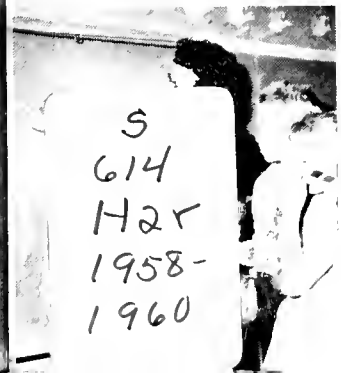


MONTANA

STATE BOARD OF HEALTH



1958-1960

30th BIENNIAL REPORT

The thirtieth biennial report has been prepared to fill the 1901 legislative requirement that the State Board of Health "shall, at the opening of each session of the legislative assembly, submit to the assembly, through the governor, a full report of all its investigations and such suggestions and recommendations which will result from such investigations and also, such additional recommendations in the matter of public health in this state, as it shall deem proper . . . it shall gather such information . . . for diffusion among and use by the people."

The report is prepared in two parts:

- (1) **Administration and General Services** includes reports of those sections of the Board's organization which are not limited to any one program but are essential to the effective functioning of each of the public health programs. The activities in Part I are those of these sections not reported elsewhere in the report. However, many of the activities of these sections are reported in Part II of the Public Health Programs. A detailed index will be found at the back of this report, which will enable the reader to follow these services which are woven throughout many or all of the Board's programs.
- (2) **Public Health Programs** include the reports which control or prevent disease, and which promote the public health of Montana's citizens.

This arrangement is used to prevent duplication in reporting wherever possible, and to cut confusion which sometimes occurs when the administrative organization cuts activities into sections.

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Tuberculosis	Occupational Health
Venereal Disease	Chemistry Laboratory
Cancer	Heart Disease Rheumatic Fever & Heart Diagnostic Center, Great Falls
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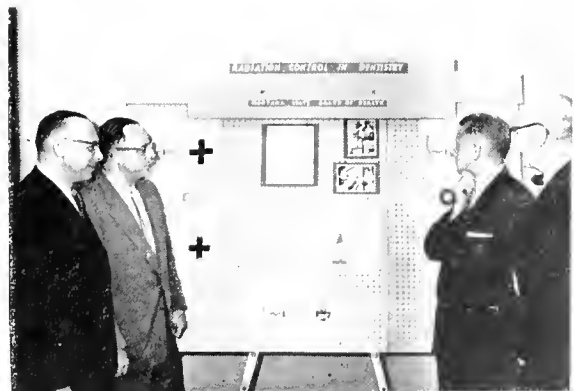
BIENNIAL REPORT
 July 1, 1958 - June 30, 1960



Board Members Dr. Berg, Mrs. Hanson and Mr. Losleben review exhibit on Stream Pollution Samples.

MONTANA STATE BOARD OF HEALTH

David T. Berg, M.D., President	.....	.....	.....	Helena
R. J. Losleben, Vice-President	.....	.....	.....	Malta
H. W. Bateman, M.D.	.....	.....	.....	Choteau
Paul H. Bowden, D.D.S.	.....	.....	.....	Butte
Mrs. Helen Johnson	.....	.....	.....	Bozeman
Mrs. George W. Hanson	.....	.....	.....	Superior
S. C. Pratt, M.D.	.....	.....	.....	Miles City
G. D. Carlyle Thompson, M.D. Secretary	.....	.....	.....	Helena



Board Members Dr. Pratt, Dr. Thompson (sec'y.), Dr. Berg and Dr. Bowden study exhibit on Radiation Control.

WATER POLLUTION COUNCIL MEMBERS

Fred Palmer, Forsyth, Chairman

Fred Buck, Helena

Walter Everin, Helena, Vice-Chairman

John Hazen, Butte

I. J. Staid, Billings

G. D. Carlyle Thompson, M.D., Helena

Winton Wedemeyer, Fortine

C. W. Brinck, Helena, Secretary

ADVISORY HOSPITAL COUNCIL

W. J. Fouse, Helena, Ex-officio

Edwin Grafton, Helena

David Gregory, M.D., Glasgow

Msgr. James J. Donovan, Billings*

H. H. James, M.D., Butte

Robert D. Howe, Billings

Mrs. Waldo Moberly, Sweet Grass**

G. C. Taylor, D.D.S., Billings

Mrs. R. J. Jesse, Missoula

R. R. Veldman, Libby***

G. D. Carlyle Thompson, M. D., Helena,

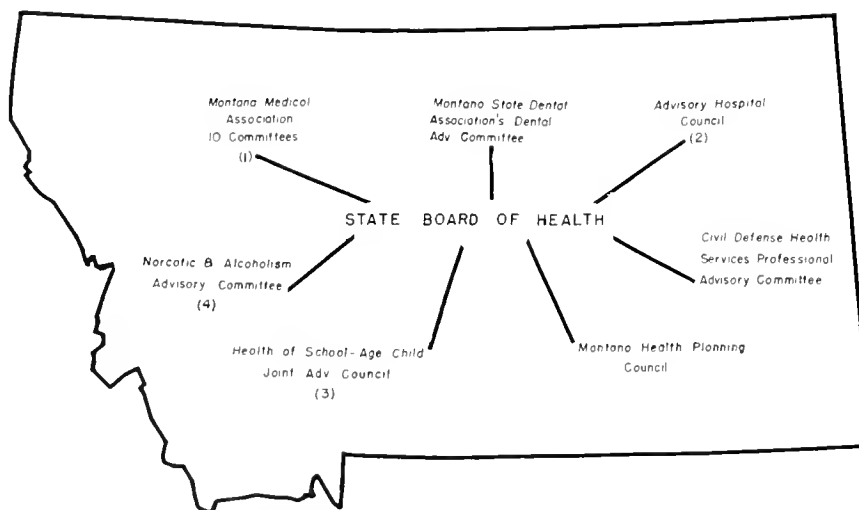
Chairman

*Appointed to fill unexpired term of Sister Theresa of the Cross, Great Falls (Deceased 1-25-59)

**Appointed July 11, 1958, replacing Mrs. Dean King, whose term expired.

***Replaced Walter Neils, Libby, who resigned May 6, 1959. Mr Veldman resigned, effective September 1, 1960, and was replaced by Mrs. Anna B. Brockway, Libby.

COMMITTEES ADVISORY TO THE STATE BOARD OF HEALTH



(1) Includes Committees on Cancer, Fracture & Orthopedic, Heart & Rheumatic Fever, Industrial Welfare, Maternal & Child Welfare, Public Health, Tuberculosis, and Emergency Medical Service

(2) Appointed by Governor

(3) With Department of Public Instruction

(4) Created at Legislative Suggestion

Tribute is paid to . . .

four citizens who have either retired or died during this biennium and who have made lasting contributions to the public health of Montana. The four are listed below:

JOHN K. COLEMAN, M.D. (1905-1959)

Dr. Coleman, Butte, an orthopedic surgeon, practicing in Butte for 23 years, was one of the first Orthopedists in the State to work with the State's Crippled Children's Program. He started participation in this program in 1936 and was still actively participating at the time of his death. He, along with Louis W. Allard, M.D., Billings orthopedist, covered the State at the time clinics were first started for crippled children by the Orthopedic Commission and the Welfare Department. He made distinctive contributions to crippled children in Montana through his continuous personal devotion and his faithful service. He was a leader among professional workers in this program and did much to encourage their activities.



HENRY E. GARBER

Mr. Garber, a registered professional engineer, retired from the State Board of Health staff on March 15, 1960. He had been employed on the staff of the division of Environmental Sanitation since 1941. For the last several years he had been responsible for the review of all school building plans for construction and remodeling. He had also worked on the review of plans for swimming pool and other public facilities and recommended them for Board approval. Prior to that time he worked in the program for municipal water and sewer systems. He contributed long and faithfully to the environmental sanitation program.



MAUD M. GERDES, M.D. (1902-1959)

Dr. Gerdes, obstetrician and gynecologist, was an active member of the Montana Medical Association Committee on Maternal and Child Welfare. She maintained her interest from the time of her establishing practice in Billings in 1942 until the time of her death. Much of this time she was a member of the committee. During the period of her interest in Montana's children and mothers, the deaths in these groups decreased considerably. In 1957 she discontinued her practice in Billings and for about a year was the full-time health officer in Public Health District I (Big Horn and Rosebud Counties). She then moved to Miles City and became a member of the Garberson Clinic staff there. Those with whom she worked pay tribute to her contributions.



HARRIET PATTERSON, R.N., P.H.N. (1909-1958)

Mrs. Patterson, Polson, served in public health nursing positions in Montana, beginning in 1936. She was employed in Public Health District II (Lake-Sanders Counties) at the time of her death. In addition to her public health nursing services, she was active in both community and professional organizations during her public health career. At the time of her death she was the vice-president of the Montana Public Health Association, and had previously served as its treasurer.



**STATE BOARD
OF HEALTH
ORGANIZATION**

Administration

G. D. Carlyle Thompson, M.D.
Act'g. Exec. Off.
7-1-58—7-1-60
Reappointed Exec.
Off. 7-1-60

Robert James
Administrative
Officer

Bacteriology

Laboratory

Edith Kuhns, Dir.
A. Howard Fieldsteel, Ph.D.
Dir. Virus Laboratory

Child Health

G. D. Carlyle Thompson, M.D.
Dir. 7-1-58—7-1-60
Appointed Act'g. Dir.
7-1-60

Dental Health

G. D. Carlyle Thompson, M. D.
Act'g. Dir. 7-1-58—9-1-58
A. H. Trithart, D.D.S.
Appointed Dir. 9-1-58

Disease Control

John D. Glismann, M.D.
Director 7-1-58—1-1-59
Mary E. Soules, M.D.
Appointed Dir. 1-1-59

Environmental Sanitation

C. W. Brinck, Director

Local Health Services

G. D. Carlyle Thompson, M. D.
Acting Dir.

Public Health Education

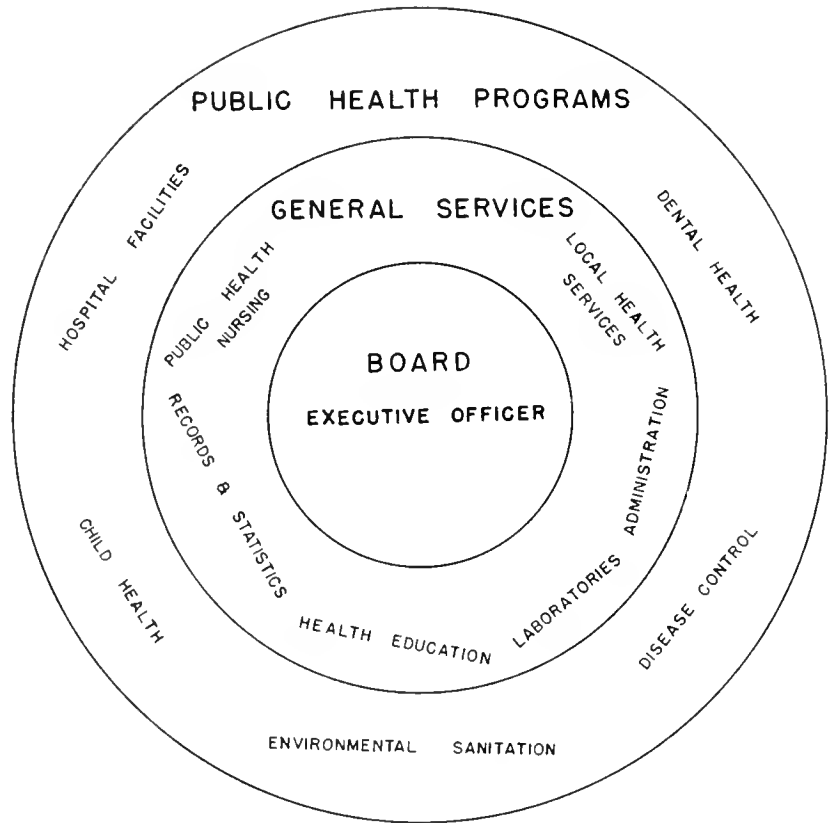
K. Elizabeth Burrell, Director

Public Health Nursing

Wava L. Dixon, Director

Records and Statistics

John C. Wilson, Director
HOSPITAL FACILITIES
Robert J. Munzenrider, Director



Part I. ADMINISTRATION AND GENERAL SERVICES

Central Administration

Highlights of the Biennium

The Board's professional and technical staff turnover in 1960 was only half that of 1959 and the clerical turnover in 1960 was 1/3 that of 1959.

Requirements for matching Federal funds with those of the State became a real problem with loss of Federal funds occurring for the first time since 1951.

Inadequate office quarters continues to be a problem.

Finances, Budget

During this biennium the greatest problem has been that of matching the Federal grants-in-aid for the various health categories. With the exception of special project funds, Federal grants must be matched dollar for dollar with State funds. Federal funds have been increasing slowly over the past five years. The amount of State funds appropriated has not been sufficient to fully match available Federal funds with the result of program curtailment in certain areas. It was during the first year of the biennium that all Federal matching funds were placed on a 50-50 basis. Prior to this, although some funds were matched this way, others were one State dollar to two Federal dollars.

Total State appropriations for the 1959-61 biennium were 5% under those for the 1957-59 biennium and had to be stretched to cover the higher costs of salaries, supplies and services. As a result it was necessary to abolish some long established staff positions in certain basic health programs, to limit funds for crippled children's surgery and hospitalization and to reduce by 50% basic financial aid to local

health services. At the same time new staff positions were established for special programs supported through special Federal project grants.

At the present time \$400,000 yearly in State funds is necessary to match Federal categorical grants or to defray State administrative expenses of health department programs that are financed by Federal funds. Many basic and essential health services long established by Montana law also require financing from State funds as they are not eligible for Federal participation. Thus with a State appropriation averaging slightly under \$400,000 annually, it is clearly evident that all Federal funds cannot be matched. Programs requiring State payment of administrative expenses are the hospital construction grant program of about \$800,000 yearly and the sanitary facilities construction grants program of about \$500,000 yearly. Indian health construction funds of another \$500,000 are processed.

In January 1960, there was initiated a special project of "Family Health Services to the Mentally Ill" which is financed wholly from Federal funds made available by the U. S. Public Health Service, National Institute of Mental Health. This project began with a budget of \$17,346 in fiscal 1960 and has a budget of \$55,426 in fiscal 1961. It will extend over a period of three to five years on a declining basis.

The special project in venereal disease case finding which was started in fiscal year 1957 was continued through the biennium with a budget of \$7,500 in fiscal 1959 and \$18,300 in fiscal 1960.

In fiscal year 1960 the U. S. Children's Bureau allotted \$9,300 of special funds through the State Board of Health to enable the Great



Fiscal and personnel matters of the Board are carried out in the Central Administration Section.

Falls-Cascade Health Department to make an evaluation of the health status of selected groups of Great Falls children. Included in the survey were approximately 190 Indian children sixteen years of age or under from Hill 57 and Mount Royal.

The special Cleft Lip-Cleft Palate Program was carried through its fourth year during the biennium on \$50,000 of Federal funds yearly. The project entered the fifth and final year on July 1, 1960. On termination of the special project continuation of this type of work will require State funds.

The budgets for the two years of the biennium averaged approximately \$10,500 higher than those of the previous biennium. The fiscal 1959 budget was lower than that of either of the two previous years. The increased budget in 1960 was attributable to additional Federal grants, some of which could not be utilized because of lack of State matching funds. Federal funds amounted to 53% of the budget in fiscal 1959 and 57% in fiscal 1960.

MONTANA STATE BOARD OF HEALTH

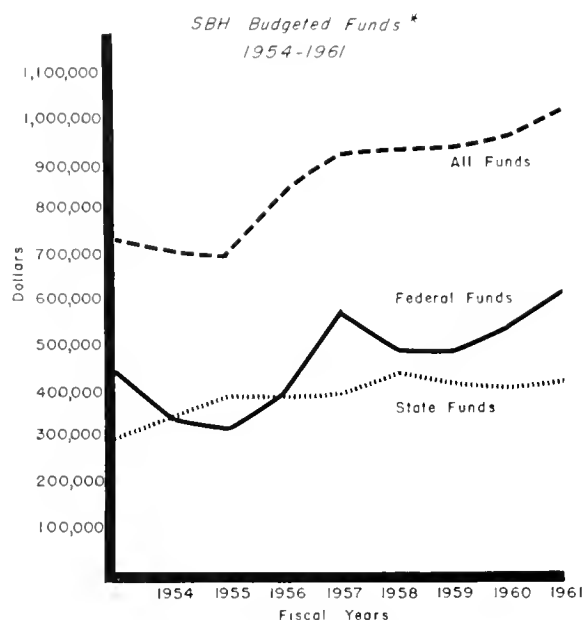
Budgets and Expenditures State and Federal Funds FISCAL YEARS 1954 to 1961

Year	Total	Federal*	State**
1961 Budgeted ... (Preliminary)	\$1,023,850	\$605,317	\$418,533
1960 Budgeted	972,101	553,374	418,727
Expended	919,220	534,962	384,258
1959 Budgeted	926,366	493,316	433,050
Expended	897,837	479,552	418,285
1958 Budgeted	932,970	498,982	433,988
Expended	872,225	475,203	397,022
1957 Budgeted	944,522	553,595	390,927
Expended	854,877	523,751	331,126
1956 Budgeted	851,706	475,463	376,243
Expended	795,106	459,595	335,511
1955 Budgeted	681,735	308,581	373,154
Expended	660,793	295,701	365,092
1954 Budgeted	695,047	337,924	357,123
Expended	637,320	324,800	312,520

*Excludes Federal construction grants for hospital, medical and sanitary facilities.

**Contributions are included in State funds.

Total expenditures of \$897,837 in fiscal year 1959 and \$919,220 in fiscal 1960 averaged \$36,303 higher than the fiscal 1958 expenditures of \$872,225. (Detail of budgets, expenditures and trends since 1954 are shown in Part III of this report.)



* Excludes federal construction grants for hospital, medical, and sanitary facilities

Information from Federal sources indicates that allotments to Montana from Public Health Service and Children's Bureau grants for fiscal year 1961 will be somewhat in excess of those of the past biennium.

Detail of Receipts from Fees

As authorized by State statutes, the various divisions of the State Board of Health collected and deposited in the State general fund the receipts for licenses and certified copies of certificates issued. During the biennium \$73,213 was deposited in the general fund. In addition, \$5,418 was collected for water analyses performed for private individuals and deposited in the special fund used to defray a portion of the laboratory operative expenses.

Detail of Receipts From Fees

	Water Fees Private	Vital Statistics	Water Fees Public	Septic Tank Licenses	Hospital Licenses	Food & Drug Licenses	Total
1959-59	2,932	7,773	12,735	445	545	14,883	39,313
1959-60	2,486	7,909	13,210	321	490	14,902	39,318
Total	5,418	15,682	25,945	766	1,035	29,785	78,631

Personnel

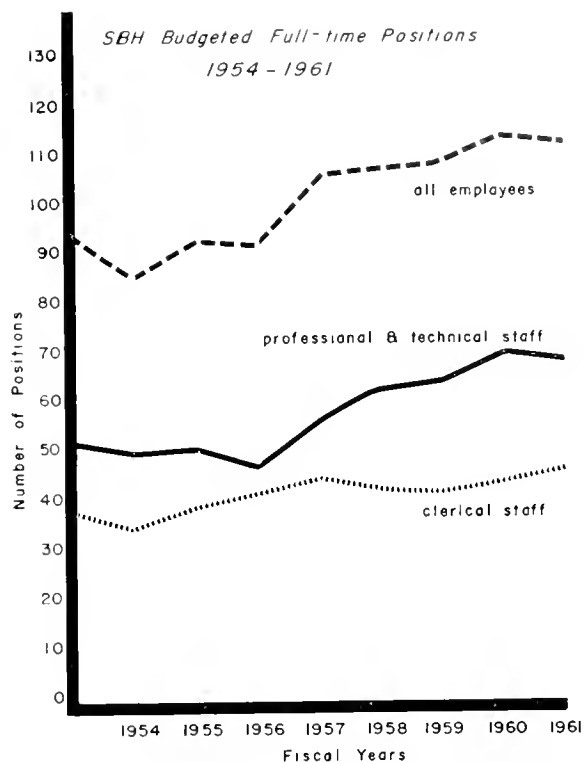
A continual process of recruitment has been successful in maintaining personnel in most staff positions for a good percentage of each year. Technically trained personnel are in

short supply in many categories, and in some categories extremely scarce. It has been especially difficult during the past year to find applicants for medical, engineering, public health nursing, bacteriology, occupational therapy and speech and hearing therapy positions. The infrequent salary scale adjustments which have been possible on limited budgets do not permit real competition with private industries for personnel in those categories where technical training requires recruitment on a regional or nationwide basis.

The institution of the special project of "Family Health Services for the Mentally III" has been hampered because of the difficulty of employing public health nurses. The special project in the control of venereal disease and the heart disease control program have been less effective than desired because the program staffs are short in public health nursing personnel. With two impending vacancies in the staff of the Bacteriological Laboratory at the end of the biennium, it is found that there are very few qualified bacteriologists available for employment. During the last fiscal year only one bacteriologist was examined for State staff positions, and that was for an advanced position. An increasing number of college graduates in technical and scientific fields are going on to graduate schools, with the result that there are fewer applicants for positions in the entrance classifications.

Staff Turnover

The staff turnover for professional and technical positions was lower than that of the previous biennium with the turnover for fiscal year 1960 only 70% that of fiscal 1959. The turnover for the clerical positions remained high during the first year of this biennium then declined drastically during the second year. The improvement for all classes seems to be due in part to more adequate salary schedules and opportunities for advancement to new positions. It may also be partly explained by the fact that many changes in personnel occurred just prior to the start of the biennium, and several separations will be effective shortly after the close of the biennium. Also, during the last year the compensation schedules for the clerical and stenographic positions were made more competitive to those of other State agencies. It has since been much



easier to recruit and retain personnel in competition with other employing agencies.

It has not been possible during the last two years to attract a public health physician to direct the Division of Child Health Services. Recruitment is hampered by the fact that Montana is far from established medical centers and centers of population, and by the fact that Montana's salary offers cannot compete with those of other state or local health departments.

The Divisions of Dental Health and Disease Control have had full time directors during the biennium and their health programs have been carried to high standards. These directorships had been vacant a good part of the time of the previous biennium.

Budget restrictions during the biennium made it necessary to abolish several long established staff positions. The number of positions has remained relatively constant because of the institution of special projects utilizing wholly Federal funds to which some personnel could be transferred. At the expiration of the special projects, trained personnel must be released unless State and Federal matching funds are available for the continuance of basic State health programs.

There has been little progress made in the development of health services at the local level. Salaries offered by local departments are not high enough to attract persons from out of State. Applications are received from out-of-State sanitarians but salaries offered are not sufficient to cause them to leave other positions and accept Montana employment. No local area has budgeted for a health educator and health education services on the State staff are not adequate to fill the needs.

Staff Turnover

	<u>%</u> 1954	<u>%</u> 1955	<u>%</u> 1956	<u>%</u> 1957	<u>%</u> 1958	<u>%</u> 1959	<u>%</u> 1960
Professional- Technical	49	45	23	15	22	17	12
Clerical	70	112	58	55	45	60	23

Office Quarters

During Fiscal 1960 Federal inspectors completed the audit of the State Laboratory Building. It is expected that final payment of Federal participation will be made early in the 1961 fiscal year. The laboratories are now operating in well equipped quarters. The critical need at present is for space for those offices not connected to laboratory services. Many offices are over-crowded, with resultant loss of efficiency. Some provision must soon be made of adequate office quarters in order to permit the performance of office duties with efficiency.

Civil Defense

Early in the biennium the Health, Medical, Special Weapons and Radiological sections of the **Montana Operations Survival Plan** were brought to completion in the preliminary stage. Under a special Federal project, part-time and temporary assistance of one person was made available through the State Civil Defense Director.

These plans replaced those adopted in 1952. Before the current sections can be considered complete and ready for use much more work is needed.

These sections continued the Executive Officer of the State Board of Health as the Director of the Health and Radiological Services in time of national or enemy disaster. As

in 1952, the key staff for Civil Defense and Radiological Services are designated from the regular employees of the State Board of Health, but in some instances practicing physicians and other volunteers will need to be utilized in some appointments.

District Plan Practical

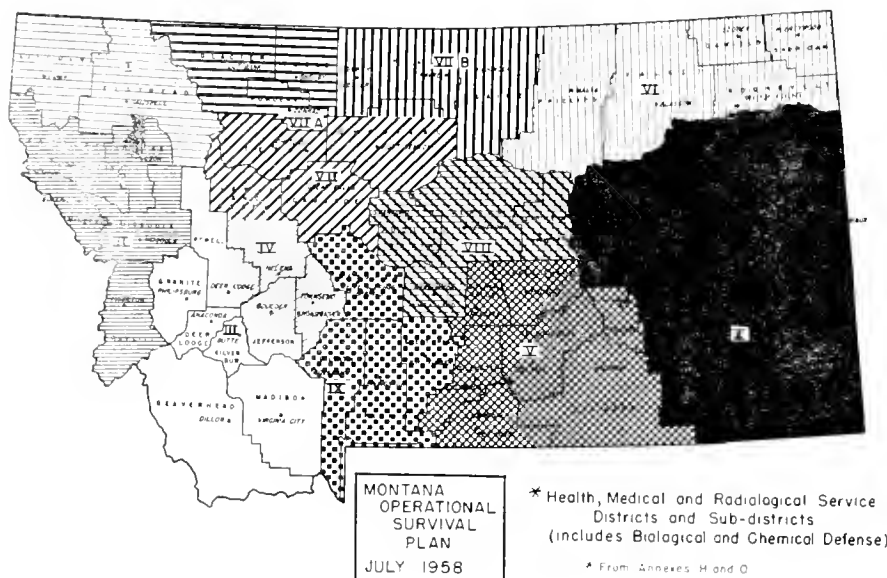
The new plan, for the first time provides a practical approach to health problems throughout the State by establishing ten districts and several sub-districts which are shown on the map on page 9. Such an arrangement, which overlaps the county and city political subdivision limits, provides the only way to utilize Montana's health manpower and resources in an efficient manner.

Delegation of Responsibility

During the biennium Civil Defense Health Services were clarified on the national level. This brought about the delegation of responsibility and authority in all aspects of health services in Civil Defense to the U. S. Department of Health, Education and Welfare—Public Health Service. This responsibility and authority was formerly in the Office of Civil Defense and Defense Mobilization.

With the adoption of the National Manpower Plan, the Public Health Service and the State Health Agencies are also given control over essential Health Manpower. Other manpower skills are controlled by the U. S. Department of Labor and its State component, the Employment Service and the Selective Service System. This makes it possible to plan for the use of the skills of those persons in essential health services. Such a plan was initiated in Montana at the end of the biennium.

In the past, what work was done in Civil Defense Health Services and Radiological Health has been carried on entirely by State Board of Health staff employed for other duties. To implement the new plan and carry out the program efficiently the assignment of one full-time person with clerical assistance, necessary travel and provisions for carrying out training throughout the State will be needed. State funds for this purpose in the new biennium can be minimized by the availability of Federal matching funds.



Gallatin County Civil Defense Organization Tested

The Gallatin County Civil Defense Organization was tested on a limited basis during the Madison Valley Earthquake in August 1959. The State Organization was not tested. However, the State staff immediately entered the picture in investigating the public water supplies, sewage disposal facilities and the food supplies available in the area. No major problems were encountered in these areas of public health protection.

It is fortunate that this disaster occurred in a rural area since it is recognized that the State organization is not fully prepared to mobilize for the prompt and adequate handling of a disaster of this scope in a populous area.

Legislation

The 1959 legislative assembly enacted several bills which relate to public health. A brief resume of these bills follows:

Concerning Tuberculosis Control

This bill makes it possible for any person with tuberculosis to be admitted to the State Sanitarium. Until the passage of this bill only tuberculosis patients who were citizens of the State for one year if a male, and five months if a female could be admitted to the State

Sanitarium. This not only denied Sanitarium care to some persons but it directly contributed to the spread of tuberculosis in the community.

A second bill was enacted that relates to tuberculosis control. This bill permits the commitment of certain patients with tuberculosis to the Sanitarium or another facility which provides care for tuberculosis patients, if these patients refuse hospitalization or leave the hospital against medical advice and are found to be a public health menace. This law also provides procedures to require persons suspected of having tuberculosis to submit to an examination. This will make it possible to protect the community against persons with communicable tuberculosis or persons exposed to communicable tuberculosis and who refuse to comply with the State Board of Health regulations.

These laws and their application and limitations are described further in the Disease Control Section of this report on page 63.

Requiring Registration of Sanitarians

Until this law was passed there had been no registration of sanitarians, also, there were no legal qualifications established for a person who called himself a sanitarian, except for persons employed as sanitarians through the Montana Merit System Council.

The law provides for the State Board of Health to appoint a Sanitarian's Registration Council. This council issues certificates upon evidence that the applicant meets the established qualifications. This law is discussed further in the Environmental Sanitation section of this report on pages 78 and 79.

Nursing and Boarding Homes for Aged Persons Redefined

Previous to the passage of this act the licensing of nursing and boarding homes for the aged applied only to homes caring for five or more persons and did not specify relationships. The new law redefines the boarding or nursing homes for aged persons as being a home where two or more aged persons unrelated by blood or marriage reside, board or receive nursing care.

Water Pollution Act Amended

This amendment to the Water Pollution Act relates to new industries coming into the State which discharge wastes into a stream or a portion of a stream which is excluded from classification. It requires that wastes so discharged must meet the same requirements as required in the classification of the downstream portion of the stream.

State Plumbing Code Requires State Board of Health Approval

The law creating a State Plumbing Board also provides for the establishment of a State Plumbing Code. This code must have the approval of the State Board of Health before it is effective. Its purpose is to promote and protect the public health through the establishment of minimum standards for plumbing work.

SBH Approval Required on Rules for Recreational Use of Public Fishing Reservoirs and Lakes

The State Fish and Game Commission was authorized to promulgate and enforce rules governing the recreational uses of public fishing reservoirs and lakes constructed by the Commission or on reservoirs and lakes which it operates under agreement with a Federal or State Agency or private owner.

The rules are to be in the interest of public health, public safety and protection of proper-

ty. They are subject to review and approval by the State Board of Health as to their protection of public health and sanitation before they become effective.

Disposition of Rabid Dogs

In the law relating to the licensing of dogs by the county commissioners and municipalities an important public health aspect is included which states that "any dog suspected of having rabies or known to have bitten any human or animal, shall not be killed or otherwise disposed of until released by the County Health Officer or his agent." By holding these dogs they can be observed and examined. This is of great importance to the physician in reaching a decision on administering anti-rabies vaccine to the person bitten.

Contract Marriage Requirement

The law now requires that persons who are participants in "unsolemnized" or "contract" marriages shall be required to file a premarital blood test certificate with the marriage declaration. Before the enactment of this bill these persons were not included in the law which requires premarital tests for the detection of syphilis in making application for a marriage license.

Fire Extinguisher Regulation

This law relating to fire extinguishers required in public buildings, states that these fire extinguishers must not contain certain "toxic or poisonous vaporizing liquid."

Licensing Required for Frozen Food Processing Plants

The law requiring the licensing of refrigerated lockers by the State Board of Health was amended to include the licensing of frozen food processing plants.

Continued Study of Alcoholism Authorized

A Joint Senate Resolution was passed which authorized the State Board of Health to continue the study of alcoholism in Montana, and its concomitant problems, and to report the findings and recommendations as to the appropriate steps to be taken for the prevention and cure of alcoholism to the next legislative assembly. This is further discussed in the Health Education Section of this Report on page 30.



Local Health Services

Full-time local health departments, working with professional people in health and related fields, assist citizens in protecting community health.

Highlights of the Biennium

Local Health Departments made marked improvement in reporting.

Cascade City-County Health Department notes fortieth anniversary.

Mental Health Unit established in State Board of Health. Special Federal grant awarded to carry out "Family Health Services for the Mentally Ill". Purpose is to carry out public health services to mentally ill patients and their families in the community.

AREAS WITH FULL-TIME HEALTH DEPARTMENTS

The most important progress made in local health department services in the biennium was the strengthening of the four existing full-time health departments. The counties providing this service are **Cascade**, served by the Cascade City-County Health Department; **Gallatin** served by the Gallatin City-County Health Department; **Big Horn** and **Rosebud Counties** and the **Crow** and **Cheyenne Indian Reservations** served by Public Health District I; and **Lake** and **Sanders Counties** and the **Flathead Indian Reservation** served by Public Health District II.

Although there has been considerable public interest in the establishment of full-time services for a few other counties, none have as yet materialized.

The laws of the nation place responsibility for the health of the people with the States; the Montana Constitution establishes this responsibility in the State of Montana. Since the State Board of Health was created in 1901 by the legislature, it has had the responsibility for public health in Montana.

With few exceptions, either by legislative action or Board policy, the carrying out of many of the State's responsibilities has been wisely delegated to local Boards of Health. The State Board has assumed local operational responsibility only when there is an immediate threat to the health of the public in which the local area is not assuming its responsibilities or where multiple political subdivisions are concerned. However, the State Board has continued to set standards and rules and regulations pertaining to health matters as provided in State law.

The Board's staff provides consultative services, and in some instances supervision for the local areas. Financial aid to counties is an item in the Board's budget.

Reporting Improved

The four full-time health departments have very gratifyingly improved their quarterly reporting. The 1901 law states that the "local health officer shall prepare a quarterly report which shall set forth the general health and sanitary conditions of his district, give an account of all his activities as health officer

Pictured from left to right, are the public health dentist, health officer, sanitarian and public health nursing supervisor. They are all members of the Cascade City-County Health Department staff. In addition, the staff includes: 12½ public health nurses, three sanitarians, one sanitarian aide and three clerical staff members. Through a special project grant the following additional staff are planned: associate health officer, public health nurses, psychiatric social worker and clerical staff.



during the previous quarter, and such other information as the State Board of Health may call for".

In addition to these quarterly reports, all four of these departments prepared a summary of their activities and current progress for publication in **Treasure State Health**, the Board's official publication; Cascade and Public Health District I also issue annual reports.

The two districts have improved their services to the Indian population. They are making improvements toward meeting the contract agreement between State Board of Health and the U. S. Public Health Service, Division of Indian Health, in providing public health services for the Indian population on the reservations in their respective districts.

Staffing the full-time health departments has improved. In fact, the increase in the employment of public health nurses in the State has been largely in these departments rather than in the unorganized areas of the State. For the first time the five budgeted public health nursing positions were filled in Public Health District I.

Except for a few months without full-time health officer services in Public Health District I, the health officer positions have been filled. Cascade, in addition to the full-time health officer, will employ an associate health officer early in the next biennium.

Health Education services have been continued by the State Board of Health on a full-time basis in Public Health District I and half-time in District II. This has been made possible through U. S. Public Health Service funds, made available through the Indian Health contract.

Sanitation services, with a few months exception have also been available in all four of the departments, during the biennium.

The immunization surveys which have been conducted show the level of immunization in Cascade and Gallatin Counties to be very high and in Public Health District I higher than in areas surveyed where there was no full-time department.

Cascade Notes 40th Anniversary

1960 marks the fortieth anniversary of the Cascade City-County Health Department. This is Montana's oldest health department. It serves the largest population and has the most extensive program.

Several new developments have occurred in this area during the biennium. These included the provision of field experience for public health nursing students from the Montana State College School of Nursing. With the assistance of the U. S. Children's Bureau and the State Board of Health, a pediatric evaluation was made in addition to the regular Child Health Services. This evaluation included 134 Indian children and 88 non-Indian children from families in the lower economic group. Discussion groups for Education for Parenthood were established, a Conservation of Hearing Program was initiated, the mosquito control program was improved, food service personnel training was carried out.

With assistance from the State Board of Health, an analysis of the dental records of 1,408 Great Falls children has started. From the preliminary random sampling of 250 of these records it is shown that the 30-year-old dental health program has paid dividends.



The local public health nurses provided services for approximately 30,000 persons during the biennium.

This is the only local health department in the State which employs a public health dentist.

Through a National Institute of Mental Health grant, the department has started an extensive five-year mental health study.

Gallatin City-County Health Department

The Gallatin City-County Health Department has continued to provide field experience in public health nursing for Montana State College students which was started in 1955. This was one of the first areas in the State to initiate a professional services committee as an adjunct to the Education for Parenthood



The Gallatin County health officer and public health nursing staff provide field experience for the Montana State College school of nursing students.

Program. During the past year, the Health Department in a joint effort with the State Board of Health is undertaking a pilot program with the operators of nursing homes to explore needs and methods for improving patient care through extending the health department facilities and other community resources.

A dental survey was made with assistance from the practicing dentists in Bozeman and the dental division of the State Board of Health to ascertain the benefits of seven years of controlled fluoridation in the public water supply. This survey showed the same beneficial results (a 60% reduction in dental caries) are being received by the Bozeman children who have drunk water with the recommended amount of fluorides (1 p.p.m.) as has been experienced elsewhere. The survey also shows that nearly 1/3 of the six year olds (the group who have had the benefits of fluoridation all their lives) had never experienced dental decay.



Local sanitarians check school playground equipment as a part of their work on the school environment.

The Gallatin public health staff participated in the Civil Defense Organization called into action by the Madison Valley earthquake disaster in August, 1959. From the experience gained here, guidance in gearing for natural disaster as well as for Civil Defense, will not only be helpful to this county in improving its organization but also to others in the State and nation. This experience will not only improve the "paper disaster plan" but also improve procedures in the ability to function in time of emergency need.

Public Health Districts I and II

Emphasis has continued in these two departments in attacking the Indian Health problem, not only to improve the health status of the Indian populations but by so doing the health of the citizens in these communities will be improved, since "disease knows no boundaries".

With improved staffing reported earlier, progress is being made. In the spring of 1959 a joint program review was made in the two districts. This was participated in by the districts' staffs and the U. S. Public Health Service staff from the Indian Health Division office in Billings, and State Board of Health staff.

From this review priorities were established for concentrated work during the next three years and specific plans were made to implement programs to meet the needs.

Before this concentrated program was started it was estimated that the health problems of Montana's Indians were estimated at 10-13 times higher than for the rest of the State's population. Information material on "Attitudes, Beliefs, Habits and Culture as They Affect Public Health" on these three Indian reservations has been collected to aid in staff understanding and in the development of approaches to improve this low health standard. The purpose of the program is to bring the level of the health of the Indian population up to an acceptable standard. It is also aimed to assist the Indians through education and cooperative planning to assume responsibility for his personal and community health.

OTHER AREAS

Local areas without full-time health departments have shown little change during the biennium. No counties have employed public health nurses who did not employ them during the last biennium. There are still about half the counties providing no public health nursing services.

Valley County is the only county to employ a full-time sanitarian since the last reporting period. Liberty has joined Hill and Blaine Counties in getting part-time services from the sanitarian who was already serving these two counties. There are still 36 counties in the State lacking sanitarian services.



Through education and cooperative planning the public health staff in Districts I and II aim to help the Indian people assume responsibility for their personal and community health.

Many of the public health programs in Montana cannot be carried out effectively due to the lack of trained personnel in local areas. The work that can be carried out by the State Board of Health staff in local areas which should normally be carried on by local staff is extremely limited. As a general rule it can only cover emergency situations. There is no plan to increase the State staff to carry on this work since it is generally recognized to be better public health practice to employ staff locally. However, unless local areas assume this responsibility in the not too far distant future, a new plan for providing local public health services in Montana may have to be developed.



This Indian mother and her three children consult with the public health nurse in getting the children ready for the opening of school.

FAMILY HEALTH SERVICES FOR THE MENTALLY ILL

In January, 1960, a Mental Health Unit was established in the State Board of Health for the purpose of administering a special project known as "Family Health Services for the Mentally Ill". The Project is financed through a grant provided by the U. S. Public Health Service's National Institute of Mental Health for a period of three years with the possibility of a two-year extension. Services will be developed initially to include follow-up of patients released from the State Hospital, but as soon as feasible, the services will add pre-hospital admissions, and later non-hospital patients. Community education on mental health also will be developed during the demonstration period.

The mental health authority in Montana is the State Hospital. However, the State Board of Health recognizes the mental health aspects of many of its programs as well as the public health implication in the field of mental health. Realizing its component responsibility, the Board's staff feels that in joining forces with the State Hospital much can be accomplished in surmounting this growing health problem.

Both State agencies realize that hospitalization is only one aspect in the treatment of a mental illness that began long before the patient was hospitalized and which is by no means finished when the patient is released from the Hospital.

Of the patients admitted to the Montana State Hospital in any given year, half of them received treatment before. Many of them return to the Hospital because they did not remain under medical supervision, because of their inability to meet the difficulties encountered in family and community life or, because of lack of better understanding on the part of the family and community in helping them in their adjustment. With the increased use of modern drug therapy and improved services the average length of hospitalization has been shortened in recent years. There is need for supportive service at the community level when the patient returns to his home. It is hoped that this program will help reduce the re-admission rate.

The State Board of Health Project is closely related to and in fact developed out of the need demonstrated by the State Hospital's Field Service Program which was initiated in 1957. The scope of the Hospital's Field Service Program is continuity of treatment, liaison with local health and social agencies, and education in the field of mental health.

The chart on page 17 shows the cooperative relationship between these two projects.

The Liaison Committee between Montana State Hospital and the State Board of Health was formed and has met regularly for cooperative interagency planning in Mental Health. Activities of this committee have included planning for exchange of information between the two agencies and statewide program planning. Activities also carried out have been informing local medical societies and law enforcement officials of the efforts of the two agencies in relation to follow-up services after patients are released from the Hospital as well as efforts toward providing pre-admission services for the mentally ill and their families.

The Project

The Project was planned to provide public health nursing and other health services to the mentally ill patients and their families. The project is also planned to provide health education services to help the community gain a better understanding and to create an atmosphere conducive to the rehabilitation of the patient who has returned to the community. The scope of the project was determined as continuity of care, treatment follow-up, early detection, and prevention of mental illness through development and improvement of community health services; medical, public health nursing, and health education. Consultation was arranged for in the areas of psychiatry, psychiatric social work, mental health, and psychiatric nursing.

Objectives

Because of the preventive aspects of mental illness and the need for early detection as well as rehabilitation the State Board of Health's project was planned with some of its objectives as follows:

- to demonstrate public health nursing family health services for the mentally ill
- to stimulate and strengthen interest and to increase the confidence and skill of

public health nurses in caring for the mentally ill and their families

—to identify the mental health principles being used in generalized public health nursing services

to determine the impact of referral of mental patients on local health services as well as on State hospital services

—to cooperate with other agencies and disciplines in providing for continuity of care for the mentally ill and to determine if additional resources are necessary and where these are available

—to extend and promote professional and community interest and understanding in the field of mental health.

Geographic Area Served

The Project functions in 26 counties of Montana already covered by generalized public health nursing services and Silver Bow and Deer Lodge Counties. Since Silver Bow and Deer Lodge Counties lack generalized public health nursing service, the Project provides for placing three full-time public health nurses in that area with services supplemented by specialized state staff from Helena. These two counties will be the center of intensive effort. A field office was established in the Butte-Anaconda area at St. James Community Hospital, Butte.

The staff of this project was planned to include five public health nurses, one health educator, and two clerks; two public health nurse positions remain to be filled. G. D. Carlyle Thompson, M.D., Executive Officer of the State Board of Health, was named as Director of the Project. Consultant services of Robert J. Spratt, M.D., Superintendent of the State Hospital and Director of the Mental Hygiene Clinics, and members of his staff were arranged.

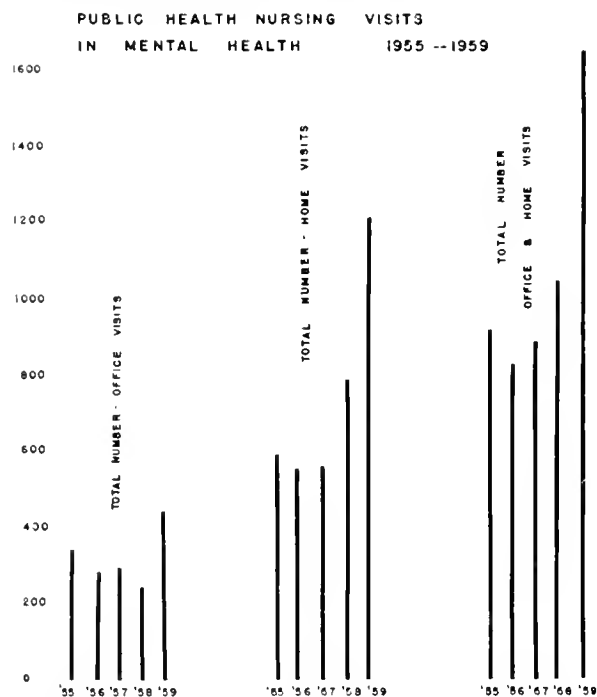
Two advisory committees are planned for the Project: one to be a state-wide committee and the other a local committee for the Butte-Anaconda area.

Area conferences on "schizophrenia", one of the serious mental illnesses, were held for public health nurses throughout the State.

Even though the program is still in its infancy, enough work has been done to stimulate

an increase in public health nursing visits which have been made on behalf of the Mental Health Program. This is shown on the graph below.

These conferences helped to increase interest and understanding of the nurses in serving mental patients in cooperation with the State Hospital staff and the family physician.



GRAPH shows increase in Public Health Nursing visits in mental health during 1959, following first joint efforts of Montana State Hospital and the State Board of Health in program for released hospital patients.

A five-day "Orientation-In-Service Education Program" for local public health nurses was jointly planned with Montana State Hospital and was initiated in June, 1960. State Board of Health staff attending this program are Public Health Nurses, Medical Social Worker and Health Education Consultants. The purpose is to give those working in communities more knowledge of the treatment facilities at the Hospital and a broader understanding of mental illness with its impact on the patient, his family, his local community and the State.

With the development and initiation of the Project during the current biennium it is expected that during the next biennium a mental health program will pay dividends to the State.

MONTANA . . .

STATE BOARD OF HEALTH

STATE (MENTAL) HOSPITAL

Integrated Projects

FAMILY HEALTH SERVICES TO
MENTALLY ILL

FAMILY SERVICE
PROGRAM

Liaison Staff



G. D. Carlyle Thompson, M.D.
Executive Officer



Robert J. Spratt, M.D.
Superintendent

Mrs. Esmer King, R.N.



T. E. Fasso, M.S.W.

Scope: Treatment Follow-up, Detection and Prevention of Mental Illness through Development and Improvement of Community Health Services: Medical, Public Health Nursing and Health Education.

Scope: Continuity of Treatment, Liaison with Local Health and Social Agencies and Education in Mental Health.



28 Counties with Public Health Nurses



Field Workers in 4 Centers



Fluorescent Antibody technique initiated for rapid diagnosis in rheumatic fever heart disease program.

Bacteriological Laboratory

Highlights of the Biennium:

- Establishment of Bacteriological and Virological Laboratories in State Laboratory Building.
- Acquisition of equipment for fluorescent antibody technique for rapid detection of Group A beta-hemolytic streptococci in throat cultures.
- Membrane Filter Technique utilized in Water Pollution Abatement Program, to make possible more rapid reporting and simplifying water testing program.
- Studies conducted on "anonymous" acid-fast group of organisms associated with tuberculous-like disease in humans.
- Inspection and evaluation made of all laboratories in State requesting approval for serologic testing for syphilis.
- Workshop in performance of VDRL slide test for syphilis held.
- Initiation of new transport media for culture of gonococci, available to physicians on request.
- Study made in cooperation with U.S.P.H.S. Rocky Mountain Laboratory at Hamilton on Q fever.
- Virus laboratory adequately equipped to study most of common viruses and rickettsial diseases found in humans in this area.
- Isolation of influenza Type A2 (Asian) made in May, 1959.

PROGRAM OBJECTIVES AND ACTIVITIES

The bacteriological and virological laboratories carry out the following delegated responsibilities to meet the requirements of the Board's public health program.

(1) Routine and special bacteriological tests are performed which include the technical laboratory services provided for all programs. This is done by making examinations for the detection and control of communicable diseases which include bacteriological, serological and virological studies relative to human diseases. These studies are conducted upon various clinical materials at the request of physicians, clinics, hospitals, institutions, local health departments, and other divisions of the State Board of Health and other State departments.

Laboratory services are provided as a basis for environmental health control purposes in the fields of public water supplies, stream pollution abatement and certain dairy products.

Technical and supporting services are provided for other public health programs and special investigations and methodological studies are made.

(2) Local laboratories requesting approval for syphilis serology are evaluated. This work consists of visits to laboratories and a study of their personnel, quarters, equipment, and methods. During the year check specimens will be mailed to each laboratory to determine its technical proficiency in the actual performance of the serologic test or tests for which approval has been requested.

(3) **Consultative and Training services are provided.** Training is offered on a limited basis through refresher courses. These are for laboratory workers in other laboratories in bacteriological, serological and virological techniques. Visits to private and hospital laboratories are available on a limited basis for consultative purposes.

New Activities

The establishment of the Bacteriological Laboratory Division in October 1958 in space in the State Laboratory Building has provided greatly expanded working facilities and has made possible the development of new testing procedures some of which were long delayed because of hazardous working conditions in the old laboratory. The laboratory was also greatly handicapped by inadequate space in the old State Board of Health Building where it had been housed since 1920.

Through the acquisition of equipment for fluorescent antibody techniques it is possible for the laboratory to provide services for the Rheumatic Fever Heart Disease Control Program. This technique provides for the detection of Group A, beta-hemolytic streptococci in throat cultures much more rapidly than in procedures previously used. The use of this technique can be expected to also be applied



Animals are a useful adjunct in the laboratory diagnosis of tuberculosis.

soon to many other laboratory procedures, including detection of virus and rickettsial infections.

A supplemental diagnostic test for syphilis was initiated, the treponemal test, KRP. Its use will provide a supplemental diagnostic aid for the differentiation of false biologic serologic reactions for syphilis.

Laboratory Inspections and Training

The inspection and evaluation of 46 of 48 local laboratories in the State has been carried out. These are the laboratories that requested approval for running serologic tests



Refresher workshop held in May, 1960 for medical technologists provided practical experience.

for syphilis. These laboratories must be registered annually and must meet recommended standards. Physicians carrying out the provisions of the State's prenatal and premarital laws requiring blood tests for syphilis, must submit specimens to either the State Board of Health laboratory or to a local laboratory approved by the Board.

A workshop in the techniques for the VDRL slide test was held in May 1960 for 20 medical technologists. Consultant and teaching aid was given by Miss Alwilda Wallace from the V. D. Research Laboratory in Atlanta, Georgia.

This training course was well received. Since it was held the Board has been notified that several of the laboratories have revised their testing services to conform to standard methods presented at the workshop. Until adequate space was provided by the move into the State Laboratory Building, this service could not be offered.

A new shipping media has been initiated to be used in transporting cultures of gonococci and other fastidious organisms that do not survive other shipping methods. This will make available to physicians without special laboratory facilities, identification studies for the detection of cases of gonorrhea, pertussis and other bacterial diseases.

In order to keep abreast of the rapidly changing field, laboratory personnel from the Board's staff attended refresher training courses in the laboratory diagnosis of tuberculosis, the diagnosis of other bacterial diseases and the fluorescent antibody techniques at the Communicable Disease Center of the U. S. Public Health Service in Atlanta, Georgia. There has been participation of the staff in correspondence and extension courses offered by the Communicable Disease Center, in the fields of parasitology, tuberculosis and mycology.

Special Studies

Several special studies have been carried out during the biennium. This included comparative studies made on the use of the millipore filter as a means of testing the bacterial content of waters in the water pollution program. A cooperative study was carried out with the U. S. Public Health Service Rocky Mountain Laboratory in Hamilton in a sur-

vey to determine the incidence of antibodies for Q fever in the general population of the State.

Laboratory services were furnished for the detection of pinworms in rectal slide-type preparations as a part of a pediatric survey carried out by the Cascade City-County Health Department.

Studies on the characterization of the groups of atypical acid-fast bacilli belonging to the genus *Mycobacterium* have been hampered by the lack of qualified personnel to assign to this project. The purposes of these studies are to distinguish between members of this group and the true tubercle bacilli as well as to determine their possible significance when associated with abnormal chest conditions.

LABORATORY TRENDS

The great need for relating microbiology, including virology, to epidemiological investigations of disease is becoming more and more important. Laboratory reports are considered more in the light of an epidemiological approach rather than an isolated laboratory finding. This requires a closer relationship between the laboratory and the staff of the Disease Control Division responsible for epidemiology.

The character of laboratory work is changing so rapidly that the use of more complex instruments and more highly trained laboratory personnel are needed to carry out the increasingly intricate test procedures which are now required. Some of these include cytochemical tests for *Mycobacterium* to determine their pathogenicity, and the fluorescent antibody technic for the rapid diagnosis of bacterial, viral and rickettsial diseases.

Difficulty in the recruitment of qualified bacteriologists is nationwide. Adoption of the present salary schedule should be of assistance in the recruitment of replacement workers. However, the laboratory is still faced with the continuing problem of training relatively inexperienced scientific workers which reduces the competency of the laboratory. The fundamental basic training acquired in the universities must be supplemented by actual working experience before the worker can be utilized effectively.

Trends in Diagnostic Services

In the accompanying Table I, comparative statistics for the various types of specimens submitted and the examination findings are shown. A total of 135,956 examinations made in the 1958-60 fiscal year period, represents a decrease of 11,532 made over the preceding biennium when 147,488 were reported. It will be noted that the greatest decrease occurred in serologic tests for syphilis which accounted for 9,838 of the 11,532 decrease. This may be attributed to the increased number of private laboratories throughout the State which are approved for this testing service. There was an increase of 356 examinations for tuberculosis which represents a large work load increase due to the time required to prepare and process the specimens.

The Board, at its July 1960 meeting, took action to discontinue the services that had been available for the Rh factor and blood grouping

determinations. This action was given consideration due to the availability of this service at hospital and clinic laboratories in the State. Since the Maternal and Child Welfare Committee of the Montana Medical Association requested the Board to provide this service in 1950, the number of determinations had risen from 470 in 1951 to 6,310 in 1960.

Another reason for discontinuance of this service is the increased demand for laboratory personnel in other duties and the increased time necessary for laboratory studies associated with the other programs described earlier in this report.

The number of shipping containers, collection bottles, culture material and other items necessary for the proper collection, submission and examination of laboratory specimens totaled 186,566 during the biennium. These were furnished upon request to the physicians and other medical and health agencies.

TABLE I.
BACTERIOLOGICAL LABORATORY
COMPARATIVE STATISTICS — SPECIMENS AND EXAMINATIONS
1956-58 — 1958-60

EXAMINATIONS	Specimens 1956-58	Specimens 1958-60	Gain or Loss	Examinations 1956-58	Examinations 1958-60	Gain or Loss
Bacteriology Program						
Syphilis	78,539	71,846	-6,693	88,377	78,539	-9,838
Gonorrhea	800	594	-206	800	594	-206
Diphtheria	1,508	219	-1,289	1,508	219	-1,289
Enteric Cultures	1,036	944	-92	1,036	944	-92
Tuberculosis	4,563	4,785	+222	10,307	10,663	+356
Rh Factor	3,763	6,081	+2,318	3,763	6,081	+2,318
Blood Grouping	13	26	+13	2,217	4,823	+2,606
Lactobacilli Counts	1,243	664	-579	1,243	664	-579
Dairy Products	1,397	848	-549	1,397	848	-549
Water Analysis, Bacterial	17,160	16,464	-696	17,160	16,464	-696
Agglutinations	3,973	2,278	-1,695	18,445	13,444	-5,001
Miscellaneous	1,733	2,463	+730	1,235	2,673	+1,438
TOTAL SPECIMENS	114,828	107,212	-7,616			
TOTAL EXAMINATIONS				147,488	135,956	-11,532

Virology Program—See Report Virus Laboratory for detailed Classification, p. 22.

TOTAL SPECIMENS RECEIVED

TOTAL EXAMINATIONS RUN



Water samples are received from every community in the state, for bacterial and chemical testing.

The Board's laboratory is becoming increasingly involved in virological studies since facilities for this service became available in 1958. One or more of the serologic tests shown in the table below were used during the biennium to determine antibody titers against the following viruses or rickettsiae:

influenza A & B	polioviruses
adenoviruses	lymphocytic choriomeningitis
psittacosis— lymphogranuloma venereum	Colorado tick fever
mumps	Q fever
western equine encephalitis	Rocky Mountain spotted fever
St. Louis encephalitis	typhus and herpes simplex

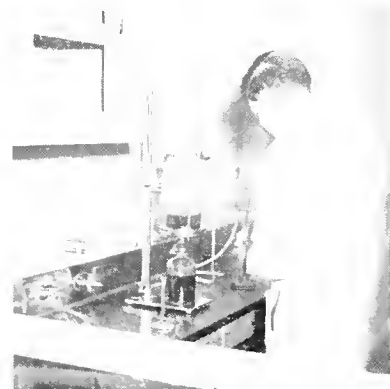
Antibodies were found against all of these organisms except typhus and St. Louis encephalitis.

TABLE II.

SUMMARY OF TESTS PERFORMED IN
VIRUS LABORATORY — JULY 1, 1958 —
JUNE 30, 1960

TOTAL SPECIMENS RECEIVED	1,848
TOTAL EXAMINATIONS	6,914
Types of Examination	
Serologic	
Complement-Fixation Tests	2,242
Neutralization Tests	474
Capillary Agglutination Tests (Q Fever)	3,741
Hemagglutination-Inhibition Tests	69
Virus Isolation Studies	351
Number Positive Isolations	96
Unsatisfactory Specimens	37
TESTS NOT RUN (Acute specimens only received)	330

A total of 351 virus isolation attempts were made on various tissues and body fluids. These were carried out in embryonated eggs and tissue cultures. Although isolation of viruses is relatively simple, identification is frequently a long and tedious procedure. Nevertheless, 96 viruses were isolated including Influenza Type A2 (Asian), adenoviruses, polioviruses Types I and III, Coxsackie B3.



Special facility in virus laboratory provides for a sterility room.

Special Epidemiological Studies for
Viral Agents

On two occasions the Virus Laboratory was called in to aid local physicians where unusual outbreaks of disease had occurred. The first was an explosive epidemic of poliomyelitis occurring on the Blackfeet Indian Reservation. It was quickly determined that the etiologic agent was Type I poliovirus.



Roller drums are used in special isolation procedures for viral agents.

Although there were 19 cases with 17 paralytic, only one involved a triply vaccinated child. Epidemiologic studies revealed that a large portion of the child population, although healthy, were excreting this virus. The proportion of virus excretors as determined by laboratory isolations was the same irrespective of vaccination status. This confirmed the belief that Salk vaccine protects against paralytic disease, but does not prevent the carrier state, emphasizing the necessity of universal vaccination.

Another opportunity to carry out epidemiologic studies occurred in May, 1959, at the Girls' Vocational School in the Helena Valley. An unusually large number of the girls were suffering with an upper respiratory infection. Influenza A2 (Asian) virus was isolated from three of the girls and serologic studies revealed that influenza Type B had also been active recently among this group. This outbreak occurred at a time when Asian influenza virus was thought not to be active and had been found only sporadically in a few isolated areas of the country.

Thus it was demonstrated that where prompt action is taken, it is relatively simple to determine the etiology of an epidemic and take proper steps to prevent its spread.

The Virus Laboratory also worked with local health authorities in Helena in making examinations of selected samples of Helena sewage for enteroviruses. These examinations were made in 1959 prior to the expected poliomyelitis season. The purpose was to determine if there were poliovirus excretors in the city and whether by finding poliovirus a relationship with the subsequent occurrence of poliomyelitis could be determined. Although no polioviruses were isolated, neither were there reported cases of poliomyelitis in Helena. However, two unidentified viruses were isolated from the sewage.

To a limited extent, laboratory investigations were carried out at the request of local veterinarians. This related to upper respiratory infection in cattle and enteritis in swine. This raises the question of the relationship between human and animal virus diseases and requires much further exploration.

RECOMMENDATIONS

To provide adequate laboratory services for the new programs there is a need for continued evaluation of older and previously authorized services and curtailment of outmoded tests.

There is a growing demand for evaluation of all diagnostic laboratory services by both medical and health laboratories. Activities in the field of professional education need to be expanded especially to include all of the newer microbiologic procedures undertaken by the State laboratory. This is necessary to permit their effective use by physicians and laboratory workers in local areas. To encourage the adoption of such new and improved services, announcements pertaining to their use should be made available to interested groups or persons, by assembly and distribution of such information at periodic intervals through meetings and by mail. Instruction for the proper selective collection and submission of clinical materials for studies should be supplemented from time to time by additional current information.

New concepts of antibody-disease relationships may now be achieved by use of the fluorescent antibody techniques which may permit immuno-chemical studies never before possible as well as serving as a rapid diagnostic tool for certain of the communicable diseases.

Provision for a continuance of training of the technical staff should be made, especially in the newer methods for bacterial analysis of water and in mycological and viral techniques. Additional workshops should be held in serologic tests for syphilis to promote better testing standards in the laboratories requesting approval for this service as well as in the newer microbiological isolation and identification procedures.

Extension of the present limited training program for hospital and clinic medical technologists should be made to include, when requested, student trainees from the State college and university for training in public health diagnostic methods.

Consideration should be given to special studies and investigative projects, which might be acceptable as a basis for consideration for application for grant funds from Federal agencies.



Graphs, charts and other visual aids are a part of the work done in the division of Health Education which contributes to the Board's educational program.

Public Health Education

Highlights of the Biennium:

The material for the revision of the "Guide for the School Health Program" was completed. The publication of the "Guide" is anticipated early in the next biennium.

Two State-wide Conferences on "Alcoholism in Business and Industry" were held.

With the assistance of the Narcotic and Alcoholism Advisory Committee to the State Board of Health a second study on "Alcoholism in Montana" is being made at the request of the 1959 legislature.

A public health educator was assigned near the end of the biennium for full-time services to the mental health unit.

Information, in pamphlet form, was prepared on "Indian Attitudes . . . Beliefs . . . Customs . . . Culture as They Affect Public Health Among the Indians." This was done for Public Health Districts I & II.

General Health Education

Health Education Services are chiefly provided and reported in programs of Child Health, Dental Health, Disease Control, Environmental Sanitation and Mental Health. In this section the general activities not reported elsewhere are reported and the Narcotic and Alcoholism Education Program is reported here.

WORKING WITH PEOPLE

Public Health Education is most effectively carried on by working directly with people, principally through groups with some individual conferences. Group work consists chiefly of institutes, seminars, committee meetings, work conferences, workshops and staff meetings. Exhibits, films, books, pamphlets and other visual aids or written work are effective aids, supplementing other educational methods.

During the biennium the public health education staff members working with other public health staff members, have participated in

program planning and evaluations and have provided services in most of the Board's educational programs. This staff also assumes major responsibility for the mechanical details of group meetings.



New trends in the Heart Disease Control Program were discussed at one of the professional staff seminars. On display is the Board's new microscope for using the new fluorescent antibody technique purchased with special heart grant funds for \$3,000.



Small group discussions were a part of the in-service training program on "Improving One's Abilities to Work with Groups".

In-Service Staff Training

Staff Seminars for the Board's professional staff are held each month at which new scientific information, new techniques and new programs are discussed. This division participates in planning for these seminars with a staff committee and makes the arrangements for carrying out these meetings.

Public health administrators, like business managers, find the need to improve communication. Staff training in this area has been started. Since practically all State Board of Health professional staff work with groups, a training session under the guidance of health educators, was held to "Improve One's Ability to Work with Groups". These sessions will be continued during the next biennium.

Orientation Programs for new staff members are held three or four times each year. Their purpose is to give a brief over-all-view of

Public Health in Montana. In addition to the Board's new staff members, other professional workers in the State have been attending these orientation programs. Among the groups that have participated are: Nursing Instructors from Montana's Schools of Nursing, State Hospital (Mental) staff, and several of Montana's Voluntary Health Agencies.

Special orientation programs have been conducted for other groups. The student nurses from the Montana State College School of Nursing, who are taking their quarter's experience in field training in public health participate in an orientation program once during the quarter. This program is directed chiefly to public health nursing activities. A group of beginning nursing students from Carroll College have visited each of these programs. Another group of students from the workshop on "Exceptional Children", from the College of Education in Great Falls, come each summer to learn more about the Board's services for exceptional children.

Upper Grade and High School students visit the Board's offices occasionally. A Boy Scout from Butte, earned part of his Eagle Scout Award in this manner.

State Meetings and Committee Work

The health education staff members have participated in 14 State-wide meetings and have assumed considerable responsibility in planning, arranging for, running the meetings and evaluating them, and preparing reports for several of them.

Four State Health Committees, meeting several times a year, are given health educator's assistance.

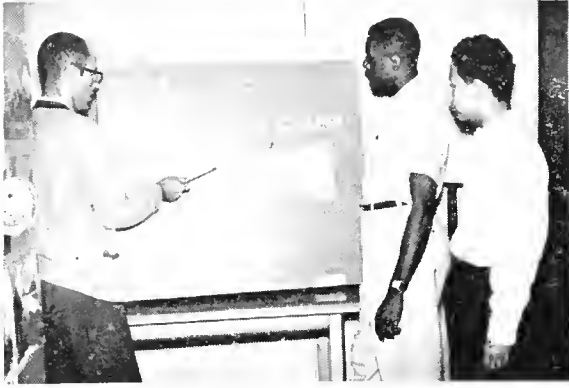
Another area of health educators' work has included innumerable local meetings, committee work and health council activities.

Field Training

Field training and or observation in public health education for students from the Schools of Public Health at the University of California at Berkeley and from the University of Minnesota in Minneapolis has continued as follows: California in 1959; Robert L. Solomon, Pennsylvania (12 weeks); Dr. Valentine Kerketta, Assam, India (8 weeks); and in 1960: Poorna Shrestha, Nepal (4 weeks).



As a part of a city-wide citizen's committee the Polson Jaycees, pictured above, prepare to make a house-to-house canvass. This canvass was for the purpose of explaining the need for the passage of water and sewage bonds. These citizen committees have been instrumental in the successful passage of several bond issues in Montana communities.



The 1960 field training students in health education examine one of the currently prepared exhibits.

Minnesota in 1959; Dr. R. Subramaniam, India (8 weeks); Mrs. Ivy McGhie, Jamaica (1 week); Dr. J. Nath, India (1 week); and in 1960, Ivan Buchanan, St. Kitts, West Indies (8 weeks).

This brings the total of health education students to 20 who have had this experience in Montana since 1952. This kind of experience is required before the Master of Public Health degree is awarded to the students by Schools of Public Health.

VISUAL AIDS

Another of the services provided by this division is the construction of visual aids. The following exhibits have been prepared and used: **Team Management of Cleft Palate Cases in Montana**, Montana Medical Association, Billings; Montana Dental Association, Kalispell; Western Branch, A.P.H.A., San Francisco; Pacific Orthodontic Association, Northern Component Meeting, Spokane; Montana



Sugar cubes (each equal to 1 teaspoonful of sugar) are used in the exhibit above to show the sugar content in foods high in sugar. This exhibit is used in dental health and nutrition educational programs.

State College, Bozeman; Montana Public Health Association, Billings; **Virus Laboratory Services of the State Board of Health**, Montana Medical Association, Billings; **Radiation Control in Dentistry**, Montana Dental Association, Missoula; Western Branch American Public Health Association, Denver; **Epidemiological Approach to the Control of Tuberculosis**, Montana Tuberculosis Association, Missoula; **The State Board of Health Tuberculosis Control Program**, Montana Tuberculosis Association, Great Falls; Montana State College, Bozeman; **Fluoridation Results in Montana**, Chinook, Roundup, Billings; **Hidden Sweets**, used in dental health programs; **Work of a Local Sanitarian**, Montana State College, Bozeman; **Where Are the Nation's Alcoholics and Who Are the Alcoholics**, Second Conference, Alcoholism in Business and Industry, Billings, Montana Public Health Association, Billings, Billings Public Library.

Planning and construction has begun for new exhibits illustrating the progress which has been made in Stream Pollution Abatement, the Board's Education for Parenthood Program and one on Dental Health.

A series of 35 mm slides has been prepared on: **Center for Cerebral Palsy and Handicapped Children** to illustrate the activities that are carried on there; and a series on the **State Board of Health Activities**, to use in educational meetings on public health.

Flannelgraphs on "The Mechanism of Dental Decay" and "How Germs Spread" were prepared and are being used in the dental health and sanitation programs.

WRITTEN MATERIALS

The most comprehensive publication prepared during the biennium is the revision of the Guide for the **Montana School Health Program**. The preliminary work on this Guide was carried out with the help of a State Committee representing the State Department of Public Instruction, the Teacher Training Departments in Montana Universities and Colleges and many local school administrators and teachers. Many of the experts within the State and some from outside the State, have contributed scientific information in their various specialties in health topics. State Board of Health staff, responsible for programs and activities as they affect health of the school-

aged child, have also participated in the preparation of this "Guide". The major responsibility for its preparation was assumed by the Division of Public Health Education.

The first edition of this Guide was published in 1950. The 1960 revision has brought the material up-to-date and it includes many more health topics than did the 1950 Guide. Each section of the Guide includes "Information for the Teacher", "Suggested Units of Instruction for primary, intermediate, upper grade or junior high school and for senior high school" levels. It also includes information on "Health Services to the School Aged Child" and sections on the "Healthful School Environment."

The collection and approval of the material was completed during this report period and the publication and distribution is anticipated early in the next biennium.

There has been participation by the health education staff in the revision of the pamphlet on "Codes for Eating and Drinking Establishments"; the "Education for Parenthood Manual", and the "Premature Nursing Manual".

New pamphlets have been printed as follows: **Handbook for Community Action and Education in Alcoholism**, and **The Problem Drinker in Montana Industry** in cooperation with the Narcotic and Alcoholism Advisory Committee to the State Board of Health; **The Sanitary Code for Bakeries and Manufacturing Confectioneries**; **Indian Attitudes . . . Beliefs . . . Customs . . . Culture . . . As They Affect Public Health** (Districts I and II). Brochures have been prepared on the **Cleft Lip-Cleft Palate Program** and **A Decade of Prog-**

ress at the Center for Cerebral Palsy and Handicapped Children; **Summary Reports of the Activities in the Full-time Health Departments**; **A Manual for Registrars**; the **Fourth Perinatal Death Study**; and a **Cardiac Directory and the Guide and Report Form for the Health Program of the State P.T.A.**

A pamphlet on **Public Health Careers** has been assembled and it will be published early in the next biennium. The publication of the Biennial Report for the 1956-58 years was completed. The total number distributed was 2,005 to date. The preparation of the Biennial Report for the years 1958-60 was started near the close of the biennium. The issuing of the Board's official publication, **Treasure State Health** each month during the biennium has continued with a total of 64,000 copies distributed.

Almost 10,000 individual pamphlets on health topics were distributed in addition to those reported elsewhere in this report. Approximately 143,500 health records have been mailed out by this division.

For the State Board of Health Library, 234 new scientific books have been purchased. The Board subscribes to 79 health and related periodicals.

The Board's Film Library contains 138 health films (16 mm) and 51 health filmstrips. The loaning and return of these films entailed 1,416 films shipped which were seen by approximately 15,000 persons.

Informational articles for the press were prepared at intervals.



Books and pamphlet materials are catalogued for the Board's Library.



Staff Safety Committee prepares to distribute seat belts to Board's staff for personal cars.

SAFETY EDUCATION

The Staff Safety Committee has continued its activities during the biennium. It has representatives from the divisions of Records & Statistics, Disease Control, Environmental Sanitation, Public Health Education and Public Health Nursing.

The purpose of this committee is to focus the attention of the staff on the safety aspects of the Board's public health programs.

The committee promoted a home accident reporting survey for the Board's staff; promoted an educational campaign in relation to the potential dangers of plastic bags when left within reach of infants and young children. The committee also promoted an educational program on the mouth-to-mouth technique of artificial respiration.

The recommendation of this committee to a national manufacturing company led to the company's discontinuing a television commercial that showed a potentially hazardous situation. The committee members continued their interest in the establishment of a poison control center for Montana.

This committee spearheaded an educational campaign among the State Board of Health staff showing the protective value of seat belts in cars. This program resulted in the staff purchasing 85 seat belts for their personal cars.

The Board purchased seat belts for the front seats of State cars used by the staff and required that they be used.

NARCOTIC AND ALCOHOLISM EDUCATION

This educational program has been carried out with the advice and assistance of the Narcotic and Alcoholism Advisory Committee to the State Board of Health.



A group discussion is one of the best educational methods used to bring about understanding and the changing of attitudes. Group discussions are particularly helpful when the subject for discussion needs as much clarification as does the problem of alcoholism.

With the reduction of staff time budgeted from one full-time health educator to half-time the activities have necessarily been curtailed. However, public interest and understanding in the problem of alcoholism has continued. This is evident in both community and professional groups.

Conferences

One of the major activities of the biennium was sponsoring, with the Advisory Committee, two State-wide conferences on Alcoholism in Business and Industry. They were held in

A panel of physicians in public health, general practice, psychiatry, and institutional care discuss alcoholism as a disease.



Helena October 1958 and in Billings January 1960. These conferences attended by 65 and 150 persons respectively, brought about a growing awareness of the extent and costliness of alcoholism in business and industry. It has been estimated that of the approximately 18,000 alcoholics in the State 10,000 of them are in business or industry. It has been found that no business or industry is immune to employees suffering from alcoholism, nor is any level or group of employees immune. These conferences, plus the fact that alcoholism programs have been successfully developed in many industries in the nation, have led to the development of programs in a few of Montana's industries. Other Montana industries have similar plans underway.

Persons other than representatives from business and industry and labor groups attended these conferences. Therefore, they have contributed much to the over-all educational program in the State.

A one-day alcoholism conference in Whitefish was held and public interest was evident by the wide variety of interests of the people who attended. A local Committee on Alcoholism in Whitefish was formed following this conference.

Community Committees on Alcoholism

Assisting local community committees on Alcoholism has been another activity of importance during this report period. The North-central Committee on Alcoholism in Great Falls has continued to be active. Other local community committees have been formed in Billings, Lake and Sanders Counties, Sidney, Lewistown and Livingston. The Missoula Committee organized prior to 1955 has continued. These committees are operating with varying degrees of effectiveness and reflect the need for continued assistance. They have, however, been successful enough to point out the need for similar organizations for other Montana communities. This committee work is an effective educational method in developing community understanding and in changing attitudes toward alcoholism as a disease and the alcoholic as a sick person.

The School Program

The chief activity in the school program has been the preparation of a unit on "Alcoholism" in the Guide for the School Health Program. School faculties have attended all the conferences held in the State and many of them are active in the local alcoholism committees. Some of the students have also attended the conferences.



Conferences on alcoholism have contributed much to the citizen understanding of the problems of alcoholism.



A group of Billings students attending one of the Conferences on Alcoholism in Business and Industry, discuss their conference reports which they will take back to their classmates with one of the Board's health educators.

The educational materials which have been made available are included in the general health education section of this report.

Study and Report On Alcoholism

The most extensive activity has been the work carried on with the Advisory Committee in its study of alcoholism in Montana. The State Board of Health requested the help of this committee in making a study and report in accordance with a Senate Joint Resolution passed by the Thirty-sixth (1959) Legislative Assembly. This resolution authorized and encouraged the "continued and extended study by the State Board of Health of the problems occasioned by the narcotic-like substances, and further study of the problems of alcoholism and to report their findings and recommendations for the prevention and cure of alcoholism to the Thirty-seventh Legislative Assembly."

The study will be ready for distribution early in November of 1960. To make this

study, the chairman of the Advisory Committee, Winfield S. Wilder, M.D., appointed five subcommittees. These subcommittees and their chairmen are: School Education, Mrs. Barbara Longmaid, Helena, representing the State Department of Public Instruction; Community Education, Mr. C. T. Libbey, Livingston, representing the Montana Beer Wholesalers Association; Professional Education, William Walter, Ph.D., Bozeman, representing the University of Montana; Treatment and Rehabilitation, Carl Hammer, M.D., Bozeman, representing the public health physicians in the State; Business and Industry, Herbert Wendel, Butte, representing the Mining Industry.

THE NARCOTIC AND ALCOHOLISM ADVISORY COMMITTEE

The Narcotic and Alcoholism Advisory Committee to the State Board of Health has been extremely active during the biennium. The assistance they have given has made possible much of the success of the Board's educational program. The committee's membership has been increased to include a few other State-wide organizations and agencies and representation from four local Alcoholism Community Committees, this bringing the groups represented to 41.

From time to time consultants from outside the committee are asked to give assistance. There is a particular need for them particularly while the Study and Report on Alcoholism in Montana is being carried on.



"Problems of Alcoholism in Business and Industry" are discussed by representatives of management and labor at Conference held in Helena.



Local Public Health Nurses made 110,940 visits during the biennium.

Public Health Nursing

Highlights of the Biennium:

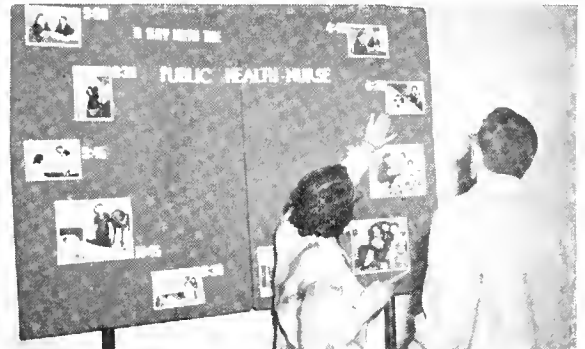
All-time high reached in number of public health nurses employed in Montana.

More than 30,000 individuals were reached through 110,940 public health nursing visits.

Federal traineeships are now available for public health nursing education within the State.

The Cascade City-County Health Department is utilized in addition to the Gallatin Department for field training in public health nursing.

Some daily activities of the Public Health Nurse are being discussed with an interested citizen.



SCOPE BROADENED

A changing society has broadened the scope of public health nursing activities. Sociological and economic changes in society and the advancement of science in the health field have broadened the scope of public health, and as a result the activities of the public health nurses. As public health programs develop to meet the needs of a changing society, there has been necessarily an increase in the public health nurse's activities since these activities are an integral part of most public health programs.

This change makes it necessary for the nurses in public health to be better prepared. They are challenged to keep pace with the changes in the activities of the different professional people with whom they work, agencies and institutions. It has also become necessary for the nurse to make more independent judgments.

While the work accomplished to date shows progress, there is need to continue up-dating of the nurse in the existing programs as well as to prepare her to move into new areas and to keep pace with the mounting need for nursing service.

Consultant Services Needs Increase

More intensive supervision is available to local public health nurses since it has been possible to increase the Board's consultant staff by two. This came about through the availability of special funds during the biennium. The addition of two consultants has reduced the size of the areas to be served. This in turn reduced travel time allowing more consultant time for actual service. However, Montana has reached an all time high of 100 nurses in the field of public health which is ten more than have been employed in any previous time. Ninety-two nurses give services



Nursing Consultant meets with group leaders as they prepare for participation in the Education for Parenthood Program.

in local areas; consequently there has been no decrease in demands for consultation and supervisory activities.

These local nurses made 53,889 visits during 1958 and 57,051 visits in 1959. This means that more than 30,000 individuals were reached in each of the two years. It is also of interest to note that more local public health nurses have been employed during the biennium and fewer have left the service.

Nursing Consultants Serve in Eight of the Board's Programs

Three of the nursing consultants have full-time responsibility in special programs while the other five, in addition to their supervisory responsibilities, have special program responsibilities. The following programs are participated in by the nursing staff: Communicable

Disease, Chronic Disease, Dental Health, Maternal & Child Health, Mental Health, Cardiovascular Disease, Crippled Children's Services and Hospital and Maternity Nursing Services.

Public Health nursing staff serve on three of the Board's staff committees: Safety, Chronic Illness and Aging, and the Narcotic and Alcoholism Advisory Committee to the State Board of Health.

Other State Committees in which the nursing staff participate are: the Interorganizational Committee for the Montana League for Nursing and the Montana Tuberculosis Association, the Montana Heart Association Workshop Committee, the State Committee for Maternal and Newborn Care, the State Committee for Improving Family Life Education and the State Committee on Public Health Facilities in Nursing Education.



The Board's public health nursing staff plan program participation for the 1960-61 year.

Nursing Consultants have been assigned as liaison staff to three other State Agencies which are: The Montana State (Mental) Hospital, the Montana State Tuberculosis Sanitarium and the Montana State College School of Nursing.

Because public health nurses work primarily with families, the relationship of the Board's nursing staff with these other groups also serving the citizens, results in better services to these families.

Training Programs in Public Health Nursing

A higher percentage of public health nurses are now working in Montana who have had no academic training in public health nursing. This fact plus the change in the available funds for traineeships and the increased opportunities in the collegiate schools of nursing in Montana has changed the Board's nursing in-service education program.

Collegiate schools of nursing are being utilized through traineeships available for basic public health nursing in-service training. The Board's staff no longer has this responsibility and is, therefore, able to concentrate on supplying background information in new trends and programs through area conferences, institutes and workshops for the local nurses.

During the biennium, approximately twenty nurses have received traineeships for regular and short-term academic training in public health nursing.

Area conferences, institutes and workshops have been held for nurses in: Mental Retardation, Schizophrenia, Continuity of Care for the Mentally Ill, Health Services for Children, Handicapping Conditions of Children, Education for Parenthood, Prematurity, Emotional Aspects of Maternal and Newborn Care, Nursing Care of the Patient with the Decompen-

sated Heart, Cardiovascular Nursing, Tuberculosis, Venereal Disease, Nutrition and Interviewing Techniques.

Additional educational activities have included the execution of a plan for reaching faculties of nursing schools through meetings designed to acquaint them with public health facilities in the State. Public health facilities in Montana are used by the schools of nursing for the enrichment of the educational program of student nurses. The Board's health educators have participated in this program to help make these experiences more meaningful to the students. Field experience for students in public health nursing has expanded to include the Cascade City-County Health Department as well as the Gallatin County Health Department. The Gallatin County Department has furnished this experience since 1955.

Training sessions for leaders and community sponsoring groups in the Education for Parenthood Program have also been provided.

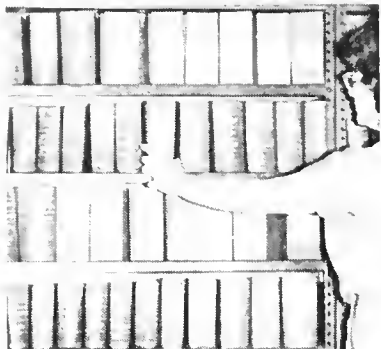
Recruitment Becomes More Difficult

Because of the changing trends in public health, it becomes increasingly more important to recruit qualified public health nurses. Though public health nurses' salaries have improved in Montana, the level of performance demanded of public health nurses makes it difficult to compete salary-wise with other States and educational institutions. The actual number of vacancies is small, but recruitment of qualified personnel is so difficult, because of the multiplicity of circumstances, that it has been necessary to employ nurses without satisfactory public health nursing preparation.

Nation-wide recruitment activities produce comparatively few inquiries and virtually no applicants, consequently Montana's efforts have to be intensified.

Student nurse discusses child growth and development with a mother. This is a part of her educational experience in public health in the Gallatin City-County Health Department.





Records and Statistics

Highlights of the Biennium:

Birth notifications were issued as photographic copies for the first time.

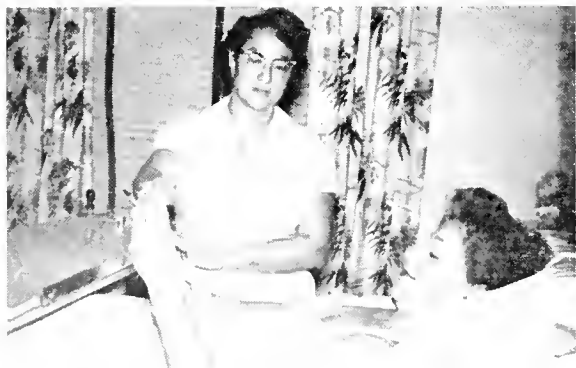
Manual for local registrars prepared for the first time.

Birth and Death Certificates from 1958 to present are microfilmed. Plans developed to microfilm certificates now on file from 1918 through 1957 if funds are available.

Birth records for the years 1860 to 1910 and death records from 1860-1917 have been re-indexed for improved efficiency.

Montana continues to maintain criteria enabling the State to be included in the U. S. Marriage and Divorce Registration Areas.

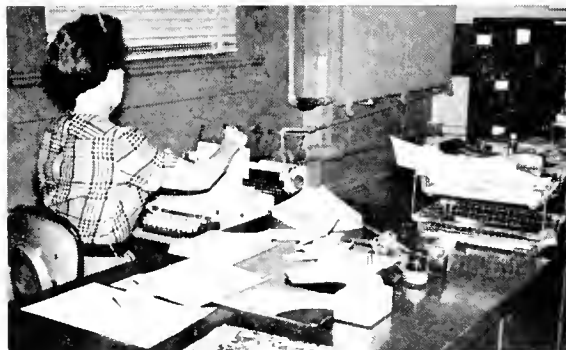
A baby was born every 30 minutes in Montana in 1959! To properly record them in the Division of Records and Statistics in the State Board of Health, the following procedures were carried out for each of these births:



Step 1. Mother Gives Infant's Name and Other Information to the Nurse in the Hospital.



Step 2. The Certificate is signed by the Physician who delivered the Infant.



Step 3. The Information goes to the Local Registrar who makes copies and sends the original to the State Office.



Step 4. The State Office microfilms certificate. A film copy of the certificate is forwarded to the National Office of Vital Statistics and a small photographic print is sent to the mother.



Step 5. Tabulations for informational purposes and program planning are carried out quickly with IBM Equipment.

Step 6. (Pictured top of page 34). The Birth Certificate is bound in books of 500 and placed in the vault for permanent safe keeping.

The filing of all vital records is carried on at the rate of one every 15 minutes. This rate goes on 24 hours of every day, 365 days of the year!

The filing of records includes, in addition to births, deaths, marriages, divorces and annulments, other records such as affidavits, and court orders.

During the 1958 and 1959 calendar years the number of records of life's major events are as follows:

	1958	1959
Live Births	17,083	17,448
Deaths	6,180	6,521
Marriages	6,142	6,228
Divorces & Annulments	2,023	2,062

In general the volume of records filed increases slightly each year as a result of increasing population. In 1940, for example, 11,468 live birth certificates were filed and in 1950, 15,592.

Local Officials Collect and File Information

This information is collected throughout the State by 71 local registrars located in each of the 56 county seats and 15 other registrars in strategic locations throughout the State. Other local officials with whom the Division works bring the total to 183 persons.

Local registrars are responsible for the filing of birth, death and fetal death (stillbirth) certificates in the area under their jurisdiction.

When these certificates are filed, the Local Registrar prepares a duplicate copy for the County Clerk and Recorder and a triplicate

copy for his own file. On the fifth day of each month, all original certificates which have been filed during the previous month, are mailed to the State Office. The Local Registrar is also responsible for the issuance of burial-transit permits for persons who die in his jurisdiction and for the issuance of disinterment permits.

The local Clerks and Recorders file the duplicate copy of birth, death, and fetal death certificates and they are authorized to issue certified copies of their record.

When a child is adopted, the State Office prepares a new birth certificate for the child showing his new name and the information concerning his adoptive parents. The duplicate copy of this new certificate is then forwarded to the County Clerk and Recorder, and he returns his copy of the original record to the State Office where it is placed in a confidential file.

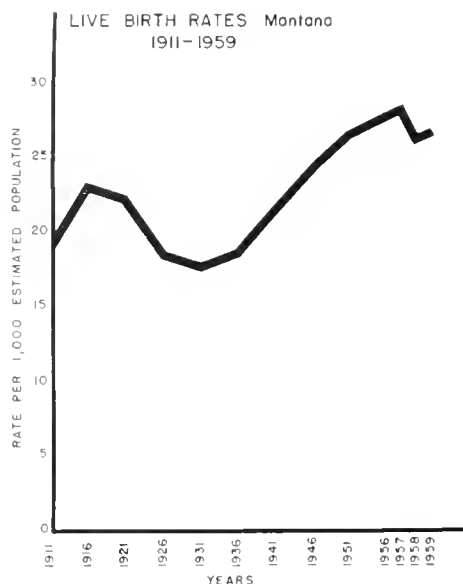
Marriage, divorce and annulment records are filed by the Clerk of the District Court. The original of these records are kept on file with these officials and a statistical record showing the information on the original document is sent to the State Office. This information is utilized in preparing tabulations regarding marriage and divorce in Montana. The information is also utilized in preparing a central index of these events for the entire State. In this way, it is possible to locate a marriage or divorce record without contacting each of the 56 counties.

Local officials are directly responsible for complete and correct registration in their own areas. It is in the local areas that much of the responsibility for good vital statistics registration lies.

State Office Responsibility

When the certificates reach the State Office, they are immediately checked to see that they are complete and acceptable for filing. Each is assigned a State File Number which is primarily a device used for their location in the State Office.

Before the information from death certificates can be transferred to the IBM cards, the cause of death must first be coded in conformity with the International Statistical Classification of Diseases, Injuries, and Causes of Death.



After the information has been transferred to IBM punch cards it is verified and filed. However, before the birth certificate is bound and stored, a notification record is sent to the parents. This record tells the parents that the child's certificate is on file and it shows the vital data contained on it. This makes it possible for parents to correct any errors that may have occurred and it gives them a chance to fill in any missing information.

Tabulation of vital statistics data is not an end in itself but the data collected is used for public health information, for analysis in program planning and in the evaluation of public health programs.

Montana Deaths

The death rate for Montana for 1957 was 10.0 per 1,000 population (1) and for 1958 was 9.6.

DEATHS AND DEATH RATES FOR TEN LEADING CAUSES:

Montana, 1957 and 1958

(By place of residence)

1958 Rank	International List Number	Cause of Death	1957		1958	
			No. Deaths	Rate per 100,000 Population	No. Deaths	Rate per 100,000 (2) Population
		ALL CAUSES	6,486	1,002.5	6,265	956.5
1	410-443	Diseases of Heart	2,290	353.9	2,244	342.6
2	140-205	Cancer	873	134.9	858	131.0
3	330-334	Cerebral hemorrhage, and other vascular lesions affecting central nervous system ..	679	104.9	673	102.7
4	800-962	Accidents	541	83.6	497	75.9
5	480-493	Influenza and pneumonia	274	42.3	274	41.8
6	760-776	Certain diseases of early infancy	265	41.0	249	38.0
7	450	General arteriosclerosis	167	35.8	162	24.7
8	260	Diabetes Mellitus	118	18.2	109	16.6
9	970-979	Suicide	105	16.2	101	15.4
10	581	Cirrhosis of liver	70	10.8	76	11.6
		All other causes	1,104	170.6	1,022	156.0

(1) Estimated mid-year population is 647,000. This estimate is based on preliminary counts from the 1960 Census. The previous estimate for July 1, 1957 was 678,000.

(2) Estimated midyear population is 655,000. This estimate is based on preliminary counts from the 1960 census. The previous estimate for July 1, 1958 was 688,000.

Other information is tabulated and analyzed as requests come from other of the Board's divisions and from local health departments.

One of the routine tabulations carried on in this division is the processing of daily activity reports for all local public health nurses. Each nurse submits her daily activity reports for the month. A summary report of the month's activities is returned to the local public health nurse or her supervisor. It is used for program planning and evaluation. Another of the examples of the statistical services is that provided for the pediatric survey done for the Cascade City-County Health Department during the biennium. This study was an evaluation of the health status of 125 Indian children and 97 non-Indian children in the lower economic groups.

Accomplishments, Needs and Future Plans

This is the second biennium in which Montana has met the criteria required by the National Office of Vital Statistics for inclusion in the Marriage and Divorce (and Annulment) Registration Areas. This means that there is maintained a central file of these records, that these records contain certain minimum items and that the State Office has maintained high standards of accuracy of registration. When the U. S. Marriage Registration Areas were established on January 1, 1957, Montana was one of 19 States and 4 Territories meeting the established criteria. Montana was one of 14 States and 3 Territories when on January 1, 1958, the U. S. Divorce Registration Area was established.

Central registration of births, deaths, and fetal deaths was inaugurated in 1907 in this State. Birth certificates filed during the years 1907-1918 were written on postal cards. These are filed in drawers in the main vault. Since they must be filed in such a way they can be removed for preparation of certified copies, the possibility of loss is greater than for certificates bound in volumes. In order to minimize the probability of such loss these records have been microfilmed and the film is stored in a vault outside of Helena. This protects the information contained in these records in case of destruction of the records in our State vault.



Director of Records and Statistics and Director of Disease Control analyze graphic data.

If funds are available, it is planned to microfilm the remaining certificates in the vaults so that these records will also have this protection.

This procedure should be carried out for the remaining records in this Division and will be carried out when funds and personnel permit.

Re-indexing of birth certificates filed for the period 1860-1910 and death certificates for 1860-1917 has been completed. This procedure was started in 1956 to make it possible to locate certificates more quickly. The original indexes were no longer satisfactory for continued use. Additional entries which had been made in later years could not always be entered in proper alphabetical sequence; hence, it was often necessary to search several pages in order to locate the necessary information. Since searching for these records is difficult, the possibility of overlooking entries is evident.

Additional space is desperately needed for the storage of vital records. The storage space available is smaller than that in many county offices. The vault originally designed for these records has long been outgrown and an additional vault on another floor is being used, but even this is not adequate.

When funds and staff are available plans will be made to carry out multiple cause of death tabulations and detailed analysis of accidental death fatalities. Plans will also be made to put tabulations into visual form so that the information will be more readily understandable and more meaningful.

Part II. PUBLIC HEALTH PROGRAMS



Speech Therapy is provided in the Cleft Palate Program and also at the Center for Cerebral Palsy and Handicapped Children.

Child Health Services

Highlights of the Biennium:

No deaths were reported from whooping cough for the first time in 1958. For the second time there were no deaths reported from diphtheria in 1958. The first such record occurred in 1951.

The Cleft Lip-Cleft Palate teams made 275 separate evaluations during the biennium.

Joint studies by the Maternal and Child Welfare Committee of the Montana Medical Association and the State Board of Health continued. Completed were 12 studies on maternal mortality; the Second and Third Reports on Infant and Stillbirths by Montana Hospitals and the Fourth Perinatal Death Study Report was made.

The Center for Cerebral Palsy and Handicapped Children provided services for 369 children including 143 for speech therapy alone.

The number of children served at 26 Crippled Children's clinics was 2,919 during the 1958 and 1959 calendar years.

Local Professional Service Committees were organized for the Education for Parenthood Program. 938 prenatal women and 296 husbands attended these Education for Parenthood discussion groups.

A Health Program for the State P.T.A. was developed jointly with the State Board of Health for the first time.

Third Annual Institute on Maternal and Newborn Care held.

Hearing tests were administered to more than 14,000 school children.

Montana's maternal death rate of 1.7 per 10,000 live births in 1959 was approximately half the national rate of 3.7 for 1958.

215 children, referred by physicians, accepted on Rheumatic Fever Prevention Program.

The division of Child Health Services is concerned with programs to improve the health of mothers, infants and pre-school and school-age children. It also provides Crippled Children's Services, including special programs on Cleft Lip-Cleft Palate and in the cooperative

operation of the Center for Cerebral Palsy and Handicapped Children located in Billings. Services from the Board's Heart Diagnostic Center are also made available to children registered in the Crippled Children's Program.

MATERNITY, INFANCY AND PRE-SCHOOL

Montana's birth rate for the past two years has dropped slightly from the previous biennium. The chart below shows the number of Montana births and the rate and the national birth rate for the years 1956-1959.

	Montana		U. S. Rate
	No. of Births	Rate per 1,000 Est. Population	per 1,000 Est. Population
1956	17,703	27.7	24.9
1957	18,219	28.2	25.0
1958	17,275	26.4	24.3
1959	17,646	26.7	24.1

The chart below shows the Montana maternal mortality rates and the national maternal mortality rates for 1956-1959 years.

	Montana		U.S. Rates
	No. of Deaths	Rates per 10,000 Live Births	per 10,000 Live Births
1956	2	1.1	4.1
1957	5	2.7	4.1
1958	3	1.7	3.8
1959	3	1.7	3.7

In 1956 and 1957, Montana ranked 10th among the States in its maternal death rate whereas in 1955 and 1956 the Montana rate was second in the nation.

The chart below shows the comparative infant death rates for Montana and the nation from 1956-1959.

	Montana		U.S. Rate
	No. Infant Deaths (Under 1 Yr.)	Rate per 1,000 Live Births	per 1,000 Live Births
1956	495	28.0	26.0
1957	462	25.4	26.3
1958	444	25.7	27.1
1959	431	24.4	26.4 (Est.)

In the infant death bracket the majority of deaths continue to occur during the neonatal period (infant born alive and died within the first 28 days). The number of neonatal deaths and rates in Montana and the national rates are as follows for the last four years:

NUMBER OF NEONATAL DEATHS AND RATES 1956-1959

	Montana		U.S. Rate
	No. Neonatal Deaths	Rate per 1,000 Live Births	per 1,000 Live Births
1956	343	19.4	18.9
1957	318	17.5	19.1
1958	308	17.8	19.5
1959	294	16.7	19.1 (Est.)

To bring about the reduction in maternal and infant mortality there has been, for many years, a close working relationship between the State Board of Health and practicing physicians, hospital administrators and nurses, local public health officers and public health nurses. These professional workers are constantly working together in a joint effort to better both maternal and newborn care and to further the reduction of maternal and newborn morbidity and mortality rates.

The Maternal and Child Welfare Committee of the Montana Medical Association in conjunction with the Child Health division of the State Board of Health is continuing the study of all the infant and maternal deaths as they occur in the State. These physicians provide consultation to the private physicians attending the case in which a death occurred, if requested to do so.

The third annual report on "Infant and Neonatal Mortality and Stillbirth Rates by Montana Hospitals" was prepared and distributed to the administrators of all hospitals possessing maternity units. The information in the report included the number of live births, still births, neonatal and infant deaths occurring in each hospital along with their respective rates.

This information was compiled and distributed without identification, although each hospital was given its own individual rating. Each hospital was asked to have the report reviewed by the administrator, medical and nursing staffs. They were also asked to consider where improvements can be made so as to assist in the reduction of premature infant deaths.

State Committee on Maternal and Newborn Care

During the last biennium the Montana State Committee on Maternal and Newborn Care was formed. This committee has representation from the Montana League for Nursing, the Maternal and Child Welfare Committee of the Montana Medical Association, the Montana State Board of Health and the Montana Nurses' Association. During the current biennium this committee was enlarged in membership to give better representation of the medical and ancillary professions. Several gen-



In-State and Out-of-State participants at Third Maternal and Newborn Care Institute discuss current trends in care of mothers and infants.

eral medical practitioners have been added to the Committee. Representation from the Montana Hospital Association has also been added.

The first Institute on Maternal and Newborn Care, sponsored by this committee, was held during the last biennium. The Second Institute was held in July of 1958 with sessions in Missoula, Great Falls and Billings.

In August, 1959, a third Institute was held in Billings and Butte.

The third Institute was self-supporting. Each Institute was attended by approximately 100 physicians, hospital, public health and student nurses.

A fourth Institute is planned for the first month of the next biennium.

Since scientific advances have made obstetrics relatively safe, it is the feeling of the State Committee that as much attention should now be directed to promote the emotional well-being of the pregnant woman as has been given to bring about the attainments reached in safety. Therefore the topic chosen for this fourth Institute is: "Emotional Implications in Maternal and Newborn Care."

The Maternal and Child Health Nursing Consultant instituted a new emphasis in her work with maternity and public health nurses in five of Montana's communities. This new emphasis was in the interest of providing continuity of care for premature infants, mongoloid infants and infants with congenital anomalies. It is aimed to bring about closer working relationships and the exchange of useful information between the hospital nurses and the public health nurses in providing care. This will make a greater contribution to the

health and welfare of not only the mother and infant but also promote the well-being of the entire family.

The local public health nurse will provide the much needed assistance in the home when the mother and infant come from the hospital.

Hospital Consultation

In addition to the medical consultation provided, the State Board of Health provides the services of the Hospital Nursing Consultant in an effort to reduce Maternal and Infant Mortality. She made 143 nursing visits to the maternity departments of hospitals. On these visits she brings new information and demonstrates new techniques in maternity and infant care and assists in the improvement of procedures being carried on. She visited 16 hospitals to provide in-service training for hospital nursing staffs on maternal and newborn care. There were 110 nurses participating in this program. Classes are conducted for student nurses on the nursing care of the premature infant. During the biennium 35 such classes for 470 student nurses were held.

This nursing consultant spent a week investigating an outbreak of infection occurring in one of the Montana hospital nurseries. She also followed up this work after a six-month interval and a plan was developed for the local public health nurse to visit the homes of all babies discharged from the hospital to check closely on any evidence of further infection.



Maternity Nursing Consultant advises Hospital staff on best procedures in "formula making".

Nutrition Conferences

Four district meetings for nurses and dieticians were held in the State during the spring of 1960. The nutritionist from the U. S. Children's Bureau, Denver, served as the resource person at the conferences. They were planned and directed by the Maternal and Child Health

Nursing Consultant and the State Board of Health educators. The purpose of these conferences was to bring up-to-date information on the findings in nutrition research and the application of this information to improve the health of mothers and children.

Special Services

The bacteriology laboratory of the State Board of Health provided the following Maternal and Child Health Services during the biennium:

- 10,414 premarital blood serology tests
- 25,684 prenatal blood serology tests
- 6,072 blood determinations
- 4,855 blood typings.

The Child Health Division has for loan to hospitals two oxygen analyzers and three incubators. Hospitals also received 16,417 ampules of Silver Nitrate. This service, however, was discontinued in May 1959.

Education for Parenthood Program

Montana's Education for Parenthood Program, initiated in 1954, is continuing to expand and improve. During the biennium, 938 prenatal women and 296 husbands attended 43 series of discussion groups that were held in 14 counties in the State. This averages three series a year in each county. The discussion groups meet on the average of six times for two-hour sessions. The local hospital or public health nurse serves as the discussion leader. The unique feature of these sessions is the "freedom of discussion" afforded the participants. Through this educational method, fears, anxieties and tension are reduced. The expectant parent has an opportunity to ask questions which she is afraid sound "foolish".

The accompanying map shows where the adult and high school sessions have been held; where there have been only the adult or only the high school groups, and where this program will start in the 1960 school year.

The programs have local sponsoring groups. In 10 of the 14 counties, the Jayceens sponsor it. This sponsorship by a community group is an important factor in the success of the program.

There are 19 nurses who serve as nurse leaders in the adult program at the present time. Of these, nine are maternity nurses on the hospital staffs and the remainder are public health nurses.



Part of the "Professional Services Committee" meeting in Bozeman to discuss progress of Parent Education Program and to make future plans for its improvement.

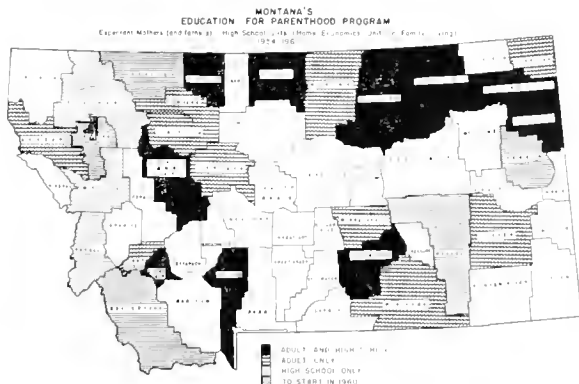
A new development in the program is the organization of Professional County Committees. These committees consist of those professional and sponsoring groups concerned with maternal and newborn care in the community. The nurses were assisted by health educators from the State Board of Health staff in organizing these groups.

These committees have been formed in six communities, with others underway. The purpose of these committees is for the members to meet for the purpose of becoming better informed on the progress of the Education for Parenthood Program, to evaluate and to make recommendations for further improvement of the program.

The Maternal and Child Health Nursing consultant visited 14 communities on behalf of this program in 1959 and a similar number in 1958.

Further Services to Pre-School Children

During the calendar years of 1958 and 1959, 768 Well-Child Conferences for infants and pre-school children were held in nine counties in the State. During these conferences 6,552 children under age six were examined. Of



this number 1,596 were seen for the first time. Most of these children have completed their immunizations as recommended.

A new child health conference record form was developed and introduced during the biennium, and educational meetings in two areas were held on the improvement of the Child Health Conference.

To further provide improved services to young children, the maternal and child health nursing consultant is meeting with the operators of day care institutions in Lewis and Clark County. Three meetings with this group have been held. Their purpose is to determine the operator's needs as they relate to services which the local public health nurses might provide. The findings from this group will be used in working out a program in other areas of the State.

More emphasis has been placed on encouraging local public health nurses to find mental health problems early in pre-school children. This is done as a preventive measure to get assistance before the problems become severe.

Public Health Nursing Visits

In the maternity program the local public health nurses made 5,854 home visits and 20,358 visits to infants and pre-school children during this biennium. The State staff provides consultation and supervision to the local nurses.

Working jointly with the State P.T.A., the National P.T.A.'s policy of recommending continuous well-child supervision from infancy through high school, is being implemented. This program discussed more completely under the School Health Program, also includes the promotion of this policy in the pre-school years.

Emphasis has been directed to the problem of Mental Retardation. New parent groups interested in this problem in which local public health nurses participate, have been formed in Flathead, Toole and Valley Counties.

Area nursing conferences have been held to prepare the public health nurses for their roles in assisting the parents understand the problem and what can be done in the best interest of the mentally retarded child and his family.

Educational Materials

Educational materials on maternal, newborn and infant care are provided by the State Board of Health.

Some educational materials are provided when Education for Parenthood Programs are initiated. Films are also loaned. Some materials are provided at Well-Child Conferences and other meetings.

The distribution of a series of pamphlets issued monthly to parents of first born children is continuing. This series is called "Pierre the Pelican". The distribution plan was changed during the biennium. In the interest of economy, instead of mailing these pamphlets for the twelve months of the child's first year, to all parents of first born children, the parents are queried at the time the fourth and ninth month pamphlets go out. Those parents not asking that the pamphlets be continued are dropped from the mailing list and only those retained who express an interest in getting them.

The series has been extended this year to include the first three years of the child's life instead of just the first year. These pamphlets for the second and third years are also sent only on request. This series is designed to give guidance on child growth and development and social behavior of the child. 61,698 of these pamphlets were distributed during this biennium.

Working jointly, the divisions of public health nursing, health education, and child health services, the "Discussion Guide for the Education for Parenthood Program" was revised, as were the "Maternity Nursing Manual for Hospitals", the Diet Check Sheets for these discussion groups and the pamphlet, "Nursing Care of the Premature Infant".

Exhibits constructed and displayed with assistance from the division of Health Education were: "Maternal and Infant Mortality Five-Year Rates" at the Montana Medical Association's Annual meeting in 1958. At the 1959 Institute on Maternal and Newborn Care, the following were displayed: "Five-Year Prematurity Rate by Counties"; "Five-Year Neonatal Deaths by Cause of Death" and the "Education for Parenthood Program".

More than half the monthly issues of the Board's official publication, TREASURY STATE HEALTH, have contained articles directly relating to the Child Health Program, with many more contributing to this program indirectly.

HEALTH PROGRAM FOR SCHOOL-AGED CHILD

The School Health Program, although coordinated through this division, is participated in by other divisions of the Board. Those who make particular contributions are: Dental Health, Disease Control, Environmental Sanitation, Health Education and Public Health Nursing.

The most far-reaching contribution to the health of the School-Aged Child for this biennium is the completion of the material for the Guide for the School Health Program. This publication is explained in more detail in the Health Education section of this Report.

Hearing Conservation

Hearing Conservation programs have been significantly extended in local areas during this biennium. These new local programs are based on the experience gained in the "pilot" program carried on in Missoula during the last biennium.

During this report period approximately 14,000 school children have had their hearing tested either as a part of an over-all testing program or on a teacher referral to the public health nurses.



Local public health nurse and teacher confer on health needs of pupils.

The Missoula program is now incorporated as a part of the local health and education programs and is operated on a sustaining basis with children in specific grades now being tested each year.

The new programs initiated are in the Great Falls city schools and in all the schools in Public Health District I (Big Horn-Rosebud Counties), Stanford, Fort Benton and Thompson Falls (Public Health District II, Lake-Sanders Counties) schools have also carried on hearing conservation programs. In addition, many other communities are conducting hearing testing programs as direct referral to the public health nurses.

The first hearing conservation program among adults was initiated along with the school program in Thompson Falls.

Included in the Hearing Conservation programs are: health education, testing by screening, re-testing and medical follow-up. The division of health education works closely with



Using the Massachusetts Hearing Test 10 students are tested at a time in Public Health District 1 program.

community and school groups. This aspect of the program stresses the importance of hearing conservation, methods of testing and care of the ears.

"Screening" is now done by the individual sweep-test method or by the Massachusetts Hearing Test. This is a multiple type test administered to 10 or more children at a time, by a public health nurse, a speech and hearing therapist, or a trained volunteer.

The "screening test" is followed by a "threshold test", that is, those children suspected of having a hearing loss as a result of the "screening" test are re-tested individually. This test is more exact and is conducted by the public health nurse or the speech and hearing therapist. It is on the results of this test that those children are selected who need medical referral. The public health nurse visits the family and explains the need for physician examination.

The goal of any testing program is, of course, the selection of those children who need medical examination and the motivation of the children and their parents to see that this is carried through. The success of the Montana program is unique in that between 80% and 90% of the children referred for medical examination and treatment where needed are being seen by their family physicians or by medical specialists. In the past, too often the program ended with testing, which brought no help to the children in need. The rate of hearing loss is approximately 4½% when all the children in a school are tested; this corresponds closely with the national rate. The large number of children being seen by the physicians reflects the thoroughness of the program and the need for teacher, public health nurse, student, parent and volunteer participation. It is anticipated that as public awareness grows, the percentage of children seen by a physician will rise even higher.

P.T.A. Health Program

The State P.T.A. President and the State Health Chairman met with the State Board of Health staff to develop a **joint program for the promotion of health.**

Four topics were chosen for the 1960-61 school year. They are:

1. **The Promotion of Regular Health Supervision of Children and Youth, beginning in Infancy and Carrying on Through High School.**
2. **Studies and Information on Nutrition, particularly on Children's Breakfasts.**
3. **Promotion of Dental Health.**
4. **Adequate Public Health Program.**

The State Board of Health staff then developed a Guide and Report form which will be distributed to the local P.T.A.'s in August of 1960. A plan has been developed whereby a representative from the State Board of Health will attend each of the six district P.T.A. meetings in the fall to discuss the use of this Guide and the Report Form.

Other School Health Services

Activities in the School Health Program are discussed with the State Department of Public Instruction through the Joint Staff Committee. This Joint Committee has representatives from the two departments. It has continued to be active during the biennium as well as has its Advisory Council.

Plans for the development of a pamphlet on Health Careers are underway. It is anticipated this will be ready for the High School and College Guidance Counselors early in the next biennium.

The pilot program for teen-age education on Venereal Disease is discussed in the Disease Control Section of this report on page 66.

The Education for Parenthood Program, discussed in the earlier part of this section is carried on in High Schools in the Home Economics III Course as part of the unit on Family Living. The counties where this is done are shown on the map on page 41. Serving as a resource person to this program in the twenty high schools where it is offered are fourteen public health nurses. Within the last two years, 1,110 girls have had the advantage of this 12-hour course. There is a steadily increasing number of requests from school administrators to reach more high school students, both boys and girls with this popular program. So far, few of these requests can be reached due to the scarcity of local public health nurses.

A Joint Committee for Improving Family Life Education has been formed in Montana with the State Board of Health represented by the Maternal and Child Health Nursing Consultant and one of the health education consultants. This committee with the Eastern Montana College of Education sponsored a workshop for professional personnel working with "Teen-Agers". The professional workers who attended were those who have services to offer this age group. The attendance was excellent, with 150 persons participating. Of this group, 36 were public health nurses and 12 were hospital nurses. Others attending were educators, health educators and physicians.

Local public health nurses made 63,433 visits in the interest of school-age students during this biennium.

Books and films are loaned to school personnel and for P.T.A. programs.

School Health Records are supplied to local schools by the State Board of Health. During the biennium 44,383 Health Information blanks and 51,322 Cumulative Health Records were distributed.

CRIPPLED CHILDREN'S SERVICES

General

When the Crippled Children's Services was first inaugurated, and for a number of years thereafter, its main function was in the area of pure orthopedic problems, with limited service to children with cerebral palsy, cleft lip and cleft palate and rheumatic fever.

Following trends started in the last biennium, this service has now been expanded to



The local public health nurses visit the home to help the family carry out recommendations made at Crippled Children's Clinics.

include large numbers of neurosurgical and cardiac surgical problems, a broad scope care of cleft palate cases, and extensive rheumatic fever control program, and heart diagnostic service. It also includes newer phases of modern day rehabilitation care as carried out in the Montana Center for Cerebral Palsy and Handicapped Children and the Heart Diagnostic Center. Cases in these latter categories are extremely expensive, costing up to thousands of dollars apiece for hospital, surgical, and related professional service care.

Program Problems

A special problem that has been of increasing importance during the past few years is that of the large number of paraplegics and quadraplegics found in the teen age group following automobile accidents and gun shot wounds. During the past year seven such cases were under care. These problems not only tax the financial resources of the family, the Crippled Children's budget, and other public funds, but often are complicated by a discouraging lack of appropriate resources within the State to adequately care for these patients. At best some cannot be restored to useful citizenship.

As a matter of policy, after diagnosis has been established and a determination of need has been made in connection with the specific family of the child concerned, cases are accepted on the program to the extent that the family needs assistance. However, these admissions are limited to conditions which tend to be chronic and disabling. They are also limited to those cases where there is reasonable assurance that such conditions can be corrected or improved through rehabilitative procedures, to the end that such child may lead a reasonably healthy and useful existence.

Children are not accepted under the program for custodial care. This is presenting an increasingly difficult problem for decision as in the case of the quadraplegics noted earlier and other neurosurgical problems.

This decision is based on a review of a comprehensive case study and report by a group of medical and surgical specialists and related ancillary workers. Such reviews are periodic if care is authorized. However, such decisions may be influenced by availability of

funds for the use of funds where the prospect of correction or improvement is good takes precedence over those where the prospect is bad or doubtful. These latter cases and cases receiving their maximum benefit from treatment are likely to become purely custodial, usually at welfare expense.

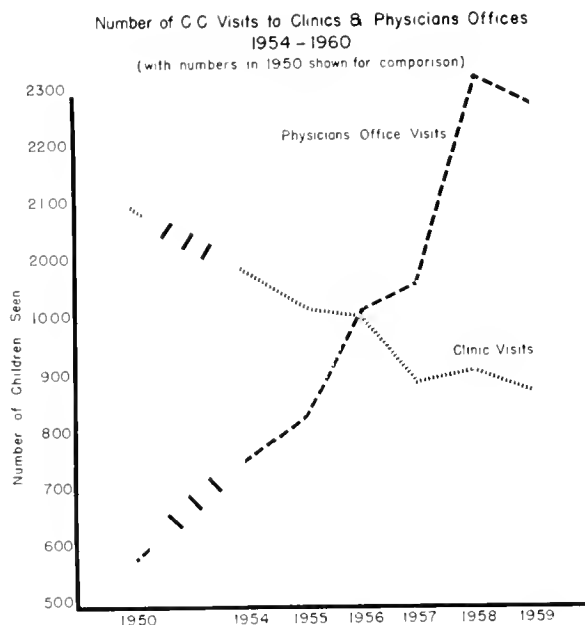
Another handicapping problem, because of budgetary limitations, is the necessity to limit hospital and surgical authorizations about the middle of March each year. The funds still available at this time are reserved for the most urgent conditions. This, therefore, creates a backlog of needy cases which must wait until funds are available in the new year. Not only does this create a problem in the function of the Crippled Children's services in the State, but it undoubtedly creates problems in the families where such children live. Unfortunately, some children who cannot be accepted on the program must receive hospitalization and surgery without the family being able to assume the financial responsibility and thus face a debt which they cannot meet.

Occasionally towards the end of the fiscal year additional monies have been acquired to allow reinstatement of hospital and surgical services to a limited extent.

Case-finding has continued through Crippled Children's Clinics, referrals from public health nurses, private physicians, welfare workers and an informed public.

However, locating and serving handicapped children residing in the state still presents problems. The reasons for this are varied. Some cases are not referred, or are referred too late for financial or professional aid. Occasionally this results from physicians or hospital misunderstanding of the services available or the family's need before the family has incurred a substantial debt.

Lack of public health nursing personnel in many counties is a deterring factor in adequate referrals and follow up. In some instances families do not take advantage of available services because of emotional factors. Continuing efforts to cope with these problems is made with the degree of success closely dependent upon the staff assistance available.



Numbers of Children Receiving Services

The number of children on the Crippled Children's Register for the last five years on December 31 of each year is shown below:

1955	4,890
1956	5,028
1957	5,281
1958	5,553
1959	5,745

The number of old and new cases to whom service has been given from 1955-1959 is as follows:

Year	New Cases	Old Cases	Total
1955	640	821	1,461
1956	565	709	1,274
1957	573	690	1,203
1958	680	804	1,484
1959	668	767	1,435

As noted above the number of new, old and total cases fluctuates slightly in the last five years with the total between 1,203 and 1,484.

Physician Visits

Formerly the best case-finding procedure was the Crippled Children's Clinics. Through 1954, thirty-one such clinics were held in the State each year. These clinics have gradually been cut down in number and at present only

Medical Social Worker participates in the financial planning for treatment and care.



thirteen are being held. Thus, case registration from this source has been greatly reduced in the last five years. However, this has been compensated by the fact that more and more children are being seen in private physician's offices for diagnostic and follow-up purposes.

The accompanying graph and chart shows this change.

Number of Crippled Children New Cases Given Service By Year In 1954 - 1959

Year	Clinics	Physician's Office	Total
1954	760	90	850
1955	539	101	640
1956	443	122	565
1957	377	196	573
1958	384	296	680
1959	389	279	668

It is believed that this change has not detrimentally reduced case-finding. However, it is believed that any further reduction in clinics would be detrimental and that it would also substantially increase the cost.

Through this combination of clinics and office visits, the State Board of Health attempts to arrive at the lowest cost method of seeing these children and still be in the child's best interest. It is thought that a large proportion of the handicapped children needing these services are being seen, although in some instances the referral to the program is delayed.

Hospitalization

The table below shows the hospital services provided for children in the Crippled Children's Program from 1955-1959.

CRIPPLED CHILDREN HOSPITAL SERVICES BY CHILDREN ADMITTED HOSPITAL DAYS AND EXPENDITURES

Expenditures calculated in dollars for calendar year.

	1955 - 1959				
	1955	1956	1957	1958*	1959*
Number of Children Admitted.....	156	195	217	331	246
Total Hospital Days.....	3,051	3,314	2,829	3,769	3,538
Average Days Per Patient.....	19.5	17.0	13.0	11.4	14.3
Total Expended Hospitalization.....	\$71,134	\$69,255	\$61,870	\$75,428	\$76,240
Average Expended Per Child.....	\$444	\$317	\$293	\$228	\$310
Average Expended Per Child Per Day.....	\$22.69	\$18.66	\$22.47	\$20.01	\$21.55

*Excludes Heart Surgery patients admitted to 3 Minnesota Hospitals through Regional Heart Center.

The table above shows a 58% increase in number of children admitted to the hospital in 1959 over 1955 but the total number of hospital days has increased only 16%. The average days of hospitalization per patient has de-

creased from 19.5 in 1955 to 14.3 in 1959. The average expenditure per child is down \$134 in 1959 as compared with 1955 with the average daily per child expenditure down \$1.14.

The reimbursable hospital cost for hospitals used for these services has almost steadily increased, as shown below, in lowest, average and highest rates during this same period of time. This is a 42% increase from 1955 to 1959 in the average rate.

**Reimbursable Hospital Cost
for
Hospitals Used for Crippled Children's Services**

1955 - 1959

	1955	1956	1957	1958	1959
Lowest rate . . .	\$12.87	\$15.27	\$17.11	\$17.11	\$17.11
Average rate . . .	20.73	21.99	24.42	25.12	29.46
Highest rate . . .	24.99	27.93	35.69	33.00	36.42
Number of Hospitals . . .	11	11	11	11	11

Changes in Services

While orthopedies still constitutes the largest single group of conditions receiving care through Crippled Children's Services they are only about 50% of all cases accepted instead of 90% in earlier years.

The two tables below reflect some of these changes:

**Neurological Surgery
Calendar Years 1955 - 1959**

	1955	1956	1957	1958	1959
No. Children . . .	14	21	20	15	16
No. Days of Hospitalization	15	376	143	192	232

**Increases in Crippled Children's Case Load in Rheumatic Fever, Acute;
Congenital Malformation of Circulatory System and Chronic Rheumatic Heart
Disease, by Calendar Years 1950 - 59**

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
Rheumatic Fever, Acute	7	14	5	8	25	33	19	19	29	28
Congenital Malformation of Circulatory System	6	3	1	22	35	50	39	58	129	145
Chronic Rheumatic Heart Disease	1	2	4	4	3	3	5	3	17	8
TOTALS	14	19	10	34	63	86	63	80	175	181

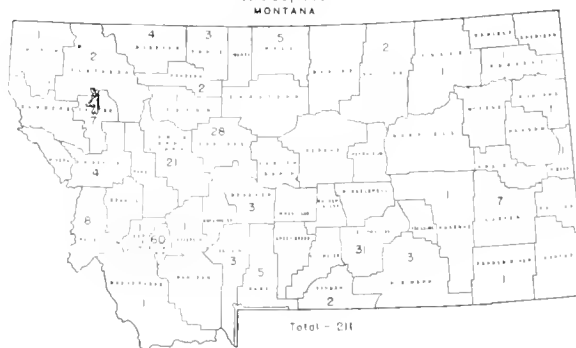
Regional Heart Surgery Services

One of several regional heart surgical centers supported by the U. S. Children's Bureau is the one in Minnesota utilizing the University Hospital and the Mayo Clinic. Montana is served by these facilities. Before patients may be referred they require application for service, social service review and medical referral like any other crippled child in Montana. In addition, most of them are given diagnostic studies at the Board's Heart Center in Great Falls with the medical diagnostic summary forwarded to Minnesota along with other data. Children accepted at the Regional Heart Center receive hospitalization and surgical care at no direct expense to the Montana program. In 1958 there were three such children, in 1959—six children and in the first half of 1960—14 children. The Montana Crippled Children's funds could not have assumed this cost—averaging \$3,000 per child. The family is responsible for all transportation expenses, except for welfare accepted families.

Rheumatic Fever Program

The State Board of Health, in 1955, initiated its Rheumatic Fever Prevention Program. Through this program penicillin tablets are provided for children with a previous attack of

RHEUMATIC FEVER PREVENTION PROGRAM CASES BY COUNTIES
June 30, 1960
MONTANA



Rheumatic Fever. This disease is initiated in some unknown way by a streptococcal infection such as scarlet fever or "strep" sore throat and affects most children between the ages of 5 and 15 years.

Fortunately, only a small percentage of untreated strep infections are followed by Rheumatic Fever. An individual having had one attack, however, is much more susceptible to a recurrence following a strep infection. It has been proved that the continuous use of penicillin and other antibiotics can prevent strep infections and thereby prevent recurrences of Rheumatic Fever and its frequent sequel, Rheumatic Heart Disease.

This program has been increasingly used by Montana physicians for their patients. This is demonstrated by the number of new cases accepted annually as shown in the following table:

Year Accepted on Program	Number of Patients
1955	19
1956	16
1957	45
1958	69
1959	66
1960 (first 6 mos.)	30
TOTAL	245

Although the program was successful, the State Board of Health anticipated that it would have to be discontinued late in the biennium due to inadequate funds for financing it. At this time the Montana Heart Association announced its low-cost penicillin prophylaxis program and it was hoped that the children on the Board's program could be transferred to it. An analysis of the State Board of Health program, however, indicated that the families of 62.4 percent of the 215 children then on the program would not be able to afford even the low-cost drug. The Montana Heart Association, when notified of this fact, expressed the hope that the Board would continue its program. Several ways in which the program could be improved were also brought out by the analysis and a revised program was prepared. Near the close of the biennium, in the light of this new information, the Board approved the continuation as well as a revision of its Rheumatic Fever Prevention Program.

The revised program included adults as well as children in economic need. Referrals are accepted from physicians only, as before. Special referral forms have been developed which provide information pertaining to the patient's history and physical examination and state the criteria by which cases will be accepted on the program. A State Board of Health physician reviews the form to see if the criteria are met. It is anticipated that approximately one-half of the cases referred will be accepted from the data on the form; in the other one-half consultation by an internist, cardiologist

or pediatrician will be provided, either at the Heart Diagnostic Center or on a private basis. This is contrary to the previous program where all cases required consultation. Once a patient is accepted, follow-up is maintained by the cooperative efforts of physician, the public health nurse and the State Board of Health. Annually, the patient must see his physician at which time a progress report is completed and returned to the State Board of Health.

In addition to the humanitarian side of preventing recurrent attacks of Rheumatic Fever, it is also a financial saving to the Board's Crippled Children's Program. By providing the prophylactic drug the need for recurrent medical and hospital care for which such children would be eligible is avoided. At the time of the above mentioned analysis hospitalization had been paid for 50 children. Forty-six of these patients were proved to have Rheumatic Fever. Of this number, 40 patients (87%) were enrolled by their physician on the State Board of Health Rheumatic Fever Prevention Program. Only six patients (13%) were not enrolled and it is likely that these are being maintained on prophylaxis on a private basis. Of course, the money required to pay for hospitalization for these 50 patients is many times that necessary to keep over 200 children on prophylaxis annually.

It is felt that the ultimate control of Rheumatic Fever recurrence in Montana is nearer reality due to the improvement and expansion of the State Board of Health's program and the initiation of the program of the Montana Heart Association. The latter program had 374 patients, 274 children, and 100 adults enrolled at the close of the biennium. The Board's program had 211 children enrolled at the same time. The map shows the distribution of these cases by county. This number is slightly less than the 216 cases enrolled earlier in 1960 but this actually represents an increase in patients on prophylaxis since several patients were found able to afford the low-cost penicillin and were transferred to the Montana Heart Association program.

It is anticipated that during the next biennium nearly all of Montana's Rheumatic Fever and Rheumatic Heart patients, whether a child or an adult, in whom prophylaxis is indicated, will be receiving it either through these two programs or privately.

Follow-Up Care

After the Crippled Children's cases are found and diagnosed, follow-up care includes counseling with families and local health and welfare workers, payment for hospital and surgical care. It includes providing braces, occupational therapy and physical therapy. Emphasis is given to early case-finding, early referral for care and family counseling.

Also utilized are local facilities and personnel. Other agencies that provide special services, such as the Shrine Hospital and the Blind Program of the State Department of Public Welfare are used.

Financial Assistance

The Crippled Children's Program is designed to help families who have children handicapped by some physical disability. The handicap may be congenital or acquired. The disability is usually of such proportion that it constitutes a major financial drain on the family in relation to the ability to pay. The rehabilitation of the child usually requires a number of years, a good deal of money and a comprehensive evaluation of the child's problem.

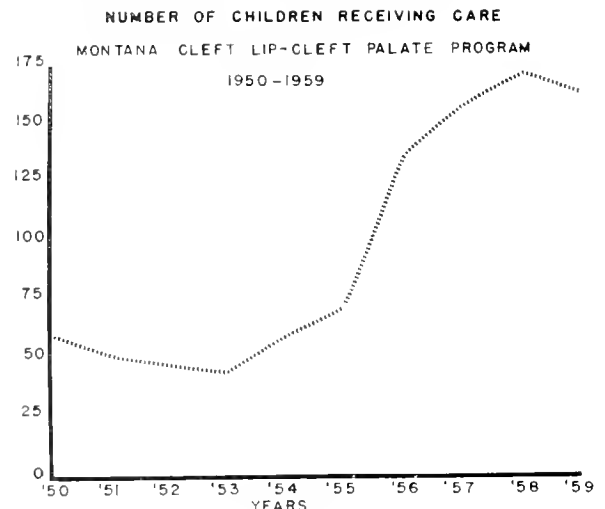
During this biennium it has been observed that an increasing number of families carry various types of health insurance. This has presented a problem regarding the acceptance of children on the Crippled Children's Program in order that tax funds would not be committed to pay for service covered by an insurance program to which the family had subscribed. Application for Crippled Children's Service are received from such families because of the uncertainty of the degree of coverage, if any, for the condition requiring care and also because the determination of the insurance applicability usually is prolonged, not infrequently requiring many months after care is completed. Many insurance programs exclude the crippling conditions needing care, or only paid in part, often leaving a potential or actual debt obligation which the family could not meet. Many factors relating to the child's disability and the need for care make it necessary to proceed with such care without delay if the child's best interest is to be served. While endeavoring to utilize such insurance programs to the fullest extent, the primary obligation of

serving the child in his best interests prevailed. Under these circumstances, unless the family is able to meet the obligations involved in providing care, the Crippled Children's service authorized care subject to insurance adjustment. During the biennium, under this procedure, where the insurance did apply, the Crippled Children's program received reimbursement, usually only in part, occasionally in full, as a result of insurance payments; such payments being applied as a credit to Crippled Children's funds reinstating such funds for care of other eligible children.

Information regarding the changes of emphasis on having families participate in payment for care to the extent of their ability have been sent to Public Health Nurses, Welfare Departments and others concerned with this program. Because it is necessary to depend on the assistance of local workers, information is sent them in written form for their use and understanding of the program. Because of limited State staff and unusual distances in Montana the local areas carry a good deal of responsibility in referring children, submitting application for service and social studies, and in the follow-up care of the child.

THE CLEFT LIP-CLEFT PALATE PROGRAM

Services to children with Cleft Lip-Cleft Palate handicaps continue to be provided through the three Montana Cleft Lip-Cleft Palate Teams. Montana's program continues to maintain a place of high regard in this field of rehabilitation. These teams have held 60 team meetings during the biennium.



The chart on page 50 indicates the increase in number of children with cleft lip-cleft palate congenital defects receiving care since 1950. The rapid rise is concurrent with the start of volunteer team approach in 1955-56 with the continuing rise under the 5 year special project which started July 1, 1957 with a U. S. Children's Bureau grant.

The levelling off of the program in 1958 and 1959 was expected as the backlog of old cases were caught up and the program became current with the newborn defects born each year.

The tables below show both the potential work load and the actual services rendered by number of children since the start of the teams.

CLEFT LIP - CLEFT PALATE

1956 - 1959

Summary of children in Montana registered during special Cleft Lip-Cleft Palate program and extent and types of services rendered by number of children and year.

Year	Total Enrollment	Newly Registered	Birth Defects	Cases Closed
1956	235	45	34	Not Available
1957	287	50	37	12
1958	326	47	36	6
1959	335	35	31	18

Year	No. Cases Team Evaluation	No. Lip Surgery	No. Palate Surgery	No. Rec. Orthodontia	No. Rec. Prosthodontia
1956	85	35	9	10	18
1957	126	40	8	13	18
1958	134	40	10	31	26
1959	131	31	13	49	21

Team evaluations began in 1955 with 41 cases evaluated.

At close of 1959, 90 are receiving speech therapy or continuing supervision directly through Program or by referral to Easter Seal Therapist, 59 of these solely through State Board of Health facilities.

Future estimate for team evaluation is 120-130 per year.

Team Successes

Figures do not reveal the individual successes achieved and the tacit gratitude of anxious parents and their bewildered children. Within the relatively short life of this program a great change is noted in the final results and in the wholesome attitudes of children "born into the program"—that is the children receiving team evaluations and beginning care in infancy as compared with children and their families when this team care was not available to them until later in the development of the children.



Professional staff reviews cases at Team Meeting.

Speech Therapy

Of the total number of children, 346 registered in the program on August 31, 1960, about one out of every four is receiving speech therapy. To better meet this need a speech therapist has been employed and assigned to work in the Great Falls area. If speech therapy services were more readily available in some of the more rural areas of the State, the number of children who need speech therapy could have it. The number would increase from one in four to one in three and possibly higher.

Cleft Palate Births Continue to Occur

The number of cleft palate births in the State continues to average about 34 per year which is higher than the original estimate. All indications point to an anticipated registration of between 390 and 400 cases, after which it is expected that there will be a gradual decrease to approximately 320. This number, it is anticipated, will remain fairly stable.

Even though the Montana program is catching up on the backlog caused by unavailability of cleft palate teams in the past, no matter how diligent and complete a program is in effect, there will always be a fairly large number of cleft lip and cleft palate children for whom care is just starting and an even larger number at midway and at a terminal point in their care. This is due to the length of time required for observation and complete care.

Hospitalization

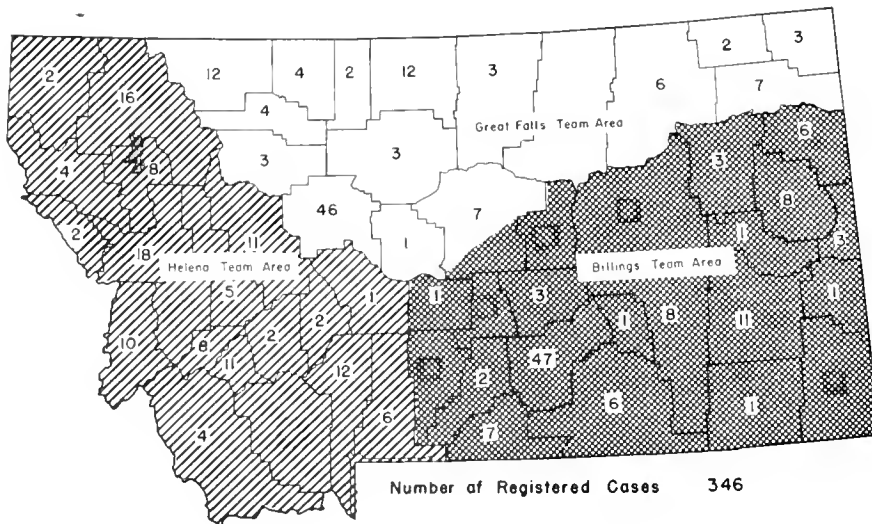
The team evaluations have resulted in the authorization of over 1,300 days of hospitalization during the biennium. This cost has exceeded \$35,000. These days of hospitalization represent from as little as one day for diagnostic work to some cases which have required the hospitalization of a young patient for as many as 64 days for an extensive program of care needed before any type of surgical procedure could be undertaken. However, the average length of stay in the hospital for 94 children was 14 days.

Orthodontic and Prosthodontic Procedure Rise

The largest increase in any area of care in this program during the biennium has been in the number of orthodontic cases receiving care. There were 60 children who have received orthodontic attention in its initial phase of active treatment. It is anticipated that this rise will continue for at least one or two more years before levelling off. It is hoped that preliminary research will bring about a procedure providing for orthodontic expansion of the newborns with bilateral clefts of the alveolus (tooth sockets) whereby orthodontic procedures in later years may be minimized somewhat.

Approximately 45 children have received dental prosthetic attention during the biennium.

Montana Cleft Lip and Palate Program



8/31/60



Prosthetic devices made when Cleft Palate cannot be closed by surgery.

Program in Last Year of U. S. Children's Bureau Grant

At the close of the biennium the U. S. Children's Bureau annual grant of \$50,000 has only one more year of the five years to run. At this time financial support must be made for the continuation of the program by the State if the program is to continue.

Of this current expenditure almost 80% goes into direct clinical, diagnostic and treatment services to these children. The chief items of expenditure have been in the areas of hospitalization and surgery. But as described previously there is some shift, not due to lessening of surgery, but to the rise of necessary orthodontic procedures. It is anticipated that total hospitalization costs will remain fairly static. Surgical costs will level off at about \$3,500 per year and orthodontic costs will not drop before reaching \$4,500 per year.

It is believed that it will take approximately \$50,000 a year for the next ten years to maintain the present high standard of care. This static figure, when coupled with a steadily rising case load, indicates more service being given per dollar unit of care. New surgical and dental techniques will help to prevent future, hitherto costly, procedures. Also, as the backlog of cases, present at the start of the program, is caught up there will be a lessening of the number of children needing radical treatment with extensive hospitalization.

CENTER FOR CEREBRAL PALSY & HANDICAPPED CHILDREN

The Center for Cerebral Palsy and Handicapped Children in Billings has continued to provide comprehensive services for handicapped children maintained by the Center's Professional Team. The goal of the program is to give maximum benefit so that each child may become adjusted physically and emotionally as possible within his capabilities supplemented by his educational growth through special educational facilities and teachers.

A decade of progress at the Center was highlighted with special observance on December 10, 1958. An open house and anniversary banquet were held and the first edition of a brochure describing the Center and its services was prepared for this occasion.

The Center is sponsored by the State Board of Health, the Eastern Montana College of Education and Billings School District No. 1, with each agency having representation on the Board which administers the program. The services are under medical direction and a coordinator is also employed. The College and the Billings School District are primarily concerned with providing the educational service and the College provides the space. The State Board of Health provides medical and ancillary medical services.

A total of 851 children have been registered since the Center was first started, with 369 receiving services* during the current biennium.

*This refers to individual children—not the number of times seen or service hours given. One child may have as many as 25 clinic sessions. Therapy sessions vary widely.



Medical services include pediatric examination (pictured above), orthopedic, neurological, psychiatric services and surgery

The 369 children were provided treatment as follows:

Speech only	143
Cleft Palate only	72
Cerebral Palsy	110
Other orthopedic problems (muscular dystrophy, post polio, amyotonia, congenital, spina bifida)	21
Miscellaneous (behavior problems, epilepsy, blindness and retardation)	23

In addition to these services 450 speech and hearing evaluations were made between 1955 and 1960.

The professional teams serving these children include medical and para-medical evaluations, diagnosis, treatment, special therapies and education as needed. These services were provided to individual children as follows:

	Services During Current Biennium	Total Since 1947
Diagnostic and Evaluation Clinics	49	242
Initial Evaluations	95	431
Re-evaluations for further recom- mendations and checks on braces, etc.	233	1,228
Children in full-time daily program to receive education and intensive therapy (the Center's capacity is approximately 26 at any one time)	51	132*
Children in full-time program re- leased for placement in public schools and other public or private institutions	16	100

*School program started in the spring of 1948.

The table above does not show the number of times each individual child was seen nor the number of service hours given. One child may have had as many as 25 clinic sessions and a great many therapy sessions, while another child would have had less.

Program Strengthened

The program at the Center was improved and strengthened during the biennium by:

1. Providing psychiatric consultation on a part-time basis. It has been found that unless the emotional problems which often accompany handicapping conditions are resolved the physical, educational and social development of the child is often hindered.
2. The position of psychologist became a full-time rather than part-time as was provided previously. Clinical as well as testing services are now offered.
3. Remodeling of the physical plant has provided an enlarged and rearranged office space providing for improved efficiency. An observation room has been



Routine psychological evaluations are now provided for all children given services at the Center since the employment of a psychologist on a full-time basis.

built in the speech department for one way observation. This provides observation in testing and therapy for students in training in special education at the College.

4. The primary class in the educational department has been separated into three sections: Nursery, Kindergarten and Primary, each meeting for short periods daily. This division more adequately meets the needs of the larger group of younger children now in the program. More younger children are in the program now than formerly, probably due to earlier diagnosis and to the fact that the Center's services are more widely known and accepted.
5. With the completion of the rehabilitation wing of St. Vincent's Hospital in May, 1960, beds for patients needing in-patient rehabilitation services became available. It was possible to arrange (on a trial basis) for the Hospital to accept on a boarding basis, patients seen at the Center for daily treatment and classroom work when foster homes were not possible in Billings. This is intended for patients ordinarily too severely handicapped for foster home care.



Educational activities for children at the Center provide part of the therapy needed for the child's development.

These are the patients who could benefit by services from the Center if in-dwelling facilities were available when they were not at the Center. The initial cost was set at \$5.00 per day on a trial basis. Since the plan was initiated so late the service had not been used at the end of the biennium.

Other changes made include the rotation of staff physicians. This change was made on the recommendation of the physicians themselves. To adjust to a shift in types of patients seen, one physical therapist position and one-half occupational therapist position were eliminated.

Through improved planning and coordination which was made possible by the sponsoring agencies, with the employment of a Coordinator and Educational Director, August 1st to May 17, 1960, expanded opportunities were made available for teachers being trained to work with handicapped children and to students in speech therapy courses. Observation in all the Center's services is provided for nurses in training. Some of these student nurses assist the staff at the summer camp held in August each year. Improvements have been made in classroom management at the Center also. This Coordinator position was changed to coordinator and director of Speech Services in May 1960.

Needs

Part of the physical therapy space has been lost to the College. There is a need for the expansion of the bus service to transport children back and forth and enlarged ground level



Occupational Therapy provides development of manual skills through creative and educational activities.



Physical therapist participates in the treatment of many of the children at the Center.

quarters are needed to serve the expanded caseload. Residence accommodation with ample facilities and staff to man a residence are needed.

The existing college basement space used since the start of the Center presents many problems since it was not designed for rehabilitation services, nor can it be properly modified structurally for such purposes. With the growth of the Center's improvement in service and the change in the type of the patients seen, there is evident need for a better physical facility.

Gifts Helpful

The Center has been fortunate in the continued receipt of unsolicited gifts from private citizens, service clubs and other organizations. During the biennium an inclinor chair has been installed to get the children up and down the stairs. Some new office furniture, an electric typewriter for classroom use have been received. New bicycles and tricycles have been acquired and some of the old ones repaired. These are used for muscle training and recreation. General use funds have also been received.



Health Educator demonstrates to fourth grade children parts of tooth that can be seen in a dental X-ray picture.

Dental Health

Highlights of the Biennium:

- Seven dental surveys conducted including 4,750 children. First county rural school survey done.
- Dental program in Cascade City-County Health Department evaluated including records on 1,408 children, shows excellent results.
- Dental survey results in three Montana towns where controlled fluoridation of public water supplies has been in effect seven years shows reductions in dental decay ranging from 60 to 70%.
- Bite-wing X-ray program conducted in four schools including 237 children and demonstration program at two university summer sessions.
- Dental Health Education Workshops conducted for eight P.T.A. meetings with approximately 1,000 people attending.
- Radiation control program developed for dental offices. Improvements being made as recommended.

PROGRAM PARTICIPANTS

In addition to the Dental Health division of the State Board of Health, other State Board of Health divisions participating in the promotion of dental health in Montana are: Bacteriological Laboratory, Disease Control, Environmental Sanitation, Public Health Education, Public Health Nursing and Records and Statistics.

Approximately 61 practicing dentists, and 300 P.T.A. members and room mothers have participated directly.

EDUCATIONAL PROGRAMS IN DENTAL HEALTH

Dental Health Education for the Public

Dental Health Education Programs have been carried on in conjunction with the dental surveys conducted in Cascade, Chinook, Dillon, Fergus County Schools, Fort Benton, Fort Shaw, Harlem, Roundup and Twin Bridges. The dental health surveys provide motivation

in care of the teeth and provide interest to the school health instruction program. Individual and group conferences were held with the teachers in these schools to provide assistance in methods of teaching dental health, in the preparation and use of visual aids and in providing up-to-date scientific literature in this field.

Dental Health Programs at Parent-Teacher Meetings have been participated in by the State Board of Health staff at Butte, Chinook, Columbia Falls, Conrad, Kalispell, Ravalli County, Ronan, Roundup, St. Ignatius and Sidney. Approximately 2,000 people have been reached in these meetings.

Seminars on Dental Health Education have been conducted at the Northern Montana College, the Western Montana College of Education, and the State University. Since this program was initiated in July 1959, approximately 120 students have had the opportunity to participate in this educational program.

The students' evaluation of the program indicates that these seminars have been very worthwhile. They recommend their continuation for future students enrolled in health education courses.

In cooperation with the Division of Public Health Education, the following visual aids and exhibits have been developed: "Hidden Sugar", which illustrates the amount of sugar in common sweets; "Mechanism of Dental Decay", flannelgraph; "Dental Benefits of Fluoridation in Montana" in chart and graphic form; "Dental Health Education Materials" available from the State Board of Health; "Radiation Control Program in Dental Offices", a pamphlet to supplement this exhibit was also prepared. The Radiation Control exhibit was shown at the Montana State Dental Association meeting in Missoula and at the Western Branch, American Public Health Association meeting in Denver in the spring of 1960.

A series of 35 mm slides illustrating the dental health services and activities of the State Board of Health and slides of the biting X-rays have been prepared. These visual education materials have been used in nearly all the dental health education programs in the schools, schools of nursing, colleges, professional meetings, P.T.A. and other meetings.

Articles and news releases on dental health including the results of dental surveys in fluoridated and non-fluoridated areas have been prepared for publication.

Professional Education

The State Board of Health has sponsored a one-week post-graduate course in "Dentistry for Children" at the University of Oregon for five Montana dentists in April 1959. A 2½ day seminar on "Preventive Orthodontics and Tooth Guidance" was co-sponsored with the



Mechanism of dental decay shown with a flannelgraph at P.T.A. meeting.



Local dentist participates in Post-fluoridation Survey. More than 60 local dentists have assisted in Dental Health Programs during Biennium.

Montana Society of Dentistry for Children. This was held in Montana and attended by 42 dentists.

In-service training programs were sponsored for the public health staff in one county and for the staff in one school of nursing.

PREVENTIVE DENTAL HEALTH PROGRAMS

Controlled Fluoridation

The following towns have reached a seven-year level of continuously controlled fluoridation in the public water supply: Bozeman, Chinook and Roundup. Dental surveys were made by the State Board of Health dental director and local dentists in these towns to determine the benefits of fluoridation.

These surveys were organized by public health nurses who were also active in the referral program that supplemented the survey.

A total of 1,741 children's teeth were examined by the 14 dentists who participated in the survey. Drinking water histories of these children were taken and show that approximately one-half of these children had grown up drinking fluoridated water since birth. These children's teeth show 65% less dental decay than children the same age who had been drinking fluoride deficient water. The accompanying graph shows the dental benefits of controlled fluoridation.

In evaluating this program, the same results are found which occur nation and world-wide, but this is the first Montana information relating to the effectiveness of fluoridation which could be collected.

In addition to pre-and post-fluoridation surveys, **community dental health surveys** were carried on to gather information on the dental health status of the child population. These were done at the request of community groups. Included in this group were: Twin Bridges, Dillon, Harlem, Roundup, Laurel, Fort Benton, the Montana Children's Center, 44 rural schools in Fergus County and nine schools in Ravalli County.

A total of 7,439 children received dental examinations during these dental surveys.

The surveys conducted to determine the value of fluoridation and the surveys conducted to gather information on the dental health status were both supplemented by an educational program. In the latter group children were referred for further examination and or treatment to their family physicians when their conditions so indicated the need.

The surveys were sponsored locally by Parent-Teacher Associations, Health Councils, local health personnel and or local dental societies.

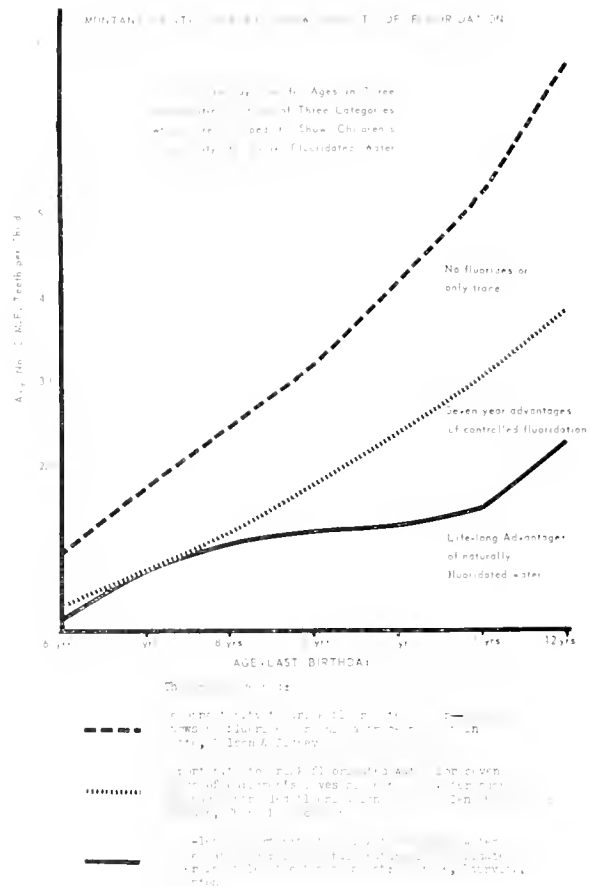
Bite-Wing X-Ray Program

Bite-wing X-ray Programs are conducted for the purpose of stimulating child visits to the dentist and to inform parents and children of the value of dental X-rays as an aid to diagnosis and treatment. They were conducted at Conrad, Brady, St. Ignatius, Fort Shaw, Cascade and Crow Agency.

The program at Crow Agency was a cooperative program with the Division of Indian Health, U. S. Public Health Service.

Bite-wing X-rays were taken on a total of 384 children. A limited number of college students in the Health Education Course at Northern Montana College and the State University were also X-rayed in the summer of 1959. This was a demonstration program held in conjunction with the seminar on dental health, and dental health education programs were included with each of the bite-wing programs.

An evaluation of the program was made at the Conrad and Brady schools in terms of child visits to the dentist during the summer



vacation following the X-ray program. Of the 100 children included in the program, 90 visited their dentists. This compares with a control group of 113 children in which only 50% of them visited their dentists during the same period of time.



Local Public Health Nurse (second from left above) is a key figure in Dental Survey Programs. Room mothers, P.T.A. members or other volunteers assume responsibility for rosters, mount X-rays in Bite-wing holders and assist in other ways.

Dental Referral Card Program

The School and Pre-School Dental Referral Card Program, which consists of a card distributed at the school, taken to the dentist and returned to the school when the dental work has been completed was evaluated. This evaluation was participated in by local school administrators, public health nurses and others administering the program locally. Complete agreement on the value of this program was not found. Its purpose is to assist in motivating child visits to the dentist.

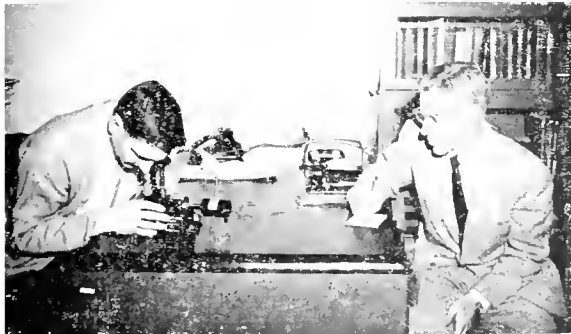
Since some local administrators feel the program is helpful and want to continue it, others express doubts, this program will be continued on a selective basis. The program was initiated more than ten years ago on a state-wide basis.

Radiation Monitoring Service

As a part of the Board's over-all program on radiation control, a radiation monitoring service was offered to practicing dentists in the State. This program began in December of 1958 and a total of 125 dental offices have now been monitored. This represents about one-half of the total and plans are underway to reach the rest of the offices during the next year.

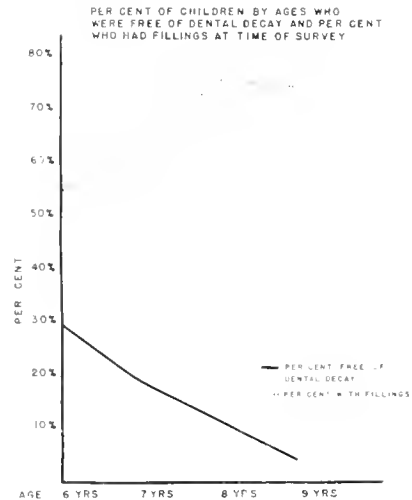
This program is a part of the industrial hygiene program of the Division of Disease Control. The primary objective of the Montana Radiation Control program is to reduce radiation from all sources to an irreducible minimum by means that are practical, economical and technically feasible. Appropriate recommendations are made as each office is monitored.

An effort was made to find out what modifications had been made to the X-ray machines



Industrial Hygiene Engineer and Dental Director review findings of Radiation Monitoring Program in dental offices.

monitored. A questionnaire mailed to 112 dentists with 74 replies received, indicates a high degree of follow-up on the recommendations made. An exhibit illustrating this program was prepared and shown at the 1960 annual meetings of the Montana State Dental Association in Missoula, and the Western Branch of the American Public Health Association in Denver.



Bozeman Post-Fluoridation Survey shows the Six and Seven Year olds, as shown above, have received the maximum benefits of fluoridation. The Eight and Nine Year olds did not have this benefit early enough, therefore show somewhat less protection.

Lactobacillus Program

A Lactobacillus Diagnostic Program is also carried on in cooperation with the bacteriology laboratory. This service is offered to practicing dentists as an aid in determining individual patient susceptibility to dental caries (decay). It is also used to measure the success of a dietary program for the control of dental caries. Thirty-nine dentists have used this service during the biennium and a total of 710 laboratory tests were made.

Mouth Protectors

Plans have been made to start a pilot program on mouth protectors for athletes engaged in contact sports. The program is to be done in two high schools and will be a cooperative program of the two high schools, the dental society, the High School Association and the State Board of Health. Individually fitted latex rubber mouth protectors have been shown to reduce mouth and facial injuries by nearly 100 per cent.



Study of Records Reveals Status of Disease in Montana.

Disease Control

Highlights of the Biennium:

- The Board's Tuberculosis Control Program revised and up-dated. The Program was developed for adaptation and implementation in various areas of the State according to their needs.
- A physician assigned by U.S.P.H.S. to staff of the Division of Disease Control to specifically direct a heart disease control program.
- A Radiation Control Program developed for dental offices. Plans are underway to monitor medical and veterinary equipment.
- An active Venereal Disease Program being carried out with special Federal Project funds which increased contact and suspect investigation from 226 in 1958 to 1,042 in 1959.
- A Pilot Program to assist nursing home operators provide improved care to their patients initiated in Gallatin County. This will serve as a guide in the development of one phase of the Chronic Disease Program.
- High volume air samples collected periodically at seven locations and examined for various contaminants.
- Most Montana Industries studied found to be carrying out State Board of Health recommendations for the reduction of health hazards, particularly in control of dust.

Acute Communicable Disease

Montana's communicable disease picture for the last biennium appears similar to the picture for recent years. Some details, however, stand out.

In 1958 Montana was one of seven states epidemic for POLIOMYELITIS. Sixty-eight cases were reported. Of these 75% were paralytic; 25% non-paralytic, and 10% were fatal. Only one child of this group had been fully vaccinated for polio at recommended intervals. This child had only a mild paralysis. 60% of all reported cases had no vaccination for poliomyelitis.

Although as always happens, this epidemic stimulated immunizations throughout the State, again in 1959 there were seventeen cases of poliomyelitis. Thirteen of these cases were paralytic; thirteen had no vaccination for polio. There were two persons who died, neither of whom had any vaccination.

Eleven of these cases occurred during October, November and December.

In the first six months of 1960, there were six cases of poliomyelitis reported — all of these were paralytic and again only one had been fully vaccinated; four had had no vaccination.



Montana has had no cases of Smallpox for seven consecutive years. Vaccination against this disease is recommended every five years.

Many attempts have been made throughout the biennium to urge Montanans to be protected adequately for poliomyelitis—but immunization still lags, especially in the pre-school group and in those persons over twenty. The estimated effectiveness of the recommended four doses of Salk vaccine for polio reported by the U. S. Public Health Service in November 1959 was 90% or better against paralytic polio. Surveys in late 1959 have shown that in areas in Montana, levels of protection for Polio are as low as 31% to a high, in areas with full-time health departments of 90%-97%.

1959 marked the seventh consecutive year that Montana has had no cases of SMALLPOX. This is an enviable record but one which, if continued, demands a population that is protected by smallpox vaccination. To attain this protection, everyone must be vaccinated for smallpox every five years throughout life.

DIPHTHERIA blackened the disease picture in the State during the biennium. There were thirteen cases reported in 1958. Of these, only one had any immunization for diphtheria and her protection had lapsed years before. Diphtheria is a preventable disease.

The two cases of diphtheria reported in 1959 were traced to an unsuspected carrier as the source. Recent studies have shown that

diphtheria carriers are more frequent than has been thought. It again behooves Montanans to keep up their diphtheria protection.

WHOOPING COUGH increased from 169 reported cases in 1958 to 237 cases in 1959. This, too, is a preventable disease. Protection against this disease is usually included when children are properly immunized.

INFECTIOUS HEPATITIS is a cause for real concern in Montana. In 1958, there were 424 cases reported and in 1959, there were 294 reported cases with five deaths. This disease appears to peak in incidence every five to ten years. It is a difficult disease to control as carriers may spread the disease and not be ill themselves. Unsanitary practices and conditions are usually involved when the disease occurs. Protection for a limited time is available to close contacts by the use of gamma globulin.

TYPHOID FEVER, when it occurs, is the result of poor sanitary practices, usually poor food handling methods. In 1958, there were eight cases reported; in 1959, there were six. Interestingly, one case reported was traced to a carrier who had the disease 45 years ago. She had prepared food for the person who contracted typhoid fever.

During the biennium, the typhoid carrier list was reviewed and reports on all known carriers were received. Health officers throughout the State are aware of who they are and where they work. Typhoid carriers are not allowed to work in jobs involving food or milk handling.

DYSENTERY (especially shigella) and SALMONELLA INFECTIONS, although seldom reported as cases, are other indicators of poor community sanitation and personal hygiene and according to laboratory reports are increasing in number. Dysentery among our Indian population is a real blot on our disease picture.

The tabulation on page 62 shows the reported number of streptococcal infections and rheumatic fever cases for 1954 to 1960. Streptococcal infections include streptococci sore throat and scarlet fever. The increased number of cases probably reflects better reporting by physicians, rather than a real increase in the disease itself. Recent attention to and in-

creasing use of prophylactic drugs in preventing rheumatic fever relapses probably explains the increased reporting. Described more fully in the Section on Heart Disease.

STREPTOCOCCAL INFECTIONS AND RHEUMATIC FEVER CASES REPORTED IN MONTANA FROM 1954 - 1960

Year	<u>Strep Infection</u>	<u>Rheumatic Fever</u>
1954	433	8
1955	388	9
1956	468	4
1957	1,082	8
1958	2,135	74
1959	1,866	95
1960 (week ending July 2, 1960) ...	1,796	113

INFLUENZA remains high in Montana. In 1958, 4,645 cases were reported which rose to 5,496 cases in 1959. During 1959, we again had a wave of Asian Influenza as proven serologically and by isolation in the State Board of Health virus laboratory from representative cases throughout the State.

In the first six months of 1960, the number rose to 7,223 influenza reported cases. This was a continuation of the Asian influenza wave.

MEASLES cases dropped from 8,250 reported cases in 1958 to 5,544 reported cases in 1959.

Only one case of ROCKY MOUNTAIN SPOTTED FEVER was reported in 1958. There were four cases in 1959. In 1958, no cases of TULAREMIA were reported; in 1959, there were four cases. There were three cases of BRUCELLOSIS reported in 1958; in 1959 there were no cases. There were no human cases of arthropod borne ENCEPHALITIS reported during the biennium. MENINGITIS cases dropped from 25 cases in 1958 to 17 cases in 1959.

Recognizing the evidence of Q FEVER infection in Montana cattle, the State Board of Health, in order to protect the public health,

requested the Livestock Sanitary Board to require the pasteurization of all milk distributed to the public from any dairy herd found to be Q fever infected.

Fortunately, there have been no human RABIES cases during the biennium. However, rabies in bats in Montana was proven in 1959, resulting in constant vigilance to discover rabies not only in humans but in domestic and wild animals. The public was alerted to the situation for their protection.

The Division of Disease Control has continued to work closely with the Livestock Sanitary Board to be aware of any old or new animal diseases which may be transmissible to man.

A new disease entity was added to Montana's disease picture during the biennium. In late 1958 and early 1959, a rare epidemic of PHLEBITIS began among 9 student nurses in Billings and 42 residents of Laurel and Park City. Epidemiological aid was requested from the U.S.P.H.S. Communicable Disease Center to assist in the investigation of the disease.

The cause of the disease was not determined. There was involvement of both deep and superficial veins, usually in the legs, although, some tenderness occurred in the arms. Irritability and emotional upset appeared to accompany the symptoms. Findings suggested autonomic nervous system involvement. The disease in some cases was very severe. The disease occurred most frequently in women and, other than the student nurses, the age range was between 30 and 45.

The Division of Disease Control has been most interested in the control of STAPHYLOCOCCUS infections in hospitals and their spread into the community and then back to the hospital. There has been participation in meetings and conferences with hospital personnel, practicing physicians, and public health nurses. Personnel from the State Board of Health are available, on request, to help investigate any outbreak.

Tuberculosis Control

A new look was given to the control of tuberculosis in Montana during the biennium.

Laws and Regulations for the Control of Tuberculosis

For many years, protection of the community against communicable tuberculosis by persons who have refused to comply with State Board of Health regulations, has been a problem. The 1959 Legislature passed a law, which permits the commitment of these persons if they are found to be a public health menace. The law also provides that persons suspected of having tuberculosis must submit to an examination. Rules and regulations were adopted by the State Board of Health to comply with this law defining communicable tuberculosis and establishing procedures relating to the diagnosis of communicable tuberculosis.

The 1959 Legislature also removed residency requirements for admission to the State Sanitarium, which has always been a problem in Montana. Transient persons with communicable tuberculosis could spread their disease in a community because sanitarium facilities were not available to them.

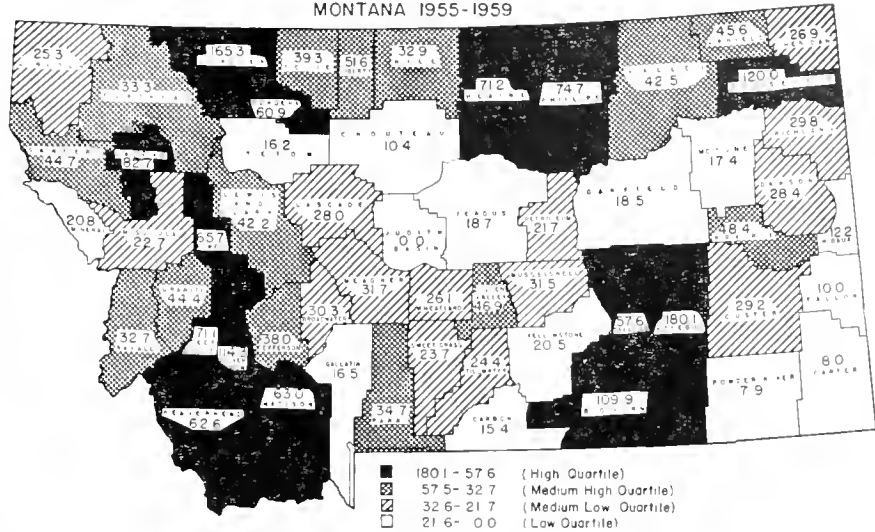
Unfortunately, for the protection of their people and of the community at large, the tribal councils in our Indian population have not all accepted these laws as yet.

To give further protection to school children, the State Board of Health, working with the Department of Public Instruction, revised the health certificate for teachers in Montana so that they are certified free from communicable tuberculosis by their physicians. Preliminary standards for the determination of communicable tuberculosis for use by health officers in countersigning these certificates were adopted by the State Board of Health.

The New Look in Tuberculosis Control

The new look at Montana's tuberculosis picture pointed up some very glaring facts: although the death rate for tuberculosis in

NEWLY REPORTED FIVE-YEAR TUBERCULOSIS CASE RATES BY COUNTY
MONTANA 1955-1959



Montana is rapidly dropping (as shown in the accompanying chart), Montana still has not controlled the spread of the disease to our population when the number of new cases reported continues to remain high. This insidious disease causes disability and economic hardship not only to the patient but involves his entire family.

This major disease problem still remains in specific areas involving a comparatively small number of counties. To improve this picture, several important principles have been set up by the State Board of Health as the basis of a state-wide tuberculosis control program. These are:

1. Cases must be found, their contacts must be examined and all cases must be supervised by adequate follow-up.
2. Intensive case finding among contacts (who need to be identified) of known tuberculosis cases should be routine in every county. Case finding activities when possible should be directed particularly toward these population groups and counties in Montana where the prevalence is known or suspected to be high.
3. In order for the State Board of Health to fulfill its legal responsibility to control tuberculosis, reporting of all cases by physicians, sanitariums, and other hospitals is needed.

1. Support is needed for the necessary State and local staff to carry out the program.

This program is approved to be used as a guide and its application will vary according to the needs of specific areas in the State.

These principles of tuberculosis control are in accord with the Report of the Arden House Conference on Tuberculosis held in November, 1959, made jointly by the National Tuberculosis Association and the United States Public Health Service, except as they pertain to widespread use of chemotherapy as a public health measure and certain research proposals. The type of control program outlined for Montana is recognized in this report as an intermediate step toward the eradication of tuberculosis. The Report is being studied further for application and suitability to Montana.

An exhibit was prepared to illustrate the complete program. It has been shown at the annual meeting of the Montana Tuberculosis Association and at Montana State College.

Program with the New Look Started

Implementation of this program started among the Indian group where the problem is one of the greatest in the State. During the last six months of the biennium the State Board of Health loaned mobile X-ray equipment to the Division of Indian Health to conduct a survey of all Indians on the Montana Indian Reservations. This was completed toward the end of June 1960 and intensive case follow-up is being carried out on cases and suspects found.

Public Health Nurses in many areas of Montana have been assisting the Montana Tuberculosis Association in the follow-up of their tuberculosis testing program for school children.



State Board of Health and State Sanitarium staff members exchange information on patients under care.

Case registers at the State and local health department levels have been more fully developed and utilized to reflect the current status of tuberculosis of every tuberculous patient in Montana. These allow free interchange of information about patients among professional persons and agencies. They allow a means of determining whether or not the patient is receiving medical care and following medical recommendations, not only to protect his health but that of the community.

The establishment of closer liaison in tuberculosis control between the State Sanitarium and the State Board of Health and the Division of Indian Health and the State Board of Health has paid dividends. The exchange of information between the State Sanitarium and the State Board of Health on out-patients with tuberculosis has been initiated. Previously this exchange was carried out only on in-patients.

The local public health nurse is an important link in tuberculosis control. During 1958, 1,162 visits were made to diagnosed tuberculosis cases by public health nurses and that year in behalf of the control of tuberculosis, they made 3,342 visits. In 1959, 966 visits were made to diagnosed tuberculosis cases, and to contacts and suspects they made 3,030 visits. Adequate public health nursing staff and activities on the local level are a necessity to control tuberculosis. Unfortunately there are still 50% of the counties without these services.

SBH Laboratory Services in T.B.

Without the close cooperation of the State Board of Health Bacteriology Laboratory and other laboratories throughout the State, tuberculosis control would be very difficult. In 1959, the State Board of Health laboratory performed 5,431 tests on 2,421 specimens for tuberculosis. In 1958, there were 5,342 tests done on 2,359 specimens.

Year	T.B. Deaths		T.B. Cases Reported	
	Number	Rate*	Number	Rate
1959	37	5.6	234	35.3
1958	45	6.5	292	44.6
1957	68	10.0	301	46.5
1956	48	7.1	282	44.1
1955	50	7.6	429**	68.0

*Rate per 100,000 population

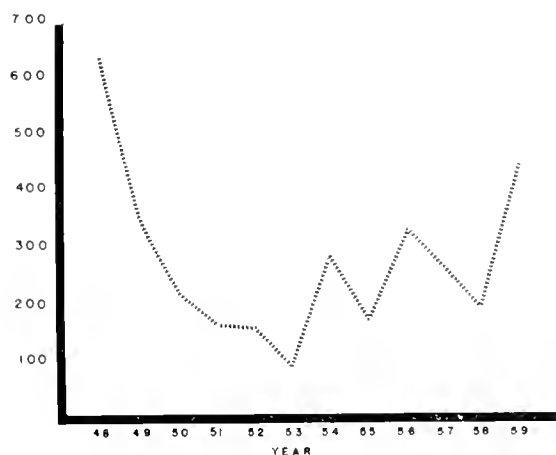
**Reflect increase resulting from State-wide X-ray survey

Venereal Disease Control

The ultimate goal of the Venereal Disease Control Program in the State Board of Health is the eradication of syphilis. The immediate goal is to establish effective control. Effective control means that every syphilis case is reported and the individual interviewed to find out who the sex contacts are. It also means that these contacts must be found, and examined. Then, every person diagnosed with the disease must be treated.

Only through close cooperation between the practicing physicians in the State and the Board's staff can this program be carried out. The practicing physicians are responsible for diagnosing, reporting and treatment of each case. The physicians also help in locating some of the contacts.

SYPHILIS CASES REPORTED
IN MONTANA, BY YEAR, 1948-1959



Special Project

In late 1957, a special Venereal Disease Project Grant was given to the SBH by the U. S. Public Health Service. These grants have continued throughout this biennium.

The principal objective in the project was to improve the reporting of venereal disease in the State. The accompanying graph shows a considerable improvement in reporting during the 1959 year. The Disease Control Director personally contacts all physicians reporting cases of syphilis.

Public Health Nurses, cooperating with the practicing physicians, are responsible for the interviewing of cases and the investigation of

contacts. A nurse working on the State staff is available for this activity in counties where there are no local public health nursing services. The chart below shows the public health nursing visits from 1956 through 1959.

PUBLIC HEALTH NURSING VISITS
REPORTED BY NUMBER, KIND OF VISIT,
AND NUMBER OF ADMISSIONS
1956 - 1959

Year	Total Visits	Home Visits	Office Visits	Admissions
1956	78	50	28	46
1957	89	54	35	50
1958	281	164	117	176
1959	362	116	246	195

The accompanying graph also shows considerable variation in the reporting of syphilis through the years. It probably does not give a true picture of the incidence of the disease. However, in 1959, intensive follow-up was done on positive laboratory reports and from the 449 cases of syphilis reported, a true picture is beginning to evolve. Of the 449 cases reported, 190 of them were from previous years but they were not reported until 1959. This follow-up procedure is being continued. At the end of the first half of the 1960 year, 126 cases of syphilis had been reported in Montana.

Effective follow-up is also aided by the operation of an interstate reporting system of venereal disease. A telephone report is made to the health department of jurisdiction on each infectious case. This makes prompt tracing and investigation possible on persons with venereal disease, who travel from one State to another.

Gonorrhea Control Program

Of the other venereal diseases, gonorrhea is the most prevalent. In 1958, there were 296 cases reported as compared to 309 cases in 1959. During the first six months of 1960, there were 191 cases reported. According to these figures, a 24% increase in gonorrhea during the 1960 fiscal year can be expected.

Gonorrhea cases are interviewed for contacts and contacts followed up by the public health nurses as they are in reported cases and contacts in the syphilis control program. The contacts are examined and all diagnosed cases are treated by the practicing physicians. Only then can the spread of the infection be broken.

Promotion of community responsibility in the control of venereal disease is particularly important.

Venereal Disease Education

An effective educational program is underway in Billings. It is a community project aimed specifically at the control of the disease among teenagers. Reported cases of infectious syphilis in Montana in the 10-20 age group has increased from 7.5% of the total reported cases in 1958 to 10.2% of the reported cases in 1959. Reported cases of gonorrhoea showed that 17% were in this age group in both years.

This educational program includes the use of the film, "The Innocent Party". Its use, with discussion, was recommended by the Advisory Council to the Joint Staff Committee (State Board of Health and State Department of Public Instruction). One of the members of the Council, a practicing physician from Billings, is carrying out this educational program in this city.

Because of the nature of the subject, the film was first shown to a wide variety of groups including approximately 500 adults in the community. The parents of teenage children were asked to indicate whether or not they recommended this film, with discussion, be used in teenage education on venereal disease. Of the two hundred fifty responses to this question, 247 said yes. Many indicated that it should be shown without delay and indicated that as many as possible of the teenagers in the community have the opportunity for the educational program.

The students who have seen the film have shown a great deal of interest and recommend that all teenagers see it. It was shown to a class at Montana State College and these students, remembering their own earlier teenage years, recommended that it be shown to junior high school aged children and not wait until the students reach senior high school.

With this most satisfactory pilot program, it is planned to initiate it in other areas of the State. The use of this film is included in the suggestions for teachers in the Venereal Disease Section of the Guide for the Montana School Health Program.

Laboratory Services in VD Control

During the biennium, the Division of Disease Control has continued to depend on the Bacteriological Laboratory and private laboratories in the State for laboratory services needed in the VD control program.

During 1959, a workshop on VDRL slide testing procedures and their interpretation for the diagnosis of syphilis was provided for laboratory personnel working in the State. Funds for travel of the participants was provided by the project funds.

Project funds are also provided for the State Board of Health serologist to visit and recommend for approval the private laboratories in the State that carry on serological testing for the diagnosis of syphilis in the State. New manuals on "Serologic Tests for Syphilis" have also been distributed during the biennium. To enable this program to be carried out, a laboratory helper was employed for a period of three months using project funds to assist in the absence of the serologist.

Cancer Control

Cancer ranks as a leading cause of death in all age groups in Montana except in children under one year. In 1958 there were 858 deaths from cancer and in 1959 there were 920 deaths (provisional figures).

The need to develop a more extensive and effective coordinated effort aimed at improving the overall cancer control program in Montana has been recognized for some time. The practicing physicians, the State Board of Health, the Montana Division of the American Cancer Society, and other agencies are interested in making better services available.

Lack of trained personnel with time to assist in a State-wide coordinated program, the comparatively few full-time local health departments, as well as the very nature of Montana itself with its large area and low population density, have posed definite problems to an effective cancer control program.

To facilitate the development of such a program, the State Board of Health has applied for a grant from the U. S. Public Health Service for the purpose of obtaining additional trained personnel to develop medical and nursing seminars at convenient centers throughout the State.

When a community has advanced in development of cancer activities, special projects may be set up.

It is hoped that better reporting of cancer will result so that the State Board of Health's cancer register will become a valuable tool in cancer control by furnishing leads for further important epidemiological studies in Montana.

The public health nurses' activity in cancer control in Montana during the biennium rose from a total of 73 cases admitted in 1958 to 92 cases in 1959. These cases required 946 nursing visits.

A unit on cancer for the Guide for the Montana School Health Program has been prepared.

Heart Disease Control

Diseases of the heart and blood vessels account for over fifty per cent of Montana's deaths and are one of the leading causes of disability. This is also true for the country as a whole. It has been estimated that there are 40,000 persons with these diseases now living in Montana. The Board's work in this field is concentrated in two programs: 1) the Heart Disease Control Program and 2) the Rheumatic Fever and Heart Diagnostic Center.

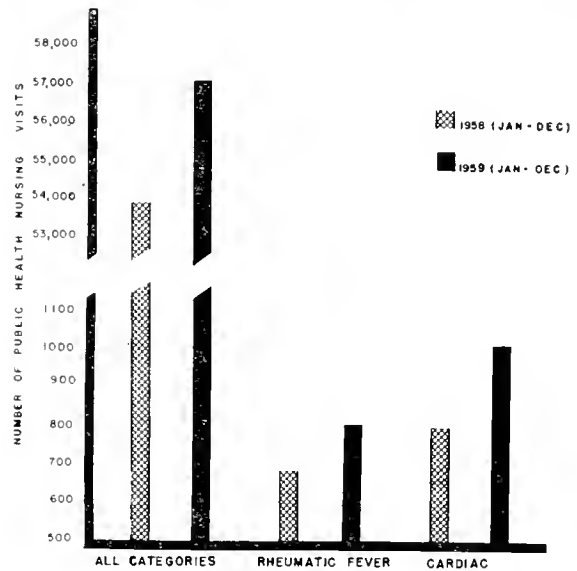
THE HEART DISEASE CONTROL PROGRAM

Activity in this program has greatly increased since the acquisition of a full-time Heart Disease Control Director in the Division of Disease Control. This physician is on loan from the U. S. Public Health Service for a two-year period. A full-time cardiovascular nursing consultant has also been appointed and began her assignment at the close of the biennium.

Rheumatic Fever and Rheumatic Heart Disease

Much emphasis has been placed on rheumatic fever and rheumatic heart disease. The incidence of these diseases in Montana is one of the highest in the nation. This has been borne out by a recent two-year study on College Freshmen. The Montana State College and the Montana State University have participated in this national study. The results

PUBLIC HEALTH NURSING VISITS IN ALL CATEGORIES, RHEUMATIC FEVER AND CARDIAC DISEASES MONTANA, 1958 and 1959



show that in students whose permanent residence is Montana, the rate of rheumatic heart disease is 55.0 per 1,000. This is more than twice the national rate of 25.4 per 1,000.

Public health nursing visits to rheumatic fever and cardiac (heart) patients have increased during this biennium. In the calendar years 1958 and 1959, 2.8% and 3.2% respectively, of all visits were made to patients in these two categories. The graph above shows the number of visits in each of these categories compared to the total number of visits in all categories for these two years.

Rheumatic fever and rheumatic heart disease are now known to be preventable. This is done by the use of antibiotics, especially penicillin, for the treatment and prevention of streptococcal infections which are known to precede rheumatic fever. By preventing the initial or recurrent "strep" infections the attacks of rheumatic fever are thereby also prevented.

The Board's Rheumatic Fever Prevention Program provides daily penicillin tablets to those patients with a previous history of rheumatic fever to prevent recurrences. The patients must also be known to have economic need in order to be eligible for this assistance. The program was begun in 1955 and recently underwent a thorough evaluation. Several improvements were made, one of them being the

acceptance of patients age 21 and over for these services. Heretofore, the program was available only to those persons under 21 years of age through the Crippled Children's Program of the Board. This is further discussed on pages 43 and 49 in this report. Adult patients receive medication through the Division of Disease Control.

The plan for a College Freshman Rheumatic Disease Study has been extended through the Board's Heart Program. It will receive the cooperation of all Montana's Colleges which require entrance physical examinations. This extended program will begin in the fall of 1960. The national study mentioned earlier in this section in which the State University and the State College have participated, shows that only 7.1% of Montana's students for whom daily medication was thought indicated were currently on prophylaxis.

The Montana study is for the purpose of:

1. assisting in the evaluation of the rheumatic fever and rheumatic heart disease picture in the State
2. learning where improved care is needed
3. conducting an educational program for these students.

As stated above, the identification and treatment of streptococcal infections are a prerequisite to the prevention of rheumatic fever. Literature containing scientific advances in this field has been sent to all Montana physicians and public health nurses. In addition, the Bacteriological Laboratories culture material from several hundred throat swabs yearly for the isolation of this organism.

A recent innovation in the identification of the streptococcus has been the development of the Fluorescent Antibody Technique. This special and very expensive equipment has recently been purchased for the Bacteriological Laboratory. It was acquired through the U. S. Public Health Service. The great advantage of this method is that a positive identification of streptococcus by type can be made in three to four hours. The conventional culturing methods heretofore used require 24 to 48 hours before identification can be made. With early diagnosis adequate therapy may be used to

prevent complications of the infection such as rheumatic fever, rheumatic heart disease and glomerulonephritis (a kidney disease).

Cooperative Relationships

In the heart disease program there is continued active liaison between the Board's staff, including the staff at the Heart Center, and the Rheumatic Fever and Heart Committee of the Montana Medical Association.

Cooperative working relationships have been strengthened between the State Board of Health staff and the Montana Heart Association. Two Cardiac Nursing Institutes were held during the biennium. They were sponsored by the Montana Heart Association, the Montana Nursing Association and the Montana League for Nursing. These institutes were participated in by State Board of Health members from the divisions of disease control, public health nursing and health education as well as by a large number of local public health and hospital nurses.

A joint project between the Board and the Heart Association has been the publishing of a "Directory of Services to Cardiac Patients". This booklet provides a rather complete and concise reference work to the diagnostic, therapeutic, educational, financial and rehabilitative services available to Montana's heart patients. The booklet is for the use of Montana physicians, public health personnel, Montana Heart Association local Councils and other interested professional groups.

RHEUMATIC FEVER AND HEART DIAGNOSTIC CENTER

The Rheumatic Fever and Heart Diagnostic Center, located in Great Falls, is provided for the purpose of serving Montana physicians on a diagnostic and consultative basis. It is now serving an increasingly broader base of family physicians.

The Center serves to fill the specialized needs of rheumatic and congenital heart disease patients (1) under the care of private physicians, in addition to those children who are (2) eligible for care under the Board's Crippled Children's Program.

The establishment of this Center in 1956 has made it possible to handle within the State the most difficult cardiac diagnostic problems,

especially as they relate to heart surgery. Prior to this the facility was only a Rheumatic Fever Center having been established in 1949.

The procedures instituted in 1956 provide for cardiac catheterization and angiocardiology, also a third and new technique, the Dye Technique, has been initiated recently. The information revealed from these procedures usually makes it possible for the physicians to determine the exact type of defect in the patient's heart. Thus, if so indicated, the corrective surgery can be recommended.

The patient and his own physician determine how, when, and where to follow the recommendations, as in any other type of consultation service.

With the establishment of the procedures in 1956, it was realized that a fair backlog of clinical material existed in the State. By the end of 1958 this backlog of cases was pretty



Catheterization is used as diagnostic procedure in Heart Disease at Center.

well cleared. The activity of the past eighteen months is a fairly clear reflection of the current rate at which cases are being found and referred to the Center.

The tables below show the number of patients seen and the types of diagnoses made on these patients during the current and last biennium periods.

RHEUMATIC FEVER AND HEART DIAGNOSTIC CENTER — JULY 1, 1956 - JUNE 30, 1960

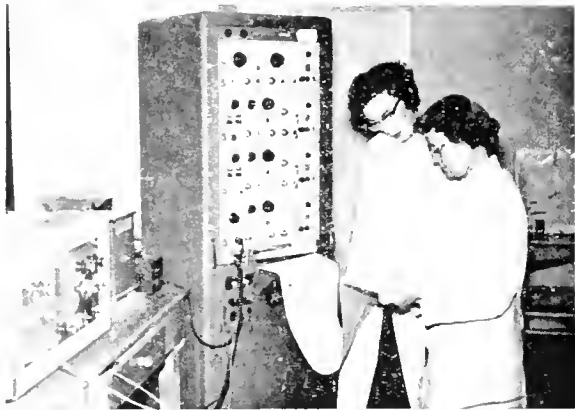
	July '56	July '57		July '58	July '59	Total
	June '57	June '58	Total	June '59	June '60	1960
Total Cases Seen	133	188	321	295	253	548
Clinic Visits	153	266	419	332	279	611
New Cases	59	113	172	153	143	296
Consultation*	7	104	111	221	246	467
Cardiac Catheterization	0	34	34	35	19	54
Angiocardiograms	0	5	5	11	6	17
1. Congenital Heart Disease			89	137	127	264
2. Rheumatic Fever and Rheumatic Valvular Heart Disease			33	62	61	123
3. Normal Heart including Innocent Murmur			37	77	54	131
4. Other Diseases			13	19	12	31

*Cases seen by medical consultants other than the Director of the Center.

It is of interest to note that of the total number of congenital and rheumatic disease cases seen during the current biennium the ratio runs slightly over two to one. This is similar to the experience during the past few years in almost all centers of this type.

At the Heart Center, the patient is interviewed, his history taken and an electrocardiogram and fluoroscopic examination made. On the following morning during the clinic period complete blood tests are performed followed by an examination by the clinic physicians. At the completion of the clinic a conference

including all of the heart diagnostic team members is held. The heart diagnostic team includes cardiologists, a pediatrician, the radiologist and the public health nurse. Each case is discussed thoroughly and a team recommendation is made.



Public Health Nurse and technician study findings from catheterization.

Following this the patient and his family are counseled by one of the physicians with regard to the recommendations. If a heart catheterization and or an angiocardioqram are to be done at the Heart Center, the patient is admitted to the hospital that same afternoon. These special procedures are performed during the laboratory period the following morning.

Needs

During the past biennium it has continued to be necessary for most heart surgery and all open heart surgery patients to go out of the State for operation. Until open heart procedures are available in Montana, patients must still go out of the State for this care.

Chronic Disease

During 1959, a staff committee on Chronic Illness and Aging was established in the State Board of Health. This committee recom-



Consultation on patient's X-ray between cardiac specialists and Center's director.

mended that the first activity to be initiated should be a program, directed by the Disease Control Director, to develop assistance for nursing and or boarding homes to provide improved patient care. The program was developed in close coordination with the Division of Hospital Facilities which is responsible for the licensure program in these homes. The divisions of public health nursing, health education, and environmental sanitation are co-operating in this program.

A pilot study with the Gallatin City-County Health Department and the Nursing Home Operators in that county was initiated. The objectives of the program are:

1. To establish a working relationship between the staffs of local health departments and operators of nursing homes. This was done through meetings at which the operators discussed their problems and needs. In turn, the local health department and the State Board

Nursing Home operators, local and State Public Health staff discuss ways and means to provide better patient care.



of Health staff explained their functions and available services. Plans are being developed to work together on those problems and needs in which the health department can give assistance. The orthopedic nursing consultant of the State Board of Health has taught some of the techniques for the care of bed-ridden and other patients with handicaps.

2. To help interpret the role of the public health department, particularly the public health nurse, in assisting the nursing home personnel provide improved patient care. A meeting in which the practicing physicians participated was held to discuss this.

3. To assist in better utilization of community resources to help meet the needs of nursing home patients. An occupational therapy program has been instituted in one of the nursing homes. This is being carried on by voluntary workers in the community.

4. To assist in the development of a better understanding of the operation of nursing homes, patient and family needs, among the residents of the community.

This program had a good start at the close of the biennium and it is anticipated that it will be well developed on a continuing basis early in the next biennium. It is expected better patient care will result and it will provide the State with the basis for a program extending public health services to the nursing homes in all areas of the State.



Board's Orthopedic Nursing Consultant demonstrates positioning of nursing home patients.



Industrial Hygiene Engineer measures fume control through the hood on a lead pot in printing plant.

OCCUPATIONAL HEALTH

During the biennium two hundred and fifty-one industries were studied. In these industries 711 recommendations were made for the control of components determined to be detrimental to the health of the workers. The workers associated with these operations, numbered approximately 11,370.

The Board's occupational health program is directed toward the protection of the worker's health and well-being. It is concerned with those factors relating to the conditions under which they work and the stresses of the industrial environment.

In carrying out this work the hazards of occupational disease and industrial public health problems are found to be chiefly those resulting from exposure to toxic substances. The seriousness of the exposure is dependent upon the nature of the toxic dust, fumes, mist vapors, gases and radiation. Agricultural workers may be exposed to certain other hazards such as organic dusts and economic poisons.

When the industry is studied various kinds of samples are taken and measured in the field or are brought into the Board's laboratory. Typical samples which are collected are: arsenic, phosphine, lead free silica, fluorides, manganese, oxides of nitrogen, aldehydes, carbon monoxide, zinc oxide, barium, chrome, carbon dioxide, cadmium, sulphur dioxide, cyanide, selenium. There are also a few others.

The evaluation of noise and radiation levels in several operations as well as the concentration of dust-bearing free silica and other materials are also determined.

Performance tests are made on existing ventilation equipment. Consultation services

to industries on the construction of new ventilation systems are provided. The application of the principles of safe ventilation was highlighted during the biennium when the Board was notified that 28 defective Thurm heaters had been shipped into Montana. These heaters had been installed in trailers which were for sale in this State. This type of heater had caused 17 deaths in other states just previously.

The Division of Disease Control assumed the responsibility of tracing all these heaters in the State and for alerting the owners to the danger. Fortunately no deaths occurred in Montana from these defective heaters.

Progress in industry has been satisfactory, generally, during this period although a few industries have problems that have not been completely solved. Many of the problems remaining are of considerable technological difficulty. In those which are not, however, legal action may be indicated if the recommendations for control of hazardous situations are not carried out soon.

Activities in agricultural health have been increased, and it is expected that a substantial part of the occupational health activities will be directed to agricultural industries, principally from the standpoint of organic dust control and association with economic poisons.

Exposures to silica-bearing dust, lead fumes and oxides of other metals and to vapors of solvents appear to be the major components of industrial hazards.

Radiation Control

Activities in radiological health have increased considerably over this biennium with the monitoring of over 120 dental X-ray machines and three medical X-ray machines.

This is a part of the radiation control program intended to reduce radiation from all sources to an "irreducible" minimum and still maintain its use where necessary.

Initiated about a year and a half ago, the monitoring program in dental offices is aimed at reducing unnecessary radiation in the use of dental X-ray procedures. The monitoring in about half the offices was completed before the close of this report period. A plan has been developed to elicit the help of a dental

student in the COSTEP (U.S.P.H.S. student training) program to complete the monitoring of the dental offices this summer. The accomplishments of this program are described in the Dental Health section of this report on page 59.

Plans have been developed with the veterinarians in the State for the monitoring of all veterinary X-ray machines, and it is hoped that the monitoring of those used by physicians can be started soon.

Measurements of radioactive fall-out from dust has been done for the U. S. Public Health Service on a 24-hour basis, seven days a week, since April 1958. Collection of precipitation for radiation activity was started in April 1960.

During 1959, the long-lived beta activity bomb debris steadily declined with most of the activity being less than one micro-microcurie per cubic meter of air. The highest activity recorded was during the summer of 1958 when about 300 micro-microcuries were determined during one sampling period.

Milk sampling for radioactive material has begun. This is also a program of the U. S. Public Health Service in which the Board is participating.

Isotopes and other radioactive materials, except radium, are under the jurisdiction of the Atomic Energy Commission and the Board has not been asked to participate in the inspection of isotope users in the State. The findings of this inspection program are not known in the State.

Air Pollution

Air pollution activities have been accelerated, somewhat, with particulate and gas samples being collected in eight communities to establish the levels of general pollutants and to determine the components of the air where new industries are to be located. High-volume air samples are analyzed for various metals, such as arsenic, lead, zinc and manganese, tars, particulate weight, and fluorides. Methods of collection and analysis are similar to those of the U. S. Public Health Service air pollution network so that our results can be compared with those of other cities throughout the United States. It is expected that the air pollution sampling will continue as time permits.

An air pollution sampler set up in Helena in November 1956, in cooperation with the U. S. Public Health Service, has been operating throughout the biennium, the samples being sent to Cincinnati, Ohio, for analysis. The collections are made from two to three times a month for 24-hour periods.



Chemist measures radioactive substances in Montana surface waters.

THE CHEMISTRY LABORATORY

The chemistry laboratory is a part of the Division of Disease Control and provides services for several of the Board's programs. Samples submitted by the Montana Highway Patrol to be analyzed for alcohol content are also examined by this laboratory.

For the biennium the total number of samples submitted numbered 3,381 and 8,478 determinations were made. This is an increase of 1,389 determinations.

Water samples, numbering 1,568, were analyzed for the Division of Environmental Sanitation. About 47 per cent of these water samples were for the stream pollution abatement program. One of the chemists is assigned to work full-time with the summer pollution control team. The remainder of the water samples analyzed were made for the purpose of determining the fitness of public water supplies for domestic use.

Examinations on samples of foods and drugs were made on 323 samples. Of these 9 samples were cranberries, which were the most urgent and unusual activity of the chemical laboratory. These examinations on cranberries, which were on sale in Montana, were carried on in cooperation with the U. S. Food and Drug Administration. The examinations

were made for the determination of a cancer producing chemical weed killer—amino triazole. Most of the berries sampled were cleared free of this chemical by the Federal Food and Drug Administration.

Measurements of radioactivity were made on surface water samples. This is a new activity initiated during the current biennium. This type of analysis is being made to establish background data on levels of radiation as Beta activity. All the public water supplies in the State are being analyzed to establish baseline radiation levels.

Special instruments were purchased since they are required for this particular analysis. The chief chemist attended a short course on radio nuclides at the Robert A. Taft Sanitary Engineering Center in Cincinnati to study the best methods for making this type of analysis. A radiochemist from this Center visited the State Board of Health laboratory to assist in setting up the new equipment and the procedure to do this type of work.

There were 46 miscellaneous samples analyzed during the report period. Some of these were toxicological samples. At times it is necessary to establish which of many poisons has caused illness or death and this is done by making a schematic chemical analysis of the sample submitted. Others included samples from the State Department of Agriculture and the State Purchasing Department. Any samples from the Department of Agriculture are examined by field screening methods and require further study for confirmation.

Two samples were received from the Bureau of Internal Revenue for alcoholic content. This test was made to establish the presence of illegally produced alcohol.



Precision instruments are used for official tests in the Board's Chemistry Laboratory.



Sewage Lagoon pictured above treats human sewage.

Environmental Sanitation

Highlights of the Biennium:

Classification of the Yellowstone, Clark Fork and Kootenai Rivers for water pollution control was made. Basic data for classifying the Missouri for this same purpose has been gathered.

Paper pulp mill at Missoula removed all wastes from the Clark Fork River. Sewage treatment plants have been placed in operation in 21 communities and 8 more are under construction.

First Sanitarians Registration Board appointed following 1959 legislation.

99.9% of the people served by Montana Municipal water supplies have "safe" water available.

Swimming Pool Regulations Brought Up-to-date.

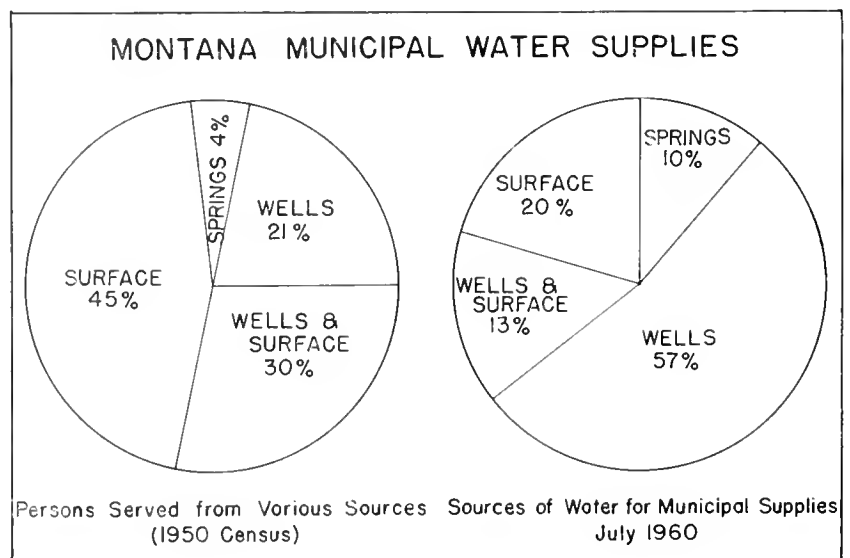
Approximately 14,000 State Board of Health Food Handling and Processing and Motel licenses have been issued.

Program Developments

NEEDS FOR SAFE WATER INCREASE

A few years ago, when a public water supply system was designed to provide 100 gallons of safe water per person per day, it was considered adequate. Today it is necessary to design systems on the basis of 150 to 200 gallons per person per day. This increased use has placed a demand upon Montana municipalities to take water from new sources, some of which at one time were not considered desirable. Consequently because of these two factors, the size of water treatment plants has had to be increased.

The chart shows the sources of municipal water supplies in Montana. In looking at the diagram it will be noted that the larger communities are dependent upon surface water



supplies. The diagram shows that 20% of the municipalities obtain water from surface water supplies yet these sources serve 45% of the urban population. It is also noted that 13 com-

munities use both wells and surface supplies for 32% of the population. In other words, 33% of the communities that use water from the surface in whole or part supply 75% of the water used by Montana's urban population, while wells that are the only source of water for 50% of the municipalities, serve only 21% of the people. The balance of the population takes its water from springs.

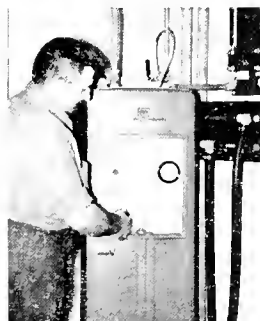
Montana citizens are fortunate in having safe water available to 99.9 per cent of those supplied by public water supplies. Only seven of the 146 public water systems are not acceptable at this time and these seven supplies serve only 1,200 persons out of a total of 333,000 people that use water from public supplies. Persons living in communities that have unsafe water have been warned that their water supply is contaminated. In most cases the amount of money available in the community is not sufficient to make improvements to the supplies due to the limited income in these seven communities.

Surface supplies are subject to pollution more readily than the supplies from wells. This of course requires complete treatment of the surface water in order to purify it and make it safe for consumption.

In order to insure safe public water supplies each municipal water system in the State is inspected at least once each year by State Board of Health engineers. Plans for new systems, extensions, changes or other modifications to the system are reviewed by the engineers before the State Board of Health gives approval. This work requires considerable engineer's time.

Periodic water samples are obtained for bacteriological and chemical testing in the State Board of Health laboratories. 12,534

bacteriological and 573 chemical tests were performed in this laboratory for municipal water supplies. In addition to this, there were a large number of private samples tested. This is shown in the table of laboratory tests and field investigations. This is shown in Table I below:



Proper chlorination of municipal water supply prevents water-borne disease.

TABLE I

Engineering Inspections Made by
Environmental Sanitation Division,
July 1, 1958 to June 30, 1960

	Number
Inspections of Municipal Water Supplies.....	336
Inspections of Private Water Supplies for individuals	5
Inspections of Sewage Disposal Systems (Public)	244
Inspections of Swimming Pools	15
Miscellaneous Inspections	88
Total	688

WATER SAMPLES TESTED

July 1, 1958 to June 30, 1960

	Bacterio- logical	Chemi- cal	Total
Public Water Supplies	12,534	573	13,107
Private Water Supplies	2,201	256	2,457
School Water Supplies	320	.....	320
Tourist Court Water Supplies	153	.....	153
U.S. Gov't. Water Supplies	569	.....	569
Stream Pollution Studies	515	740	1,255
Miscellaneous Sources	133	1	134
Totals	16,425	1,570	17,995

Fees collected for this work are shown in Table 2 below:

TABLE 2

Fees collected from Municipalities for Water
Analyses and Inspection

Fees for Fiscal Year 1957-58	\$16,037.50
Fees for Fiscal Year 1958-59	\$16,845.00

POLLUTION ABATEMENT

Surface streams can carry only a minimum amount of pollution, if the surface water supplies are to be safe. While the State Board of Health has always recognized the principle, it did allow in former years direct pollution of rivers, but always subject to the provisions that treatment of the wastes would be necessary. In 1952, the Board notified all cities of the requirement to discontinue discharge of raw sewage within a period of seven years or by July 1, 1959. All but a few cities are now treating or are now in the process of treating their wastes.

In 1955, the Water Pollution Act extended and augmented the Board's responsibility in this field. This act also established the Water Pollution Council providing a method to deal with pollution not affecting the public health.

SEWAGE ABATEMENT

During the past five years, municipalities have been aided by Federal Grant money to provide treatment for sewage before it is discharged into the Montana streams. During the last biennium, there were 21 sewage treatment plants placed in operation. Another eight plants are presently under construction and their completion is anticipated during the 1960 calendar year.

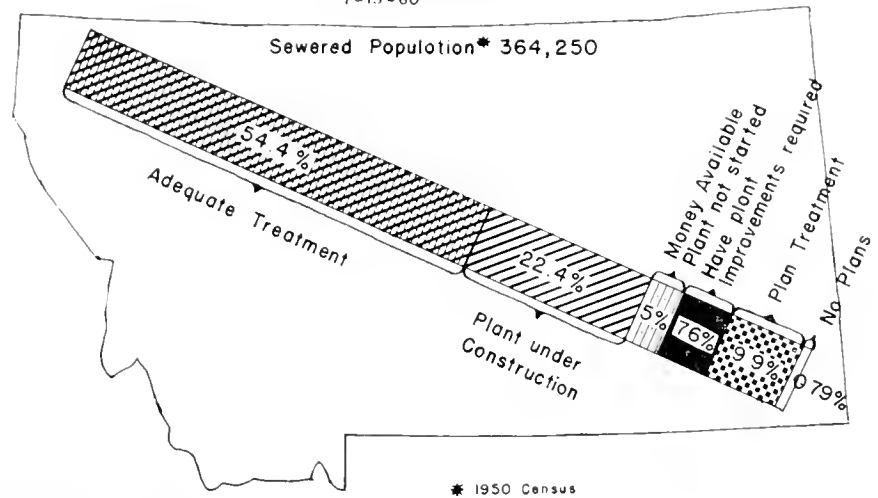
Nine communities received sewage fund allocation from the beginning of fiscal year 1956 to June 30, 1958. This grant sum amounted to \$242,960.

Awards Made During Period July 1, 1958 to June 30, 1960.

Town	Federal Sewage Construction Amount
Big Timber	\$ 15,570
Box Elder	8,460
Bridger	9,208
Deer Lodge	70,200
Drummond	10,500
Eureka	21,645
Fort Benton	41,796
Fronberg	13,860
Glasgow	46,500
Glendive	172,411
West Glendive	25,930
Great Falls	250,000
Harlowton	12,937
Helena	162,600
Kalispell	63,000
Kevin	18,388
Livingston	156,078
Malta	40,066
Manhattan	12,193
Metropolitan Sanitary District 1, Silver Bow	250,000
Montana State Hospital Warm Springs	43,790
Polson	72,900
Shelby	24,570
Sheridan	25,470
State Training School—Boulder	30,900
State Vocational School for Girls—Helena	12,232
Sidney	52,500
Stevensville	11,608
Townsend	10,500
Whitehall	30,902
Winifred	6,078
Wolf Point	29,100
Valier	11,392
Total	\$1,763,284

Status of Municipal Sewage Treatment In Montana

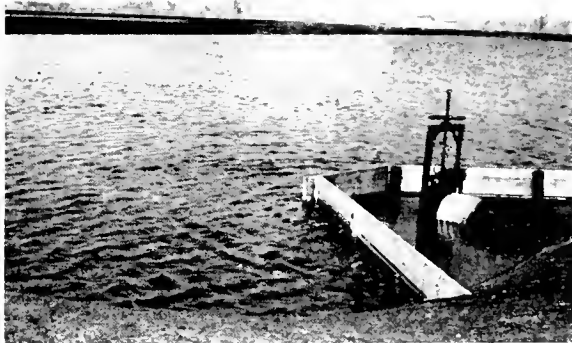
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The chart above shows the percentage of the Montana sewer population (364,250) provided with satisfactory sewage treatment plants in the State as of July 15, 1960. Most of the communities have proceeded to develop these facilities, without court orders being processed. However, because of inaction, the Board requested the Attorney General's office to issue orders for four cities to treat the sewage. These cities were not progressing as they should have in providing for these facilities, having been warned in 1952 that this must be done. Public hearings were held by the Board before the orders were given. At these hearings representatives had an opportunity to show cause for not complying with the Board's request. The status of sewage treatment service to the remainder of the sewer population is also shown above. By June 30, 1962, there should be no raw sewage from any municipality discharging into Montana's streams.

The State Board of Health collected, tabulated and analyzed data so that the Water Pollution Council could classify the Yellowstone, the Clark Fork, and the Kootenai Rivers and their tributaries.

The basic data has been gathered for the Missouri, and the tabulation of this data is now being completed. It is anticipated that this material will be ready early in the next biennium so that the classification of this



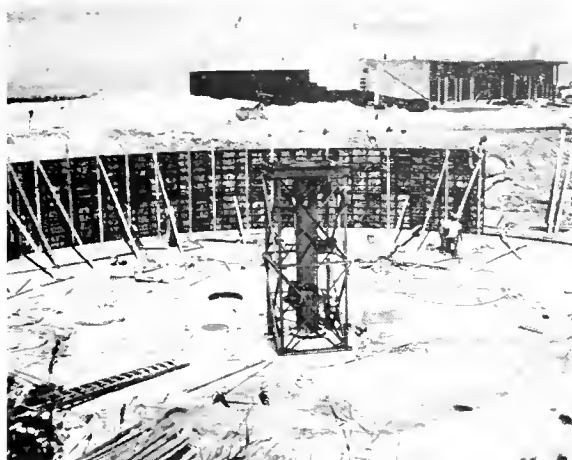
Sewage lagoon treats oil refinery waste.

stream can be made. This work is carried on by the State Board of Health engineers, the summer teams, and an aquatic biologist loaned to the State Board of Health by the Montana Fish and Game Commission.

With the gathering of data and the classification of the streams, definite standards have been established which must be maintained by any person or **municipality or company** that desires to discharge waste into that stream. This program has received excellent cooperation (from Montana's industries). In many instances industrial wastes have been practically eliminated from the streams. However, there is work still left to be done since some of the smaller industries are not doing as much as they should.



Staff collects river bottom organisms and the organisms found are identified and typed. This determines the degree of river pollution



Pictured above is one of Montana's many new mechanical sewage treatment plants under construction.

With new industries coming into the State, work is carried on continuously by the staff to be certain that wastes from these industries do not pollute Montana waters. Pollution can be eliminated and industries still can function. This can be accomplished by enforcing the legislation in a proper manner with the same waste disposal criteria for all.

Difficulty is still being experienced with the wastes from stock and feed yards, which is excluded by Pollution Control Legislation. This may create a serious problem insofar as cleaning up some streams when public health is not involved unless the present legislation is modified.



WATER POLLUTION COUNCIL

Passage of the Water Pollution Act in 1955 strengthened Montana's pollution laws by adding pollution control procedures for all other matters than those affecting public health. The Water Pollution Act creating the Water Pollution Council, in extending the Board's responsibility makes the State Board of Health the administering agent for council action and provides for a staff member to serve as the Secretary of the Council. The Water Pollution Council is a seven member board. Four members are appointed by the Governor and three are ex-officio members. The membership of the Council is shown on page 2. During the biennium the Council held five meetings and conducted three hearings. These were to classify the Yellowstone, Clark Fork and Kootenai Rivers. The hearings were held at Billings, Missoula and Kalispell. The classifications adopted for these streams strengthen the State Board of Health 1952 policy by preventing discharge of raw sewage into any streams in Montana and establishes a minimum treatment of human sewage consisting of primary treatment plus chlorination. Lagoon treatment greatly exceeds this requirement.

GENERAL SANITATION

The sanitation of the environment concerned with food and drink establishments, motels and tourist courts is carried on by the sanitation personnel in the State Board of Health and by the sanitarians employed in the

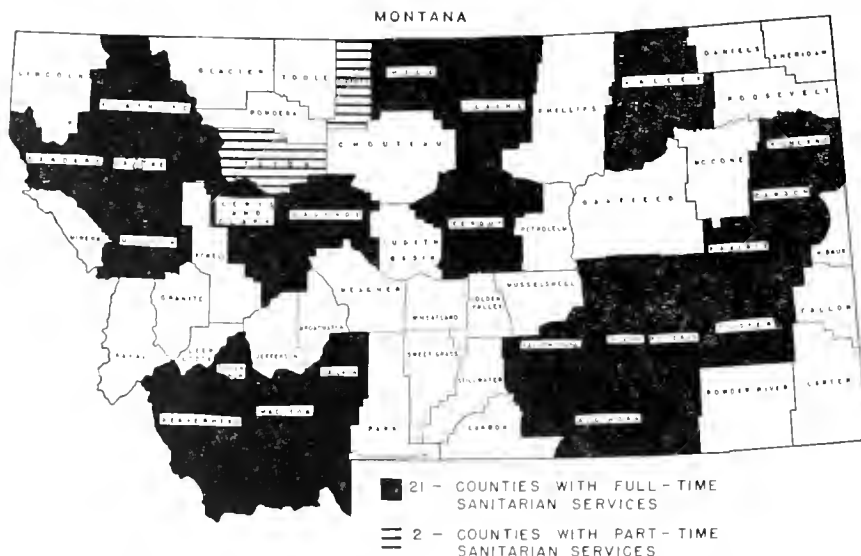


Landfill disposal provides a suitable method for controlling rats and flies from breeding at garbage dumps.

local areas. The State Board of Health sanitarians coordinate and unify the activities of the local sanitarians who are employed in twenty of Montana's counties. The counties that provide sanitarian services are shown on the accompanying map. The work of the State staff is done through supervision, consultation and by assisting locally in the training of people that are working in food and drink, and housing. They also evaluate the effectiveness of work carried on locally.

Sanitarian Registration Required

For the first time, legislation enacted in 1959 requires the registration of sanitarians within the State. A Registration Council was established which examines and certifies the sanitarians. The law defines a sanitarian as "a person who is trained in the physical, biological, and sanitary sciences to carry out inspectional and educational duties in the field of environmental sanitation." It makes it

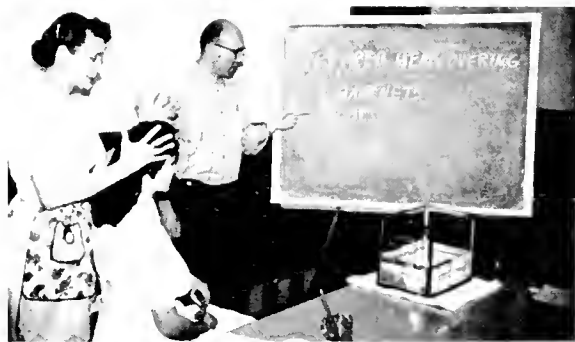


mandatory that any person offering services as a sanitarian, or using, assuming or advertising in any way the impression that he is a sanitarian must be registered by the Council. The State Board of Health, under this legislation, appoints the secretary-treasurer of the Council from its staff and two other members from a series of names suggested by the Montana Association of Sanitarians.

The Montana Sanitarian's Registration Council had two official meetings and one unofficial meeting in 1959. Prior to July 1, 1960, one unofficial meeting was conducted.

To date, the Council has registered 25 Sanitarians, in Montana, and is processing three applications, at present.

The main portion of the work of the Council has been devoted to drafting by-laws and policies for operation of the Council. These by-laws were approved by the State Board of Health on May 17, 1960. Applications have been developed and printed, as well as copies of the registration law. Also, certificates were designed and printed by the Council.



Hairnets and caps are recommended to prevent hair from getting into food. This is a part of the instruction included in the sanitation training classes.

Food Service Personnel Training

During the last biennium, 128 sessions for food service training were carried on with assistance from the Division of Health Education. These sessions were attended by 2,081 persons and were held in 13 different areas of the State. During the same two-year period, four three-day training conferences were held for the local sanitarians.

The Board's sanitarians also work with local part-time health officers in counties where there are no sanitarians, in the investigation of the causes of food-borne illnesses and to take steps in the prevention of future outbreaks. It

is hoped that sanitarians will be employed in the remaining 36 counties since it is difficult for the part-time health officer to carry on this activity adequately.

To assist in the enforcement of laws and regulations, several modifications of existing regulations are now being developed. They include the motel and hotel, the tourist campground, and the locker plant and frozen food processing regulations. These regulations establish minimum requirements and are established under Montana law to protect the public. At the same time they protect the business man who is already complying with the standards, against the competition with establishments not complying.

Food and Drug Control Work

In addition to the work carried on locally, the State Board of Health Sanitarians carry out the necessary work to enforce the Montana Food and Drug Law. This Montana work is carried on in cooperation with the Federal Food and Drug Administration. It includes the activities needed in the control of the adulteration and misbranding of foods and drugs sold in Montana. The cranberry problem which developed in the fall of 1959 and the removal of dyed potatoes from the market are examples. The dyed potatoes have been removed from the market because when dyed, they have the appearance of new potatoes. Since these potatoes are actually a year old this practice is classified as an economic fraud.

A continuous program for collecting and testing hamburger samples is carried on to prevent an inferior product from being marketed. Hamburger samples have been found



Chemist and sanitarian examine the label on a loaf of bread. They also examine the content of the bread. These examinations are to determine the accuracy of the labeling.

which contain excessive water and fat, the presence of cereal and in some cases preservatives.

Labels for foods and drugs are reviewed by this staff in order to determine whether or not the information is complete and to ascertain if statements are not made which would mislead the public.



Determining residual chlorine in swimming pool water is done to provide for safe water for swimmers.

SWIMMING POOLS

Fourteen new public swimming pools have been constructed in Montana during the current biennial period. This is a great increase over the last biennium activities and is a reflection of the national trend for swimming pools. However, the number of pools in Montana does not compare with the number in many other states due to the cooler climate. Engineers review plans and inspect swimming pools.

The swimming pool regulation was rewritten to bring it in line with present practices and permit use of new equipment. The regulation includes natural hot water plunges which were not included in the earlier regulation.

SCHOOL BUILDING PLANS

The building consultant in this division, who is also an engineer, reviews the plans for school buildings, which totaled 243 for the current biennium. This is more than two plans a week. In the previous biennium 252 plans

were reviewed. The school plans are reviewed from the standpoint of heat, light, plumbing and ventilation. Close liaison is maintained with the State Department of Public Instruction in this area.

EDUCATIONAL ASPECTS OF ENVIRONMENTAL SANITATION

The Division of Environmental Sanitation attempts to carry out its program through educational means. While legal action may be resorted to at times, this is only a final expedient after all other methods have failed. The engineers and sanitarians have been conducting a program using educational methods throughout the years. At the present time the staff of this division is augmented by services from the Division of Health Education. Through these services citizen committees have been formed in several areas to provide an opportunity for better understanding of health needs and how they can be met. Through the efforts of these citizen committees the community education program is extended and more of the population may understand the need for improved sanitation.

An outstanding example of this type of activity is the Sanitation Committee in Great Falls. This committee has been active in the passage of the local restaurant ordinance, the local milk ordinance, a bond issue for sewage disposal and for educational effort directed toward the mosquito control program.



Two of nine cabinets which are pictured above, hold a part of the 18,000 blueprint sheets. These blueprints are used in reviewing plans for water and sewage systems, swimming pool and school building plans.

In order to bring to the attention of Montana citizens various sanitation problems films, exhibits, newspaper articles, flyers, articles in Treasure State Health, and other written materials have been prepared from time to time. Sanitation has been given a prominent part in the "Guide for the School Health Program" which will be available soon.

The educational program to promote greater citizen understanding in the areas of environmental sanitation needs to be extended and intensified.

Significant Problems & Needs

The suburbia problem faces Montana as it does cities in the rest of the nation. The trend of people moving from the congested city areas to the outlying areas has created a problem with the construction of continuous dwellings along the highways. In Montana the problem of obtaining proper water or sewage supplies and adequate disposal in these sections is serious.

In an area outside a city where there is only one dwelling, or on a farm where there is isolation from close neighbors there is little trouble. But with the trend of dwellings being developed on a plot no larger than a quarter or a half acre, the sewage from the septic tank of one dwelling seeping into the well of another is a growing hazard.

There is no zoning nor any other requirements that will prohibit one householder from locating a septic tank in an improper manner, and there is no legal recourse until the sewage contaminates the neighbor's well. The State Board of Health needs legislation to control this kind of pollution in areas outside the city limits that will give the Board the same kind of authority which it has inside the municipalities. Within the municipalities the State Board of Health reviews all plans for water and sewer extensions and sees that water and sewer lines are properly located. The citizens locating in areas in the city's outskirts assume that the same kind of protection is afforded as has been provided within the city limits. They also know there is a State Plumbing Code to protect the water lines by preventing sewage and waste water from backing up into the water lines under unusual conditions, and they expect protection.

Yet, today in Montana because the Board lacks authority practically every city having a population of 5,000 or more has a serious fringe area problem which is getting no attention. The same problem exists in some of the smaller areas. Lending agencies are refusing to loan money on property in these areas because of this hazard and this adds to the problem.

Some of the most serious conditions exist in Libby, Kalispell, Billings, and Anaconda.

Legislation is required to consolidate the license which the Board issues for restaurants, cafes, lunch counters, dining cars, manufacturing bakeries, manufacturing confectioneries, meat markets, canneries, soda fountains, ice cream parlors, soft drink establishments, bottling works, tourist courts and locker plants. An establishment carrying on more than one of these activities must have a license for each under the present system.

In the interest of economy and efficiency legislation permitting the issuance of one license to each establishment would eliminate much of the needless work and confusion now existing.

During this biennium, the licensing fees for these activities brought in \$39,075.00. This money which goes into the State's General Fund, is not enough to cover the cost of the present license fee program. It is therefore suggested that a \$10.00 fee be charged for the one license to cover all the activities of each operator. The \$200 fee, initiated in 1919, was satisfactory for that time but due to inflation is not a satisfactory amount today.

Another need in the State's legislation is for specific legislation establishing standards for all swimming pools, both natural and artificial and all bathing places. The Board needs to have authority to close a pool if it is not being properly operated. The Board now has authority to close a pool if an actual problem exists, but not until then.

Most of the new pools that are being constructed are cooperating and meeting requirements but the State law does not require this. It would be of material help if the pool status would be clarified and the State Board of Health's responsibility spelled out.

Related Activities

The staff of the Environmental Sanitation Division participates in Water Pollution Council meetings, Montana Section of the American Water Works Association, the Montana Sewage and Industrial Waste Association and the Montana Sanitarians Association.

The staff also participates in the schools which are held each fall in cooperation with Montana State College, American Water Works Association and the Montana Sewage and Industrial Wastes Association, and the Montana Municipal League for water and sewage plant operators at which usually from 40 to 50 persons attend.

On five occasions the past year, members of the staff have been subpoenaed to court involving court hearings on stream pollution and the purported fish kill, a lagoon problem for a tourist court, a municipal lagoon location, and the treatment of water for a slaughter house.

The secretary for the Montana State Board of Plumbing Examiners and for the Montana Water Pollution Council and the Montana Sanitarians Registration Council are required by law to be State Board of Health employees from this division.



St. Joseph's Hospital and Nursing Home in Polson is one of the facilities which received construction assistance from the Hill-Burton and Indian Health Federal funds. The old hospital on the left above has been remodeled for nursing home use.

Hospital Facilities

Highlights of the Biennium.

Revisions in standards for Nursing Homes, Boarding Homes and Hospitals adopted. Hospital construction at an all-time high in 1959 with 16 projects under construction.

Hotel Dieu (St. Joseph) Hospital, at Polson, was the first hospital in the nation which was approved and completed, utilizing Federal Indian Health funds in a community hospital to include beds for Indians. Other similar facilities are under construction at Poplar and Wolf Point.

Annual revision of State plan for hospitals and medical facilities adopted by Board on recommendation of Advisory Hospital Council.

Survey started in hospitals, nursing homes and homes for the aged. Information being collected includes: (1) the numbers of persons with chronic diseases and the numbers of aged; (2) the needs for facilities and improved care.

Hospital and Medical Facilities Survey and Construction

The Federal Hospital Survey and Construction Act, commonly known as the Hill-Burton Act, was extended by the Congress from June 30, 1959 to June 30, 1964. This allowed the scheduling of additional projects both in the hospital and medical facilities cate-

gories. As of June 30, 1960, forty-one (41) projects have received financial assistance in hospital and medical facilities construction since the beginning of the program, July 1, 1947.

During the biennium the hospitals under construction during the previous biennium were completed, as well as some of those covered by this report period, with additional projects placed under construction. Five new hospital projects were scheduled and placed under construction and three projects under medical facilities. These projects represent a total expenditure of \$11,488,445.78 having an estimated Federal share of \$3,112,420.80 and \$558,553.14 of Indian Health grants. The summary of these projects is given in the table on Page 87.

Hospital Construction Under Indian Health Act

A new phase in the program was brought about by action of the Eighty-fifth Congress to utilize Indian hospital construction funds in community hospital construction in order to provide beds for the Indian population in a reservation area. This makes it possible to provide a community with better hospital facilities than could be provided if two small hospitals were constructed in the same area,

each serving only a part of the population. Indian Health funds could not be used in this manner prior to the recent legislation by the Congress. Hospitals receiving these Indian Health Funds must provide a specified number of beds for the Indian population and be in a reservation area for which the Indian Health Services have determined that hospital beds for Indians are needed.

The Hotel Dieu (St. Joseph's Hospital) project at Polson, pictured on page 82, was the first hospital in the United States to be authorized for construction under the Indian Health Act. Hill-Burton funds were also used in this project which is now completed. Both Federal funds are also utilized in the hospitals under construction at Wolf Point and Poplar. Under this program Indian Health monies are granted for the total construction of the Indian beds, with Hill-Burton funds participating in the non-Indian portion of the projects. The three hospital projects completed or currently under construction in this program have received \$558,553.14 in Indian funds with an anticipated \$320,125.00 for a new facility at St. Ignatius.

PROJECTS CURRENTLY SCHEDULED FOR CONSTRUCTION

Facility and Location	Kind of Facility and Number Beds
Poplar Community Hospital, Poplar...	22 general hospital beds, 13 of which are for Indian population 20 nursing home beds
Trinity Hospital, Wolf Point..	39 general hospital beds, 9 of which are for Indian population
Billings Deaconess Hospital, Billings..	84 general hospital beds addition and remodeling Nurses Residence
St. Clare Hospital, Fort Benton...	20 general hospital beds, 12 of which are for Indian population 10 nursing home beds
Holy Family Hospital, St. Ignatius.	40 nursing home beds
Faith Lutheran Home, Wolf Point	52 nursing home beds
Miles City Nursing Home, Miles City .	

State Plan Revised

The State Plan for Hospital and Medical Facilities was revised for a two-year period covering the fiscal years 1959 and 1960. The revisions were adopted by the Board on the advice of the Advisory Hospital Council following a public hearing.

Projects scheduled for construction from applications of eligible sponsors must be in accordance with the State Plan. Preference is given to areas having the greatest unmet

needs for facilities or services. Federal funds are granted on a matching basis of 40% of the total eligible project costs. In some instances full participation cannot be granted due to the limited Federal monies received by Montana.

All Federal monies allocated to Montana were utilized with the exception of Rehabilitation Facilities funds (not transferable to any other category). During the biennium Montana received \$50,000.00 for each year for



The Big Horn Community Hospital at Hardin is a typical combination of new construction in a small community with a small general hospital and nursing home. Others which are similar have been constructed at Ft. Benton, Forsyth, and Poplar and plans are underway for one at St. Ignatius.

Rehabilitation Facilities construction. Of the fiscal year 1958 monies \$42,560.00 was utilized in the St. Vincent's Hospital project and the balance of \$7,440.00 was transferred to the State of Utah for a rehabilitation center at the University of Utah Medical School at Salt Lake City. Of the 1959 monies \$5,000.00 was utilized in the rehabilitation facilities at the St. Vincent's Hospital with the balance of \$45,000.00 again transferred to the State of Utah for use in the rehabilitation facility at the University of Utah. In making these transfers the State of Utah, and the University of Utah, agreed to make the new facility available to Montana for patients that could not be cared for in Montana rehabilitation centers. This will also benefit Montana in the teaching and training of students in the medical and para-medical fields for staffing of Montana rehabilitation facilities.

Federal allotments received by Montana were:

	1959	1960	Total
Medical Facilities	\$300,000.00	\$300,000.00	\$ 600,000.00
Hospital Construction	551,056.00	598,392.00	1,149,448.00
			<u>\$1,749,448.00</u>

Payments made to sponsors are on the basis of completed work, services rendered and equipment delivered at the site at the time inspections are made for payments. The payments made during any biennium may be from current and/or previous fiscal year allotments. Monies allocated to Montana must be utilized within a two-year period. During the biennium 33 project payments were made:

Medical Facilities	\$ 674,878.84
Hospital Construction	1,138,687.12
Making a total of	<u>\$1,813,565.96</u>

The State Board of Health's Bacteriological Laboratory was moved from the old Board of Health Building into the new laboratory facilities of the State Laboratory Building in October, 1958 while the Virus Laboratory occupied its new laboratories in September, 1958.

The hospitals with nursing home units at Hardin and Fort Benton were completed and occupied during this report period. Bids were opened on June 16, 1960 for a second project at Fort Benton to provide a Nurses Residence for the newly completed hospital and nursing home.

Projects currently under construction include the Trinity Hospital at Wolf Point to provide 39 general hospital beds (9 Indian and 30 non-Indian) and the Poplar Community Hospital to provide 22 general hospital beds (13 Indian and 9 non-Indian) and 20 nursing home beds for the Indian and non-Indian population.

The hospitals replaced through new construction at Polson and Hardin are being remodeled to serve as nursing homes or homes for the aged.

Rehabilitation and Chronic Disease Facilities

The completion of the St. Vincent's Hospital addition and remodeling for rehabilitation beds brings to Montana for the first time multi-disability rehabilitation facilities and services on an in-patient and out-patient basis. These facilities will assist in the rehabilitation of disabled persons through an integrated program of medical, psychological, social and vocational evaluation and services on an in-patient and out-patient basis. Facilities for out-patient rehabilitation services are also available in Great Falls by a private agency without Federal aid.



Nurses' station in a newly constructed Montana hospital is pictured above.

The Silver Bow County General and Chronic Disease Hospital at Butte has been completed and will be open to receive patients early in July, 1960. The Cascade County Convalescent Hospital at Great Falls is nearing completion and should be ready to receive patients during the latter part of 1960. The completion of the Silver Bow County General and Chronic Disease Hospital brings to Montana its first Chronic Disease Hospital. These new beds are for the treatment of chronic illnesses including the degenerative diseases in which treatment and care will be administered by or under the direction of persons licensed to practice medicine or surgery in the State. Thus progress is being made in providing facilities and services for the increasing number of aged, the rehabilitation of the disabled and for persons suffering from long term illness.

Interest in Nursing Homes and Homes for the Aged

There is also much interest in the State to provide improved nursing homes and homes for the aged. Custer County voted a bond issue in June, 1960 for the construction of a 51 bed nursing home to be located at Miles City. A fund raising drive is contemplated for the construction of the proposed 40 bed Faith Lutheran Home at Wolf Point. Drawings and Specifications for these projects are in the process of preparation in order that bids may be received early in 1961. Teton and Valley Counties will vote on bond issues for the construction of nursing homes in the November, 1960, General Election. There is also considerable interest by proprietary groups for the construction of nursing home facilities.



A Birthday celebration adds to congeniality among the residents in a nursing home.

Licensure of Hospitals and Homes for the Aged

Under the licensing program the following is a summary of facilities licensed by the State Board of Health at the close of the biennium:

62 General Hospitals	3,503 beds
1 Tuberculosis Hospital	285 beds
11 Nursing Homes	451 beds
Nursing Homes (sub-units of General Hospitals)	194 beds
92 Homes for the Aged	1,402 beds

Inspections were made of all hospitals, nursing homes and homes for the aged prior to the issuance of licenses.



The "Conne Rest Home" at Ronan is one of the pleasant homes for people desiring to live in a small home.

Survey of Aged and Patients With Chronic Disease

In conjunction with the inspections of all facilities during the latter part of the biennium a survey is being conducted of all chronic and aged persons in hospitals, nursing homes and homes for the aged. This survey will include information as to number of persons, sex, age, mental status, degrees of activities and interests, type of care given, type of care needed, bed status, walking status, mental condition, continence, physician's services, person's diagnosis, dental needs and care, source of person's funds for care and charges for person's care. The data gathered will be used in the preparation of the 1961 revision of the Montana State Plan for Hospital and Medical Facilities Construction and also for developing a program for the improvement of patient care in nursing homes and homes for the aged.



Residents in a Gallatin County Nursing Home are pictured above while they are participating in an occupational therapy program. This is a part of the Pilot Program in this county between the local public health department and the nursing home operators in an effort to improve patient care. The local public health nurse and a volunteer occupational therapist who participate in the program are included in this picture. Through the utilization of community resources services can be extended to the nursing home residents.

Revised Standards Adopted

The Division working with a sub-committee of the Advisory Hospital Council, the State Fire Marshal and the Department of Public Welfare developed revised standards for nursing homes and homes for the aged. The proposed revisions were reviewed by interested groups and organizations before bringing the revised standards to the Advisory Hospital Council and after making some changes were presented to the Board for adoption. These were adopted by the Board at its November 7, 1959 meeting.

In adopting the revised standards the Board determined that all facilities which made application for renewal of license for the 1959-1960 year and those making new applications before November 7, 1959 be licensed on the basis of existing standards.

Any application received for a new facility after November 7, 1959 was licensed under the revised standards. The revised standards become effective for all homes July 1, 1960.

These standards serve as the basis for the State Board of Health licensing program. The revision is in much more detail than the previous standards and contains a large amount of informational material which will assist operators and hospitals in improving care to persons in these facilities.

The major change in the standards is the provision for the classifying of homes for the aged into three classes:

- (1) Those providing skilled nursing care
- (2) Personal care
- (3) Boarding homes only.

Requirements that must be met in each of these classifications are specified in the standards in each classification. The fire prevention requirements are more stringent than those formerly included in the standards.

Due to State and national publicity and the problems families face on the aged and the need for better facilities counties, non-profit, and proprietary groups are interested in providing better facilities. Prospective operators make frequent visits to the Division offices to obtain information as to the construction and operation of homes. While many private operations would be interested in providing better facilities the necessary finances are not available to them for the necessary construction. Through Federal legislation the Federal Housing Administration has a loan arrangement for such construction, while others must resort to private financing for this construction.

The Division in cooperation with the Division of Disease Control, Public Health Nursing and Health Education is planning a program to assist nursing home operators in improving patient care. A pilot program in Gallatin County was instituted to determine how the public health staff can assist the nursing home operators in improving the patient care. It is expected that through this pilot program a pattern will evolve so that assistance may be extended throughout the State.

SUMMARY OF PROJECT CONSTRUCTION SCHEDULES

June 30, 1960

Project	Location	No. of Beds	Total Estimated Cost	Estimated Federal Share	STATUS
I. HOSPITAL FACILITIES					
State Laboratory Building	Helena		\$1,239,558.26	\$ 151,438.39	Completed
Hotel Dieu	Polson	40	872,219.72	282,400.23 HB 166,019.14 IH	Completed
St. Clare Hospital.....	Fort Benton	19	299,631.22	118,908.24	Completed
Big Horn Co. Memorial Hospital	Hardin	14	278,576.81	108,119.14	Completed
Cascade Co. Convalescent Hospital	Great Falls	80	1,277,897.21	328,500.00	Contracts awarded 10 10/58
Poplar Community Hospital	Poplar	22	460,171.81	77,220.89 HB 265,000.00 IH	Contracts awarded 12 17/59
Trinity Hospital	Wolf Point	39	554,445.37	169,823.31 HB 127,534.00 IH	Contracts awarded 7/2/59
Billings Deaconess Hospital	Billings	34	1,559,140.41	450,000.00	Contracts awarded 9/16/59
St. Clare Hospital (Nurses Res.)	Fort Benton		109,000.00	43,600.00	Bids opened 6/16/60
Holy Family Hospital	St. Ignatius	20	533,540.83	213,416.33 HB 320,124.50 IH	Preparing Drawings and Spec.
			\$7,184,181.64	\$1,943,426.53	
	Indian Health (Grants made) ..			\$ 558,553.14	
	Indian Health (Anticipated)			320,124.50	
	Total Indian Health			\$ 878,677.64	
II. MEDICAL FACILITIES					
Silver Bow Co. General and Chronic Disease Hospital	Butte	114	\$2,328,331.95	\$ 398,795.20	Completed
St. Clare Hospital	Fort Benton	16	169,585.44	67,249.28	Completed
Big Horn Co. Memorial Hospital	Hardin	10	86,428.21	33,505.71	Completed
Cascade Co. Convalescent Hospital	Great Falls	42	323,673.89	111,500.00	Contracts Awarded 10/10/58
St. Vincent's Hospital	Billings	14	106,400.00	42,560.00	Contracts awarded 7/15/59 Completed
Poplar Community Hospital	Poplar	20	211,087.24	83,926.20	Contracts awarded 12/17/59
Faith Lutheran Home	Wolf Point	40	392,654.00	157,016.60	Preparing Drawings & Spec.
Holy Family Hospital	St. Ignatius	10	151,048.41	60,419.36	Preparing Drawings & Spec.
Miles City Nursing Home	Miles City	52	535,055.00	214,022.00	Preparing Drawings & Spec.
			\$4,304,264.14	\$1,168,994.35	

PART III. FINANCIAL TABLES

Montana State Board of Health Total Expenditures and Encumbrances Fiscal Years, 1955-1960

	1955	1956	1957	1958	1959	1960
ADMINISTRATION	(103,188.14)	(128,244.94)	(136,826.40)	(137,589.38)	(66,739.36)	(60,259.37)
General	68,890.50	89,577.54	91,088.03	83,914.18	53,361.16	50,610.54
Merit System	6,828.30	7,579.25	7,520.10	8,024.17	8,115.09	8,466.52
Training	7,936.72	4,517.41	9,765.19	9,473.02	5,263.11	1,182.31
RECORDS AND STATISTICS ¹	19,532.62	26,570.74	28,453.08	36,178.01	(38,693.89)	(40,433.85)
DISEASE CONTROL	(111,420.32)	(193,338.91)	(151,469.99)	(89,325.13)	(93,866.48)	(108,790.46)
General	21,364.73	59,295.28	58,427.91	71,598.87	71,203.06	71,851.98
Polio Vaccine Dist. and Use		123,402.10	75,086.82			
Chest X-Ray Survey	89,729.07	9,759.89	6,006.31			
Drugs and Biologics	326.52	881.64	5,565.00	- 838.72	418.79	1,739.95
Heart Diagnostic Center ²			6,363.95	14,630.35	17,977.49	24,164.12
Venereal Disease Spec. Proj.				3,934.63	4,267.14	11,034.41
CHILD HEALTH SERVICES	(205,672.61)	(243,381.41)	(245,828.89)	(270,029.39)	(310,804.34)	(304,936.35)
Maternal and Child Health	34,988.49	48,975.69	46,454.50	42,878.97	56,797.74	63,311.96
Crippled Children	23,641.43	45,486.84	27,467.91	31,663.64	39,256.52	38,905.04
Clinics and Auxiliary Services	28,659.93	38,181.95	37,115.98	44,732.26	46,112.50	41,279.64
Hospitalization	70,619.20	61,584.37	46,992.09	56,507.88	67,533.19	59,478.83
Cerebral Palsy Center	36,466.97	36,541.08	44,255.57	44,327.15	45,432.39	43,433.54
Rheumatic Fever Center	4,988.87	5,769.91				
Appliances	6,307.72	6,841.57	5,363.20	5,889.62	5,669.78	8,178.10
Cleft Palate Spec. Proj.			38,179.64	44,009.87	50,002.22	50,349.24
PUBLIC HEALTH NURSING	(19,558.03)	(17,128.46)	(15,766.93)	(23,879.55)	(23,340.67)	(22,168.02)
HEALTH EDUCATION	(37,700.11)	(29,060.98)	(36,431.74)	(43,398.05)	(46,976.43)	(43,584.70)
General	30,975.36	21,360.70	33,697.91	37,621.02	41,409.07	37,545.35
Narcotics and Alcohol	6,724.75	7,700.28	2,733.83	5,777.03	5,567.36	6,039.35
ENVIRONMENTAL SANITATION	(53,817.52)	(56,791.05)	(72,696.13)	(89,725.36)	(99,965.35)	(107,261.20)
General				57,790.54	65,114.26	67,073.32
Water Pollution				31,934.82	34,851.09	40,071.64
Sanitarian's Reg. Council						116.24
LABORATORIES	(47,609.35)	(52,911.25)	(84,443.36)	(121,672.59)	(99,904.10)	(90,533.46)
Bacteriological	47,609.35	52,911.25	54,042.14	72,826.78	69,368.50	66,632.76
Virus			30,401.22	48,845.81	30,535.60	23,900.70
HOSPITAL FACILITIES	(15,776.53)	(20,730.84)	(25,182.86)	(28,930.19)	(30,891.29)	(31,546.31)
DENTAL HEALTH	(13,497.34)	(16,948.16)	(16,167.78)	(11,101.94)	(18,536.22)	(25,385.02)
LOCAL HEALTH SERVICES	(52,552.96)	(36,570.49)	(70,063.41)	(56,572.98)	(68,118.39)	(84,321.57)
General	8,697.04	10,251.91	13,567.96	3,328.52		
Mental Health Spec. Proj.						13,080.04
Aid to Local Areas	43,855.92	26,318.58	56,495.45	53,244.46	68,118.39	71,241.53
TOTAL	660,792.91	795,106.49	854,877.49	872,224.56	897,836.52	919,220.31
Federal	295,701.25	459,594.66	523,750.80	475,202.62	479,552.16	532,565.39
State	323,057.07	329,505.97	328,765.31	393,356.21	418,284.36	386,654.92
Other	42,034.59	6,005.86	2,361.38	3,665.73		

¹ Included in Administration 1955 through 1958.

² Rheumatic Fever Center changed to Heart Diagnostic Center in 1957. Refunds exceeded expenditures.

SUMMARY OF EXPENDITURES AND ENCUMBRANCES, by Sources

**JULY 1, 1958 TO
JUNE 30, 1959**

**JULY 1, 1959 TO
JUNE 30, 1960**

	State	Federal	Total	State	Federal	Total
ADMINISTRATION	(17,798 27)	(48,941 09)	(66,739 36)	(13,748 91)	(46,510 46)	(60,259 37)
General	17,798 27	35,562 89	53,361 16	13,748 91	36,861 63	50,610 54
Merit System		8,115 09	8,115 09		8,466 52	8,466 52
Training		5,263 11	5,263 11		1,182 31	1,182 31
RECORDS AND STATISTICS	(38,693 89)	.....	( 38,693 89)	(40,433 85)		(40,433 85)
DISEASE CONTROL	(42,896 68)	(50,969 80)	(93,866 48)	(38,597 10)	(70,193 36)	(108,790 46)
General	39,851 67	31,351 39	71,203 06	38,593 70	33,258 28	71,851 98
Drugs and Biologics	167 52	251 27	418 79		1,739 95	1,739 95
Heart Diagnostic Center	2,877 49	15,100 00	17,977 49	3 40	24,160 72	24,164 12
Venereal Disease Special Project		4,267 14	4,267 14		11,034 41	11,034 41
CHILD HEALTH SERVICES	(117,572 82)	(193,231 52)	(310,804 34)	(104,627 31)	(200,309 04)	(304,936 35)
Maternal and Child Health	9,421 57	47,376 17	56,797 74	18,164 12	45,147 84	63,311 96
Crippled Children	15,967 61	23,288 91	39,256 52	19,185 04	19,720 00	38,905 04
Clinics and Auxiliary Services	19,149 49	26,963 01	46,112 50	14,361 32	26,031 97	40,393 29
Hospitalization	32,794 65	34,738 54	67,533 19	2,710 41	57,654 77	60,365 18
Cerebral Palsy Center	40,239 50	5,192 89	45,432 39	43,433 54		43,433 54
Appliances		5,669 78	5,669 78	6,423 64	1,754 46	8,178 10
Cleft Palate Special Project		50,002 22	50,002 22	349 24	50,000 00	50,349 24
PUBLIC HEALTH NURSING	(8,406 55)	(14,934 12)	(23,340 67)	(3,631 04)	(18,536 98)	(22,168 02)
HEALTH EDUCATION	(29,664 46)	(17,311 97)	(46,976 43)	(25,310 20)	(18,274 50)	(43,584 70)
General	24,097 10	17,311 97	41,409 07	19,270 85	18,274 50	37,545 35
Narcotics and Alcohol	5,567 36		5,567 36	6,039 35		6,039 35
ENVIRONMENTAL SANITATION	(59,708 40)	(40,256 95)	(99,965 35)	(71,141 15)	(36,120 05)	(107,261 20)
General	43,615 11	21,499 15	65,114 26	45,887 55	21,185 77	67,073 32
Water Pollution	16,093 29	18,757 80	34,851 09	25,137 36	14,934 28	40,071 64
Sanitarians Registration Council				116 24		116 24
LABORATORIES	(56,021 65)	(43,882 45)	(99,904 10)	(48,192 76)	(42,340 70)	(90,533 46)
Bacteriological	56,021 65	13,346 85	69,368 50	48,192 76	18,440 00	66,632 76
Virus		30,535 60	30,535 60		23,900 70	23,900 70
HOSPITAL FACILITIES	(30,891 29)		(30,891 29)	(31,546 31)		(31,546 31)
DENTAL HEALTH	(8,339 00)	(10,197 22)	(18,536 22)	(7,030 02)	(18,355 00)	(25,385 02)
LOCAL HEALTH SERVICES	(8,291 35)	(59,827 04)	(68,118 39)		(84,321 57)	(84,321 57)
Aid to Local Areas	8,291 35	59,827 04	68,118 39		71,241 53	71,241 53
Mental Health Special Project					13,080 04	13,080 04
TOTAL	418,284 36	479,552 16	897,836 52	384,258 65	534,961 66	919,220 31

**Summary of State Board of Health
Expenditures and Encumbrances by Object
Fiscal Years 1959 and 1960**

**State and Federal Funds
Exclusive of Construction Grants**

Object	July 1, 1958 June 30, 1959	July 1, 1959 June 30, 1960	Total
Salaries	\$ 496,754.94	\$ 530,997 30	\$1,027,752.24
Travel	37,035.80	43,157.52	80,193.32
Social Security	9,454.62	12,487.67	21,942.29
P. E. R. S.	16,050.25	17,289.49	33,339.74
Office Expense	57,121.77	54,572.47	111,694.24
Scientific Supplies	29,236.80	15,273.70	44,510.50
Merit System	8,115.09	8,466.52	16,581.61
Industrial Acc. Insurance	5,871.07	4,583.01	10,454.08
Training	6,307.14	1,182.31	7,489.45
Drs. Fees, Clinics and X-Rays	69,067.37	74,410.62	143,477.99
Hospitalization	84,393 86	72,119.75	156,513.61
Appliances	5,669.78	8,178.10	13,847.88
Miscellaneous	4,639.64	5,260.32	9,899.96
Aid to Local Areas	68,118.39	71,241.53	139,359.92
Totals	\$ 897,836.52*	\$ 919,220.31*	\$1,817,056.83

*Encumbrances — 1959 — \$ 21,048.91
1960 — 16,318.53

**U. S. PUBLIC HEALTH SERVICE & U. S. CHILDREN'S BUREAU FUNDS
IN STATE BOARD OF HEALTH BUDGET 1954-61**

	Total P.H.S.	General	Hospital	W.P.	V.D.	T.B.	Cancer	Heart	Mental Health	Indian	Misc.
1961 Budget	302,323.00	81,900.00		18,500.00	14,420.00	19,700.00	25,000.00	25,000.00	63,740.00	52,063.00	2,000.00
1960 Expended Budget	234,711.83 248,358.00	83,114.00 83,114.00		19,011.00 19,011.00	11,034.41 18,300.00	20,590.00 20,590.00	12,805.00 12,805.00	25,300.00 25,300.00	13,080.04 17,346.00	49,777.38 50,292.00	1,600.00
1959 Expended Budget	194,489.90 202,786.00	81,016.00 81,016.00		19,083.00 19,083.00	4,257.14 7,500.00	20,280.00 20,280.00	12,598.00 12,598.00	16,488.00 16,488.00	38,752.76 43,816.00	33,332.37 33,332.37	2,000.00 2,000.00
1958 Expended Budget	196,374.40 202,558.15	80,306.21 80,306.21	14.94 14.94	19,113.00 19,113.00	3,934.63 5,000.00	20,853.00 20,853.00	12,788.73 12,789.00	16,431.53 16,482.00	12,788.73 12,789.00	35,857.77 35,857.77	107,410.55 107,411.00
1957 Expended Budget	268,318.31 271,938.25	65,972.95 65,992.00		10,215.00 10,215.00	3,600.00	20,092.00 20,092.00	12,936.48 12,936.48	15,833.56 15,834.00			
1956 Expended Budget	229,380.12 246,966.43	53,438.13 53,438.13	7,083.59 8,000.00			19,725.30 19,725.30	12,980.00 12,980.00	12,751.00 12,751.00			
1955 Expended Budget	96,427.37 96,422.31	51,728.93 51,728.93	108.44 123.38			19,113.00 19,113.00	12,611.00 12,611.00	12,846.00 12,846.00			
1954 Expended Budget	109,466.52 109,590.19	52,922.66 52,922.66	1,121.68 1,245.00	2,409.65 2,410.00	1,666.65 1,666.65	19,088.76 19,088.76	12,900.57 12,900.57	13,445.76 13,445.76			5,910.79 5,910.79

W. P. — Water Pollution
V. D. — Venereal Disease
T. B. — Tuberculosis

Misc. — 1954 — National Cancer Institute Special Study Grant
1956, 1957 — Polio Vaccine Grant
1958, 1959 — Polio and Asian Influenza Laboratory Grant
1960, 1961 — Heart Disease Laboratory Grant

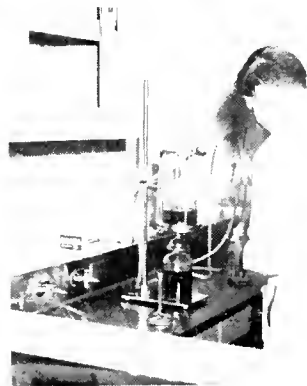
	Total Ch. Bur.	M.C.H. (A)	M.C.H. (B)	C.C. (A)	C.C. (B)	M.C.H. (A)—Maternal and Child Health funds that must be matched with state funds.
1961 Budget	302,994.00	92,411.00	30,000.00	95,583.00	85,000.00	M.C.H. (A)—Maternal and Child Health funds that must be matched with state funds.
1960 Expended Budget	300,775.85 305,016.34	83,563.50 87,803.99	46,097.00 46,097.00	82,901.17 82,901.17	88,214.18 88,214.18	M.C.H. (B)—Maternal and Child Health funds that need not be matched with state funds, but can not be used until MCH (A) funds are budgeted with required matching.
1959 Expended Budget	285,611.39 290,530.38	85,880.98 90,799.97	36,310.00 36,310.00	87,896.72 87,896.72	75,523.69 75,523.69	C.C. (A)—Crippled Children funds that must be matched with state funds.
1958 Expended Budget	277,966.23 296,439.00	80,712.80 90,159.00	42,407.96 42,408.00	78,201.47 87,077.00	76,644.00 76,795.00	C.C. (B)—Crippled Children funds that need not be matched with state funds, but can not be used until CC (A) funds have been budgeted with required matching.
1957 Expended Budget	255,432.49 281,935.00	71,802.24 79,911.00	33,230.43 33,240.00	69,674.38 78,868.00	80,716.44 89,916.00	Footnote: Public Health Service funds are available on a matching basis of one dollar of state funds for each dollar of federal funds, with the exception of special projects which use 100% federal funds. Unused funds of most categories lapse each year.
1956 Expended Budget	227,214.54 228,486.19	65,955.02 67,236.67	25,920.24 25,920.24	81,781.28 81,781.28	53,558.00 53,558.00	
1955 Expended Budget	199,293.88 212,158.83	55,906.58 64,445.25	26,128.79 26,128.79	68,110.51 72,436.79	49,148.00 49,148.00	
1954 Expended Budget	215,333.07 228,334.30	71,371.63 77,396.03	26,528.93 26,528.93	83,643.89 90,581.34	33,788.62 33,828.00	

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