 1	46 5 7	39 6 1	18 2 1	3				
Total, 3 cities	16	59	41	58	46	21	3				
All causes: Fall River Manchester Pawtucket	10 12 12	61 24 32	50 8 1	71 12 11	69 7 2	25 5 1	36	1 4			
Total, 3 cities	34	117	59	94	78	31	9	5			
NONOPERATIVES.			1								
Tuberculous: Fall River Manchester Pawtucket	$\begin{array}{c}14\\11\\16\end{array}$	26 28 33	20 19 8	21 8 4	18 10 3	5 7	1 3	1 2 1			
Total, 3 cities	41	87	47	33	31	12	4	4			
Nontuberculous: Fall River Manchester Pawtucket	159 225 208	285 187 187	231 59 54	201 34 12	141 43	42 28	1 3	3 16 1			
Total, 3 cities	592	659	344	247	184	70	4	20			
All causes: Fall River Manchester Pawtucket	$     \begin{array}{r}       173 \\       236 \\       224     \end{array} $	311 215 220	251 78 62	$\begin{array}{r} 222\\ 42\\ 16\end{array}$	159 53 3	47 35	2 6	4 18 2			
Total, 3 cities	633	746	391	280	215	82	8	24			
BOTH CLASSES.											
Tuberculous: Fall River Manchester. Pawtucket	- 18 18 23	48 39 58	37 20 8	46 15 8	48 11 4	12 10	4 6	$2 \\ 6 \\ 1$			
Total, 3 cities	59	145	65	69	63	22	10	9			
Nontuberculous: Fall River. Manchester. Pawtucket.	165 230 213	324 200 194	264 66 55	247 39 19	180 49 1	60 30 1	16	3 16 1			
Total, 3 cities	608	718	385	305	230	91	7	20			
All causes: Fall River Manchester Pawtucket	183 248 236	372 239 252	301 86 63	293 54 27	228 60 5	72 40 1	5 12	5 22 2			
Total, 3 cities	667	863	450	374	293	113	17	29			

#### FEMALES.

# BERCULOUS DECEDENTS WHO HAD LIVED IN BUILDINGS CONTAIN-OCCUPATION GROUPS, FALL RIVER, MANCHESTER, AND PAWTUCKET,

#### FEMALES.

	-		Per cent of decedents who had lived in buildings containing the specified number of apartments.											
Total reported.	Total not reported.	Grand total.	1.	2.	3.	4.	5 and 6.	7 and under 13.	13 and under 16.	16 and over.				
	-													
109 37 37	33	112 40 37	4 19 19	20 30 67	16 3	23 19 11	27 3 3	6 8	3 8	1 10				
183	6	189	10	32	10	20	17	5	3	3				
181 41 22	6 8 3	187 49 25	3 12 23	22 32 31	18 17 5	25 12 31	22 15 5	10 5 5	7					
244	17	261	6	24	17	24	19	9	1					
290 78 59	9 11 3	299 89 62	3 15 20	21 31 54	17 10 2	25 15 19	24 9 3	9 7 2	1 8	5				
427	23	450	8	28	14	22	18	7	2	1				
106 88 65	2 14 4	108 102 69	13 13 25	24 32 51	19 22 12	20 9 6	17 11 5	5 8	1 3	1 2 1				
259	20	279	16	34	18	13	12	5	1	1				
$1,063 \\ 595 \\ 462$	$100 \\ 154 \\ 232$	1, 163 749 694	15 38 45	27 31 40	22 10 12	19 6 3	13 7	4 5		3				
2, 120	486	2,606	28	31	16	12	9	3		1				
1,169 683 527	$102 \\ 168 \\ 236$	1,271 851 763	15 35 42	27 31 42	$21 \\ 11 \\ 12$	19 6 3	14 8 1	4 5	1	3				
2,379	506	2, 885	27	31	16	12	9	4		1				
215 125 102	5 17 4	220 142 106	8 14 22	22 31 57	17 16 8	22 12 8	22 9 4	6 8	2 5	1 5 1				
442	26	468	13	33	15	16	14	5	2	2				
1,244 636 484	$     \begin{array}{r}       106 \\       162 \\       235     \end{array} $	1,350 798 719	$\begin{array}{c}13\\36\\44\end{array}$	26 31 40	21 10 12	20 6 4	15 8	5 5	1	3				
2,364	503	2,867	26	30	16	13	10	4		1				
1,459 761 586	111 179 239	1,570 940 825	13 33 40	25 31 43	21 11 11	20 7 5	16 8 1	5 5	2	3				
2,806	529	3,335	24	31	16	13	- 10	4	1	1				

TABLE 73.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU ING EACH SPECIFIED NUMBER OF APARTMENTS, BY SEX AND BY 1905 TO 1907—Concluded.

BOTH SEXES.

	Number of decedents who had lived in buildings containing the specified number of apartments.									
Occupation group, disease classifica- tion, and locality.	1.	2.	3.	4.	5 and 6.	7 and under 13.	13 and under 16.	16 and over.		
OPERATIVES.										
Tuberculous: Fall River Manchester. Pawtucket	8 9 8	42 20 29	31 4	47 9 5	45 2 2	12 7	4	1 7		
Total, 3 cities	25	91	35	61	49	19	8	8		
Nontuberculous: Fall River Manchester Pawtucket	21 15 9	80 33 17	73 18 5	87 17 9	63 8 1	32 5 1	1 4	4 1		
Total, 3 cities	45	130	96	113	72	38	5	5		
All causes: Fall River Manchester Pawtucket	29 24 17	122 53 46	104 22 5	134 26 14	108 10 3	44 12 1	58	1 11 1		
Total, 3 cities	70	221	131	174	121	57	13	13		
NONOPERATIVES. Tuberculous: Fall River	29 23 37	63 59 72	45 39 20	57 17 13	34 16 9	12 18 1	1 10	1 7 1		
Total, 3 cities	89	194	104	87	59	31	11	9		
Nontuberculous:										
Fall River. Manchester. Pawtucket	334 422 404	534 332 420	382 118 94	370 95 42	253 56	76 47	33	6 34 8		
Total, 3 cities	1,160	1,286	594	507	309	123	6	48		
All causes: Fall River Manchester Pawtucket	363 445 441	597 391 492	427 157 114	<b>427</b> 112 55	287 72 9	88 65 1	4 13	7 41 9		
Total, 3 cities	1,249	1,480	698	594	368	154	17	57		
BOTH CLASSES.										
Tuberculous: Fall River Manchester Pawtucket	37 32 45	105 79 101	76 43 20	104 26 18	79 18 11	24 25 1	5 14	2 14 1		
Total, 3 cities	114	285	139	148	108	50	19	• 17		
Nontuberculous: Fall River Manchester. Pawtucket.	355 437 413	614 365 437	455 136 99	457 112 51	316 64 1	108 52 1	47	6 38 9		
Total, 3 cities	1,205	1,416	690	620	381	161	11	53		
All causes: Fall River Manchester Pawtucket	392 469 458	719 444 538	531 179 119	561 138 69	395 82 12	132 77 2	9 21	8 52 10		
Total, 3 cities	1,319	1, 701	829	768	489	211	30	70		

BERCULOUS DEGEDENTS WHO HAD LIVED IN BUILDINGS CONTAIN-OCCUPATION GROUPS, FALL RIVER, MANCHESTER, AND PAWTUCKET,

#### BOTH SEXES.

			Per cent of decedents who had lived in buildings containing the specified number of apartments.											
Total reported.	Total not reported.	Grand total.	1.	2.	3.	4.	5and 6.	7 and under 13.	13 and under 16.	16 and over.				
	_						-							
190 62 44	16 7	206 69 44	<b>4</b> 15 18	22 32 66	16 7	25 15 11	24 3 5	6 11	2 6	111				
296	23	319	8	31	12	21	16	6	3	3				
357 104 43	23 17 10	380 121 53	6 14 21	22 32 40	21 17 12	24 16 21	18 8 2	9 5 2	4	···· 4 2				
504	50	554	. 9	26	19	22	14	8	1	1				
547 166 87	39 24 10	586 190 97	5 14 20	22 32 53	19 13 6	25 16 16	20 6 3	8 7 1	1 5	7				
800	73	873	9	27	16	22	15	7	2	2				
242 189 153	18 26 6	260 215 159	12 12 24	26 31 47	19 21 13	24 9 8	14 8 6	5 10 1	5					
584	50	634	15	33	18	15	10	5	2	2				
1,958 1,107 968	150 350 398	2,108 1,457 1,366	17 38 42	27 30 43	20 11 10	19 9 4	13 5	4		1 3 1				
4,033	898	4,931	29	32	15	12	8	3		1				
2,200 1,296 1,121	168 376 404	2,368 1,672 1,525	17 34 39	27 30 44	19 12 10	19 9 5	13 6 1	4 5	1	1 3 1				
4,617	948	5, 565	27	32	15	13	8	3	1	1				
432 251 197	34 33 6	466 284 203	9 13 23	24 31 51	18 17 10	24 10 9	18 7 5	6 10 1	16	6 1				
880	73	953	13	32	.16	17	12	6	2	2				
2,315 1,211 1,011	173 367 408	2,488 1,578 1,419	15 36 41	26 30 43	20 11 10	20 9 5	14 5	5 5	1	* 3				
4,537	948	5, 485	27	31	15	14	8	4		1				
2,747 1,462 1,208	207 400 414	2,954 1,862 1,622	14 32 38	26 30 44	19 12 10	21 10 6	15 6 1	55	1					
5, 417	1,021	6,438	24	32	15	14	9	4	1	1				

#### AGES 10 YEARS AND OVER-MISCELLANEOUS FACTORS.

#### TABLE 74.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-BERCULOUS DECEDENTS REPORTED WHO HAD LIVED IN BUILD-INGS CONTAINING 4 OR MORE APARTMENTS, BY RACE AND SEX AND BY OCCUPATION GROUPS, FALL RIVER, 1905 TO 1907.

#### NUMBER.

Sex, occupation group, and disease	Decedents who had lived in buildings containing 4 or mor apartments.									
classification.	A meri- can.	English.	Irish.	French Canadian.	Other races.	All races.				
MALES.		7 - 65	•							
Operatives: Tuberculous Nontuberculous	2 5	8 18	9 20	14 25	10 12	43 80				
Total, all causes	7	26	29	39	22	123				
Nonoperatives: Tuberculous Nontuberculous	6 19	5 47	27 121	11 92	10 41	59 320				
Total, all causes	25	52	148	103	51	379				
Both classes: Tuberculous Nontuberculous	8 24	13 65	36 141	25 117	20 53	102 400				
Total, all causes	32	78	177	142	73	502				
FEMALES. Operatives: Tuberculous. Nontuberculous.	2 8	6 18	22 32	27 31	9 14	66 103				
Total, all causes	10	24	54	58	23	169				
Nonoperatives: Tuberculous Nontuberculous	3 29	8 49	11 164	14 94	10 52	46 388				
Total, all causes	32	57	175	108	62	434				
Both classes: Tuberculous Nontuberculous	5 - 37	14 67	33 196	41 125	19 66	112 491				
Total, all causes	42	81	229	166	85	• 603				
Operatives: Tuberculous Nontuberculous	<b>4</b> 13	14 36	31 52	41 56	19 26	109 183				
Total, all causes	17	50	83	97	45	292				
Nonoperatives: Tuberculous Nontuberculous	9 48	13 96	38 285	25 186	20 93	105 708				
Total, all causes	57	109	323	211	113	813				
Both classes: Tuberculous Nontuberculous	13 61	27 132	69 337	66 242	39 119	214 891				
<ul> <li>Total, all causes</li> </ul>	74	159	406	308	158	1, 105				

# TABLE 74.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTUBERCULOUS DECEDENTS REPORTED WHO HAD LIVED IN BUILD-INGS CONTAINING 4 OR MORE APARTMENTS, BY RACE AND SEX AND BY OCCUPATION GROUPS, FALL RIVER, 1905 TO 1907—Concluded.

Sex occupation group, and disease	Decedents who had lived in buildings containing 4 or more apartments.										
classification.	Ameri- can.	English.	Irish.	French Canadian.	Other races.	All races.					
MALES.			-11								
Tuberculous	33 56	47 30	45 45	64 56	63 67	53 45					
Total, all causes	47	34	45	58	65	48					
Nonoperatives: Tuberculous Nontuberculous	38 13	24 24	42 40	55 53	71 58	43 36					
Total, all causes,	15	24	40	53	60	37					
Both classes: Tuberculous Nontuberculous	36 15	34 25	42 40	60 53	67 60	47 37					
Total, all causes	18	26	41	54	61	39					
FEMALES. Operatives: Tuberculous. Nontuberculous.	40 67	38 45	58 56	73 57	69 78	61 57					
Total, all causes	59	43	57	. 64	74	58					
Nonoperatives: Tuberculous Nontuberculous	20 14	42 23	35 43	58 48	59 72	43 37					
Total, all causes	15	25	43	49	70	37					
Both classes: Tuberculous Nontuberculous	25 17	40 27	48 45	67 50	63 73	52 39					
Total, all causes	18	29	45	53	• 71	41					
BOTH SEXES Operatives: Tuberculous. Nontuberculous.	36 62	42 36	53 51	69 57	66 72	57 51					
Total, all causes	53	38	52	61	69	53					
Nonoperatives: Tuberculous Nontuberculous	29 14	33 24	40 42	57 50	65 65	43 36					
Total, all causes	15	24	41	51	65	37					
Both classes: Tuberculous Nontuberculous	31 16	37 26	44 43	64 51	65 66						
Total, all causes	_ 18	27	43	54	66	40					

#### PER CENT.

### AGES 10 YEARS AND OVER-MISCELLANEOUS FACTORS.

TABLE 75.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-BERCULOUS DECEDENTS WHO HAD LIVED IN APARTMENTS OF EACH SPECIFIED NUMBER OF ROOMS, BY SEX AND BY OCCUPA-TION GROUPS, FALL RIVER, MANCHESTER, AND PAWTUCKET, 1905 TO 1907.

#### MALES.

Occupation group.	Num had liv	ber of d red in aj	ecedent: partmer	s who its of—	Total	Total not	I Grand	Per cent of decedents who had lived in apartments of—			
disease classification, and locality.	Less than 4 rooms.	4 rooms.	5 rooms.	6 rooms and over.	report- ed.	report- ed.	total.	Less than 4 rooms.	trooms.	5 rooms.	6 rooms and over.
OPERATIVES. Tuberculous: Fall River Manchester Pawtucket	22 1 1	30 9 1	25 1 2	17 18 3	94 29 7		94 29 7	23 3 14	32 31 14	27 3 29	18 63 43
Total, 3 cities	24	40	28	38	130		130	18	31	22	29
Nontuberculous: Fall River Manchester Pawtucket	52 5 3	39 10 3	41 13 2	56 35 15	188 63 23	5 9 5	193 72 28	27 8' 13	21 16 13	22 21 9	30 55 65
Total, 3 cities	60	52	56	106	274	19	293	22	19	20	39
All causes: Fall River Manchester Pawtucket	74 6 4	69 19 4	66 14 4	73 53 18	282 92 30	5 9 5	287 101 35	26 6 14	25 21 13	23 15 13	36 58 60
Total, 3 cities	84	92	84	144	404	19	423	21	23	21	35
NONOPERATIVES. Tuberculous: Fall River Manchester Pawtucket	39 9 9	23 12 10	39 28 23	49 54 44	150 103 86	2 10 4	152 113 90	26 9 10	15 12 12	26 27 27	33 52 51
Total, 3 cities	57	45	90	147	339	16	355	17	13	27	43
Nontuberculous: Fall River Manchester Pawtucket	125 59 38	183 45 56	199 99 85	394 373 354	901 576 533	44 132 139	945 708 672	14 10 7	20 8 11	22 17 16	44 65 66
Total, 3 cities	222	284	383	1,121	2,010	315	2,325	11	14	19	56
All causes: Fall River Manchester Pawtucket	164 68 47	206 57 66	238 127 108	443 427 398	1,051 679 619	46 142 143	$1,097 \\ 821 \\ 762$	16 10 8	19 8 11	23 19 17	42 63 64
Total, 3 cities	279	329	473	1,268	2,349	331	2,680	12	14	20	54
BOTH CLASSES. Tuberculous: Fall River Manchester. Pawtucket	61 10 10	53 21 11	64 29 25	66 72 47	244 132 93	2 10 4	246 142 97	25 8 11	22 16 12	26 22 27	27 54 50
Total, 3 cities	. 81	85	118	185	469	16	485	17	18	25	40
Nontuberculous: Fall River Manchester Pawtucket	177 64 41	222 55 59	240 112 87	450 408 369	1,089 639 556	49 141 144	1,138 780 700	16 10 7	21 9 11	22 17 16	41 64 66
Total, 3 cities	282	336	439	1,227	2,284	334	2,618	12	15	19	54
All causes: Fall River Manchester Pawtucket	238 74 51	275 76 70	304 141 112	516 480 416	1,333 771 649	51 151 148	1,384 922 797	18 10 8	20 10 11	23 18 17	39 62 64
Total, 3 cities	363	421	557	1,412	2,753	350	3,103	13	16	20	51

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TABLE 75.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-BERCULOUS DECEDENTS WHO HAD LIVED IN APARTMENTS OF EACH SPECIFIED NUMBER OF ROOMS, BY SEX AND BY OCCUPA-TION GROUPS, FALL RIVER, MANCHESTER, AND PAWTUCKET, 1905 TO 1907—Continued. FEMALES.

Occupation group,	Num had liv	ber of deved in a	ecedent: partmer	s who nts of—	Total	1 Total not	al Grand	Per cent of decedents who had lived in apartments of-			
disease classification, and locality.	Less than 4 rooms.	4 rooms.	5 rooms.	6 rooms and over.	report- ed.	report- ed.	total.	Less than 4 rooms.	4 rooms.	5 rooms.	6 rooms and over.
OPERATIVES. Tuberculous: Fall River Manchester.	35	30 3	24 10	22 20	111 37	13	112 40	31 11	27 8	22 27	20 54
Total 3 cities	41	42	44	58	185	4	180	22	24	21	43
Nontuberculous: Fall River Manchester Pawtucket	54 2 5	42 11 8	49 9 5	38 20 6	183 42 24	4 7 1	187 49 25	29 5 21	23 26 33	27 21 21	21 48 25
Total, 3 cities	· 61	61	63	64	249	12	261	24	24	26	26
All causes: Fall River Manchester Pawtucket	89 6 7	72 14 17	73 19 15	60 40 22	294 79 61	5 10 1	299 89 62	30 7 11	25 18 28	25 24 25	20 51 36
Total, 3 cities	102	103	107	` 122	434	16	450	23	24	25	28
NONOPERATIVES. Tuberculous: Fall River Manchester Pawtucket	24 5 5	23 10 13	25 25 13	33 48 35	105 88 66	3 14 3	108 102 69	23 6 7	$22 \\ 11 \\ 20$	24 28 20	31 55 53
Total, 3 cities	34	46	63	116	259	20	279	13	18	24	45
Nontuberculous: Fall River Manchester Pawtucket	143 32 39	191 65 80	274 142 124	499 391 328	1,107 630 571	56 119 123	1,163 749 694	13 5 7	17 10 14	25 23 22	45 62 57
Total, 3 cities	214	336	540	1,218	2,308	298	2,606	9	15	23	53
All causes: Fall River Manchester Pawtucket	167 37 44	214 75 93	299 167 137	532 439 363	$1,212 \\718 \\637$	59 133 126	1,271 851 763	14 5 7	17 11 15	25 23 21	44 61 57
Total, 3 cities	248	382	603	1,334	2,567	318	2,885	10	15	23	52
BOTH CLASSES. Tuberculous: Fall River Manchester Pawtucket	59 9 7	53 13 22	49 35 23	55 68 51	216 125 103	4 17 3	$220 \\ 142 \\ 106$	27 7 7	• 25 10 21	23 28 22	<b>25</b> 55 50
Total, 3 cities	75	88	107	174	444	24	468	17	20	24	39
Nontuberculous: Fall River Manchester Pawtucket	197 34 44	233 76 88	323 151 129	537 411 334	1,290 672 595	60 126 124	1,350 798 719	15 5 7	18 11 15	25 23 22	42 61 56
Total, 3 cities	275	397	603	1,282	2,557	310	2,867	11	15	24	50
All causes: Fall River Manchester Pawtucket	$256 \\ 43 \\ 51$	286 89 110	372 186 152	592 479 385	1,506 797 698	64 143 127	1,570 940 825	17 6 7	19 11 16	25 23 22	39 60 55
Total, 3 cities	350	485	710	1,456	3,001	334	3.335	12	16	24	48

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TABLE 75.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-BERCULOUS DECEDENTS WHO HAD LIVED IN APARTMENTS OF EACH SPECIFIED NUMBER OF ROOMS, BY SEX AND BY OCCUPA-TION GROUPS, FALL RIVER, MANCHESTER, AND PAWTUCKET, 1905 TO 1907—Concluded.

Occurrentian group	Num had liv	ber of d ved in aj	ecedent partmer	s who nts of—	Total	Total	al t Grand	Per cent of decedents who had lived in apartments of-			
disease classification, and locality.	Less than 4 rooms.	4 rooms.	5 rooms.	6 rooms and over.	report- ed.	not report- ed.	Grand total.	Less than 4 rooms.	4 rooms.	5 rooms.	6 rooms and over.
OPERATIVES.					-		-				
Tuberculous: Fall River Manchester Pawtucket	57 5 3	60 12 10	49 11 12	39 38 19	205 66 44	13	206 69 44	28 7 7	29 18 23	24 17 27	19 58 43
Total, 3 cities	65	82	72	96	315	4	319	21	26	23	30
Nontuberculous: Fall River Manchester Pawtucket	106 7 8	81 21 11	90 22 7	94 55 21	371 105 47	9 16 6	380 121 53	29 7 17	22 20 23	24 21 15	25 52 45
Total, 3 cities	121	113	119	170	523	31	554	23	22	23	32
All causes: Fall River Manchester Pawtucket	163 12 11	141 33 21	139 33 19	133 93 40	576 171 91	10 19 6	586 190 97	28 7 12	25 19 23	24 19 21	23 55 44
Total, 3 cities	186	195	191	266	838	35	873	22	23	23	32
NONOPERATIVES.							-				
Tuberculous: Fall River Manchester Pawtucket	63 14 14	46 22 23	64 53 36	82 102 79	255 191 152	5 24 .7	260 215 159	25 7 9	18 12 15	25 28 24	32 53 52
Total, 3 cities	91	91	153	263	598	36	634	15	15	26	44
Nontuberculous: Fall River Manchester Pawtuckęt	268 91 77	374 110 136	473 241 209	893 764 682	2,008 1,206 1,104	100 251 262	2,108 1,457 1,366	13 8 7	19 9 12	24 20 19	44 63 62
Total, 3 cities	436	620	923	2,339	4,318	613	4,931	10	14	22	54
All causes: Fall River Manchester Pawtucket	331 105 91	420 132 159	537 294 245	975 866 761	2,263 1,397 1,256	105 275 269	2,368 1,672 1,525	15 8 7	18 9 13	24 21 19	43 62 61
Total, 3 cities	527	711	1,076	2,602	4,916	649	5,565	11	14	22	53
BOTH CLASSES.								1.0			
Tuberculous: Fall River Manchester Pawtucket	120 19 17	106 34 33	113 64 48	121 140 98	460 257 196	6 27 7	466 284 203	26 7 9	23 13 17	25 25 24	26 55 50
Total, 3 cities	156	173	225	359	913	40	953	17	19	25	39
Nontuberculous: Fall River Manchester Pawtucket	374 98 85	455 131 147	563 263 216	987 819 703	2,379 1,311 1,151	109 267 268	2,488 1,578 1,419	16 8 7	19 10 13	24 20 19	41 62 61
Total, 3 cities	557	733	1,042	2,509	4,841	644	5,485	11	15	22	52
All causes: Fall River Manchester Pawtucket	494 117 102	561 165 180	676 327 264	1,108 959 801	2,839 1,568 1,347	115 294 275	2,954 1,862 1,622	17 7 8	20 11 13	24 21 20	39 61 59
Total, 3 cities	713	906	1,267	2,868	5,754	684	6, 438	12	16	22	50

#### BOTH SEXES.
TABLE 76.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-BERCULOUS DECEDENTS REPORTED WHO HAD LIVED IN APART-MENTS OF LESS THAN 5 ROOMS, BY RACE AND SEX AND BY OCCU-PATION GROUPS, FALL RIVER, 1905 TO 1907.

#### NUMBER.

Sex occupation group, and disease classi-	Decedents who had lived in apartments consisting of less than 5 rooms.									
fication.	Ameri- can.	English.	Irish.	French Canadian.	Other races.	Total.				
MALES.	1				- 1					
Tuberculous	3 5	12 30	11 22	13 18	13 16	52 91				
Total, all causes	8	42	33	31	29	143				
Nonoperatives: Tuberculous. Nontuberculous.	2 26	8 74	31 107	8 58	13 43	62 308				
Total, all causes	28	82	138	66	56	370				
Both classes: Tuberculous. Nontuberculous.	5 31	20 104	42 129	21 76	26 59	114 399				
Total, all causes	36	124	171	97	85	513				
FEMALES. Operatives: Tuberculous. Nontuberculous.	39	13 17	23 36	17 20	9 14	65 96				
Total, all causes	12	30	59	37	23	161				
Nonoperatives: Tuberculous. Nontuberculous.	3 27	9 67	17 137	8 61	10 42	47 334				
Total, all causes	30	76	154	69	52	381				
Both classes: Tuberculous. Nontuberculous.	6 36	22 84	40 173	25 81	19 56	112 430				
Total, all causes	42	106	213	106	75	542				
BOTH SEXES. Operatives: Tuberculous Nontuberculous	6 14	25 47	34 58	30 38	22 30	117 187				
Total, all causes	20	72	92	68	52	304				
Nonoperatives: Tuberculous Nontuberculous	5 53	17 141	48 244	16 119	23 85	109 642				
Total, all causes	58	158	292	135	108	751				
Both classes: Tuberculous Nontuberculous	11 67	42 188	82 302	46 157	45 115	226 829				
Total, all causes	78	230	384	203	160	1,055				

TABLE 76.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-BERCULOUS DECEDENTS REPORTED WHO HAD LIVED IN APART-MENTS OF LESS THAN 5 ROOMS, BY RACE AND SEX AND BY OCCU-PATION GROUPS, FALL RIVER, 1905 TO 1907—Concluded.

	Decedents who had lived in apartments consisting of less than 5 rooms.									
Sex, occupation group, and disease classi- fication.	Ameri- can.	English.	Irish.	French Canadian.	Other races.	Total.				
MALES. Operatives: Tuberculous. Nontuberculous.	50 45	63 48	46 49	46 38	77 73	55				
Total, all causes	47	51	48	41	74					
Nonoperatives: Tuberculous Nontuberculous	10 18	33 37	43 35	40 33	93 58					
Total, all causes	15	37	36	34	64	35				
Both classes: Tuberculous Nontuberculous	19 20	47 40	44 37	44 34	84 61	46 37				
Total, all causes	20	41	38	36	67	38				
FEMALES. Operatives: Tuberculous Nontuberculous Total, all causes	60 64 63	81 43 54	59 63 61	45 37 40	69 78 74	59 52 55				
Nonoperatives: Tuberculous Nontuberculous	19 13	47 31	53 35	36 29	63 56	45 30				
Total, all causes.	13	34	36	30	57	31				
Both classes: Tubérculous Nontuberculous	29 16	63 33	56 38	42 31	66 60	52 33				
Total, all causes	17	36	41	33	61	36				
BOTH SEXES. Operatives: Tuberculous. Nontuberculous.	55 56	71 46	54 57	45 38	73 75	57 50				
Total, all causes	56	52	56	41	74	53				
Nonoperatives: Tuberculous Nontuberculous	14 - 15	40 34	46 35	38 31	77 57	43 32				
Total, all causes	15	35	36	32	60	33				
Both classes: Tuberculous Nontuberculous	23 17	54 36	49 38	43 32	75 61	49 35				
Total, all causes	18	39	40	34	64	37				

#### PER CENT.

TABLE 77.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-BERCULOUS DECEDENTS WHO HAD LIVED IN APARTMENTS HOUS-ING EACH SPECIFIED NUMBER OF PERSONS, BY SEX AND BY OCCUPA-TION GROUPS, FALL RIVER, MANCHESTER, AND PAWTUCKET, 1905 TO 1907.

#### MALES.

Occupation group, dis- ease classification, and	Num live eac per	ber of c ed in aj h spe sons.	lecede: partme cified	nts wh ents ho numb	Total re- port-		Grand	Per cent of decedents who had lived in apartments housing each specified number of persons.					
locality.	Un- der 3.	3.	4.	5.	6 and over.	ed.	port- ed.	total.	Un- der 3.	3.	4.	5.	and over.
OPERATIVES.													
Fall River Manchester Pawtucket	5	9 5 2	19 4	9 5 2	$\begin{array}{c} 50\\12\\2\end{array}$	92 26 6	2 3 1	94 29 7	5	10 19 33	21 16	10 19 33	$\begin{array}{c} 54\\ 46\\ 34 \end{array}$
Total, 3 cities	5	16	23	16	64	124	• 6	130	4	13	18	13	52
Nontuberculous: Fall River Manchester Pawtucket	20 8 3	20 14 5	33 7 5	31 11 3	81 21 8	185 61 24	8 11 4	193 72 28	$11\\13\\12$	11 23 21	18 12 21	16 18 12	44 34 34
Total, 3 cities	31	39	45	45	110	270	23	293	11	14	17	17	. 41
All causes: Fall River Manchester Pawtucket	25 8 3	29 19 7	52 11 5	40 16 5	131 33 10	277 87 30	10 14 5	287 101 35	9 9 10	11 22 23	19 13 17	14 18 17	47 38 33
Total, 3 cities	36	55	* 68	61	174	394	29	423	9	14	17	16	44
NONOPERATIVES. Tuberculous: Fall River Manchester Pawtucket	9 9 5	20 14 14	24 14 10	32 17 7	$\begin{array}{c} 62\\ 43\\ 47\end{array}$	147 97 83	5 $16$ $7$	152 113 90	6 9 6	14 15 16	$     \begin{array}{c}       16 \\       15 \\       12     \end{array} $	22 17 9	42 44 57
Total, 3 cities	23	48	48	56	152	327	28	355	7	15	15	17	46
Nontuberculous: Fall River Manchester Pawtucket	169     142     141	154 115 95	154 93 127	$\begin{array}{c}136\\74\\66\end{array}$	264 146 116	877 570 545	68 138 127	945 708 672	19 25 26	18 20 18	18 16 23	15 13 12	30 26 21
Total, 3 cities	452	364	374	276	526	1,992	333	2,325	23	18	19	14	26
All causes: Fall River Manchester Pawtucket	$178^{\circ}$ 151 146	174 129 109	178 107 137	168 91 73	326 189 163	$1,024 \\ 667 \\ 628$	73 154 134	1,097 821 762	17 23 23	17 19 17	$\begin{array}{c}17\\16\\22\end{array}$	17     14     12	32 28 26
Total, 3 cities	475	412	422	332	678	2,319	361	2,680	21	18	18	14	29
BOTH CLASSES:												)	
Fall River Manchester Pawtucket	$\begin{array}{c}14\\9\\5\end{array}$	29 19 16	43 18 10	41 22 9	112 55 49	239 123 89	7 19 8	246 142 97	6 7 6	12 15 18	18 15 11	17 18 10	47 45 55
Total, 3 cities	28	64	71	72	216	451	34	485	6	14	16	16	48
Nontuberculous: Fall River Manchester Pawtucket	189 150 144	174 129 100	187 100 132	167 85 69	345 167 124	$1,062 \\ 631 \\ 569$	76 149 131	1,138 780 700	18 24 25	16 20 18	18 16 23	16 14 12	32 26 22
Total, 3 cities	483	403	419	321	636	2,262	356	2,618	21	18	19	14	28
All causes: Fall River Manchester Pawtucket	203 159 149	203 148 116	230 118 142	208 107 78	457 222 173	$1,301 \\ 754 \\ 658$	83 168 139	1, 384 922 797	16 21 23	16 20 18	17 16 21	$\begin{array}{c} 16\\14\\12\end{array}$	35 29 26
Total, 3 cities	511	467	490	393	852	2, 713	390	3,103	19	17	18	15	31

TABLE 77.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-BERCULOUS DECEDENTS WHO HAD LIVED IN APARTMENTS HOUS-ING EACH SPECIFIED NUMBER OF PERSONS, BY SEX AND BY OCCUPATION GROUPS, FALL RIVER, MANCHESTER, AND PAWTUCKET, 1905 TO 1907—Continued.

#### FEMALES.

Occupation group, dis- ease classification, and	Number of decedents who had lived in apartments housing each specified number of persons.					Total re-	Total not re- port-	Grand	Per cent of decedents who had lived in apartments housing each specified number of persons.				
locality.	Un- der 3.	3.	4.	5.	6 and over.	ed.	port- ed.		Un- der 3.	3.	4.	5.	6 and over.
OPERATIVES.	ie.			•									
Tuberculous: Fall River Manchester Pawtucket	15 1 1	22 5 4	16 7 5	16 1 13	40 22 14	109 36 37	3 4	112 40 37	14 3 3	20 14 11	15 19 13	15 3 35	36 61 38
Total, 3 cities	17	31	28	30	76	182	7	189	9	17	15	17	42
Nontuberculous: Fall River Manchester Pawtucket	34 6 5	28 4 2	31 6 7	20 8	64 16 9	. 177 40 23	10 9 2	187 49 25	19 15 22	16 10 9	18 15 30	11 20	36 40 39
-Total, 3 cities	45	34	44	28	89	240	21	261	19	14	18	12	37
All causes: Fall River Manchester Pawtucket	49 7 6	50 9 6	47 13 12	36 9 13	104 38 23	286 76 60	13 13 2	299 89 62	17 9 10	18 12 10	16 17 20	13 12 22	36 50 38
Total, 3 cities	62	65	72	58	165	422	28	450	15	15	17	14	39
NONOPERATIVE.				-									
Tuberculous: Fall River Manchester Pawtucket	12 5 4	13 11 9	16 15 7	18 11 11	46 43 35	105 85 66	3 17 3	108 102 69	12 6 6	12 13 14	15 17 10	17 13 17	44 51 53
Total, 3 cities	21	33	38	40	124	256	23	279	8	13	15	16	48
Nontuberculous: Fall River Manchester Pawtucket	174 153 105	190 123 120	198 128 101	172 98 82	355 134 153	1,089 636 561	74 113 133	1, 163 749 694	16 24 19	17 19 21	18 20 18	16 16 15	33 21 27
Total, 3 cities	432	433	427	352	642	2, 286	320	2,606	19	19	19	15	28
All causes: Fall River Manchester Pawtucket	186 158 109	203 134 129	214 143 108	190 109 93	401 177 188	1, 194 721 627	77 130 136	1, 271 851 763	15 22 17	17 19 21	18 20 17	16 15 15	34 24 30
Total, 3 cities	453	466	465	392	766	2,542	343	2,885	18	18	18	16	30
BOTH CLASSES.													
Fall River Manchester Pawtucket	27 6 5	35 16 13	32 22 12	34 12 24	86 65 49	214 121 103	6 21 3	220 142 106	13 5 5	16 13 13	15 18 12	16 10 23	40 54 47
Total, 3 cities	38	64	66	70	200	438	30	468	9	14	15	16	46
Nontuberculous: Fall River Manchester Pawtucket	208 159 110	218 127 122	229 134 108	192 106 82	419 150 162	1, 266 676 584	84 122 135	1,350 798 719	17 23 19	17 19 21	18 20 18	15 16 14	33 22 28
Total, 3 cities	477	467	471	380	731	2,526	341	2,867	19	18	19	15	29
All classes: Fall River Manchester Pawtucket	235 165 115	253 143 135	261 156 120	226 118 106	505 215 211	1, 480 797 687	90 143 138	1,570 940 825	16 21 17	17 18 20	18 19 17	15 15 15	34 27 31
Total, 3 cities	515	531	537	450	931	2,964	371	3, 335	17	18	18	15	32

TABLE 77.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-BERCULOUS DECEDENTS WHO HAD LIVED IN APARTMENTS HOUS-ING EACH SPECIFIED NUMBER OF PERSONS, BY SEX AND BY OCCUPATION GROUPS, FALL RIVER, MANCHESTER, AND PAWTUCKET, 1905 TO 1907—Concluded.

#### BOTH SEXES.

Occupation group, dis-	Number of decedents who had lived in apartments housing each specified number of persons.					Total re-	I Total not re- port-	Grand total.	Per cent of decedents who had lived in apartments housing each specified number of persons.				
locality.	Un- der 3.	3.	4.	5.	6 and over.	ed.	port- ed.	total.	Un- der 3.	3.	4.	5.	6 and over.
OPERATIVES.													-
Tuberculous: Fall River Manchester	20 1	31 10	35 11	25 6	90 34	201 62	57	206 69	10	15 16	17 18	13 10	45
Total, 3 cities	22	47	51	46	140	306	13	319	7	14	12	15	46
Nontuberculous:													
Fall River Manchester Pawtucket	54 14 8	48 18 7	64 13 12	51 19 3	145 37 17	362 101 47	18 20 6	380 121 53	15 14 17	13 18 15	18 13 26	14 19 6	40 36 36
Total, 3 cities	76	73	89	73	199	510	44	554	15	14	18	14	39
All causes: Fall River Manchester Pawtucket	74 15 9	79 28 13	99 24 17	76 25 18	235 71 33	563 163 90	23 27 7	586 190 97	13 9 10	14 17 14	18 15 19	13 15 20	42 44 37
Total, 3 cities	98	120	140	119	339	816	57	873	12	15	17	14	42
NONOPERATIVES.		-											
Tuberculous: Fall River Manchester Pawtucket	21 14 9	33 25 23	40 29 17	50 28 18	108 86 82	252 182 149	8 33 10	260 215 159	8 8 6	13 14 16	16 16 11	20 15 12	43 47 55
Total, 3 cities	44	81	86	96	276	583	51	634	8	14	15	16	47
Nontuberculous: Fall River Manchester Pawtucket	343 295 246	344 238 215	352 221 228	308 172 148	619 280 269	1,966 1,206 1,106	142 251 260	2,108 1,457 1,366	17 25 22	17 20 20	18 18 21	16 14 13	32 23 24
Total, 3 cities	884	797	801	628	1,168	4,278	653	4,931	21	18	19	15	27
All causes: Fall River Manchester Pawtucket	364 309 255	377 263 238	392 250 245	358 200 166	727 366 351	2, 218 1, 388 1, 255	150 284 270	2,368 1,672 1,525	16 22 20	17 19 19	18 18 20	16 15 13	33 26 28
Total, 3 cities	928	878	887	724	1,444	4,861	704	5,565	19	18	18	15	30
BOTH CLASSES.					_		-					_	
Tuberculous: Fall River Manchester Pawtucket	41 15 10	64 35 29	75 40 22	75 34 33	198 120 98	453 244 192	13 40 11	466 284 203	9 6 5	14 14 15	17 17 12	17 14 17	43 49 51
Total, 3 cities	66	128	137	142	416	889	64	953	8	14	15	16	47
Nontuberculous: Fall River Manchester Pawtucket	397 309 254	392 256 222	416 234 240	359 191 151	764 317 286	2,328 1,307 1,153	160 271 266	2,488 1,578 1,419	17 24 22	17 19 19	18 18 21	15 15 13	33 24 25
Total, 3 cities	960	870	890	701	1,367	4,788	697	5,485	20	18	19	15	28
All causes: Fall River Manchester Pawtucket.:	438 324 264	456 291 251	491 274 262	434 225 184	962 437 384	2, 781 1, 551 1, 345	173 311 277	2,954 1,862 1,622	16 21 20	16 19 19	18 18 19	15 14 14	35 28 28
Total, 3 cities	1,026	998	1,027	843	1, 783	5,677	761	6,438	18	18	18	15	31

TABLE 78.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-<br/>BERCULOUS DECEDENTS REPORTED WHO HAD LIVED IN APART-<br/>MENTS HOUSING 4 OR MORE PERSONS, BY RACE AND SEX AND BY<br/>OCCUPATION GROUPS, FALL RIVER, 1905 TO 1907.

#### · NUMBER.

Sex, occupation group, and disease	Decedents who had lived in apartments housing 4 or more persons.									
elassification.	Ameri- can.	English.	Irish.	French Canadian.	Other races.	Total.				
MALES.										
Operatives: Tuberculous. Nontuberculous.	6 8	15 40	19 37	23 38	15 22	78 145				
Total, all causes	14	55	56	61	37	223				
Nonoperatives: Tuberculous Nontuberculous	13 74	22 100	55 214	15 113	13 53	118 554				
Total, all causes	87	122	269	128	66	672				
Both classes: Tuberculous Nontuberculous	19 82	37 140	74 251	38 151	28 75	196 699				
Total, all causes	101	177	325	189	103	895				
FEMALES. Operatives: Tuberculous Nontuberculous	4 9	11 23	22 29	26 47	9 7	72 115				
Total, all causes	13	34	51	73	16	187				
Nonoperatives: Tuberculous Nontuberculous	11 103	13 127	24 266	18 169	14 60	80 725				
Total, all causes	114	140	290	187	74	805				
Both classes: Tuberculous Nontuberculous	15 112	24 150	$\begin{array}{c} 46\\ 295\end{array}$	44 216	23 67	152 840				
Total, all causes	127	174	341	260	90	992				
BOTH SEXES. Operatives: Tuberculous. Nontriberculous	10 17	26 63	41	49 85	24 29	150 260				
Total, all causes	27	89	107	134	53	410				
Nonoperatives: Tuberculous Nontuberculous	24 177	35 227	79 480	33 282	27 113	198 1,279				
Total, all causes	201	262	559	315	140	1,477				
Both classes: Tuberculous Nontuberculous	34 194	61 290	120 546	82 367	51 142	348 1,539				
Total, all causes	228	351	666	449	193	1,887				

#### TABLE 78.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-BERCULOUS DECEDENTS REPORTED WHO HAD LIVED IN APART-MENTS HOUSING 4 OR MORE PERSONS, BY RACE AND SEX AND BY OCCUPATION GROUPS, FALL RIVER, 1905 TO 1907—Concluded.

Sax accuration many and disease	Decedents who had lived in apartments housing 4 or more persons.									
classification.	Ameri- can.	Eng lish.	Irish.	French Canadian,	Other races.	Total.				
MALES.	-				-	1				
Tuberculous	100 73	79 67	79 82	88 81	88 100	85 78				
Total, all causes	82	70	.81	84	95	. 80				
Nonoperatives: Tuberculous Nontuberculous	65 51	96 52	77 70	79 68	93 77	80 63				
Total, all causes	53	56	72	69	80	. 66				
Both classes: Tuberculous. Nontuberculous.	73 53	88 55	78 72	84 71	90 82	82 66				
Total, all causes	56	57	73	73	84	69				
FEMALES. Operatives: Tuberculous. Nontuberculous.	80 75	69 61	56 53	70 87	75 39	66 65				
Total, all causes	77	- 63	54	80	53	65				
Nonoperatives: Tuberculous Nontuberculous	75 50	68 60	75 83	82 83	82 81	76 67				
Total, all causes	52	61	82	83	81	67				
Both classes: Tuberculous Nontuberculous.	75 51	69 60	65 78	75 84	79 73	71 66				
Total, all causes	53	61	76	83	74	67				
BOTH SEXES. Operatives: Tuberculous. Nontuberculous.	91 74	74 64	65	78	83	75				
Total, all causes	79	67	66	82	73					
Nonoperatives: Tuberculous. Nontuberculous	69 51	83	77	80	87	79				
Total. all causes	52	59	70	77	80	67				
Both classes:										
Tuberculous	74 52	79 58	72 68	79 78	85 78	77 66				
Total, all causes	54	61	69	78	79	68				

#### PER CENT.

# 394 CAUSES OF DEATH AMONG COTTON-MILL OPERATIVES.

# AGES 10 YEARS AND OVER-MISCELLANEOUS FACTORS.

TABLE 79.—NUMBER AND PER CENT OF DEATHS OF FEMALES FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES REPORTED AS OCCURRING IN APARTMENTS OF EACH SPECIFIED HYGIENIC CON-DITION, BY OCCUPATION GROUPS, FALL RIVER, 1907 AND 1905 TO 1907.

Occupation group, dis- ease classification, and	Number of deaths occur- ring in apartments where the hygicalc condition was reported as—					Total re-	Total	Grand	Per cent of deaths occur- ring in apartments where the hygienic condition was reported as—				
period.	Bad.	Poor.	Fair.	Good.	Ex- cel- lent.	ed.	port- ed.	10141.	Bad.	Poor.	Fair.	G <b>ood</b> .	Ex- cel- lent.
OPERATIVES.								-					
Tuberculous: 1907. 1905 to 1907	59	18 49	14 36	8 13	12	46 109	13	47 112	11 8	39 45	31 33	17 12	<b>2</b> 2
1907 1905 to 1907 Total. all causes:	8 14	11 22	7 32	6 19	7 21	39 108		39 108	21 13	28 20	18 30	15 18	18 19
1907 1905 to 1907	13 23	29 71	21 68	14 32	8 23	85 217	1 3	86 220	15 11	34 32	25 31	17 15	9 11
NONOPERATIVES. Tuberculous:	_						2.1						
1907 1905 to 1907 Nontuberculous:	11 32	21 46	31 82	4 18	1 6	68 184	2 3	70 187	16 17	31 25	46 45	6 10	13
1907 1905 to 1907 Total all causes:	32 114	89 185	158 335	79 304	44 202	402 1,140	7 23	, 409 1, 163	8 10	22 16	39 29	20 27	11 18
1907. 1905 to 1907	43 146	110 231	189 417	83 322	45 208	470 1, 324	9 26	479 1,350	9 11	23 17	40 32	18 24	10 16
BOTH CLASSES.		2		-									
1907. 1905 to 1907	16 41	39 95	45 118	12 31	<b>2</b> 8	114 293	3 6	117 299	14 14	34 32	39 40	11 11	<b>2</b> 3
1907 1905 to 1907	40 128	100 207	165 367	85 323	51 223	441 1,248	7 23	448 1,271	9 10	23 17	37 29	19 26	12 18
1907 1905 to 1907	56 169	139 302	210 485	97 354	53 231	555 1,541	10 29	565 1,570	10 11	25 20	38 31	17 23	10 15

TABLE 80.—NUMBER AND PER CENT OF TUBERCULOUS DECEDENTS WHO HAD LIVED IN APARTMENTS REPORTED HYGIENICALLY UN-SATISFACTORY, BY RACE AND SEX AND BY OCCUPATION GROUPS, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAW-TUCKET), 1905 TO 1907.

# NUMBER.

	Tuberculous decedents who had lived in apartments ad- judged hygienically unsatisfactory.									
Sex, occupation group, and locality.	Amer- ican.	English.	Irish.	French Cana- dian.	Other races.	All races.				
MALES.	-	-	-							
Operatives: Fall River	2	5	8	16	12	43				
Nonoperatives:	3	-	12	19	16	57				
3 cities.	11	12	58	17	18	· 116				
Fall River	4 14	11 19	31 70	22 36	23 34	91 173				
FEMALES.		1								
Fall River	1	6	21 31	17 27	13	58				
Nonoperatives: Fall River	4	3	16	4	9	36				
3 cities Both classes:	8	3	30	22	• 14	77				
Fall River 3 cities	5 11	9 11	37 61	21 49	22 28	94 160				
BOTH SEXES.			-							
Fall River	3	11 15	29 43	33 46	25 30	101 140				
Nonoperatives: Fall River	6	9	39	10	20	84				
3 cities. Both classes:	19	15	88,	39	32	193				
Fall River 3 cities	9 25	20 30	68 131	43 85	45 62	185 333				
	PER C	CENT.								
MALES.										
Operatives: Fall River	40	33	40	73	92	57				
3 cities. Nonoperatives: Foll Diver	38	33	41	00	73	52				
3 cities Both classes	11 18	28	38	32	72	35				
Fall River	17 20	30 30	34 39	56 44	88 72	42 39				
FEMALES.			-	- 1						
Fall River.	20	38	55	46	100	53				
Nonoperatives: Fall River	21	16	50	17	53	33				
3 cities Both classes:	16	8	38	32	52	30				
Fall River 3 cities	24 17	26 17	53 42	34 37	73 65	43 36				
BOTH SEXES.										
Fall River. 3 cities	30 27	35 33	50 45	56 51	96 79	55 48				
Nonoperatives: Fall River.	17	22	38	24	66	34				
3 cities. Both classes:	17	18	38	32	62	32				
Fail River	20 19	28 23	43 40	43 40	80 69	43 38				

# 396 CAUSES OF DEATH AMONG COTTON-MILL OPERATIVES.

## AGES 10 YEARS AND OVER-MISCELLANEOUS FACTORS.

TABLE 81.—NUMBER AND PER CENT OF DEATHS FROM TUBERCULOUS AND NONTUBERCULOUS CAUSES OCCURRING IN ILL-VENTILATED OR UNTIDY APARTMENTS, BY SEX AND BY OCCUPATION GROUPS, FOR 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1905 TO 1907.

	Nun	ber of dea apartn	ths occurri nents—		Per cent of deaths occurring in a partments which were—		
Sex, occupation group, and disease classification.	Which were ill venti- lated.	Which were untidy.	Condi- tion of which was reported.	Condi- tion of which was not reported.	Total.	Ill venti- lated.	Untidy.
MALES. Operatives: Tuberculous Nontuberculous	80 103	<b>46</b> 69	124 267	6 26	130 293	65 39	37 26
Total, all causes	183	115	391	32	423	47	29
Nonoperatives: Tuberculous Nontuberculous	132 304	95 284	320 2,228	35 97	· 355 2,325	41 14	30 13
Total, all causes	436	379	2,548	132	2,680	17	15
Both classes: Tuberculous Nontuberculous	212 407	141 353	444 2, 495	41 123	485 2,618	48 16	32 14
Total, all causes	619	494	2,939	164	3,103	21	17
FEMALES.			5				
Operatives: Tuberculous Nontuberculous	88 110	43 77	161 226	28 35	189 261	55 49	27 34
Total, all causes	198	120	387	· 63	450	51	31
Nonoperatives: Tuberculous Nontuberculous	73 316	62 277	240 2, 484	39 122	279 2,606	30 13	26 11
Total, all causes	389	339	2,724	161	2,885	14	12
Both classes: Tuberculous Nontuberculous	161 426	105 354	401 2,710	67 157	468 2,867	40 16	26 13
Total, all causes	587	459	3,111	224	3,335	19	15
BOTH SEXES.	=	-	1		-		
Operatives: Tuberculous Nontuberculous	168 213	89 146	285 493	34 61	319 554	59 43	31 30
Total, all causes	381	235	778	95	873	49	30
Nonoperatives: Tuberculous Nontuberculous	205 620	157 561	560 4,712	74 219	634 4,931	37 13	28 12
Total, all causes	825	718	5,272	293	5, 565	16	14
Both classes: Tuberculous Nontuberculous	373 833	246 707	845 5, 205	108 280	953 5, 485	44 16	29 14
Total, all causes	1,206	953	6,050	388	6, 438	20	16

# CHAPTER IV.—POPULATION AND MORTALITY TABLES. 397

# AGES 10 YEARS AND OVER-MISCELLANEOUS FACTORS.

TABLE 82.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-BERCULOUS DECEDENTS REPORTED WHOSE ABODE WAS ILL-VEN-TILATED, BY RACE AND SEX AND BY OCCUPATION GROUPS, FALL RIVER, 1905 TO 1907.

N	U	Ν	1	в	ю	I	ε.	

Gen contraction means and discoss	Decedents whose abode was ill-ventilated.									
sex, occupation group, and disease classification.	Ameri- can.	English.	Irish.	French Canadian.	Other races.	Total.				
MALES.		=			•					
Operatives: Tuberculous Nontuberculous	4 6	10 19	16 22	20 24	16 19	66 90				
Total, all causes	10	29	38	44	35	156				
Nonoperatives: Tuberculous Nontuberculous	5 15	7 32	31 77	17 53	14 48	74 225				
Total, all causes	20	39	108	70	62	299				
Both classes: Tuberculous Nontuberculous	9 21	17 51	47 99	37 77	30 67	140 315				
Total, all causes	. 30	68	146	114	97	455				
FEMALES.										
Tuberculous	3 9	12 19	25 22	20 18	6 9	66 77				
Total, all causes	12	31	47	38	15	143				
Nonoperatives: Tuberculous Nontuberculous	2 7	5 33	9 108	6 51	8 55	30 254				
Total, all causes	9	38	117	57	63	284				
Both classes: Tuberculous Nontuberculous	5 16	17 52	34 130	26 69	14 64	96 . 331				
Total, all causes	21	69	164	95	78	427				
BOTH SEXES.					100					
Tuberculous	7 15	22 38	41 44	40 42	22 28	132 167				
Total, all causes	22	60	85	82	50	299				
Nonoperatives: Tuberculous Nontuberculous	7 22	12 65	40 185	23 104	22 103	104 479				
Total, all causes	29	77	225	127	125	583				
Both classes: Tuberculous Nontuberculous	14 37	34 103	81 229	63 146	44 131	236 646				
Total, all causes	51	137	310	209	175	882				

TABLE 82.—NUMBER AND PER CENT OF TUBERCULOUS AND NON-TUBERCULOUS DECEDENTS REPORTED WHOSE ABODE WAS ILL-VENTILATED, BY RACE AND SEX AND BY OCCUPATION GROUPS, FALL RIVER, 1905 TO 1907—Concluded.

	Decedents whose abode was ill-ventilated.									
Sex, occupation group, and disease classification.	Ameri- can.	English.	Irish.	French Canadian.	Other races.	Total.				
MALES.	- 1		_							
Operatives: Tuberculous Nontuberculous	80 60	- 56 32	67 48	71 52	100 95	72 50				
Total, all causes	67	38	54	59	97					
Nonoperatives: Tubercuious Nontuberculous	28 10	39 16	51 25	94 31	100 68	57 25				
Total, all causes	12	18	29	37	73					
Both classes: Tuberculous Nontuberculous	39 13	47 20	55 28	80 35	100 74	64 29				
Total, all causes	16	- 23	33	43	80	35				
FEMALES. Operatives: Tuberculous Nontuberculous	60 69	75 46	81 44	71 39	100 75	77				
Total, all causes	67	54	58	51	83	58				
Nonoperatives: Tuberculous Nontuberculous	17 3	29 15	35 28	32 26	67 80	35 23				
Total, all causes	4	16	28	27	78	24				
Both classes: Tuberculous Nontuberculous	29 7	52 20	60 30	55 29	78 79	56 27				
Total, all causes	8	24	33	33	79	30				
BOTH SEXES. Operatives: Tuberculous Nontuberculous.	70 65	65 38	75 46	71 46	100 88	75 49				
Total, all causes	67	45	56	55	93					
Nonoperatives: Tuberculous Nontuberculous	23 6	34 16	46 27	62 28	85 74	48 24				
Total, all causes	7	17	29	32	75	27				
Both classes: Tuberculous Nontuberculous	38 9	49 20	57 29	68 32	92 76	60 28				
Total, all causes	12	23	33	38	80	32				

PER CENT.

TABLE 83.--NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-BERCULOUS DECEDENTS WHOSE SLEEPING ROOM CONTAINED EACH SPECIFIED NUMBER OF WINDOWS, BY SEX AND BY OCCUPA-TION GROUPS, FOR 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1905 TO 1907.

Sex, occupation group, and disease classification.	Numi w h root	ber of de oses ms had—	cedents leeping	Total	Total		Per cent of dece- dents whose aleep- ing rooms had—			
Sex, occupation group, and disease classification.	No win- dow.	1 win- dow.	More than 1 win- dow.	re- ported.	not re- ported.	Grand total.	No win- dow.	1 win- dow.	More than 1 win- dow.	
MALES.										
Tuberculous		118 235	9 31	127 266	3 27	130 293		93 88	7 12	
Total, all causes		353	40	393	30	423		90	10	
Nonoperatives: Tuberculous Nontuberculous	•••••	289 1, 594	52 421	341 2,015	14 310	355 2, 325		85 79	15 21	
Total, all causes		1, 883	473	2,356	324	2,680		80	20	
Both classes: Tuberculous Nontuberculous		407 1, 829	61 452	468 2,281	17 337	485 2, 618		87 80	13 20	
Total, all causes		2,236	513	2,749	354	3, 103		81	19	
FEMALES. Operatives: Tuberculous. Nontuberculous.	1	150 208	31 40	182 248	7	189 261	(a)	83 84	17	
Total, all causes	1	358	71	430	20	450	(a)	83	17	
Nonoperatives: Tuberculous Nontuberculous	22	191 1,303	66 963	259 2,268	20 338	279 2,606	1 (a)	74 57	25 43	
Total, all causes	4	1,494	1,029	2, 527	358	2,885	(a)	59	41	
Both classes: Tuberculous Nontuberculous	3 2	341 1,511	97 1,003	441 2, 516	27 351	468 2,867	1 (a)	77 60	22 40	
Total, all causes	5	1,852	1,100	2,957	378	3, 335	(a)	63	37	
BOTH SEXES. Operatives: Tuberculous. Nontuberculous.	1	268 443	• 40 71	309 514	10 40	319 554		87 86	13 14	
Total, all causes	1	711	111	823	50	873	(a)	86	14	
Nonoperatives: Tuberculous. Nontuberculous.	22	480 2,897	118 1, 384	600 4,283	34 648	634 4,931	(a) (a)	80 68	20 32	
Total, all causes	4	3,377	1,502	4, 883	682	5, 565	(a)	69	31	
Both classes: Tuberculous Nontuberculous	3 2	748 3,340	158 1,455	909 4, 797	44 688	95 5, 4853	(a) (a)	82 70	18 30	
Total, all causes	5	4,088	1,613	5,706	732	6, 438	(a)	72	28	

• Less than one-half of 1 per cent.

# TABLE 84.--NUMBER AND PER CENT OF TUBERCULOUS AND NONTU EACH SPECIFIED AGE, BY SEX AND YEARS OUT OF MILL, FOR 3

	Nun	nber of d	ecedents at classi	who beg fied year	an work 's of age.	in cottor	n mill	Total
classification.	Under 13.	13 and under 15.	15 and under 17.	17 and under 21.	21 and under 26.	26 and under 36.	36 and over.	re- ported.
MALES.	-						-	
Operatives: (a) Tuberculous Nontuberculous	9 63	51 57	9 28	18 32	10 20	$     \begin{array}{c}       16 \\       21     \end{array} $	7 25	120 246
Total, all causes	72	108	37	50	30	37	32	366
Mill workers out of mill over 2 but less than 6 years: • Tuberculous. Nontuberculous.	1 17	6 5	1 5	17	4	7	1	13 46
Total, all causes	18	11	6	. 8	8	7	1	59
Ex-operatives (out of mill 6 years and								
Tuberculous	7 58	23 10	5 20	$\begin{array}{c}2\\25\end{array}$	$\frac{1}{7}$	2 10		40 140
Total, all causes	65	33	25	27	8	12	10	180
Total males: Tuberculous Nontuberculous	17 138	80 72	15 53	21 64	15 31	18 38	7 36	173 432
Total, all causes	155	152	68	85	46	56	43	605
FEMALES.			~ -				-	
Operatives: (a) Tuberculous Nontuberculous	27 37	78 95	32 39	21 32	$ \begin{array}{c} 6\\ 12 \end{array} $	5 5	$\cdot 1 \\ 2$	170 222
Total, all causes	64	173	71	53	18	10	3	392
Mill workers out of mill over 2 but less than 6 years: Tuberculous Nontuberculous	3	11	11	6	1	1		33
Total, all causes	12	27	19			4		77
Ex-operatives (out of mill 6 years and								
over): Tuberculous Nontuberculous	11 97	- 17 60	10 40	8 34	1 14	3 10	5	50 260
Total, all causes	108	77	50	42	15	,13	5	310
Total, females: Tuberculous Nontuberculous	41 143	106 171	53 87	35 71	8 29	9 18	1 7	253 526
Total, all causes	184	277	140.	106	37	27	8	779

• Mill workers out of mill 2 years and less.

# BERCULOUS DECEDENTS WHO BEGAN WORK IN COTTON MILL AT CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1905 TO 1907.

		Per cent of decedents who began work in cotton mill at classified years of age.								
Total not reported.	Grand total.	Under 13.	13 and under 15.	15 and under 17.	17 and under 21.	21 and under 26.	26 and under 36.	36 and over.		
10 47	130 293	8 26	42 23	8 11	15 13	88	13 9	6 10		
57	423	20	29	10	14	8	10	9		
4	17	8	46	8	8	30				
13	59	37	11	11	15	9	15	2		
1 30	41 170	18 · 42	58 7	12 14	5 18	2 5	5 7	7		
31	211	36	18	14	15	4	7	6		
15 90	188 522	10 32	46 17	9 12	12 15	97	10 9	4 8		
105	710	26	25	11	14	8	9	7		
19 39	189 261	16 17	46 43	19 18	12 14	3 5	3 2	1		
58	450	16	44	18	13	5	3	1		
3 12	36 56	9 21	33 36	33 18	19 11	377	3 7			
15	92	16	35	25	14	5	5			
1	51	22 37	34	20	16	2	6			
67	377	35	25	16	13	5	4	2		
23 117	276 643	16 27	42 33	21 17	14 13	36	4 3	1		
140	919	24	35	18	14	5	3	1		

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# TABLE 84.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTUBER SPECIFIED AGE, BY SEX AND YEARS OUT OF MILL, FOR 3 CITIES

	Num	n mill	Total					
classification.	Under 13.	13 and under 15.	15 and under 17.	17 and under 21.	21 and under 26.	26 and under 36.	36 and over.	re- ported.
BOTH SEXES.								
Operatives: (a) Tuberculous Nontuberculous	36 100	129 152	41 67	39 64	16 32	21 26	8 27	290 468
Total, all causes	136	281	108	103	48	47	. 35	758
Mill workers out of mill over 2 but less than 6 years: Tuberculous Nontuberculous	. 4 26	17 21	12 13	7 12	57	1 10	1	46 90
Total, all causes	30	38	25	19	12	11	1	136
Ex-operatives (out of mill 6 years and over): Tuberculous Nontuberculous	18 155	40 70	15 60	10 59	2 21	5 20	15	90 400
Total, all causes	173	110	75	69	23	25	15	490
Total, both sexes: Tuberculous Nontuberculous	58 281	186 243	68 140	56 135	23 60	27 56	8 43	426 958
Total, all causes	339	429	208	191	83	83	51	1,384

. Mill workers out of mill 2 years and less.

CULOUS DECEDENTS WHO BEGAN WORK IN COTTON MILL AT EACH (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1905 TO 1907—Concld.

		Per cent o	of decedent:	s who began	n work in c	otton mill at	classified y	ears of age.
Total not reported.	Grand total.	Under 13.	13 and under 15.	15 and under 17.	17 and under 21.	21 and under 26.	26 and under 36.	36 and over.
			=	1			=	
29 86	319 554	12 21	45 32	14 14	13 14	6 7	7 6	36
115	873	18	37	14	14	6	6	5
7	52	0	27	26	15	11		
25	115	29	23	15	13	8	11	1
32	168	22	28	18	14	9	8	1
			1 II.					
2 96	92 496	20 39	- 44 17	17 15	11 15	$2 \\ 5$	6 5	4
98	588	35	23	15	14	5	5	3
38 207	464 1, 165	14 29	44 25	16 15	13 14	5 6	6 6	2 5
245	1,629	24	31	15	14	6	6	4

. .

# TABLE 85.—NUMBER AND PER CENT OF DECEDENT TUBERCULOUS PREVIOUS TO DEATH EACH SPECIFIED PERIOD OF TIME, BY SEX,

-	Number of operatives who had been out of mill previous to death.																
Sez	r, disease lassification, and locality.	Less than 2 wks.	2 and un- der 8 wks.	2 and un- der 4 mos.	4 and un- der 7 mos.	7 and un- der 13 mos.	13 and in- clud- ing 24 mos.	To- tal 2 yrs. and un- der.	Over 2 and un- der 4 yrs.	4 and un- der 6 yrs.	To- tal over 2 and un- der 6 yrs.	6 and un- der 11 yrs.	11 and un- der 16 yrs.	16 and un- der 26 yrs.	26 yrs. and over.	To- tal 6 yrs. and over.	Total.
Tu	MALES. berculous: Fall River Manchester. Pawtucket.	51	4	12 6 1	26 12 3	27 9 2	20 1 1	94 29 7	2 1	9 4 1	11 5 1	17 1 5	10 1 1	2 1 1	1 1	30 3 8	135 37 16
	Total	6	4	19	41	38	22	130	3	14	17	23	12	4	2	41	188
No	ntubercu- ous: Fall River Manchester. Pawtucket.	52 25 8	44 16 2	32 8 4	15 8 2	24 13 5	26 2 7	193 72 28	15 3 1	32 4 4	47 7 5	53 5 7	32 2 3	21 6 4	34 1 2	140 14 16	380 93 49
	Total	85	62	44	25	42	35	293	19	40	59	65	37	31	37	170	522
.A 11	causes: Fall River Manchester. Pawtucket.	57 26 8	48 16 2	44 14 5	41 20 5	51 22 7	46 3 8	287 101 35	17 4 1	41 8 5	58 12 6	70 6 12	42 3 4	23 7 5	35 1 3	170 17 24	515 130 65
	Total	91	66	63	66	80	57	423	22	54	76	88	49	35	39	211	710
Tu	FEMALES. berculous: Fall River Manchester. Pawtucket.	3	1	19 1 4	26 10 8	38 17 12	25 12 10	112 40 37	12 2 3	14 3 2	26 5 5	6 11 7	5 2 6	5 2 4	1 2	17 17 17	$155 \\ 62 \\ 59$
	Total	3		24	44	67	47	189	17	10	36		13	11	3	51	276
No	nt u b e r c u- ous: Fall River Manchester. Pawtucket.	26 - 13 - 8	26 17 1	37 2 3	28 6	47 8 8	23 3 5	187 49 25	13 4 3	25 10 1	38 14 4	50 10 7	41 10 3	94 11 4	72 17 7	257 48 21	482 111 50
	Total	47	44	42	34	63	31	261	20	36	56	67	54	109	96	326	643
All	causes: Fall River Manchester. Pawtucket.	29 13 8	27 17 4	56 3 7	54 16 8	85 25 20	48 15 15	299 89 62	25 6 6	39 13 3	64 19 9	$56 \\ 21 \\ 14$	46 12 9	99 13 8	73 19 7	274 65 38	637 173 109
	Total	50	48	66	78	130	78	450	• 37	55	92	91	67	120	99	377	919
B Tu	orn sexes. berculous: Fall River Manchester. Pawtucket.	8 1	5	31 7 5	52 22 11	65 26 14	45 13 11	206 69 44	14 3 3	23 7 3	37 10 6	23 12 12	15 3 7	7 3 5	2 2 1	47 20 25	290 99 75
	Total	9	8	43	85	105	69	319	20	33	53	47	25	15	5	92	464
No	nt u b e r c u- ous: Fall River Manchester. Pawtucket.	78 38 16	70 33 3	69 10 7	43 14 2	71 21 13	49 5 12	380 121 53	28 7 4	57 14 5	85 21 9	103 15 14	73 12 6	115 17 8	106 18 9	397 62 37	862 204 99
	Total	132	106	86	59	105	66	554	39	76	115	132	91	140	133	496	1,165
All	causes: Fall River Manchester. Pawtucket.	86 39 16	75 33 6	100 17 12	95 36 13	136 47 27	94 18 23	586 190 97	42 10 7	80 21 8	122 31 15	126 27 26	88 15 13	122 20 13	108 20 10	444 82 62	1, 152 303 174
	Total	141	114	129	144	210	135	873	59	109	168	179	116	155	138	588	1,629

# AND NONTUBERCULOUS MILL WORKERS WHO HAD BEEN OUT OF MILL FOR FALL RIVER, MANCHESTER, AND PAWTUCKET, 1905 TO 1907.

	Per cent of operatives who had been out of mill previous to death.													
Less than 2 wks.	2 and under 8 wks.	2 and under 4 mos.	4 and under 7 mos.	7 and under 13 mos.	13 and in- clud- ing 24 mos.	Total 2 years and under.	Over 2 and under 4 years.	4 and under 6 years.	Total over 2 and under 6 years.	6 and under 11 years.	11 and under 16 years.	16 and under 26 years.	26 years and over.	Total 6 years and over.
4 3	3	9 16 6	19 32 19	20 24 13	15 3 6	70 78 44	1 3	7 11 6	8 14 6	13 3 32	7 3 6	1 2 6	1	22 8 50
3	2	10	22	20	12	69	2	7	. 9	. 12	7	2	1	22
14 27 17	12 17 4	8 9 8	4 9 4	6 14 10	7 2 14	51 78 57	4 3 2	8 4 8	12 7 10	14 5 15	8 2 6	6 7 8	9 1 4	37 15 33
16	12	8	5	8	7	56	3	8	11	13	. 7	6	7	33
11 20 12	9 12 3	9 • 11 - 8	8 16 8	10 17 11	9 2 12	56 78 54	3 3 1	8 6 8	11 9 9	14 5 18	8 2 6	4 5 8	7 1 5	33 13 37
13	9	9	9	11	8	59	3	8	11	12	7	5	6	30
2	1 5	12 2 7	17 16 14	24 28 20	16 19 17	72 65 63	8 3 5	9 5 3	17 8 8	4 18 12	3 3 10	3 3 7	1 3	11 27 29
1	1	9	16	24	17	68	6	7	13	9	5	4	· 1	19
5 12 16	5 15 2	8 2 6	65	10 7 16	5 3 10	39 44 50	346	5 9 2	8 13 8	10 9 -14	9 9 6	19 10 8	15 15 14	53 43 42
7	7	6	5	10	5	40	3	6	9		8	17	15	51
5 7 7	4 10 4	9 2 7	8 9 7	13 14 18	8 9 14	47 51 57	4 3 5	6 8 3	10 11 8	9 12 13	7 7 8	16 8 7	11 11 7	43 38 35
5	5	7	9	14	. 9	49	4	6	10	10	7	13		41
31	2	11 7 7	18 22 15	22 27 18	15 13 15	71 70 59	5 3 4	8 7 4	13 10 8	8 12 16	5 3 9	2 3 7	1 2 1	16 20 33
2	2	9	18	23	15	69	4	7	11	10	6	3	1	20
9 19 17	8 16 3	8 5 7	5 7 2	8 10 13	6 2 12	44 59 54	3 3 4	7 7 5	10 10 9	12 8 14	9 6 6	13 8 8	12 9 9	46 31 37
11	9	7	5	9	6	47	3	7	10	11	8	12	12	43
7 13 9	7 11 3	9 6 7	8 12 8	12 15 16	8 6 13	51 63 56	4 3 4	7 7 4	11 10 8	11 8 15	8 5 8	10 7 8	9 7 5	38 27 36
9	7	8	9	13	8	54	3	7	10	11	7	10	8	36

# TABLE 86.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU COTTON MILL EACH SPECIFIED PERIOD OF TIME, BY SEX AND BY PAWTUCKET), 1905 TO 1907.

- la	Numbe	r of dece	dent ope in co	eratives v otton mi	who had ll—	been em	ployed	_ Total	
Sex and disease classification.	Under 2 years.	2 and under 4 years.	4 and under 6 years.	6 and under 10 years.	10 and under 16 years.	16 and under 26 years.	26 years and over.	re- ported.	
MALES.									
Operatives: (¢) Tuberculous Nontuberculous	19 30	14 40	20 27	27 44	21 31	21 42	5 . 61	127 275	
Total, all causes	49	54	47	71	-52	63	66	402	
Mill workers out of mill over 2 but less than 6 years: Tuberculous	12	1 3	2 5	5 6	3 6	1 14	3 17	16 53	
Total, all causes	3	4	7	. 11	9	15	20	69	
Ex-operatives (out of mill 6 years and over): Tuberculous	4	9	11	8	5	1	3	34	
Nontuberculous	6	8	17	37	15	32	37	152	
Total, all causes	10	17		45	20	33	40	191	
Total, males: Tuberculous Nontuberculous	24 38	24 51	33 49	40 87	29 52	23 88	11 115	184 480	
Total, all causes	62	75	82	127	81	111	126	664	
FEMALES.						-			
Operatives: (a) Tuberculous Nontuberculous.	24 24	31 30	37 37	41 41	27 25	16 57	7 36	$     183 \\     250   $	
Total, all causes	48	61	74	82	52	73	43	433	
Mill workers out of mill over 2 but less than 6 years: Tuberculous. Nontuberculous.	2	4	4	12 12	68	5 10	1 10	34 50	
Total, all causes	2	8	10	24	14	15	11		
Ex-operatives (out of mill 6 years and			-						
over): Tuberculous Nontuberculous	3 4	3 23	13 31	15 77	4 40	8 61	3 42	49 278	
Total, all causes	7	26	44	92	44	69	45	327	
Total, females: Tuberculous Nontuberculous	29 28	38 57	5 <del>4</del> 74	68 130	37 73	29 128	11 88	266 578	
Total, all causes	57	95	128	198	110	157	99	844	

a Mill workers out of mill 2 years and less.

# BERCULOUS DECEDENT OPERATIVES WHO HAD BEEN EMPLOYED IN TIME OUT OF MILL, FOR 3 CITIES (FALL RIVER, MANCHESTER, AND

		Per cent of decedent operatives who had been employed in cotton mill-								
Total not reported.	Grand total.	Undør 2 years.	2 and under 4 years.	4 and under 6 years.	6 and under 10 years.	10 and under 16 years.	16 and under 26 years.	26 years and over.		
	,						~			
3 18	130 293	15 11	11 15	15 10	21 16	17	17 15	4		
21	423	12	13	12	18	13	16	16		
						9				
16	17 59	6 4	· 6	13 9	31 11	19 11	6 27	19 32		
7	76	4	6	10	16	13	22	29		
	11	10	00	97	90	10	0			
18	170	4	6	11		10	21	24		
18	211	5	9	15	23	10	17	21		
4 42	188 522	13 8	13 11	18 10	22 18	16 11	12 18	6 24		
46	710	9	11	13	19	12	17	19		
6 11	189 261	13 10	17 12	20 . 15	22 16	15 10	9 23	4 14		
17	450	11	14	17	19	12	17	10		
				1.0			_			
26	36 56	6	12 8	12 12	35 24	17 16	15 20	3 20		
8	92	. 2	9	12	29	17	18	13		
2 48	51 326	62	6 8	27	31 28	8	16 22	. 6		
50	377	2	8	14	28	14	21	13		
10	976	11	. 14	90	96	1.1	11			
65	643	5	10	13	20	13	22	15		
75	919	7	11	15	23	13	19	12		

# TABLE 86.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU COTTON MILL EACH SPECIFIED PERIOD OF TIME, BY SEX AND BY PAWTUCKET), 1905 TO 1907—Concluded.

	Numbe	Number of decedent operatives who had been employe in cotton mill—									
Sex and disease classification.	Under 2 years.	2 and under 4 years.	4 and under 6 years.	6 and under 10 years.	10 and under 16 years.	16 and under 26 years.	26 years and over.	re- ported.			
BOTH SEXES.		1									
Operatives: (a) Tuberculous Nontuberculous	43 54	45 70	57 64	68 85	48 56	37 99	12 97	310 525			
Total, all causes	97	115	121	153	104	136	109	835			
Mill workers out of mill over 2 but less than 6 years: Tuberculous	3 2	5 7	6 11	17 18	9 14	6 24	4 27	50 103			
Total, all causes	5	12	17	35	23	30	31	153			
Ex-operatives (out of mill 6 years and over): Tuberculous	7 10	12 31	24 48	23 114	9 55	9 93	6 79	90 430			
Total, all causes	17	43	72	137	64	102	85	520			
Total, both sexes: Tuberculous Nontuberculous.	53 66	62 108	87 •123	108 219	66 125	52 216	22 203	450 1,058			
Total, all causes	119	170	210	325	191	268	225	1,508			

a Mill workers out of mill 2 years and less.

BERCULOUS DECEDENT OPERATIVES WHO HAD BEEN EMPLOYED IN TIME OUT OF MILL, FOR 3 CITIES (FALL RIVER, MANCHESTER, AND

-		Per cent of decedent operatives who had heen employed in cotton mill-									
Total not reported.	Grand total.	Under 2 years.	2 and under 4 years.	4 and under 6 years.	6 and under 10 years.	10 and under 16 years.	16 and under 26 years.	26 years and over.			
9 29	319 554	14 10	15 13	18 12	22 16	15 11	12 19	<b>4</b> 19			
38	873	12	14	15	18	12	16	13			
3 12	53 115	6 2	10 7	12 11	34 17	18 14	12 23	8 26			
15	168	3	8	11	23	15	20	20			
2 66	92 496	82	13 7	27	25 27	10 13	10 22	7 18			
68	588	3	8	14	26	12	20	17			
14 107	464 1, 165	12 6	14 10	19 12	24 21	15 12	11 20	5 19			
121	1,629	8	11	14	21	13	18	- 15			

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#### AGES 10 YEARS AND OVER-MISCELLANEOUS FACTORS.

TABLE 87.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU OCCUPATION GROUPS, AND YEARS OUT OF MILL BEFORE DEATH, CHESTER, AND PAWTUCKET), 1 YEAR.

TUBERCULOUS DECEDENTS.

NUMBER.

		141	ale de	edents	s ageu-		-	Total,
Class, locality, and period.	10 to 14 years.	15 to 24 years.	25 to 34 years.	35 to 44 years.	45 to 54 years.	55 to 64 years.	65 years and over.	10 years of age and over.
Operatives: (a) Fall River, 3 years. 3 cities, 1 year. Mill workers out of mill over 2 but less than 6 years: Fall River, 3 years. 3 cities, 1 year.		27 13	29 19 3 3	26 13 2 1	7 6 2	5 2 4 1		94 53 11 5
Total, mill workers out of mill less than 6 years: Fall River, 3 years. 3 cities, 1 year		27 13	32 22	28 14	9 6	9 3		105 58
Ex-operatives (out of mill 6 years and over): Fall River, 3 years. 3 cities, 1 year. Never in mill:		2	10 10	13 2	1 4	3 1	3	30 19
Fall River, 3 years. 3 cities, 1 year. Total, ex-operatives and never in mill:		20 20	27 25	22 26	25 15		9 8	111 103
Fall River, 3 years		20 22 	37 35 	35 28	26 19 7	11 10	12 8	141 122
3 citics, 1 year. Others than operatives: Fall River, 3 years. 3 cities, 1 year.		13 20 22	19 40 38	13 37 29	6 28 19	2 15 11	12 8	53 152 127
Total, operatives and others: Fall River, 3 years. 3 cities, 1 year.		47 35	69 57	63 42	35 25	20 13	12 8	246 180
PER C	ENT.							
Operatives: (4) Fall River, 3 years. 3 cities, 1 year. Mill workers out of mill over 2 but less than 6 years: Fall River, 3 years. 3 cities, 1 year.		28.7 24.5	30. 9 35. 9 27. 3 60. 0	27.7 24.5 18.2 20.0	7.4 11.3 18.2	5.3 3.8 36.3 20.0		100. 0 100. 0 100. 0 100. 0
Total, mill workers out of mill less than 6 years: Fall River, 3 years. 3 cities, 1 year.		25.7 22.4	30. 5 37. 9	26. 6 24. 1	8.6 10.4	8.6 5.2		100. 0 100. 0
Ex-operatives (out of mill 6 years and over): Fall River, 3 years. 3 cities, 1 year. Never in mill:		10.5	33. 3 52. 6	43. 4 10. 5	3.3 21.1	10.0	10.0	100.0
Fall River, 3 years 3 cities, 1 year Total, ex-operatives and never in mill:	· · · · · · · · ·	18.0	24.4 24.3	19.8 25.2	22.5 14.6	8.7	8.1 7.8	100.0
Fall River, 3 years. 3 cities, 1 year. Operatives: (a)		14.2 18.0	26.3 28.7	24.8 22.9	18.4 15.6	7.8 8.2	8.5 6.6	100.0
Fall River, 3 years. 3 cities, 1 year. Others than operatives: Fall River, 3 years. 3 cities, 1 year.		28.7 24.5 13.2 17.3	30. 9 35. 9 26. 3 29. 9	27.7 24.5 24.3 22.8	7.4 11.3 18.4 15.0	5.3 3.8 9.9 8.7	7.9 6.3	100. 0 100. 0 100. 0 100. 0
Total, operatives and others: Fall River, 3 years. 3 cities, 1 year.		19.1 19.5	28.1 31.7	25. 6 23. 3	14.2 13.9	8,1 7.2	4.9 4.4	100. 0 100. 0

a Mill workers out of mill 2 years and less.

# CHAPTER IV.—POPULATION AND MORTALITY TABLES. 411

# AGES 10 YEARS AND OVER-MISCELLANEOUS FACTORS.

BERCULOUS DECEDENTS IN EACH SPECIFIED AGE GROUP, BY SEX, FOR FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MAN-

## TUBERCULOUS DECEDENTS. NUMBER.

	Fe	male d	leceder	nts ageo	1—		Total,	То	tal, ma	ale and	female	e deced	ents a	ged —	Total,
10 to 14 years.	15 to 24 years.	25 to 34 years.	35 to 44 years.	45 to ō4 years.	55 to 64 years.	65 years and over.	years of age and over.	10 to 14 years.	15 to 24 years.	25 to 34 years.	35 to 44 years.	45 to 54 years.	55 to 64 years.	65 years and over.	years of age and over.
1	43 27	46 32	17 14	6 4			112 78	1	70 40	75 51	43 27	13 10	5 2		206 131
	$\frac{2}{1}$	16 9	$3 \\ 1$	2	3 1		26 12		2 1	19 12	5 2	4	7 2		37 17
1	45 28	62 41	20 15	8 4	3		138 90	<u>i</u>	72 41	94 63	48 29	17 10	12 4		243 148
		6 6	1 3	4	4	$^{2}_{2}$	17 16		2	16 16	14 5	5 5	. 5	5 2	47 35
83	17 23	17 16	7 15	11 5	38	2 4	65 74	83	37 43	44 41	29 41	36 20	11 17	11 12	176 177
83	17 23	23 22	8 18	15 6	7 12	46	82 90	83	37 45	60 57	43 46	41 25	18 22	16 14	223 212
1	43 27	46 32	17 14	6 4			112 78	1	70 40	75 51	43 27	13 10	52		206 131
8 3	19 24	39 31	11 19	17 · 6	10 13	4 6	108 102	8 3	39 46	79 69	48 48	45 25	$25 \\ 24$	16 14	260 229
8 4	62 51	85 63	28 33	23 10	10 13	4 6	220 180	8 4	109 86	154 120	91 75	58 35	30 26	16 14	460 360
1				1		1	PER	CENT	r.	1	1		1	1	
1.3	$38.4 \\ 34.6$	41. 1 41. 0	15.2 18.0	5.3 5.1			100. 0 100. 0	0.8	34.0 30.6	36.4 38.9	20.9 20.6	6.3 7.6	2.4 1.5		100.0 100.0
	7.7 8.3	61.6 75.0	11.5 8.3	7.7	11.5 8.4		100.0 100.0		5.4 5.8	51.4 70.6	13/ 5 11. 8	10.8	18.9 11.8		100. 0 100. 0
1.1	32.6 31.1	44.9 45.6	14.5 16.7	5.8 4.4	2.2 1.1		100. 0 100. 0		29.6 27.7	38.7 42.6	19.8 19.6	7.0	4.9		100.0 100.0
		35.3 37.5	5.9 18.8	$23.5 \\ 6.2$	23. 5 25. 0	11.8 12.5	100. 0 100. 0		5.7	34.1 45.7	29.8 14.3	10.6 14.3	14.9 14.3	10.6 5.7	100. 0 100. 0
12.3 4.0	26.2 31.1	$\begin{array}{c} 26.2\\21.6\end{array}$	10.7 $20.3$	16.9 6.8	4.6 10.8	3.1 5.4	100. 0 100. 0	4.5 1.7	21.0 24.3	$25.0 \\ 23.2$	16.4 23.2	$\begin{array}{c} 20.5\\11.3\end{array}$	6.3 9.6	6.3 6.7	100.0 100.0
9.8 3.3	20.7 25.6	28.0 24.4	9.8 20.0	18.3 6.7	8.5 13.3	4.9 6.7	100.0	3.6 1.4	16.6 21.2	26.9 26.9	19.3 21.7	18.4 11.8	8.0 10.4	7.2 6.6	100. 0 100. 0
1.3	38.4 34.6	41. 1 41. 0	15.2 18.0	5.3 5.1			100. 0 100. 0	.8	34.0 30.6	36.4 38.9	20.9 20.6	6.3 7.6	2.4 1.5		100. 0 100. 0
7.4 2.9	17.6 23.5	36.1 30.4	10. 2 18. 6	15.7 5.9	9.3 12.8	3.7 5.9	100. 0 100. 0	$3.1 \\ 1.3$	15.0 20.1	30.4 30.1	18.5 21.0	17.3 10.9	9.6 10.5	6. 1 6. 1	100. 0 100. 0
3.6 2.2	28.2 28.4	38.6 35.0	12.7 18.3	10.5 5.6	4.6 7.2	1.8 3.3	100. 0 100. 0	1.7 1.1	23.4 23.9	33. 1 33. 3	19.5 20.9	12.5 9.7	6.4 7.2	3.4 3.9	100. 0 100. 0

TABLE 87.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU OCCUPATION GROUPS, AND YEARS OUT OF MILL BEFORE DEATH, CHESTER AND PAWTUCKET), 1 YEAR—Continued.

#### NONTUBERCULOUS DECEDENTS.

NUMBER.

	Male decedents aged—							
Class, locality, and period.	10 to 14 years.	15 to 24 years.	25 to 34 years.	35 to 44 years.	45 to 54 years.	55 to 64 years.	65 years and over.	10 years of age and over.
Operatives (a)	2							
Fall River, 3 years	33	37 26	33 20	27 15	36 18	37 21	20 18	193 121
Mill workers out of mill over 2 but less than 6 years: Fall River, 3 years. 3 cities. 1 year.		1	6 2	5 2	8 2	10 5	18 10	47 22
Total mill workers out of mill loss than 6 years								
Fall River, 3 years. 3 cities, 1 year	33	37 27	39 22	32 17	44 20	47 26	38 28	240 143
Ex-operatives (out of mill 6 years and over):								
Fall River, 3 years. 3 cities, 1 year.		$\frac{3}{2}$	7 5	8 5	18 12	34 17	70 40	140 81
Fall River, 3 years	33 23	36 47	55 72	91 77	116 98	180 -160	$247 \\ 243$	758 720
Total, ex-operatives and never in mill: Fall River, 3 years. 3 cities, 1 year.	33 23	39 49	62 77	99 82	134 110	214 177	317 283	898 801
Operatives: (a)				-				
Fall River, 3 years. 3 cities, 1 year.	33	37 26	33 20	27 .15	36 18	37 21	20 18	193 121
Fall River, 3 years. 3 cities, 1 year.	33 23	39 50	68 79	104 84	142 112	224 182	335 293	945 823
Total, operatives and others: Fall River, 3 years 3 cities, 1 year	36 26	76 76	101 99	131 99	178 130	261 203	355 311	1,138 944
PER C	ENT.							
Fall River, 3 years	1.5	19.2	17.1	14.0	18.6	19.2	10.4	100.0
3 cities, 1 year. Mill workers out of mill over 2 but less than 6 years:	2.5	21.5	16.5	12.4	14.9	17.3	14.9	100.0
Fall River, 3 years	•••••	4.5	12.8 9.1	10.6 9.1	17.0 9.1	$21.3 \\ 22.7$	38.3 45.5	100. 0 100. 0
Total, mill workers out of mill less than 6 years: Fall River, 3 years 3 cities. 1 year	1.3 2.1	15.4 18.9	16.3 15.4	13.3 11.9	18.3 14.0	19.6 18.2	15.8 19.5	100.0 100.0
Ex-operatives (out of mill 6 years and over): Fall River, 3 years.		2.1	5.0	5.7	12.9	24.3	50.0	100.0
3 cities, 1 year Never in mill:		2.4	6.2	6.2	14.8	21.0	49.4	100.0
Fall River, 3 years 3 cities, 1 year	4.4 3.2	4.7 6.5	7.3 10.0	12.0 10.7	$15.3 \\ 13.6$	23.7 22.2	32.6 33.8	100. 0 100. 0
Total, ex-operatives and never in mill: Fall River, 3 years. 3 cities, 1 year.	3.7 2.9	4.4 6.1	6.9 9.6	11.0 10.3	14.9 13.7	$23.8 \\ 22.1$	35.3 35.3	100. 0 100. 0
Operatives:(a) Fall River, 3 years	1.5	19.2 21.5	17.1	14.0 12.4	18.6	19.2 17.3	10.4	100.0
Others than operatives: Fall River, 3 years. 3 cities, 1 year.	3.5 2.8	4.1	7.2 9.6	11.0 10.2	15.0 13.6	23.7 22.1	35.5 35.6	100.0 100.0
Total, operatives and others: Fall River, 3 years. 3 cities, 1 year.	3.2 2.8	6.7 8.0	8.9 10.5	11.5 10.5	15.6 13.8	22.9 21.5	31.2 32.9	100. 0 100. 0

" Mill workers out of mill 2 years and less.

BERCULOUS DECEDENTS IN EACH SPECIFIED AGE GROUP, BY SEX, FOR FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MAN-

## NONTUBERCULOUS DECEDENTS.

NUMBER.

	Fe	male d	leceder	its ageo	1—	-	Total.	Total, male and female decedents aged-							Total.
10 to 14 years.	15 to 24 years.	25 to 34 years.	35 to 44 years.	45 to 54 years.	55 to 64 years.	65 years and over.	10 years of age and over.	10 to 14 years.	15 to 24 years.	25 to 34 years.	35 to 44 years.	45 to 54 years.	55 to 64 years.	65 years and over.	10 years of age and over.
1 1	53 28	44 21	50 22	24 19	13 9	21	187 101	4	90 54	77 41	77 37	60 37	50 30	22 19	380 222
	1	12 8	10 5	6 4	5 4	42	38 24	•••••	1 2	18 10	15 7	14 6	15 9	22 12	85 46
1	54 29	. 56 29	60 27	30 23	18 13	63	225 125	4	91 56	95 51	92 44	74 43	65 39	44 31	465 268
		17 14	25 11	41 34	88 39	86 93	257 191		3 2	24 19	33 16	59 46	122 56	156 133	397 272
23	34	57	72	124	208	350	868	56	70	112	163	240	388	597	1,626
24	31	50	67	96	146	316	730	47	78	122	144	194	306	559	1,450
23	34	74	97	165	296	436	1, 125	56	73	136	196	299	510	753	2,023
24	31	64	78	130	185	409	921	47	80	141	160	240	362	692	1,722
1	53	44	50	24	13	2	187	4	90	77	77	60	50	22	380
1	28	21	22	19	9	1	101	4	54	41	37	37	30	19	222
23	35	86	107	171	301	440	1, 163	56	74	154	211	313	525	775	2, 108
24	32	72	83	134	189	411	945	47	82	151	167	246	371	704	1, 768
24	88	130	157	195	314	442	1,350	60	164	231	288	373	575.	797	2, 488
25	60	93	105	153	198	412	1,046	51	136	192	204	283	401	723	1, 990
							PER	CENT	г.						
0.5	28.4	23.5	26.7	12.8	7.0	1.1	100. 0	1.0	23.7	20.3	<b>20.3</b>	15.8	13.1	5.8	100.0
	27.7	20.8	21.8	18.8	8.9	1.0	100. 0	1.8	24.3	18.4	16.7	16.7	13.5	8.6	100.0
•••••	2.6 4.2	31.6 33.3	26.3 20.8	15.8 16.7	$\begin{array}{c} 13.2\\16.7\end{array}$	10.5 8.3	100. 0 100. 0		1.2 4.3	$21.2 \\ 21.7$	$17.6 \\ 15.2$	16.5 13.1	17.6 19.6	25.9 26.1	100.0 100.0
.4	24.0	24.9	26.7	13.3	8.0	2.7	100.0	.9	19.6	20.4	19.8	15.9	14.0	9.4	100.0
	23.2	23.2	21.6	18.4	10.4	2.4	100.0	1.5	20.9	19.0	16.4	16.0	14.6	11.6	100.0
		6.6 7.3	9.7 5.8	16.0 17.8	34.2 20.4	33. 5 48. 7	100.0 100.0		.8 .7	6.0 7.0	8.3 5.9	14.9 16.9	30.7 20.6	39.3 48.9	100.0 100.0
2.6 3.3	3.9 4.2	6.6 6.8	8.3 9.2	$14.3 \\ 13.2$	24.0 20.0	40.3 43.3	100. 0 100. 0	3.4 3.2	4.3 5.4	6.9 8.4	10.0 9.9	14.8 13.4	23.9 21.1	36.7 38.6	100.0
2.0	3.0	6.6	8.6	14.7	26.3	38.8	100.0	2.8	3.6	6.7	9.7	14.8	25. 2	37.2	100. 0
2.6	3.4	6,9	8.5		20.1	44.4	100.0	2.7	4.7	8.2	9.3	13.9	21. 0	40.2	100: 0
.5	28.4	23.5	26.7	12.8	7.0	1.1	100.0	1.0	23.7	20.3	20.3	15.8	13.1	5.8	100.0
1.0	27.7	20.8	21.8	18.8	8.9	1.0	100.0	1.8	24.3	18.4	16.7	16.7	13.5	8.6	100.0
2.0	3.0	7.4	9.2	14.7	25.9	37.8	100.0	2.6	3.5	7.3	10.0	14.9	24.9	36.8	100.0
2.5	3.4	7.6	8.8	14.2	20.0	43.5	100.0		4.6	8.5	9.5	13.9	21.0	39.8	100.0
1.8	6.5	9.6	11.6	14.5	23.3	32.7	100. 0	2.4	6.6	9.3	11.6	15.0	23.1	32.0	100.0
2.4	5.7	8.9	10.1	14.6	18.9	39.4	100. 0	2.6	6.8	9.6	10.3	14.2	20.2	36.3	100.0

TABLE 87.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU OCCUPATION GROUPS, AND YEARS OUT OF MILL BEFORE DEATH, CHESTER AND PAWTUCKET), 1 YEAR—Concluded.

#### TUBERCULOUS AND NONTUBERCULOUS DECEDENTS.

NUMBER.

1 LT	Male decedents aged-								
Class, locality, and period.	10 to 14 years.	15 to 24 years.	25 to 34 years.	35 to 44 years.	45 to 54 years.	55 to 64 years.	65 years and over.	10 years of age and over.	
Operatives: (a) Fall River, 3 years 3 cities, 1 year.	33	64 39	62 39	53 28	43 24	42	20 18	287 174	
Mill workers out of mill over 2 but less than 6 years: Fall River, 3 years. 3 cities, 1 year.		1	9 5	73	10 2	14 6	18 10	58 27	
Total, mill workers out of mill less than 6 years: Fall River, 3 years. 3 cities, 1 year.	33	64 40	71 44	60 31	53 26	56 29	38 28	345 201	
Ex-operatives (out of mill 6 years and over): Fall River, 3 years. 3 cities, 1 year. Naver in mill:		34	17 15	21 7	19 16	37 18	73 40	170 100	
Fall River, 3 years. 3 cities, 1 year.	33 23	56 67	82 97	113 103	141 113	188 169	256 251	869 823	
Total, ex-operatives and never in mill: Fall River, 3 years 3 cities, 1 year	33 23	59 71	99 112	134 110	160 129	225 187	329 291	1,039 923	
Operatives: (a) Fall River, 3 years. 3 cities, 1 year Others than operatives:	33	64 39	62 39	53 28	43 24	42 23	20 18	287 174	
Fall River, 3 years. 3 cities, 1 year.	33 23	59 72	108 117	141 113	170 131	239 193	347 301	1,097 950	
Total, operatives and others: Fall River, 3 years. 3 cities, 1 year.	36 26	123 111	170 156	194 141	213 155	281 216	367 319	1,384 1,124	
PER C	CENT.	-	-						
Operatives: (a) Fall River, 3 years. 3 cities, 1 year. Will workers out of mill over 2 but less than 6 years:	$1.0 \\ 1.7$	22.3 22.4	21.6 22.4	18.5 16.1	15.0 13.8	14.6 13.2	7.0 10.4	100. 0 100. 0	
Fall River, 3 years. 3 cities, 1 year.		3.7	$15.5 \\ 18.5$	12.1 11.1	17.3 7.4	24.1 22.2	31.0 37.0	100. 0 100. 0	
Total, mill workers out of mill less than 6 years: Fall River, 3 years. 3 cities, 1 year.	.9 1.5	18.5 19.9	20.6 21.9	17.4 15.4	15.4 13.0	16. 2 14. 4	11.0 13.9	100. 0 100. 0	
Ex-operatives (out of mill 6 years and over): Fall River, 3 years 3 cities, 1 year Never in mill:		1.8 4.0	10. 0 15. 0	12.3 7.0	11. 2 16. 0	21.8 18.0	42. 9 40. 0	100. 0 100. 0	
Fall River, 3 years. 3 cities, 1 year	3.8 2.8	· 6.5 8.2	9.4 11.8	13.0 12.5	16.2 13.7	21.6 20.5	29.5 30.5	100. 0 100. 0	
Fall River, 3 years	3.2 2.5	5.7 7.7	9.5 12.1	12.9 11.9	15.4 14.0	21.6 20.3	31.7 31.5	100. 0 100. 0	
Operatives: (a) Fall River, 3 years. 3 cities, 1 year.	1.0 1.7	22.3 22.4	21.6 22.4	18.5 16.1	15.0 13.8	14.6 13.2	7.0 10.4	100. 0 100. 0	
Fall River, 3 years	3.0 2.4	5.4 7.6	9.8 12.3	12.9 11.9	15.5 13.8	21. 8 20. 3	31.6 31.7	100. 0 100. 0	
Total, operatives and others: Fall River, 3 years 3 cities, 1 year	2.6 2.3	8.9 9.9	12.3 13.9	14.0 12.5	15.4 13.8	20.3 19.2	26.5 28.4	100. 0 100. 0	

a Mill workers out of mill 2 years and less.

# CHAPTER IV.—POPULATION AND MORTALITY TABLES. 415

# AGES 10 YEARS AND OVER-MISCELLANEOUS FACTORS.

BERCULOUS DECEDENTS IN EACH SPECIFIED AGE GROUP, BY SEX, FOR FALL RIVER, 1905 TO 1907, AND 3 CITIES (FALL RIVER, MAN-

## TUBERCULOUS AND NONTUBERCULOUS DECEDENTS. NUMBER.

		Femal	le dece	lents a	ged		Total.	Total, male and female decedents aged-							Total.
10 to 14 years.	15 to 24 years.	25 to 34 years.	35 to 44 years.	45 to 54 years.	55 to 64 years.	65 years and over.	10 years of age and over.	10 to 14 years.	15 to 24 years.	25 to 34 years.	35 to 44 years.	45 to 54 years.	55 to 64 years.	65 ycars and over.	10 years of age and over.
				- 1		72			-						
$\frac{1}{2}$	96 55	90 53	67 36	30 23	13 9	2	299 179	45	160 94	$     \begin{array}{r}       152 \\       92     \end{array} $	120 64	73 47	55 32	22 19	586 353
	3 2	28 17	13 6	8 4	8 5	42	64 36		33	$37 \\ 22$	20 9	18 6	22 11	22 12	122 63
1	99	118	80	38	21	6	363	4	163	189	140	91	77	44	708
2	57	70	42	27	14	3	215	5	97	114	73	53	43	31	416
		23 20	26 14	45 35	92 43	88 95	274 207		3 4	40 35	47 21	64 51	129 61	· 161 135	444 307
31	51	74	79	135	211	352	933	64	107	156	192	276	399	008	$1,802 \\ 1,627$
27	54	66	82	101	154	320	804	50	121	163	185	214	323	571	
31	-51	97	105	180	303	440	1,207	64	110	196	239	340	528	769	2,246
27	54	86	96	136	197	415	1,011	50	125	198	206	265	384	706	1,934
12	96	90	67	30	13	2	299	4	160	152	120	73	55	22	586
	55	53	36	23	9	1	179	5	94	92	64	47	32	19	353
31	54	125	118	188	311	444	$1,271 \\ 1,047$	64	113	233	259	358	550	791	2,368
27	56	103	102	140	202	417		50	128	220	215	271	395	718	1,997
32	150	215	185	218	324	446	1,570	68	273	385	379	431	605	813	2, 954
29	111	156	138	163	211	418	1,226	55	222	312	279	318	427	737	2, 350
				-			PER	CENT	<b>r.</b> ·						
0.3	32.1 30.7	30.1 29.6	22.4 20.1	10.0 12.9	4.4 5.0	0.7	100.0 100.0	0.7	27.3 26.6	25.9 26.1	20.5 18.1	12.5 13.3	9.4 9.1	3.7 5.4	100.0 100.0
	4.6 5.6	43.8 47.2	<b>20.3</b> 16.6	$\begin{array}{c} 12.5\\11.1\end{array}$	12.5 13.9	6.3 5.6	100. 0 100. 0		2.5 4.8	30. 3 34. 9	16.4 14.3	14.8 9.5	18.0 17.5	18.0 19.0	100.0 100.0
.3	$27.3 \\ 26.5$	32.5 32.6	<b>22.</b> 0 19. 5	10.5 12.6	5.8 6.5	1.6 1.4	100.0 100.0	.6 1.2	23.0 23.3	26.7 27.4	19.8 17.6	12.8 12.7	10.9 10.3	6.2 7.5	100.0 100.0
		8.4 9.6	9.5 6.8	16.4 16.9	33.6 20.8	32.1 45.9	100. 0 100. 0		.7 1.3	9.0 11.4	10.6 6.8	14.4 16.6	29.0 19.9	36.3 44.0	100.0 100.0
3.3	5.5	7.9	8.5	14.5	22.6	37.7	100. 0	$3.6 \\ 3.1$	5.9	8.7	10.7	15.3	22.1	33.7	100.0
3.4	6.7	8.2	10.2	12.6	19.1	39.8	100. 0		7.4	10.0	11.4	13.2	19.8	35.1	100.0
2.6	4.2	8.0	8.7	14.9	25.1	36.5	100.0	2.9	4.9	8.7	10.7	15.1	23.5	34.2	100.0
2.7	5.3	8.5	9.5	13.5	19.5	41.0	100.0	2.6	6.5	10.2	10.6	13.7	19.9	36.5	100.0
.3	32.1	30.1	22.4	10.0	4.4	.7	100. 0	.7	27.3	25.9	20.5	12.5	9.4	3.7	100. 0
1.1	30.7	29.6	20.1	12.9	5.0		100. 0	1.4	26.6	26.1	18.1	13.3	9.1	5.4	100. 0
2.4	4.3	9.8	9.3	14.8	24.5	34. 9	100.0	2.7	4.8	9.9	10.9	15.1	23.2	33. 4	100.0
2.6	5.4	9.8	9.7	13.4	19.3	39. 8	100.0	2.5		11.0	10.8	13.6	19.8	35. 9	100.0
2.0	9.6	13.7	11.8	13.9	20.6	28.4	100.0	2.3	9.3	13.0	12.8	14.6	20.5	27.5	100.0
2.4	9.0	12.7	11.3	13.3	17.2	34.1	100.0	2.3	9.4	13.3	11.9	13.5	18.2	31.4	100.0

TABLE 88.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-BERCULOUS DECEDENTS WHOSE CHILDHOOD ENVIRONMENT WAS URBAN, BY RACE AND SEX AND BY OCCUPATION GROUPS, FOR 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1905 TO 1907.

# NUMBER.

our particular and particular	Decedents whose childhood environment was urban.									
Sex, occupation group, and disease classification.	Ameri- can.	English.	Irish.	French Canadian.	Other races.	All races.				
MALES.		200								
Operatives: Tuberculous	6	11	13	3	6	39				
Nontuberculous	12	31	19	7	ž	76				
Total, all causes	· 18	42	32	10	13	• 115				
Nonoperatives:			00							
Nontuberculous	30 210	144	80 134	46	6 24	153 558				
Total, all causes	246	166	214	55	30	711				
Both classes:										
Tuberculous	42 222	33 175	93 153	12 53	12 31	192 634				
Total, all causes	264	208	246	65	43	826				
FEMALES.										
Operatives:	8	9	39	11	9	69				
Nontuberculous	11	29	32	10	3	85				
Total, all causes	19	38	71	21	5	154				
Nonoperatives:		1								
Tuberculous Nontuberculous	25 304	16 193	31 222	$\begin{array}{c}10\\52\end{array}$	4 20	86 791				
Total, all causes	329	209	253	62	24	877				
Both classes:										
Tuberculous Nontuberculous.	33 315	25 222	70 254	21 62	6 23	155 876				
Total, all causes	348	247	324	83	29	1.03				
BOTH SEXES.										
Operatives:	- 14	20	50	14		108				
Nontuberculous	23	60	51	17	10	161				
Total, all causes	37	80	103	31	18	269				
Nonoperatives:					-					
Tuberculous	61 514	38 337	111 356	19 98	10 44	239 1,349				
Total, all causes	575	375	467	117	54	1,588				
Both classes:										
Tuberculous Nontuberculous.	75 537	58 397	163 407	33 115	18 54	347 1,510				
Total, all causes.	612	455	570	148	72	1,857				
.,		1								

# CHAPTER IV .- POPULATION AND MORTALITY TABLES. 417

# AGES 10 YEARS AND OVER-MISCELLANEOUS FACTORS.

TABLE 88.—NUMBER AND PER CENT OF TUBERCULOUS AND NONTU-BERCULOUS DECEDENTS WHOSE CHILDHOOD ENVIRONMENT WAS URBAN, BY RACE AND SEX AND BY OCCUPATION GROUPS, FOR 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1905 TO 1907—Concluded.

	. Decedents whose childhood environment was urban.										
Sex, occupation group, and disease classification.	Ameri- can.	English.	Irish.	French Canadian.	Other races.	All races.					
MALES.											
Operatives: Tuberculous Nontuberculous	75 40	52 51	50 32	11 16	30 20	38 33					
* Total, all causes	47	51	38	14	24	35					
Nonoperatives: Tuberculous Nontuberculous	61 40	55 42	58 23	18 13	<b>30</b> 18	50 29					
Total, all causes	42	44	29	14	20	32					
Both classes: Tuberculous Nontuberculous	63 40	54 44	56 24	16 14	30 18	47 29					
Total, all causes	42	45	30	14	21	32					
FEMALES. Operatives: Tuberculous	67	39	66	19	15	42					
Total, all causes	61	53	55	19	15	41					
Nonoperatives: Tuberculous. Nontuberculous.	57 46	47 55	46	18 12	20 20	39					
Total, all causes	46	55	34	13	20	36					
Both classes: Tuberculous Nontuberculous.	59 46	44 56	55 34	-18 13	18 19	40					
Total, all causes	47	, 54	37	14	19	37					
BOTH SEXES. Operatives: Tuberculous Nottaberculous.	70 47	45 55	61 . 39	16 17	24 18	40 36					
Total, all causes	54	52	48	17	20	38					
Nonoperatives: Tuberculous: Nontuberculous.	59 43	51 49	54 28	18 13	25 19	45 33					
Total, all causes	44	49	32	13	20	34					
Both classes: Tuberculous Nontuberculous	61 43	49 50	56 29	17 13	25 19	43 33					
Total, all causes	45	50	34	14	20	34					

#### PER CENT.

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# TABLE 89.—NUMBER AND AVERAGE AGE AT DEATH OF DECEDENT OPERATIVES, BY SEX AND BY SPECIFIED CAUSE OF DEATH, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR AND 3 YEARS.

	Nui	nber of dea	ths.	Average age at death.			
Cause of death, locality, and period.	Males.	Females.	Both sexes.	Males.	Females.	Both sexes.	
Accident or violence:							
Fall River	13	2	15	31	32	31	
3 years.	32	5	37	34	34	34	
3 cities	44	11	55	35	34	35	
Senility:				71	_		
Fall River	1		1	71	• • • • • • • • • • •	71	
2 oition \$1 year	Î		î	71		* 71	
3 years.	1		1	71		71	
Unclassified diseases: (1 year	6		6	46		46	
Fall River	18	10	28	41	23	35	
3 cities	8	2	10	46	31	43	
Parturition:	30	10	40	91	29	41	
Fall River {1 year		12	12		28	28	
(3 years		26	26		28	28	
3 cities		31	31		27	27	
Cancer:	_						
Fall River	7	5	12	55	44	50	
2 oiting (1 year	8	6	14	54	44	40 50	
3 years.	15	21	36	54	44	48	
Diseases of the nervous system:	5	5	10	10	34	97	
Fall River	9	10	19	28	29	29	
3 cities	9	9	18	27	28	28	
Diseases of the digestive system:	20	19	39	33	28	31	
Fall River ∫1 year	11	11	22	40	29	35	
3 years.	27	27	54	40	32	36	
3 cities	32	30	62	41	31	30	
Nephritis:							
Fall River	10	13	23	44	33	38	
1 year	17	16	33	43	36	40	
3 years	42	40	82	48	40	44	
Apoplexy: (1 year	7	3	10	51	37	47	
Fall River	1 ii	8	19	52	44	49	
3 cities	12	4	16	50	33	46	
Heart disease:	23	12	35	56	42	51	
Fall River /1 year	6	4	10	52	51	52	
3 years.	26	17	43	47	40	44	
a cities	44	20	73	49	41	46	

#### TABLE 89.—NUMBER AND AVERAGE AGE AT DEATH OF DECEDENT OPERATIVES, BY SEX AND BY SPECIFIED CAUSE OF DEATH, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1 YEAR AND 3 YEARS—Concluded.

		Nur	nber of dea	ths.	Average age at death.			
Cause of death, locality, and	l period.	Males.	Females.	Both sexes.	Males.	Females.	Both sexes.	
Nontuberculous respiratory dis	seases:							
Fall River	{1 year	12	15	-27	33	33	33	
3 cities	1 year 3 years	€ 42	22 52	69 39 94	42 35 42	31 37 33	36 36 37	
Total, nontuberculous di	scases:							
Fall River	{1 year 3 years	78 193 121	70 187 101	148 380 222	40 42 42	34 34 34	37 38 38	
3 cities	· {3 years	293	261	554	44	35	40	
Tuberculosis:	(1 year	40	47	87	34	28	31	
Fall River	··· 13 years	94	112	206	34	28	31	
3 cities	{1 year 3 years	130	189	319	34 35	28 28	30 31	
Total, respiratory diseases:	13							
Fall River	{1 year	52	62	114	34	29	31	
	(1 years.	120	149	275	30	29	32	
3 c111es	· 3 years.	172	241	413	37	29	32	
Total, nonrespiratory diseases:								
Fall River	{1 year	66	55	121	42	34	38	
and the second sec	() years	104	150	311	43	35	39	
3 cities	{3 years	251	209	460	45	35	39 40	
Total, all causes:							•	
Fall River	{1 year	118	117	235	38	32	35	
	J years.	287	299	586	40	32	36	
3 cities	- {3 years	423	450	873	40	32	36	

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TABLE 90.—NUMBER AND AVERAGE AGE AT DEATH OF TUBERCU-LOUS AND NONTUBERCULOUS DECEDENTS, BY SEX AND BY YEARS OUT OF MILL, FALL RIVER AND 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1905 TO 1907.

•		Number.		1	verage age	в.		
Classified cause of death and locality.	Males.	Females.	Both sexes.	Males.	Females.	Both sexes.		
OPERATIVES. (4) Tuberculous: Fall River	94 130	112 189	206 319 380	34 35	28 28 34	31 31		
3 cities. Total, all causes: Fall Biver	293	261	554	44	35	40		
3 cities. MILL WORKERS OUT OF MILL OVER 2 BUT LESS THAN 6 YEARS.	423	450	873	40	32 	36		
Tuberculous: Fall River	11 17	26 36	37 53	45 42	34 33	37 34		
Fall River. 3 cities. Total, all causes:	47 59	38 56	85 115	56 57	43 41	50 49		
Fall River. 3 cities. EX-OPERATIVES (OUT OF MILL 6 YEARS AND OVER.)	58 76	64 92	122 168	54 54	39 38 	47 44		
Tuberculous: Fall River	30 41 140	17 51 257	47 92 397	<b>35</b> 36 61	47 44 59	39 40 60		
3 cities Total, all causes: Fall River 3 cities	170 170 211	326 274 377	496 444 588	62 61 57	59 59 57	60 60 57		
NEVER IN MILL. Tuberculous: Fall River	111 297 758 ( <sup>b</sup> )	65 192 868 ( <sup>b</sup> )	176 489 1,626 (b)	39 38 (b) 54	31 35 (b)	36 36 (b)		
Total, all causes: Fall River	( <sup>b</sup> )	933 ( <sup>b</sup> )	1,802 (b)	(b) <sup>53</sup>	( <sup>b</sup> ) <sup>56</sup>	(b) 54		
ALL CLASSES. Tuberculous: Fall River	246 485 1,138 ( <sup>b</sup> )	220 468 1,350 ( <sup>b</sup> )	466 953 2,488 ( <sup>b</sup> )	37 37 (b) 53	31 33 (b) 54	34 35 (b)		
Total, all causes: Fall River. 3 cities.	1,384 ( <sup>b</sup> )	1,570 ( <sup>b</sup> )	2,954 ( <sup>b</sup> )	(b) <sup>50</sup>	(b) <sup>51</sup>	( <sup>b</sup> ) 51		

a Mill workers out of mill 2 years and less.

Not reported.

# CHAPTER IV.—POPULATION AND MORTALITY TABLES. 421

#### AGES 10 YEARS AND OVER-MISCELLANEOUS FACTORS.

TABLE 91.—AVERAGE AGE AT DEATH OF TUBERCULOUS AND NON-TUBERCULOUS DECEDENT MILL WORKERS, BY SEX, LENGTH OF TIME OUT OF MILL, AND OCCUPATION, FOR 3 CITIES (FALL RIVER, MANCHESTER, AND PAWTUCKET), 1905 TO 1907.

	Average age at death of decedents who had been employed as-										
Sex and classified cause of death.	Pick- ers.	Card- ers and speed- ers.	Dof- fers.	Spin- ners.	Slash- ers and spool- ers.	Loom fixers.	Weav- ers.	Cloth- room hands.	Un- speci- fied em- ploy- ees.	Total.	
MALES.											
Tuberculous: Operatives (a)	44	40	24	32	34	42	35	28	41	35	
2 and under 6 years		42		51			42	42	35	42	
6 years and over)	39	36	33	40	39		37		35	36	
Operatives (a)	41	43	20	46	57	46	45	41	45	44	
2 and under 6 years	60	52		54	61	57	64	48	52	57	
6 years and over)	63	61	37	63	59	64	60	70	68	62	
Tuberculous and nontubercu-											
Operatives (a)	42	42	22	42	51	44	42	37	44	41	
2 and under 6 years	60	49		54	61	57	58	45	44	54	
6 years and over)	60	57	34	61	52	64	56	70	57	57	
FEMALES.											
Tuberculous: Operatives (a)		29	20	27	24		31	26	30	28	
Workers out of mill over 2 and under 6 years		43	28	31	28		34	27	51	33	
Ex-operatives (out of mill 6 years and over)		50		32	41		45	44	44	44	
Nontuberculous: Operatives (a)		38	18	26	33		39	28	38	37	
2 and under 6 years		42		35	35		44	39	56	42	
6 years and over)		58	28	52	58		60	54	64	59	
Tuberculous and nontubercu- lous:					-						
Operatives (a) Workers out of mill over		34	19	28	29		36	28	34	33	
2 and under 6 years Ex-operatives (out of mill		42	28	33	30		42	33	54	38	
6 years and over)		57	28	51	53		59	53	60	57	
BOTH SEXES.											
Operatives (a) Workers out of mill over	44	31	23	29	25	42	33	26	36	31	
2 and under 6 years		43	28	38	28		37	35	42	34	
6 years and over)	39	46	33	39	41		41	44	40	40	
Operatives (a)	41	. 40	19	37	39	46	42	33	44	40	
2 and under 6 years	60	46		48	39	57	51	44	54	49	
6 years and over)	63	59	34	60	58	64	60	56	65	60	
Tuberculous and nontubercu-											
Operatives (a). Workers out of mill over	42	37	21	37	33	44	39	30	41	36	
2 and under 6 years Ex-operatives (out of mill	60	45	28	45	32	57	43	40	48	44	
6 years and over)	60	57	33	58	53	64	58	55	59	57	

a Mill workers out of mill 2 years and less.


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