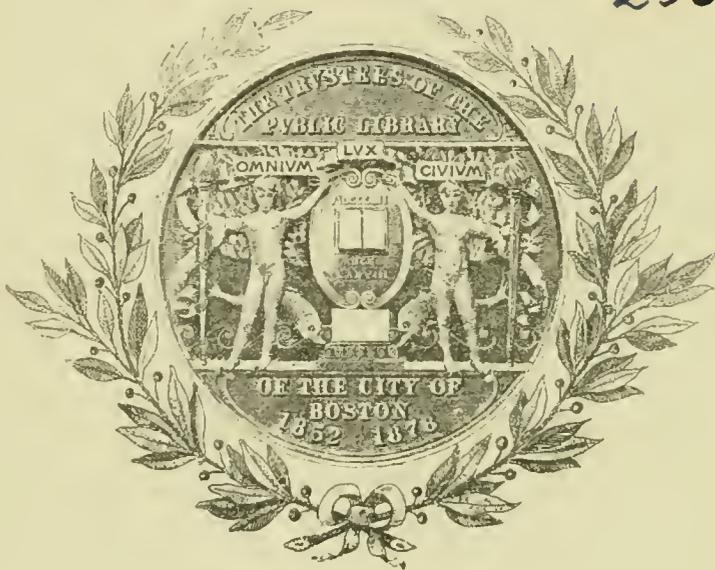


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UNITED STATES
DEPARTMENT
OF LABOR
FRANCES PERKINS
Secretary

CHILDREN'S
BUREAU
KATHARINE F. LENROOT
Chief

Maternal and Child-Health Services

Under the Social Security Act



Bureau
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No. 259

Development of Program, 1936-39

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UNITED STATES DEPARTMENT OF LABOR
FRANCES PERKINS, Secretary
CHILDREN'S BUREAU
KATHARINE F. LENROOT, Chief



Maternal and Child-Health Services
Under the Social Security Act

Title V, Part 1

Development of Program, 1936-39

Bureau Publication

No. 259

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LETTER OF TRANSMITTAL

UNITED STATES DEPARTMENT OF LABOR,
CHILDREN'S BUREAU,
Washington, D. C., September 15, 1941.

MADAM: There is transmitted herewith Publication No. 259, Maternal and Child-Health Services Under the Social Security Act: development of program, 1936-39. This bulletin covers the first 4 years of Federal and State cooperation under title V, part 1, of the Social Security Act, providing for grants to the States for maternal and child-health services.

During this period maternal mortality in the United States was reduced by almost one-third and infant mortality by one-sixth. The encouraging progress that has been made gives assurance that with the expanded resources recommended by the Children's Bureau Advisory Committee on Maternal and Child Health Services and by other bodies it will be possible to provide really adequate care for mothers and children throughout the Nation. The fact that physical examination of registrants under the Selective Training and Service Act of 1940 resulted in the rejection of almost half of our young men as physically or mentally unfit for general military service emphasizes the importance of an adequate maternal and child-health program as an essential guarantee for the future of our democracy.

Dr. Martha M. Eliot, Associate Chief of the Children's Bureau, has been responsible for general supervision of the initiation and development of the program for grants to the States for maternal and child-health services and crippled children's services. In 1941 the Division of Health Services was established in the Children's Bureau, combining the two former divisions, the Maternal and Child Health Division and the Crippled Children's Division, that had been directly responsible for administering these programs.

The staff of the Maternal and Child Health Division in 1939 included the following: Edwin F. Daily, M. D., Director, Jessie M. Bierman, M. D., Assistant Director, Clara E. Hayes, M. D., Consultant in Maternal and Child Health, Maud M. Gerdes, M. D., Specialist in Maternal and Child Health, Walter H. Maddux, M. D., Consultant in Pediatrics, Marjorie M. Heseltine, Consultant in Nutrition, and Naomi Deutsch, R. N., Director of the Public Health Nursing Unit. The audit's work was the responsibility of the State Audits Unit, William J. Maguire, Director.

The regional staff of the Division that performed the important function of giving field consultation service to the State health agencies in the development of their maternal and child-health programs included the following medical consultants, Sarah S. Deitrick, M. D., Thomas A. Morgan, M. D., Doris A. Murray, M. D., Frances C. Rothert, M. D., Edith P. Sappington, M. D., and John M. Saunders, M. D.; and the following public-health-nursing consultants, Alice F. Brackett, R. N., Ruth Cushman, R. N., Ruth A. Heintzelman, R. N., Hortense Hilbert, R. N., Jane D. Nicholson, R. N., and Ruth G. Taylor, R. N.

Respectfully submitted.

KATHARINE F. LENROOT, *Chief.*

HON. FRANCES PERKINS,
Secretary of Labor.

Maternal and Child-Health Services Under the Social Security Act, 1936-39

A National Advance

In 1939 the maternal mortality rate in the United States showed a drop of 30 percent, and the infant mortality rate showed a drop of 16 percent, as compared with 1936. Both rates were the lowest on record for the United States. The maternal mortality rate was 40 deaths from conditions due to pregnancy and childbirth per 10,000 live births, and the infant mortality rate was 48 deaths under 1 year of age per 1,000 live births. These gains were achieved through the effort of professional and community groups extending back 30 years or more to bring increasing medical knowledge and better health practices to bear upon the initial period of life and to extend the benefits of advancing knowledge to the full period of children's growth and development.

The Social Security Act, approved August 14, 1935,¹ provided for the extension and improvement of maternal and child-health services in the States through Federal grants administered by the Children's Bureau of the United States Department of Labor and, in the States, by the State health agencies. This publication presents a picture of Federal and State cooperation in providing maternal and child-health services during the 4-year period following the passage of the Social Security Act.

How the Program Came Into Being

A Nation-wide program to protect the health of mothers and children is not a new movement but is rather a midway goal in a movement that started with the opening of the first milk station in 1893 in New York City, for the purpose of providing babies with safe milk during summer heat. Similar stations were opened in other cities and led, on the one hand, to city and State regulation of the milk supply and, on the other hand, to the organization of infant-

¹ The text of the sections of the Social Security Act relating to grants to States for maternal and child-health services, as amended by the Social Security Act Amendments of 1939, is given in appendix 1, p. 89.

welfare societies to bring medical knowledge and nursing service to bear on the saving of the lives of babies in the poorer areas of cities.

Community effort to provide prenatal care for mothers began in New York City in 1908 with service offered by the Association for Improving the Condition of the Poor and the pediatric department of the New York Outdoor Clinic. In 1912 the Women's Municipal League of Boston began a 5-year experiment in providing prenatal care, given by nurses, to women in their homes.

In 1908 the city of New York established a bureau of child hygiene in its health department, and in 1912 Louisiana established the first child-hygiene division in a State department of health.

During 1909 two conferences were held which were of far-reaching importance in their effect on child health and child welfare. The Conference on the Care of Dependent Children, called by President Theodore Roosevelt, which met in January at the White House, endorsed the proposal for the establishment of a Children's Bureau in the Federal Government to collect and disseminate information affecting the welfare of children. The conference on the prevention of infant mortality, held in New Haven in November 1909 under the auspices of the American Academy of Medicine and including in its membership leaders in social welfare as well as in medicine, led to the establishment of the American Association for the Study and Prevention of Infant Mortality.

The Federal Children's Bureau, created in 1912 by act of Congress and placed in the United States Department of Commerce and Labor (transferred to the new United States Department of Labor in 1913), started at once on its studies of infant mortality and on the preparation of popular publications on the care of the expectant mother and the young child.

The second publication issued by the Children's Bureau was "Birth Registration; an aid in protecting the lives and rights of children" (1914). Many groups cooperated in promoting a more complete registration of births in the States. In 1915 the United States Bureau of the Census established the birth-registration area, including at the start 10 States and the District of Columbia and expanding each year as State after State improved its registration of births until in 1933 all the States were included in the area.

The American Association for the Study and Prevention of Infant Mortality, composed of pediatricians, infant-welfare nurses (forerunners of the public-health nurse), social workers, public-health officials, and others, provided the leadership in the ever-widening movement to protect the life and health of human beings during the

first days and months of life. In 1919 the name of the organization was changed to the American Child Hygiene Association, to reflect the growing emphasis on the protection of the health of children of all ages. In 1923 this association combined with the Child Health Organization (started in 1918) to form the American Child Health Association, which continued its leadership in promoting child-health programs throughout the country until it was disbanded in 1935.

In 1918 the Maternity Center Association was organized to improve maternity care by teaching the public what adequate maternity care is, why it is necessary, and how it can be given.

In 1919 a resolution of the American Child Health Association led to the formation of the Joint Committee on Maternal Welfare, which by 1921 included committees of the American Child Health Association, the American Gynecological Society, the American Association of Obstetricians, Gynecologists, and Abdominal Surgeons, and the American Pediatric Society. Representatives of other organizations were added later and in 1934 the committee was incorporated as the American Committee on Maternal Welfare. In pursuance of its objective of safeguarding the lives and health of mothers and infants, the committee, among other activities, encouraged the organization, through State medical societies, of State and county committees on maternal welfare.

Widespread study was given to the health needs of children during Children's Year, 1918-19, initiated to insure protection for children in the United States during the war period. The conclusions developed by national and regional conferences on child-welfare standards called by the Children's Bureau with the approval of President Wilson in 1919 led among other results to the passage by Congress of the Sheppard-Towner Act, authorizing \$1,240,000 a year for Federal grants to the States for the promotion of the hygiene of maternity and infancy. From 1922 to 1929, under administration of the act by the Children's Bureau, the State health agencies in all but 3 States, with the aid of Federal funds, developed State and local maternal and child-health programs.

The rapid development of medical science and the increased attention devoted to the problems of maternal and child health were brought to a focus in the reports of the section on medical service of the White House Conference on Child Health and Protection, called by President Hoover in 1930. The medical leaders of the country pointed out the unnecessary waste of maternal and infant life and the means at hand for avoiding that waste and for promoting the growth and development of children.

The Social Security Program for Maternal and Child-Health Services

The inclusion of Federal aid for the promotion of maternal and child-health services in the bill that became the Social Security Act, approved August 14, 1935, was a recognition of the desirability of a Nation-wide maternal and child-health program and of the necessity of Federal participation as being vital to its success.

The social-security funds opened the door to a national program to protect maternal and child health. In the objective—"the extension and improvement of maternal and child-health services"—the act recognized the need for continuing expansion if the program is to become active in all communities in the United States and if it is to be developed to meet fully the health needs of mothers and children.

Within 10 months after the appropriations under the Social Security Act first became available (February 1, 1936) all the 48 States, the District of Columbia, Alaska, and Hawaii had submitted plans for maternal and child-health services to the Children's Bureau and had qualified to receive Federal grants for this purpose.²

The combined Federal, State, and local funds included in the State plans for maternal and child-health services for the fiscal year ending June 30, 1939, exceeding \$7,000,000, provided for the following main types of expenditure:

| Professional services including travel: | Percent |
|---|---------|
| Medical..... | 19 |
| Nursing..... | 54 |
| Dental..... | 5 |
| Nutrition..... | 2 |
| Health education..... | 1 |
| Postgraduate education for professional workers..... | 3 |
| Other expenditures—clerical service, scientific supplies, equipment, and other expenses..... | 16 |

These items reveal the character of the services designed for promoting the health of mothers and children "especially in rural areas and in areas suffering from severe economic distress." The largest part of the program is the provision of physicians and public-health nurses, who bring scientific knowledge to the protection of the lives of mothers and children before, during, and after birth, and to the promotion of the growth and development of children. The State programs increasingly are taking advantage of the recent scientific research that has unfolded a new and important chapter on the nutrition of the mother as a factor in the birth of a healthy child and

² For an account of the administration of the Federal-State program during its initial period, see *Federal and State Cooperation in Maternal and Child-Welfare Services Under the Social Security Act* (Children's Bureau Publication No. 254, Washington, 1938).

on the significance of nutrition in the growth and development of the child. Attention has been given to the care of the teeth of the expectant mother, of the child's first set of teeth, and of the permanent teeth that come during school years. Safeguarding children against disease necessitates vaccination against smallpox, immunization against diphtheria, and supervision of health throughout infancy and the preschool and school years. The item "other expenditures" included, therefore, expenditures for vaccines, toxoid, and equipment for child-health conferences and prenatal clinics. Although the tabulation indicates that only 1 percent of the total expenditure was specifically for "health education" it is obvious that a large proportion of the medical, nursing, dental, and nutrition services are educational also. The term "health education" is used here in a restricted sense and includes only salaries and travel of health educators.

Although it has the advantage of Federal and State consultation service, the maternal and child-health program is essentially a community program—bringing to parents knowledge and professional skill to aid them in learning the day-by-day practices that are essential to individual health, to family health, and to community health.

Many of the individuals and many organizations that have shared in this movement for more than a quarter of a century are continuing to share in its current development through service or representation on the advisory committees of the Children's Bureau and the State health agencies, and through leadership in the many voluntary organizations, local, State, and National, that participate in some way in the movement to safeguard the lives and promote the health of mothers and children.

Recent evidence of the continuing interest of many groups in the health of mothers and children was the organization in 1938 of a National Council for Mothers and Babies, including in its membership more than 50 national organizations joined together for the exchange of information, for study, and for cooperative effort in increasing public interest in better care for mothers and babies.

Federal Participation

For the purpose of enabling each State to extend and improve as far as is practicable under the conditions in such State, services for promoting the health of mothers and children, especially in rural areas and in areas suffering from severe economic distress, the Social Security Act of 1935 authorized the annual appropriation of \$3,800,000 for grants to the States, including the District of Columbia, Alaska, and Hawaii.³ The first appropriation under this authorization was

³ An increased annual appropriation was authorized by the Social Security Act Amendments of 1939, and Puerto Rico was added to the number of States and Territories eligible for grants. (See text of the act, as amended, p. 89.)

made available for the 5-month period, February 1 to June 30, 1936. Table 1 shows Federal payments made to the States for the fiscal years, 1936 to 1939.

TABLE 1.—Federal payments to States for maternal and child-health services under the Social Security Act, title V, part 1, for the fiscal years ended June 30, 1936, 1937, 1938, and 1939

| State ¹ | Federal payments under approved State plans | | | |
|---------------------------|---|---------------------|---------------------|---------------------|
| | Fiscal year 1936 (Feb. 1– June 30) | Fiscal year 1937 | Fiscal year 1938 | Fiscal year 1939 |
| United States..... | \$1,252,436.22 | \$2,990,261.88 | \$3,722,477.50 | \$3,724,362.29 |
| Alabama..... | 45,100.68 | 102,446.14 | 107,837.00 | 105,854.92 |
| Alaska..... | 6,364.06 | 16,411.95 | 31,378.79 | 40,831.62 |
| Arizona..... | 18,261.58 | 51,735.02 | 50,320.05 | 58,176.24 |
| Arkansas..... | 30,768.94 | 70,071.78 | 56,851.53 | 74,158.69 |
| California..... | 39,689.32 | 51,599.79 | 126,728.18 | 97,415.08 |
| Colorado..... | 7,421.71 | 60,788.70 | 56,239.63 | 58,399.68 |
| Connecticut..... | 20,139.85 | 41,654.86 | 36,849.44 | 52,073.83 |
| Delaware..... | 7,747.00 | 32,059.65 | 28,854.66 | 30,764.33 |
| District of Columbia..... | 14,522.80 | 32,557.64 | 41,246.41 | 54,014.08 |
| Florida..... | 26,324.17 | 65,978.07 | 75,215.00 | 76,333.29 |
| Georgia..... | 59,638.63 | 132,076.81 | 126,726.37 | 126,365.74 |
| Hawaii..... | 8,343.33 | 42,630.93 | 37,273.56 | 34,765.16 |
| Idaho..... | 15,752.38 | 39,518.90 | 42,845.83 | 44,683.65 |
| Illinois..... | ..... | 70,144.50 | 124,756.90 | 133,630.24 |
| Indiana..... | 20,573.19 | 47,845.42 | 75,850.59 | 78,162.67 |
| Iowa..... | 26,224.43 | 42,728.06 | 50,353.67 | 51,836.81 |
| Kansas..... | 25,260.83 | 28,702.16 | 49,548.40 | 79,371.65 |
| Kentucky..... | 28,898.30 | 87,170.59 | 97,113.88 | 100,226.71 |
| Louisiana..... | 31,485.36 | 88,924.43 | 91,844.19 | 98,548.01 |
| Maine..... | 19,496.95 | 36,999.27 | 54,853.47 | 51,126.36 |
| Maryland..... | 19,788.52 | 53,239.74 | 59,988.17 | 62,165.51 |
| Massachusetts..... | 28,444.22 | 79,175.21 | 82,452.80 | 78,913.48 |
| Michigan..... | 37,995.54 | 84,440.68 | 107,363.66 | 84,576.82 |
| Minnesota..... | 21,732.00 | 67,506.15 | 72,052.99 | 68,828.47 |
| Mississippi..... | 51,000.44 | 104,696.25 | 90,737.49 | 93,663.03 |
| Missouri..... | 20,875.00 | 43,467.27 | 66,001.75 | 112,492.42 |
| Montana..... | 15,338.09 | 42,599.52 | 50,077.82 | 43,314.84 |
| Nebraska..... | 9,400.00 | 1,997.05 | 27,760.15 | 25,487.90 |
| Nevada..... | 16,428.95 | 28,557.03 | 39,289.41 | 32,747.00 |
| New Hampshire..... | 11,975.67 | 27,022.79 | 27,290.47 | 36,937.80 |
| New Jersey..... | 13,566.67 | 75,481.94 | 79,283.94 | 75,473.70 |
| New Mexico..... | 28,873.41 | 61,003.47 | 64,662.60 | 72,351.10 |
| New York..... | 78,579.19 | 78,655.04 | 166,977.07 | 181,027.29 |
| North Carolina..... | 50,121.32 | 116,362.25 | 133,887.53 | 111,673.30 |
| North Dakota..... | 9,724.27 | 28,974.34 | 53,611.52 | 48,132.76 |
| Ohio..... | 22,010.00 | 83,456.11 | 141,639.00 | 100,934.60 |
| Oklahoma..... | 18,176.45 | 64,333.76 | 79,241.41 | 84,654.49 |
| Oregon..... | ..... | 27,441.25 | 59,249.93 | 56,666.27 |
| Pennsylvania..... | 63,371.66 | 50,813.96 | 147,847.85 | 133,002.49 |
| Rhode Island..... | 8,396.67 | 31,409.34 | 35,945.48 | 30,264.85 |
| South Carolina..... | 34,128.66 | 98,994.68 | 104,061.53 | 97,628.28 |
| South Dakota..... | 16,833.50 | 27,021.32 | 43,895.43 | 44,654.25 |
| Tennessee..... | 35,448.49 | 92,295.27 | 96,404.51 | 79,831.92 |
| Texas..... | 42,001.66 | 129,543.93 | 183,123.39 | 162,534.39 |
| Utah..... | 10,610.50 | 43,045.03 | 40,607.92 | 54,514.96 |
| Vermont..... | 14,250.34 | 23,312.53 | 36,376.97 | 38,981.03 |
| Virginia..... | 34,627.34 | 77,174.17 | 95,156.10 | 94,599.73 |
| Washington..... | 23,794.12 | 47,895.91 | 47,888.07 | 50,605.94 |
| West Virginia..... | 27,763.34 | 68,616.78 | 56,415.68 | 44,340.38 |
| Wisconsin..... | 25,982.91 | 64,974.41 | 62,499.81 | 64,845.30 |
| Wyoming..... | 9,183.78 | 24,710.03 | 7,999.50 | 11,779.23 |

¹ The term "State" includes the District of Columbia, Alaska, and Hawaii.

The Secretary of Labor was made responsible for the allotment of the Federal funds to the States. The sum of \$2,820,000 (fund A) was to be allotted on the basis of \$20,000 to each State and a share of the remaining \$1,800,000 in the proportion that the number of live births in the State bore to the total number of live births in the United

States for the latest calendar year for which such figures were available. The allotment to each State was made available for payment of half the sum expended under the State plan for maternal and child-health services. In other words, the matching of Federal funds with State or local funds for this purpose was required. Any balance in an allotment from this fund unpaid to a State at the end of the fiscal year remained available for payment to that State until the end of the second succeeding fiscal year. An additional sum of \$980,000 (fund B) was to be allotted on the basis of the financial need of the State for assistance in carrying out its State plan after the number of live births had been taken into consideration, and these funds were payable to the States only during the fiscal year for which the annual appropriation was made. Matching with State or local funds was not required for fund B.⁴ The percentages of annual Federal allotments of maternal and child-health funds that were matched by the States in the fiscal years 1937 and 1939 are shown in chart 1.

The Children's Bureau of the United States Department of Labor was made responsible for giving consultation service to the State health agencies to aid them in the development of State plans for maternal and child-health services. When the annual plan submitted by each State health agency is found to be in conformity with the requirements of the Social Security Act it is approved by the Chief of the Children's Bureau and becomes the basis for quarterly payments to the States.

The Maternal and Child Health Division of the Children's Bureau, which is immediately responsible for the maternal and child-health program, had as its director in 1939 an obstetrician and as its assistant director a pediatrician. The staff included also an obstetric consultant, a specialist in maternal and child hygiene, and a nutrition consultant. A Negro pediatrician on the staff was available for assignment to States having a large Negro population. The Director of the Public Health Nursing Unit serves as consultant on the nursing phases of the program. The field staff included for each of five regions a medical consultant and a public-health-nursing consultant. The medical-social consultant serving on the staff of the Crippled Children's Division and the regional staff of medical-social consultants have advised on many aspects of the program, particularly in connection with the medical-care aspects of the maternity program. The State

⁴ For the terms under which these funds were allotted see secs. 502 and 504 of the Social Security Act (appendix 1, pp. 89, 90).

The procedure for making allotments and providing for payments to the States is described in Children's Bureau Publications No. 253, *Grants to States for Maternal and Child Welfare Under the Social Security Act of 1935 and the Social Security Act Amendments of 1939* (Washington, 1940), and No. 254, *Federal and State Cooperation in Maternal and Child-Welfare Services Under the Social Security Act* (Washington, 1938).

Chart 1.—Percentages of annual Federal allotments of maternal and child-health funds matched by States in the fiscal years 1937 and 1939, Social Security Act, Section 502 (a) ¹



¹Bars extending to 100 percent on scale indicate that States represented supplied matching funds in the amount of 100 percent or more of annual Federal allotments.

Audits Unit, with a field staff of five auditors, was responsible for seeing that the expenditures of Federal and State funds for maternal and child-health services (and the two other programs administered by the Children's Bureau under the Social Security Act) were in agreement with the State plans as approved.

The effectiveness of the consultation service is enhanced by the recommendations of advisory committees to the Children's Bureau, appointed by the Secretary of Labor and composed of leaders from the medical, dental, and nursing professions, from national health and social agencies, and from national organizations concerned with maternal and child health. The committees in 1939 included a General

Advisory Committee on Child Welfare Services, which advises the Children's Bureau on its three social-security programs, and, as technical committees, the Advisory Committee on Maternal and Child Health Services (including subcommittees on maternal health and on child health) and special advisory committees on dental health and on public-health nursing.⁵ (See appendix 4, p. 107.) The State and Territorial health officers meet at least once a year in conference with the Children's Bureau to consider how advances can be made in the maternal and child-health program.

In 1936, as part of its administrative responsibility for the social-security program for maternal and child health, the Children's Bureau called upon the State health agencies for quarterly reports of health services rendered to mothers and children, under the supervision of the State health department, in connection with title V, part 1, of the Social Security Act. These reports are based on the plan for the tabulation of health-department services approved by the State and Territorial health officers in 1936 (revised in 1940). The Division of Statistical Research of the Children's Bureau, which is responsible for the collection of these statistics, gives consultation service to the State health agencies for the development of methods of reporting that will yield data comparable between States and reliable as a national measure of maternal and child-health services. A tabulation of these services for the calendar years 1938 and 1939 is given in table 4, p. 16. In accordance with the requirement in the Social Security Act that the State agencies send in such reports as the Secretary of Labor may require, the State health agencies are sending to the Children's Bureau progress reports on the development of the program of maternal and child-health services within the States. These reports are the basis for annual summaries of progress referred to throughout this report.

From time to time the Bureau calls conferences of the directors and other staff members of the bureaus of maternal and child health of the State departments of health. A national conference of State directors of maternal and child health was held in Washington on September 30 and October 1, 1937. The first regional conference of maternal and child-health directors was held in San Francisco in February 1938. Regional conferences of State maternal and child-health directors and public-health-nursing supervisors were held in Providence, R. I., and in Chicago in December 1938. Regional conferences of public-health nurses were also

⁵ When the Secretary of Labor reappointed these advisory committees in April 1940, the committee on dental health was made a subcommittee of the Advisory Committee on Maternal and Child Health Services and the committee on public-health nursing was made a subcommittee of both the Advisory Committee on Maternal and Child Health Services and the Advisory Committee on Services for Crippled Children.

held in Boston in February 1937, in Richmond, Va., in May 1938, and in Portland, Oreg., in June 1938.

At the beginning the State health agencies were not able to recruit their forces fast enough to take full advantage of the Federal aid offered, and in some cases State and local appropriations were not sufficient to match in full the Federal funds allotted from fund A. Payments to the States for the fiscal year 1938 showed that the program had attained a development substantially equivalent from a financial standpoint to the annual appropriation authorized in the Social Security Act.

At the hearings on the National Health Bill held by a subcommittee of the Senate Committee on Education and Labor during the spring of 1939 evidence submitted showed that there were still extensive areas where, because of limited funds, the State health agencies had been unable to develop maternal and child-health services, that in other areas the program was not sufficiently developed to meet fully the needs of mothers and children, and that the funds so far made available permitted the development of remedial medical-care service for individual mothers and children only in a few local areas and on an experimental basis.

On recommendation of the Senate committee the bill for amending the Social Security Act, then under consideration, was amended to authorize an increase in the appropriation for grants to the States for maternal and child-health services. Fund A, for which matching is required, was increased to \$3,840,000, and fund B, allotted on the basis of the financial need of each State, for which matching is not required, was increased to \$1,980,000. These increased authorizations, bringing the total to \$5,820,000 for grants to the States for maternal and child-health services, were included in the Social Security Act Amendments of 1939, approved August 10, 1939, and appropriations under these increased authorizations were made available. For the year ending June 30, 1940, the appropriation was increased to \$4,800,000, which included approximately one-half of the increased amount authorized.⁶ Increased payments to the States, for the most part, began after January 1, 1940. The Social Security Act Amendments of 1939 also made Puerto Rico eligible to receive grants for maternal and child-health services, beginning January 1, 1940.⁷ Another amendment required that State plans should provide for the establishment and maintenance of a merit system for the selection and retention of employees included in the plan.

⁶ The appropriation for the fiscal year ending June 30, 1941, was \$5,820,000, the full amount authorized in the Social Security Act Amendments of 1939.

⁷ The text of title V, part 1, of the Social Security Act as amended and of related sections of the act are given in appendix 1, p. 89.

The period covered by this report is the initial period, when State programs were being developed and expenditures were within the amounts authorized by the original act. By the close of 1939 plans for somewhat extended programs made possible by increased funds were under consideration.

State Programs

Promoting the health of mothers and children in the States under professional leadership is a planned program and is concentrated at points of special need. Under the Social Security Act the responsibility for developing and submitting a plan, and for administering its provisions after it has been approved, is that of the State health agency. As the needs of the States vary widely because of geographic, racial, agricultural, or industrial conditions, the plans for extending and improving maternal and child-health services are different for each State.

In order to participate effectively in the social-security maternal and child-health program, each State health agency established, or expanded within its departmental organization, a maternal and child-health division under the direction of a physician. Of the 51 State maternal and child-health directors serving on June 30, 1939, 21 had been trained in pediatrics or obstetrics, and of this 21, 9 had received at least 1 year's additional training in a school of public-health administration. Of the remaining 30, 11 had received training in public-health administration for at least 1 year and 13 had had from 8 to 28 years' experience in public-health administration. Because of the many clinical features of the maternal and child-health program, previous clinical experience was considered by most of the State health authorities a requisite qualification for a maternal and child-health director.

A well-qualified public-health nurse serving as the chief State advisory nurse and at least one specialized consultant in maternal and child-health nursing in the division of public-health nursing, in States where such a division exists, are believed to be essential for the conduct of a maternal and child-health program.

The State budgets for the year ended June 30, 1939, provided for 71 physicians to serve full time on State staffs as assistant maternal and child-health directors or clinical consultants, for 8 physicians to serve part time for consultation service, for 541 public-health nurses to serve in an administrative, consultant, or supervisory capacity, for 43 nutritionists (in 24 States), for 34 health educators (in 20 States), for 67 dentists (in 29 States), and for 52 dental hygienists (in 13 States).

The maternal and child-health division works with other divisions of the State health department, such as the divisions of county health work, public-health nursing, communicable-disease control, vital statistics, and sanitation. Cooperative working relationships are also maintained with the State department of education, the State department of welfare, the State crippled children's agency, the home-economics extension service of the State university, and other State agencies providing services for children or affecting children. The maternal and child-health divisions also cooperate actively with private agencies serving children.

The functions of the State division of maternal and child health, as shown by the State maternal and child-health plans, are (1) to develop maternal and child-health services in district or county public-health units and in areas without full-time public-health services; (2) to develop high standards of service in the maternal and child-health field; (3) to enlist the cooperation of members of the medical and allied professions and of community groups in extending State-wide facilities for continuous medical and nursing care and health supervision through maternity, infancy, and childhood, and in maintaining high standards of care; and (4) through health-education programs conducted by physicians, dentists, nurses, and nutritionists to inform parents and children of the practices essential for health.

The State plan submitted to the Children's Bureau each year as a basis for Federal payments serves also as the working plan for the year's program for the State health officer and the maternal and child-health director. The plan shows State and local staff organization to be maintained with the combined Federal, State, and local funds, and the activities to be carried on. It explains how the State proposes to meet the seven prerequisites for receiving the Federal grant, which are outlined in the Social Security Act, including (1) financial participation by the State, (2) administration or supervision of administration by the State health agency, (3) efficient administration (including, after January 1, 1940, provision for a merit system of personnel administration), (4) regular reporting, (5) extension and improvement of local maternal and child-health services, (6) cooperation with professional and citizens' groups and organizations, and (7) development of demonstration services in needy areas and among groups in special need. In requesting Federal funds available under section 502 (b), which are allotted on the basis of the financial need of the State for assistance in carrying out its State plan and for which matching by State and local funds is not required, the State plan describes the unmet needs of the State in the field of maternal and child health and the extension of service that will meet such needs at least in part.

The majority of the State health agencies have taken advantage of the active interest of many groups in their States by organizing advisory committees on maternal and child-health services to aid the division of maternal and child health in planning and developing its program. On these committees serve representatives of the State medical and nursing associations, specialists in obstetrics and pediatrics, dentists, representatives of parent-teacher associations, of farm groups, and of other State organizations whose members are concerned with the extension of maternal and child-health services.

These committees have aided the State health officers and the maternal and child-health directors in developing standards for the selection of State and local personnel and in planning postgraduate education for professional workers in the field of maternal and child care, and have advised on the extension of service in local areas and on special projects. The members of such committees have played an important part in promoting understanding of the program within their own organizations and in their communities. Several hundred private citizens each year thus share in promoting State maternal and child-health programs.

Thirty State health agencies reported for the year ended June 30, 1939, that from one to four meetings of the advisory committee had been held during the year in each of these States.

The demonstration services included in the State plans have proved to be spearheads in the attack on many of the difficult aspects of the health problems of mothers and children. A maternal and child-health demonstration is defined as a project established in an area in special need of certain types of maternal and child-health services, staffed by especially well-qualified personnel, and providing more and better services than are available in any comparable area in the State. The project should demonstrate the value of such services to the people of the area and of other areas. In such demonstrations provision is made for technical supervision and consultation by persons who meet the standards of personnel qualifications recommended by the State and Territorial health officers.

Many of the illustrations in the succeeding pages are taken from programs initiated as "demonstration services."

Local Programs

Part of the Federal-State funds is used by the State health agencies to build up maternal and child-health services in local areas, especially rural areas. The health officer in the county or local political subdivision having an organized public-health unit is responsible for the development of the maternal and child-health program as a major feature of the local public-health program.

Medical service at prenatal clinics and child-health conferences and in the health supervision of school children is sometimes given by the local health officer, but more commonly it is given by local practicing physicians engaged to give service periodically at clinics, conferences, and examinations of school children. Local dentists participate similarly in the program. One or more public-health nurses on the staff carry on the nursing phases of the maternal and child-health program as part of a generalized program covering all nursing phases of the local public-health program. The nurse arranges for and assists the physician at prenatal and postnatal clinics, child-health conferences, and health examinations of school children, conducts classes for mothers and fathers, visits mothers and children at home, and carries on other supplementary activities.

The services for which practicing physicians, dentists, and nurses received payments under the maternal and child-health program for the fiscal year ended June 30, 1939, are shown in table 2.

TABLE 2.—*Services for which practicing physicians, dentists, and nurses received payment, year ended June 30, 1939*

| Type of service | Persons receiving payment | | | | | |
|--|---------------------------|---|----------|---|--------|---|
| | Physicians | | Dentists | | Nurses | |
| | Number | Number of States in which service was given | Number | Number of States in which service was given | Number | Number of States in which service was given |
| Prenatal and postpartum clinics..... | 1, 178 | 24 | 22 | 4 | | |
| Infant and pre-school conferences..... | 2, 634 | 33 | 291 | 16 | | |
| Examinations of school children..... | 634 | 9 | 453 | 11 | | |
| Case consultations..... | 113 | 5 | | | | |
| Home-delivery nursing..... | | | | | 322 | 9 |

In local areas that are not served by organized public-health units a public-health nurse is frequently employed to give community nursing service, with the aid of a citizens' advisory committee, under the direction of the district health officer or directly under State supervision until a local health unit is organized.

In a few of the larger counties having a well-developed health program a consultant obstetrician and a consultant pediatrician advise on the development of the maternal and child-health program, and additional physicians are placed on the health-department staff to carry on the program. When additional public-health nurses can be employed the area is usually divided into districts so that each nurse will be able to give more adequate service to the families in her district. Table 3 shows the number of urban and rural counties in which specified services are provided.

TABLE 3.—Services provided under State health agencies in rural and urban counties,¹ year ended June 30, 1939

| Services provided | Urban counties | | | | | | | | | | | | | |
|---|----------------|---|----------------|---|-------------|---|----------------------------|---|-----------------------------|---|------------------------------|---|--------------------|---|
| | Total counties | | Rural counties | | Total | | Size of largest city | | | | | | | |
| | Number | Per- cent of total count- ies | Num- ber | Per- cent of rural count- ies | Num- ber | Per- cent of urban count- ies | 10,000 less than 25,000 | | 25,000, less than 50,000 | | 50,000, less than 100,000 | | 100,000 or more | |
| | | | | | | | Num- ber | Per- cent of count- ies with cities of this size | Num- ber | Per- cent of count- ies with cities of this size | Num- ber | Per- cent of count- ies with cities of this size | Num- ber | Per- cent of count- ies with cities of this size |
| Total counties | 3,076 | | 2,453 | | 623 | 341 | 121 | 67 | 94 | | | | | |
| Counties with 1 or more specified services provided | 2,187 | 71 | 1,671 | 68 | 516 | 280 | 82 | 56 | 84 | 56 | 78 | 83 | | |
| Full-time health units | 1,318 | 43 | 967 | 39 | 351 | 191 | 56 | 36 | 59 | 36 | 53 | 56 | | |
| Maternity service: | | | | | | | | | | | | | | |
| Prenatal and postpartum clinics | 573 | 19 | 414 | 17 | 159 | 79 | 23 | 23 | 24 | 23 | 28 | 30 | | |
| Prenatal and postpartum nursing service through: | | | | | | | | | | | | | | |
| Home visits | 1,918 | 62 | 1,481 | 60 | 437 | 232 | 68 | 53 | 71 | 53 | 66 | 70 | | |
| Group instruction in maternity care | 849 | 28 | 639 | 26 | 210 | 115 | 34 | 26 | 31 | 26 | 31 | 33 | | |
| Organized home-delivery nursing service | 102 | 3 | 54 | 2 | 48 | 25 | 7 | 4 | 6 | 4 | 12 | 13 | | |
| Infant and preschool: | | | | | | | | | | | | | | |
| Medical conferences | 753 | 24 | 511 | 21 | 242 | 115 | 34 | 36 | 41 | 36 | 41 | 44 | | |
| Nursing service through: | | | | | | | | | | | | | | |
| Home visits | 1,957 | 64 | 1,501 | 61 | 456 | 241 | 71 | 53 | 77 | 53 | 69 | 73 | | |
| Group instruction in child care | 834 | 27 | 617 | 25 | 217 | 113 | 33 | 25 | 37 | 25 | 34 | 36 | | |
| School: | | | | | | | | | | | | | | |
| Medical examinations | 1,252 | 41 | 942 | 38 | 310 | 170 | 50 | 34 | 45 | 34 | 51 | 54 | | |
| Nursing supervision | 1,819 | 59 | 1,399 | 57 | 420 | 221 | 65 | 48 | 74 | 48 | 62 | 66 | | |
| Services of dentists or dental hygienists: | | | | | | | | | | | | | | |
| Educational | 900 | 29 | 659 | 27 | 241 | 122 | 36 | 27 | 40 | 27 | 43 | 46 | | |
| Inspection | 922 | 30 | 697 | 28 | 225 | 122 | 36 | 21 | 34 | 21 | 31 | 44 | | |
| Corrective | 630 | 20 | 472 | 19 | 158 | 78 | 23 | 19 | 23 | 19 | 28 | 35 | | |
| Services of nutritionists | 489 | 16 | 317 | 13 | 172 | 82 | 24 | 21 | 26 | 21 | 37 | 39 | | |
| Counties with no specified services provided | 889 | 29 | 782 | 32 | 107 | 61 | 18 | 11 | 16 | 11 | 16 | 17 | | |

¹ Counties classified as rural are those with no city of 10,000 or more population; all others are classified as urban.
² Includes New York City (5 counties), District of Columbia (1 county), Yellowstone Park (1 county), and Hawaii (4 counties).

As the program develops, dentists, nutritionists, and other health workers are added to the local staff on a full-time or a part-time basis. In the counties selected by the State health agency for demonstrations specially qualified staff is provided to render the services planned for the project.

The number of mothers and children served in this Nation-wide program and the extent of services given reach impressive totals, as is shown in table 4. Additional tables showing progress made in the States in the various phases of the maternal and child-health program for the fiscal year ended June 30, 1939, are included in appendix 2.

TABLE 4.—*Maternal and child-health services, for the calendar years 1938 and 1939*¹

| Type of service | Number reported ¹ | |
|--|------------------------------|-----------|
| | 1939 | 1938 |
| Medical services: | | |
| Maternity service: | | |
| Cases admitted to antepartum medical service | 124,924 | 119,623 |
| Visits by antepartum cases to medical conferences | 333,651 | 344,174 |
| Cases given postpartum medical examinations | 27,452 | 22,710 |
| Infant hygiene: | | |
| Individuals admitted to medical service | 137,567 | 156,749 |
| Visits to medical conferences | 402,479 | 534,882 |
| Preschool hygiene: | | |
| Individuals admitted to medical service | 276,425 | 266,466 |
| Visits to medical conferences | 472,462 | 492,431 |
| School hygiene: Examinations by physicians | 1,385,078 | 1,836,124 |
| Public-health-nursing services: | | |
| Maternity service: | | |
| Cases admitted to antepartum nursing service | 213,267 | 215,957 |
| Field and office visits to and by antepartum cases | 602,917 | 604,568 |
| Cases given nursing service at delivery | 16,823 | 16,987 |
| Cases admitted to postpartum nursing service | 151,676 | 140,250 |
| Nursing visits to postpartum cases | 406,728 | 408,609 |
| Infant hygiene: | | |
| Individuals admitted to nursing service | 381,054 | 395,966 |
| Field and office nursing visits | 251,467 | 1,295,478 |
| Preschool hygiene: | | |
| Individuals admitted to nursing service | 441,103 | 435,243 |
| Field and office nursing visits | 1,065,950 | 1,090,151 |
| School hygiene: | | |
| Field and office nursing visits | 1,439,890 | 3,327,746 |
| Immunizations: | | |
| Smallpox | 1,465,136 | 1,686,632 |
| Diphtheria | 1,059,478 | 1,176,815 |
| Dental inspections (by dentists or dental hygienists): | | |
| Preschool children | 69,050 | 140,628 |
| School children | 1,415,576 | 1,654,929 |
| Visits for midwife supervision | 39,424 | 38,933 |

¹ Reported by State health agencies administering State plans under the Social Security Act, title V, part 1.

Reports were received from 48 States, Alaska, Hawaii, and the District of Columbia.

Note.—The figures in this table are known to be somewhat incomplete. Differences shown between the 2 years may be due to a real change in the amount of service provided, to a change in the number of health jurisdictions included, to more accurate or complete reporting, to statistical errors due to variations in interpretation of terms, or to other factors. The figures on admissions and visits are fairly dependable as an indication of services provided, but on account of inconsistencies in the methods used by the States in reporting, these figures should not be used for computing average visits per admission. Reports for 1938 include some services (by public agencies) not administered or supervised by the State health agency, but reports for 1939 do not; this factor is believed to account for the apparent decrease in several services in 1939.

Health Services for Mothers

By 1936 the various types of activities that now characterize a State health program for mothers were being carried on in various areas, mostly urban, and a limited number of women were receiving the benefit of educational and clinical services thus made available. A great contribution of the Federal-State maternal and child-health program has been to make known the need for community provision for the care of mothers and the techniques for giving the services required for such care and to enlist the cooperative efforts of health agencies, the medical profession, and community groups to make these services available in a steadily increasing number of communities. Out of this growing body of experience are coming new methods of promoting the health of mothers and protecting the lives of the newborn.

Prenatal service.

By 1936 it was recognized that adequate medical and public-health-nursing supervision started early in pregnancy would increase the probability of safe delivery for the mother and of health for the baby. The prenatal clinic or conference conducted by a physician, supplemented by the educational services of the public-health nurse in the conference, in home visits, and in group instruction, is the type of service recognized as necessary for women unable to obtain such prenatal care otherwise. The figures in table 4 (p. 16) reflect gains made in providing this service, but table 3 (p. 15) shows that on June 30, 1939, prenatal-clinic service under State health-department supervision was available in only 17 percent of the rural counties and in only 26 percent of the urban counties in the United States. Prenatal clinics under municipal or voluntary auspices are being held in many cities, and figures for these clinics are not included in the tabulations given here. The urban counties under supervision of State health agencies are as a rule the counties with smaller cities.

In States where the prenatal conference has not been developed the objective has been to encourage mothers to go to the offices of private physicians for prenatal service. Although effort is made to correlate this service in the physician's office with field public-health-nursing service, the trend in the States seems to be toward the development of prenatal clinics to be held once a month or oftener at centers accessible to the women in each county or other local area.

Prenatal supervision by physicians aided by public-health nurses assures the health of most women in their approach to a normal delivery. It also enables the physician to discover complications that indicate the probability of a difficult delivery and the need for hospital care at that time.

An adequate diet during pregnancy and lactation helps to protect the mother against certain complications of pregnancy and increases her chances of producing and rearing a healthy baby with a minimum drain on her own body. Instruction in the choice of foods and other factors related to good nutrition is therefore an integral part of prenatal service. In a growing number of States the physicians and nurses who instruct mothers in diet rely upon a nutrition consultant for simply written leaflets and other teaching devices that take into consideration racial or regional food customs and the foods and equipment available in the homes of the community. It is often possible for the consultant to attend prenatal clinics and mothers' classes to demonstrate effective methods of teaching nutrition to groups and individual mothers. In the District of Columbia, through a cooperative arrangement between the health department and the local chapter of the American Red Cross, home-economics instructors paid by the chapter teach groups of women at prenatal clinics how to select and prepare the foods they need.

The experience of Virginia illustrates the development of a prenatal service. The Bureau of Maternal and Child Health of the State Department of Health, with the approval of the State medical society, started in October 1936 the development of prenatal clinics in counties with full-time health departments. The county health officer and the public-health nurse administer the program. The clinics, held preferably in health centers or in especially prepared clinic rooms, are conducted by local practicing physicians. Physicians who have not previously conducted clinics are given professional assistance from the Bureau of Maternal and Child Health in starting and establishing the routine of the clinics. A standardized routine based on experience is recommended for their use. Patients referred by physicians, nurses, midwives, or social agencies are admitted to the clinic by appointment only. The public-health nurse is responsible for the management of the clinic. She arranges for patients to come to the clinic on their initial and return visits. She gives group instruction at the clinic prior to the arrival of the clinic physician and makes home visits to aid the prospective mother in following the instruction of the physician and in making necessary preparations for the birth of the baby. The clinics were held once a month at first; if conditions warrant they are held once a week. The obstetrician on the staff of the Bureau of Maternal and Child Health visits the clinics regularly to give assistance and consultation service through the clinic to the physician in charge and to invited physicians in each area. By June 30, 1939, physicians were conducting prenatal clinics in 210 centers which had been established under the supervision of the State Department of Health and local health agencies.

The problem of providing for continuity of care—an important part of the maternity-care program—has been found difficult by the State health agencies. Many prenatal clinics have been established without a working relationship with a nearby hospital. No prenatal clinic can function satisfactorily without a cooperative arrangement with a local hospital or hospitals where complicated cases can be referred for care during pregnancy or at the time of delivery. Much of the value of prenatal care is lost unless good hospital care can be provided when necessary. In every prenatal clinic a system should be developed whereby a copy of the patient's prenatal record is always available to her attending physician at time of delivery, whether the delivery is in the hospital or in the home. Continuous medical and nursing supervision of the maternity patient during pregnancy, at the time of delivery, and during the postpartum period should be the objective.

The extent of the services to mothers being rendered with the aid of Federal maternal and child-health funds under the supervision of State health agencies is shown by the activities reported by the State health agencies for the calendar years 1938 and 1939 (table 4, p. 16). Prenatal medical service was given to 124,924 expectant mothers, who made 333,651 visits to prenatal conferences for medical supervision; and 27,452 mothers were given postnatal examinations. Prenatal nursing service was given to 213,267 expectant mothers, involving 602,917 visits with mothers at home or in the office; and 151,676 mothers received postnatal nursing service, involving 406,728 visits for postnatal care.

Reports from the States showed that on June 30, 1939, 1,229 maternity centers⁸ were in operation in 34 States, the District of Columbia, Alaska, and Hawaii, where monthly conferences were being held, at which physicians gave prenatal and postnatal service to mothers as part of the maternal and child-health program supervised by the State health department. Nineteen percent (573) of the 3,076 counties in the United States and Hawaii reported having these centers. South Carolina reported such centers in each of its 46 counties, and Hawaii, in each of its 4 counties; Arizona, in 9 of its 14 counties; Kentucky, in 82 of 120 counties; Maryland, in 20 of 23 counties; and North Carolina, in 50 of 100 counties. In some States such medical conferences for mothers are not held, as the State plan contemplates that mothers will go to private physicians for medical supervision throughout the maternity cycle.

As of June 30, 1939, the States reported that prenatal and postnatal services to mothers were being given by public-health nurses through

⁸ See appendix table 1. The count does not include centers where conferences are held less frequently than once a month, nor maternity centers held in cities or under private auspices which were not operating under a State maternal and child-health plan supervised by a State health department.

home visits in 1,918 (62 percent) of the counties. These services were reported in every county in 12 States and Hawaii, and in the District of Columbia. In 14 more States these services were reported in two-thirds or more of the counties—in 8 of these States, 90 percent or more of the counties. Group instruction of mothers by nurses was reported in 849 counties in 47 States and Hawaii, and in the District of Columbia.

The services so reported as part of the State maternal and child-health plans are rendered for the most part in the smaller towns and rural areas. In the larger cities the local health departments provide extensive prenatal and postnatal services for mothers. However, since there are 3,076 counties in the United States and Hawaii, of which 2,453 are rated as rural counties (counties having no city of 10,000 population or more), it is evident that in a large number of rural counties in the United States the State health agencies had not been able by June 30, 1939, to assist in establishing maternity centers or public-health-nursing service for mothers (table 3, p. 15).

Clinical consultation service.

Case consultation service to practicing physicians by obstetricians is being developed as a means of improving maternal care. As an outgrowth of the program for postgraduate education (pp. 65-68), 11 States in their 1939 maternal and child-health plans provided for the employment of obstetric consultants for this service on a full-time or a part-time basis.

In Maryland two highly trained obstetricians of Baltimore are employed on a part-time basis by the State Department of Health to visit the prenatal clinics throughout the State, to advise the local physicians conducting the clinics, and to render clinical consultation when necessary. One of the leading obstetricians in Birmingham, Ala., is employed on a part-time basis to assist in establishing prenatal clinics conducted by local physicians at regular intervals and to consult with them concerning patients presenting unusual complications.

In Michigan a full-time obstetrician on the State staff visits various sections of the State for more or less extended periods and places himself at the disposal of the local practicing physicians, to discuss individual cases with them and to assist them on surgical cases. Some of the physicians ask the consultant to go with them to visit their patients or they ask patients to come to their offices for examination by the consultant. Occasionally patients learning of the presence of the specialist in the neighborhood ask their physicians to arrange for an examination and consultation. Through discussion among physicians in groups the value of the service given individual patients reaches a larger number of physicians. By such means obstetric

consultation service is made available in parts of States where no specialist in obstetrics is practicing.

In New Jersey the Bureau of Maternal and Child Health of the State Department of Health offers to private physicians consultation service for abnormal conditions in patients of the low-wage group. The family physician may select any consultant from an approved list and the State Department of Health pays the prescribed fee for the consultation service.

In Connecticut a similar plan is in operation for physicians and patients living in cities of 50,000 population or less and in rural areas. In these areas all practicing physicians are given a list of obstetricians who have signified their willingness to serve and who are certified by the American Board of Obstetrics and Gynecology or of physicians who have had special training or long experience in obstetrics. These physicians are appointed as consulting obstetricians by the State Department of Health and are paid by the State department for each consultation reported.

Midwife supervision.

The untrained midwife is a significant factor in relation to health services for mothers in many States. In some counties these midwives attend as many as 80 or 90 percent of the births, and in one State as many as 50 percent. Ignorance of proper techniques and of clean procedures makes her a serious danger to the health of mothers and newborn babies. She is a symbol of the low economic level of many thousands of families that cannot pay for a doctor's care for the mother when the baby is born. In some areas where there are no physicians the untrained midwife is the only person who can be called on to assist at the birth.

The degree of control over the midwife exercised by the State health department varies from the State where the department issues an annual license or permit to midwives and maintains some supervision over them throughout the year to the State where no licenses are required and the State department is able to offer only a meager amount of class instruction. Decided progress has been made recently in the supervision of midwives by State and local health officers and public-health nurses. Many of those least qualified to practice midwifery are being eliminated each year. However, a count as of June 30, 1938, showed that about 35,000 midwives were practicing in 34 States and about 22,900 of them were under some degree of supervision by health agencies.

Improved supervision procedures have been developed during the past few years. Formerly, class instruction by public-health nurses, aided by physicians, and nurses' visits to the homes of midwives for

inspection of their equipment and for some instruction, was the extent of training or guidance. The strengthening of the maternal and child-health service in the State health departments has provided medical and nursing leadership capable of planning and assisting local personnel in carrying on a more thoroughgoing program of midwife supervision. With the increased numbers of county health officers and public-health nurses, more maternity clinics have been developed in local areas where midwives' patients can be given prenatal supervision by physicians. Several States have added public-health nurses with midwife training—nurse-midwives—to the State supervisory staff to give to local public-health nurses consultation service on midwife supervision. In a few counties in Alabama, Florida, Kentucky, and Maryland public-health nurse-midwives employed locally to supervise untrained midwives give supervision at the bedside when the midwife is conducting a delivery. To some extent in other areas midwives are being given supervision at delivery in addition to class instruction. In the county demonstration areas in Georgia, North Carolina, and Virginia the public-health nurse who instructs midwives is present when the midwives conduct deliveries to see that the prescribed procedures are carried out. Several States have sent public-health nurses to the Lobenstine Clinic in New York for midwifery training, including three Negro nurses sent by Alabama and Florida.

Two precautions are prescribed in the States with sufficient supervisory service and enough prenatal clinics to make the regulations reasonable. First, a midwife is not permitted to attend a birth unless the patient has been in regular attendance at a prenatal clinic, so that her condition is known to be probably normal. Second, if a midwife attending a birth finds that complications are likely to arise, she is required to call a physician to handle the delivery.

Midwife manuals have been issued by the departments of health of Alabama, Kentucky, Maryland, and Mississippi, and several States have issued guides for the teaching of midwives. The Children's Bureau is preparing such a manual.⁹

The Maryland State Department of Health has developed a carefully worked out midwife program. Women who apply for licenses to practice midwifery must be recommended as to character by responsible citizens. They are given a short course of instruction and a written examination outlined by the Bureau of Child Hygiene. The examination papers are graded by two physicians in each county appointed by the State Department of Health to serve as midwife examiners. If the applicant is approved by the two physicians and the chief of the Bureau of Child Hygiene, she is recommended for a

⁹ A Manual for Teaching Midwives (mimeographed) was issued by the Children's Bureau in February 1940; it is now being printed.

license. It is the policy to recommend for license only such women as will raise the standard of midwifery practice, after certification by the local health officer that a midwife is needed in the territory where the applicant proposes to practice. The supervision of the work of midwives in the counties is carried on by the public-health nurses and nurse-midwives under the direction of the county health officers.

Soon after the Federal maternal and child-health funds became available the Maryland Bureau of Child Hygiene placed nurse-midwives in 2 counties where 50 percent of the births were attended by midwives. In each county the services of the nurse-midwife were placed at the disposal of the local physicians. On request she assists the physician in deliveries of patients who are paying no delivery fee or only a small fee. She calls the physician at the appropriate time and renders skilled aid during delivery. In a few instances the nurse-midwife conducts normal deliveries. After the delivery she gives the nursing care needed. The nurse-midwives in these counties also give instruction to the untrained midwives and attend deliveries in the effort to improve the standard of care given. These midwives must see that their patients attend the prenatal clinic. After the birth the nurse-midwife instructs the mother in the care of her newborn infant.

The Frontier Nursing Service in the Cumberland Mountains of Kentucky for many years has had nurse-midwives who practice midwifery. Health departments are beginning to employ nurse-midwives to take the responsibility for home deliveries in areas where physicians are not available for this service. In Macon County, Ala., two Negro nurse-midwives in September 1939 were placed on the local health-department staff for this service. Almost immediately their services were so much in demand that they were attending almost half the number of births formerly attended by midwives.

Need for delivery care.

As the prenatal program developed, the need for providing better care for mothers at delivery became increasingly apparent. The fact that more than a million births in a year occur in families with incomes of less than \$1,000 a year¹⁰ explains in national totals a situation faced daily by health officials in every county of the United States. Many families cannot afford to pay for a physician's service at the time of the mother's delivery or, if something can be paid for the doctor, there are no funds to pay for a nurse to aid him or for hospital care when it is needed in an emergency. Public funds have not been available to pay for such care except in limited amounts,

¹⁰ A National Health Program: Report of the Technical Committee on Medical Care, 1938, p. 11. Interdepartmental Committee To Coordinate Health and Welfare Activities, Washington, 1939.

mostly from welfare funds in urban areas. In a few rural areas private agencies are guaranteeing home-delivery nursing service whenever called upon. Among these are the Frontier Nursing Service in eastern Kentucky, the Kellogg Foundation in several counties in southern Michigan, and the Commonwealth Fund in Tennessee and Mississippi.

Many of the State health agencies, with the aid of maternal and child-health funds, have undertaken demonstration projects in providing various types of care at the time of delivery for mothers unable to obtain such care otherwise.

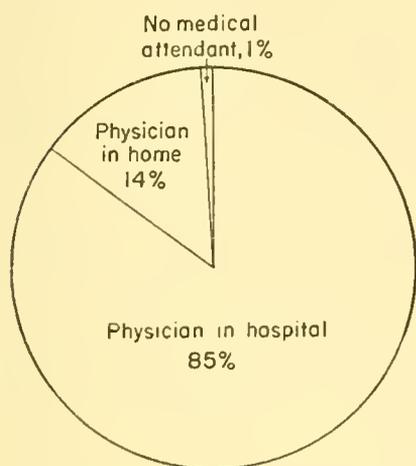
Slightly more than half the live births in the United States in 1939 (51 percent) occurred in hospitals, with physicians in attendance. For the 1,107,060 live births that occurred at home physicians were in attendance for 80 percent; midwives attended 19 percent; and the attendant was not reported for the remaining number. The figures become increasingly significant when the urban and rural births are considered separately. The great majority of the births at home occurred in rural areas—889,749, comprising 78 percent of all rural births. Although nearly four-fifths of these births were attended by a physician, it is probable that in relatively few cases was there a nurse to assist the physician, and that frequently the physician was called for the first time shortly before the time of delivery—too late to give adequate prenatal care. In 185,671 cases these rural mothers were attended by midwives, a type of care that now occurs infrequently in cities. In two States more than half the rural births were attended by midwives. The lack of a physician's care at delivery, the lack of nurses to assist at delivery, and the smaller proportion of mothers hospitalized in the rural areas are due to the unavailability of doctors, nurses, and hospitals, because of distance or because the families cannot afford to pay for such care. Chart 2 shows how much greater is the proportion of births at home and births unattended by a physician for the smaller towns and rural areas than for the medium-sized and larger cities.

Up to June 30, 1939, home-delivery nursing service had been established in connection with the local health department in one or more counties in each of 35 States, making a total of 102 counties. A total of 16,823 mothers were given nursing service at delivery during the calendar year 1939 as part of the maternal and child-health program.

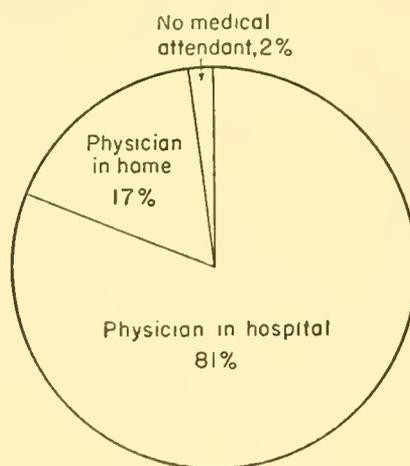
Where home-delivery nursing service is in operation the county or local health agency offers nursing assistance to physicians at home deliveries. The nurse, under standing orders developed in consultation with local physicians, aids the mother in making advance preparations for the birth, brings sterile equipment to the home when the birth is about to occur, makes the final preparations for the delivery, assists the physician during the delivery, gives the immediate

Chart 2.—Attendant at birth, live births that occurred in cities of specified size and in rural areas; United States, 1939¹

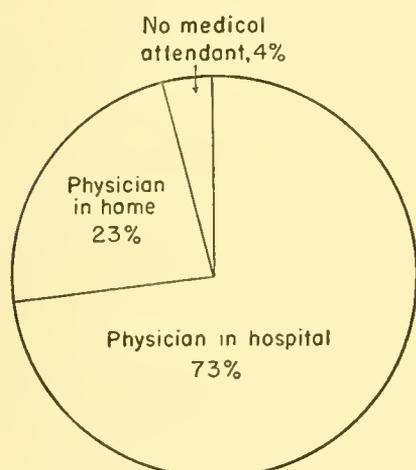
Cities of 100,000 or more



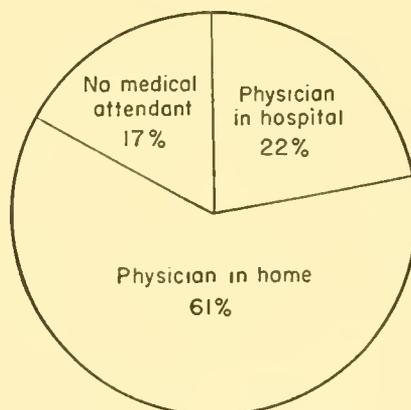
Cities of 50,000 to 100,000



Cities of 10,000 to 50,000



Rural areas



¹ Based on data from U. S. Bureau of the Census.

nursing care needed, demonstrates to members of the family the daily care needed for mother and child, and returns at least four times within the first 10 days after the birth to give care and instruction during the postpartum period.

The public-health nurse responsible for organizing a maternity-nursing program needs to be thoroughly familiar with public-health-nursing administration and with the requirements of a program of maternal care. She arranges for certain members of the nursing staff to have advanced preparation for maternity nursing, plans for the provision of sterile equipment, arranges for the rotation of staff so that the nursing service will be available 24 hours a day every day in the year, provides for keeping adequate records and reports, establishes working relationships with private physicians, and supervises the program in operation.

Methods of providing home-delivery nursing service vary in different localities. In Pike County, Miss., for example, every nurse

on the staff of the county health department gives maternity care as part of the general family nursing service. To be able to follow such a plan a county health agency must have enough nurses on its staff so that the nurses in varying periods of rotation may be held available on first call and on second call day and night to attend maternity cases, without interference with other routine activities and with provision for time off after prolonged service.

According to another plan, the Washington County health department in Iowa has two maternal and child-health nurses who are responsible for prenatal, delivery, and postnatal nursing service.

Under a third plan, followed in Northampton County, N. C., special public-health nurses are employed in addition to the regular staff to give service at the time of delivery only.

The specialized type of service given in North Carolina is being used most frequently during the present experimental stage of developing home-delivery nursing service. It is frequently advisable to have this service given by specialized personnel until the time when it can be given competently by the entire staff. The desirability of having the general public-health nurse, because of her continuing acquaintance with the family, retain the responsibility for nursing supervision during the prenatal and postnatal periods is receiving careful consideration.

According to a fourth plan, used throughout New Jersey, nursing care at delivery is not part of the service of the public-health-nursing staff, but private-duty nurses are employed for this service. Under this plan the public-health agency must assume responsibility for selecting and supervising local graduate nurses who have had good basic preparation in maternity nursing. A period of intensive preparation for such nurses is also needed in order that they may understand the health agency's policies and procedures and their responsibility for rendering a high quality of service in accordance with the agency's policies.

Home-delivery nursing service, where available, has enabled the attending physician to render a higher quality of service at deliveries because of the nurse's assistance and because of the sterile equipment and supplies that the nurse brings with her from the health department or has taught the family to provide. In local areas where this nursing service is available it is much appreciated by the families and by the practicing physicians, and the physicians in adjoining areas are eager to have it extended.

Complete delivery care.

Few States and local communities have been able, with the limited maternal and child-health funds so far available, even to experiment with providing medical service at the time of delivery for mothers who

cannot obtain this care unaided. Sporadically such care is provided in small communities and rural areas on a medical-relief basis from public or private welfare funds. A beginning has been made under the maternal and child-health program in developing programs of complete maternal care on a public-health basis in recognition of its place in preventing the death of the mother or newborn infant and in preventing injury or illness that may endanger the health of the mother and child who survive.

In Oklahoma, Cherokee County was chosen for a program of complete maternity care. It is part of the program of a five-county district health unit in the northeastern section of the State. The staff includes among its members a pediatrician, an obstetrician, two public-health nurses for each of the five counties, and three additional nurses for the maternity program in Cherokee County.

A survey had shown that 99 percent of the deliveries in Cherokee County in 1937 occurred in the home, 33 percent were attended by persons other than physicians, the maternal mortality rate for the period 1933-37 was 54 per 10,000 live births, and the infant mortality rate was 41 per 1,000 live births. In this county from 50 to 75 percent of the people could not pay for medical, nursing, or hospital care.

The maternity program, started in April 1938, is carried on by the staff obstetrician with the aid of three maternity nurses. The nurses urge expectant mothers to visit the nearest maternity clinic conducted by the staff obstetrician with the assistance of a local practicing physician. The patient is given a complete examination, including laboratory tests. If her condition calls for medical treatment, the patient is so informed and, if she has a private physician, a copy of all findings is sent to him. If she has no physician, a social-welfare worker plans a budget with the patient and, if the patient can pay an appreciable part of the doctor's fee, a doctor is engaged. If she cannot pay, she chooses her physician and is given a letter at the prenatal clinic authorizing payment of the doctor's fee from maternal and child-health funds. For prenatal care beginning at or before the fifth month, delivery care, and postpartum care, the doctor receives \$25. The fee is \$20 if the patient receives care after the fifth month and before the seventh month, \$17.50 if care starts during the last 3 months, and \$15 for delivery and postpartum care only. An additional payment of \$5 is made to the doctor for travel of 10 miles or more at the time of the delivery.

When such a case has been accepted by a physician he instructs the patient to visit him regularly, and the public-health nurse visits the patient at home once a month. When labor begins, the patient calls her physician, who requests the attendance of the nurse, and they attend the patient together. The nurse works under the direc-

tion of the physician, but she follows a set technique in regard to the preparation of the patient, the materials used, and the use of solutions.

After the delivery the nurse visits the patient on the third, sixth, and ninth days, and, unless the patient lives in an isolated section, the physician also visits her. If the nurse reports any abnormality, the physician visits the patient regardless of where she lives. The nurse visits the patient during the fifth postpartum week and urges her to visit her physician. The physician makes the postpartum examination, treats any abnormality, and when the patient is discharged, is eligible for the payment of his fee. In case hospitalization is necessary because of serious complication, the expense is met from county funds.

Similar demonstrations of maternity care, including payment for complete medical and nursing care and hospital care if not otherwise provided, are being developed by health departments in limited areas in Alabama, Louisiana, Maryland, Michigan, Nebraska, New Mexico, and North Carolina. Most of these demonstrations were started after the close of the year 1939, with the increased funds made available under the 1939 amendments to the Social Security Act.

Maternity homes and hospitals.

The regulation and, generally, the licensing of maternity homes and hospitals are the responsibility of the State health agency in 16 States and of the State welfare agency in 19 States. Few, if any, of these State agencies have sufficient qualified personnel on their staffs to inspect annually every maternity home and hospital in the State.

It is recognized that one of the greatest problems in improving the care of maternity patients and newborn infants is the improvement of the standards of care and equipment in the hospitals caring for these patients. The cities of Chicago and New York have courageously faced the inadequacies of many of the hospitals and have issued stringent regulations for their conduct in the care of maternity patients. The need for such regulations is indicated by a report of 15 small Negro hospitals in 2 adjoining States in which the maternal mortality rate was more than 300 per 10,000 live births and by a report from another State that the maternal mortality rate in hospitals approved for the training of interns (larger hospitals) was approximately one-third the rate in small hospitals with less than 150 births a year.

Frequently small hospitals do not have adequate space or beds for the proper isolation of maternity patients and newborn infants to protect them from patients suffering from infectious conditions. On the other hand, many small maternity hospitals and maternity wards in general hospitals are conducted with great care and make a

direct contribution to the reduction of maternal and neonatal mortality and morbidity.

At the request of State bureaus of maternal and child health responsible for the licensing or regulation of maternity homes and hospitals, the Children's Bureau has been giving advisory service on standards that should be met by hospitals receiving maternity patients.

At a meeting in December 1938 the Children's Bureau Advisory Committee on Maternal and Child Health Services recommended that the Bureau take steps to secure the cooperation of various professional and administrative groups and of the State health departments in formulating standards for hospitals and maternity homes caring for mothers, infants, and children, and that attempts be made, by obtaining effective State licensure of hospitals and maternity homes and by other means, to establish and maintain hospitals that conform to acceptable standards of care for mothers, infants, and children. The first action taken by the Children's Bureau pursuant to this recommendation was the drafting of suggestions for legislation placing in the State health agency responsibility for the licensing and supervision of maternity hospitals and homes.

Maternal-mortality studies.

In 1915 the Children's Bureau began an analysis of the statistics on maternal mortality available in the United States Bureau of the Census and from various foreign countries. This led to the inclusion on the schedules for infant-mortality studies of questions relating to the care mothers had received before and during childbirth in order to discover the preventable causes for the loss of maternal and infant life. A series of reports followed on infant and maternal mortality in urban and rural areas.

In 1921 a questionnaire study was undertaken to determine the adequacy of facilities for maternity and infant care in communities of less than 200,000 in the United States.

In 1927 the Children's Bureau, on the recommendation of its Obstetric Advisory Committee, began a study of the causes of maternal mortality in which the departments of health and the medical societies of 15 States participated. Physicians on the staff of the health department in these States, or on the Children's Bureau staff, undertook to interview the doctor, midwife, or other attendant at delivery and to obtain the hospital record of those who had had hospital care for every woman whose death had been assigned to puerperal causes in 13 States in 1927, and in these States and 2 other States in 1928. This study, published by the Children's Bureau in 1934 (Publication No. 223, *Maternal Mortality in 15 States*), pro-

vides the most comprehensive data so far made available on the causes of maternal mortality and the means of prevention.

The growing discussion of maternal mortality rates and the unfavorable comparisons that were made between the rates of the United States and those in other countries led in 1929 to the formation of the subcommittee on comparability of maternal mortality rates of the Committee on Prenatal and Maternal Care of the White House Conference on Child Health and Protection (1930). The subcommittee, on which the Children's Bureau was represented, analyzed foreign laws and registration practices in relation to births and maternal deaths and the procedures used in classifying cause of death when pregnancy and childbirth had been mentioned. The committee concluded that the maternal mortality rate for the United States, even when estimated in accordance with the assignment procedures of 16 other countries, was exceedingly high as compared with the rates of other countries.¹¹ The study gave further impetus to the movement to reduce maternal mortality in the United States and to the initiation of a series of maternal-mortality studies.

Continuing studies have been undertaken in many States by the State health department and the maternal-welfare committee of the State medical society, which are based on inquiry into the circumstances surrounding each maternal death in a given area or in the entire State. Consideration of the facts is then given by a panel of physicians and a conclusion is reached as to whether the death might have been prevented and by what means. The number of such studies increased rapidly after 1936, when the Federal funds for maternal and child-health services made it possible for the State health agencies to provide staff assistance for the preliminary inquiry on each maternal death.

A well-developed program for study in this field is being carried on in Philadelphia. In 1934 the committee on maternal welfare of the Philadelphia County Medical Society made a report on a study of maternal mortality, which was the beginning of a continuing examination of the cause of every maternal death in the Philadelphia area. Later this committee was joined in the study by a committee to study fetal deaths, appointed by the Obstetric Society of Philadelphia, and a subcommittee on neonatal mortality appointed by the advisory committee on maternal and child welfare of the Philadelphia health department. Since 90 percent of the births occur in hospitals, the hospital staff usually submits an analysis of each maternal, fetal, or neonatal death, and staff opinion regarding it, which is presented to

¹¹ *Comparability of Maternal Mortality Rates in the United States and Certain Foreign Countries*, p. 20. Children's Bureau Publication No. 229. Washington, 1935.

the appropriate committee for review. Each committee selects cases in which the diagnosis seems questionable or cases appropriate for demonstrating special handling for presentation to the joint committee that meets on the fourth Friday of each month. In attendance at the joint meeting are the obstetricians and pediatricians who are members of the committee and also health officials, general practitioners, expert pathologists, young men just beginning medical practice, and hospital interns. The discussion includes consideration of all circumstances surrounding the death and an explanation of techniques that were used or might have been used. The study serves not only to aid practicing physicians in improving their techniques but also to provide data for further scientific study in obstetrics.

Similar studies are being carried on increasingly by medical groups in many parts of the country.

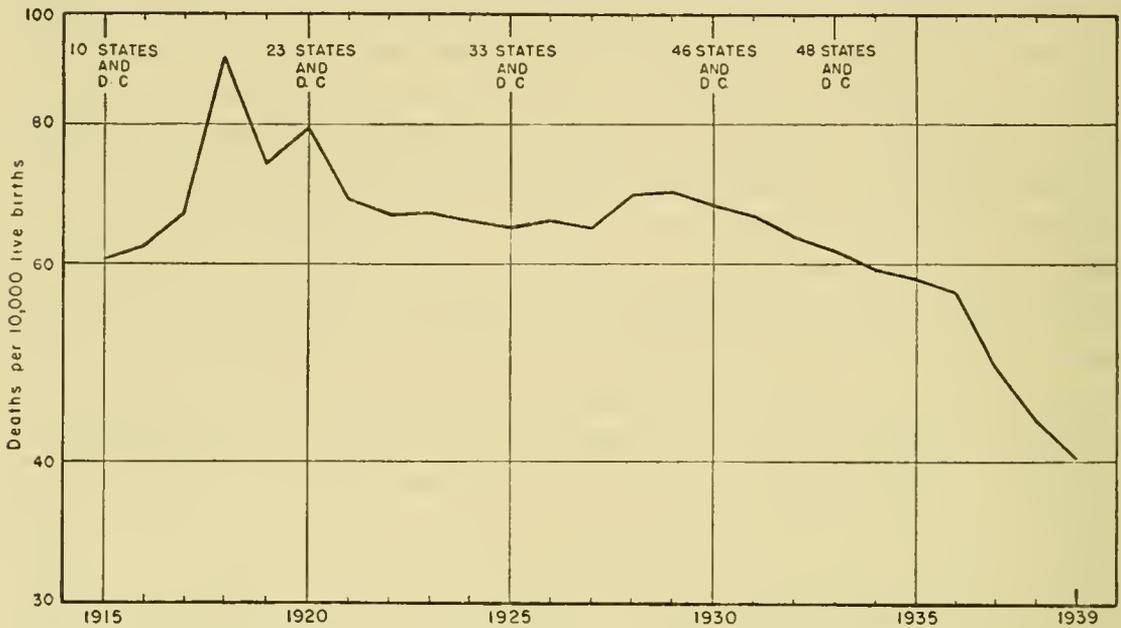
The vital-statistics section of the American Public Health Association in 1938 recommended that the Children's Bureau make available schedules for special studies of maternal and neonatal mortality. Such schedules were issued by the Children's Bureau in the spring of 1939, together with a plan of procedure to be followed in making the study. The use of the same procedure and schedules for such studies in the various States will result in obtaining comparable data that will be increasingly valuable in the effort to prevent maternal and neonatal deaths.

By the end of June 1939, 4,300 schedule forms for maternal deaths and 4,100 forms for neonatal deaths had been distributed. Six State health agencies—Georgia, Nebraska, New Jersey, New Mexico, Rhode Island, and Utah—had initiated studies using the form for maternal deaths, and five State agencies—Nebraska, New Jersey, New Mexico, Rhode Island, and Utah—had initiated studies using the form for neonatal deaths. Other State agencies beginning such studies or having them already under way have reported that they also plan to use the forms.

Maternal mortality and stillbirths.

In 1939, 9,151 mothers died from conditions due to pregnancy and childbirth, a rate of 40 maternal deaths per 10,000 live births. This represented a drop of 35 percent from 62, the maternal mortality rate of 1933, the first year when all the States were included in the birth-registration area. A 14-percent drop in the maternal mortality rate of 1937 (49), as compared with the 1936 rate (57), was the first indication that substantial gains were being made as a result of increasing knowledge of how to care for mothers during pregnancy and at the time of childbirth. The 1938 rate (44) again showed a substantial decrease and the trend continued in 1939. (See chart 3.)

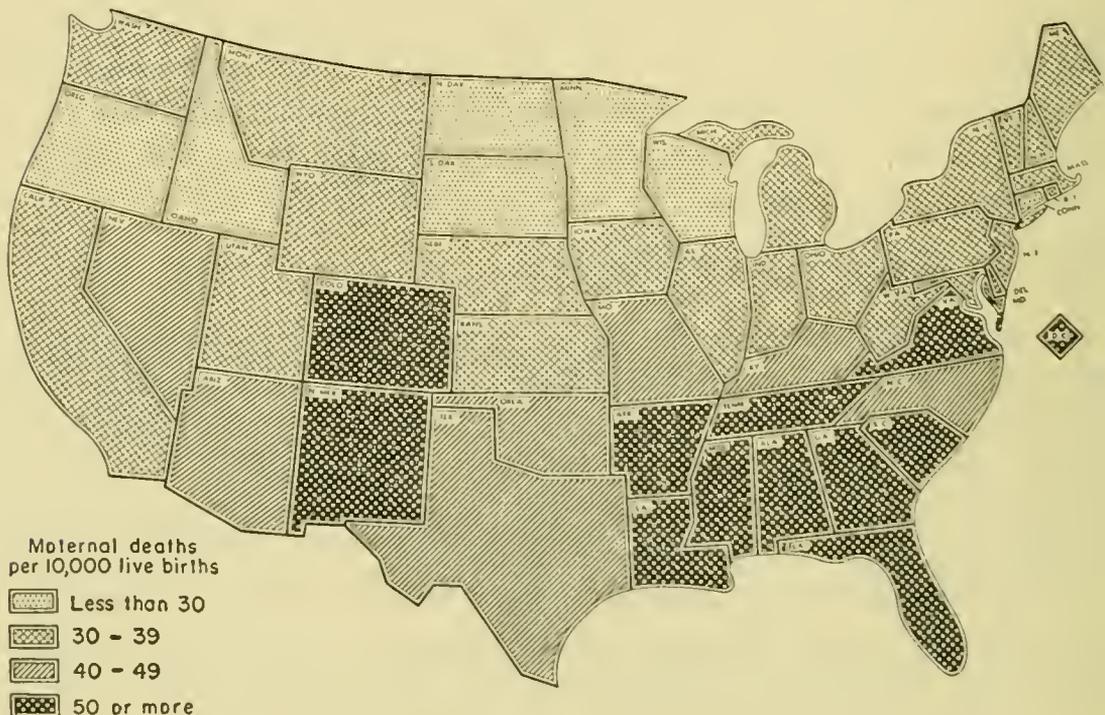
Chart 3.—Maternal mortality rates; United States expanding birth-registration area 1915-39¹



¹ Based on data from U. S. Bureau of the Census.

The urban maternal mortality rate of 1939 (45) continued to be higher than the rural rate (36). This is ascribed to the fact that the hospitals are located mainly in cities and that when complications threaten many rural mothers are brought to the hospital in the city and, if a death occurs, it is recorded in the city. The maternal mortality rate for mothers who lived in cities (39) was lower than that for mothers who lived in rural districts (41).

Chart 4.—Maternal mortality rate in each State; United States, 1939¹



¹ Based on data from U. S. Bureau of the Census.

The low maternal mortality rates attained by some of the States, as well as the recent decreases, supports the estimate of physicians that many more maternal lives can be saved. Seven States (Connecticut, Idaho, Minnesota, North Dakota, Oregon, South Dakota, and Wisconsin) had a maternal mortality rate of less than 30 in 1939, and one of these, Idaho, attained a rate of 22. Eleven States and the District of Columbia had rates of 50 or more.

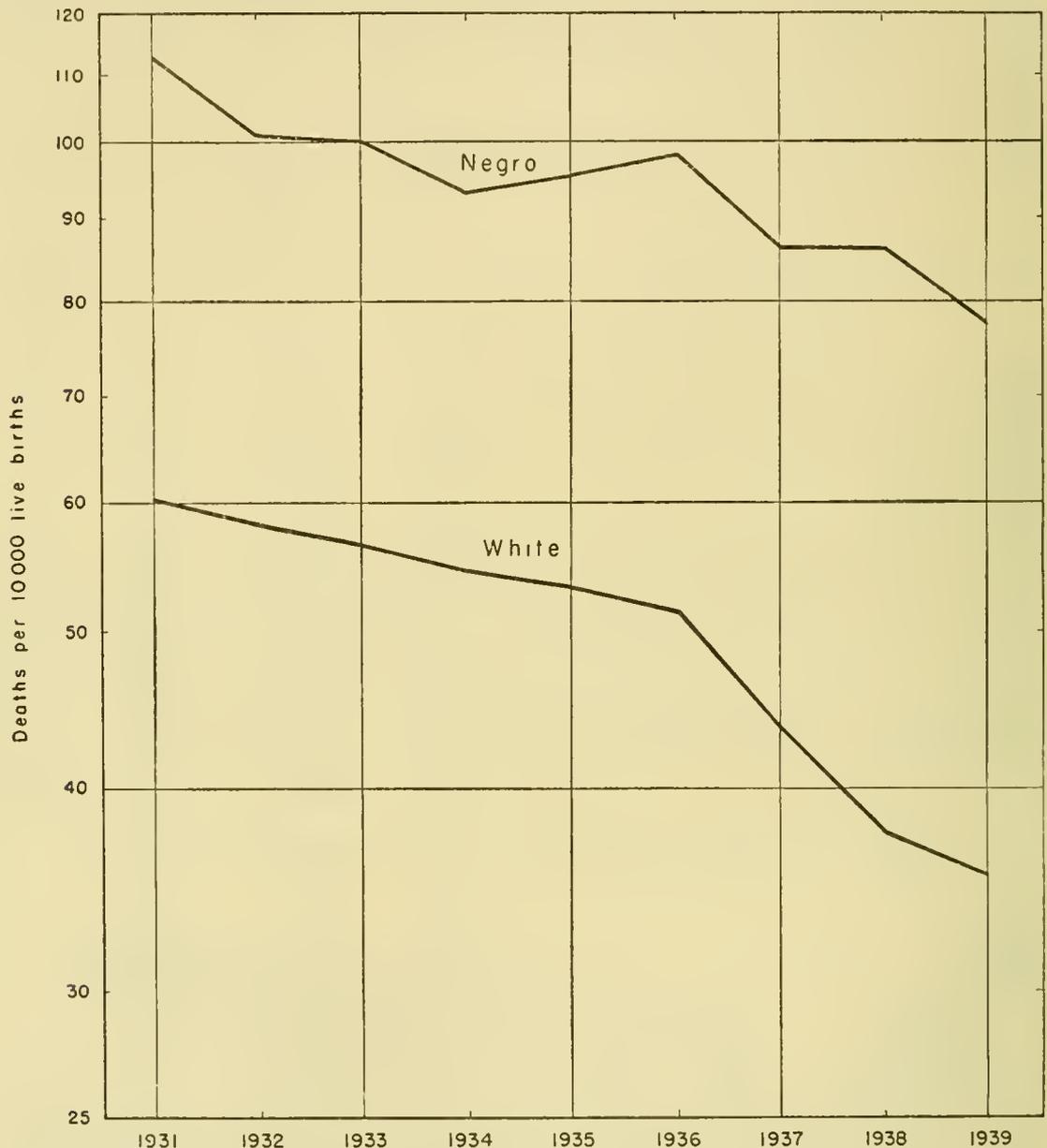
TABLE 5.—*Maternal mortality rates, by States; United States 1939, 1938, 1937, and 1936*

| State (number of deaths in 1939) | Maternal mortality rate ¹ | | | |
|----------------------------------|--------------------------------------|------|------|------|
| | 1939 | 1938 | 1937 | 1936 |
| United States (9,151)..... | 40 | 44 | 49 | 57 |
| Alabama (361)..... | 59 | 68 | 63 | 74 |
| Arizona (48)..... | 44 | 48 | 54 | 91 |
| Arkansas (202)..... | 57 | 55 | 68 | 76 |
| California (321)..... | 31 | 33 | 41 | 47 |
| Colorado (111)..... | 54 | 45 | 54 | 71 |
| Connecticut (60)..... | 26 | 26 | 25 | 41 |
| Delaware (18)..... | 41 | 56 | 39 | 71 |
| District of Columbia (73)..... | 52 | 56 | 58 | 69 |
| Florida (211)..... | 65 | 75 | 68 | 81 |
| Georgia (362)..... | 56 | 67 | 74 | 82 |
| Idaho (24)..... | 22 | 41 | 45 | 44 |
| Illinois (370)..... | 31 | 34 | 39 | 45 |
| Indiana (210)..... | 36 | 37 | 35 | 48 |
| Iowa (131)..... | 30 | 33 | 45 | 46 |
| Kansas (108)..... | 37 | 41 | 43 | 57 |
| Kentucky (262)..... | 43 | 42 | 47 | 56 |
| Louisiana (302)..... | 62 | 59 | 72 | 87 |
| Maine (59)..... | 39 | 46 | 66 | 51 |
| Maryland (105)..... | 37 | 38 | 42 | 47 |
| Massachusetts (224)..... | 35 | 39 | 46 | 49 |
| Michigan (289)..... | 31 | 37 | 36 | 52 |
| Minnesota (148)..... | 29 | 28 | 31 | 42 |
| Mississippi (307)..... | 59 | 59 | 71 | 69 |
| Missouri (243)..... | 41 | 39 | 51 | 61 |
| Montana (35)..... | 32 | 33 | 37 | 55 |
| Nebraska (78)..... | 35 | 35 | 41 | 50 |
| Nevada (8)..... | 41 | 32 | 92 | 56 |
| New Hampshire (27)..... | 34 | 38 | 45 | 48 |
| New Jersey (182)..... | 32 | 37 | 38 | 40 |
| New Mexico (71)..... | 50 | 57 | 50 | 74 |
| New York (603)..... | 32 | 38 | 40 | 49 |
| North Carolina (374)..... | 47 | 53 | 54 | 66 |
| North Dakota (32)..... | 24 | 24 | 47 | 43 |
| Ohio (424)..... | 39 | 38 | 46 | 50 |
| Oklahoma (176)..... | 40 | 42 | 52 | 62 |
| Oregon (40)..... | 24 | 35 | 40 | 54 |
| Pennsylvania (613)..... | 38 | 39 | 48 | 52 |
| Rhode Island (35)..... | 34 | 28 | 38 | 40 |
| South Carolina (253)..... | 59 | 79 | 77 | 90 |
| South Dakota (34)..... | 29 | 36 | 40 | 46 |
| Tennessee (297)..... | 56 | 56 | 61 | 70 |
| Texas (590)..... | 49 | 56 | 57 | 69 |
| Utah (40)..... | 31 | 30 | 33 | 44 |
| Vermont (23)..... | 36 | 37 | 57 | 50 |
| Virginia (268)..... | 51 | 53 | 54 | 58 |
| Washington (95)..... | 36 | 33 | 46 | 52 |
| West Virginia (136)..... | 33 | 39 | 50 | 53 |
| Wisconsin (151)..... | 28 | 29 | 36 | 42 |
| Wyoming (17)..... | 35 | 32 | 38 | 50 |

¹ Maternal deaths per 10,000 live births.

The mortality rate for Negro mothers in 1939 (77) was more than twice as high as that for white mothers (35). The trend of mortality rates for white and Negro mothers for 1931-39 is shown below.

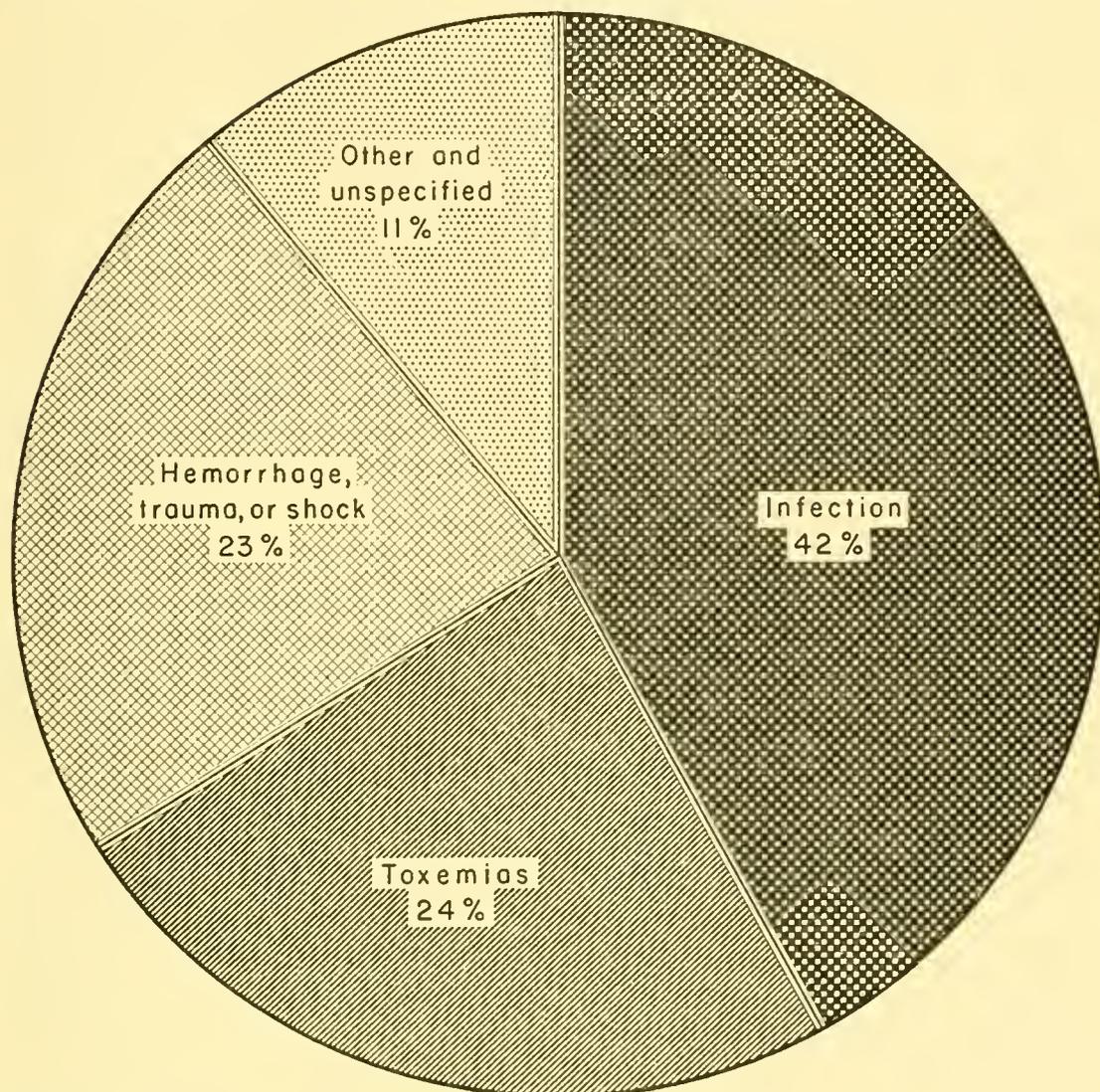
Chart 5.—Maternal mortality rates among white and Negro women, United States, 1931-39¹



¹ Based on data from U. S. Bureau of the Census.

Maternal mortality, stillbirths, and neonatal mortality should be considered together because, for the most part, all three are due to prenatal and natal conditions. These deaths in 1939 included 9,151 deaths of mothers, 72,598 stillbirths, and 66,383 deaths of infants in the first month of life—a total of 148,132 deaths.

In the light of maternal-mortality studies made by physicians it has been estimated that at least one-half of the maternal deaths are preventable. It is well recognized that major reductions in deaths from toxemias of pregnancy and from sepsis associated with delivery can be made when facilities for proper prenatal and delivery care become more widely available. (See chart 6.)

Chart 6.—Causes of maternal death, percentage distribution, United States, 1939¹

¹ Based on data from U. S. Bureau of the Census.

Stillbirth statistics have not been reliable because State requirements for reporting stillbirths have varied widely, reporting has been incomplete, and there has been no accepted classification of causes of stillbirth. The magnitude of the stillbirth problem led the Children's Bureau in 1936 to undertake a study of the causes of stillbirth, with the cooperation of the subcommittee on stillbirths of the American Public Health Association. (See summary of findings, p. 73.) A direct purpose of the stillbirth study was the collection of information which could be used in formulating a classification of the fetal and maternal causes of stillbirth and rules for the selection of the primary cause of stillbirth to be used whenever two or more causes are mentioned on a stillbirth certificate. The need for this information to formulate a classification system acceptable to both clinicians and research workers and to constitute a fundamental step toward the development of international comparability of statistics on causes of stillbirth was pointed out by the subcommittee on stillbirths in 1935. Using the information collected in the study, the Children's Bureau

prepared a list of causes of stillbirth which was presented to the International Commission for Revision of the International List of Causes of Death. At its meeting in Paris in 1938 the Commission, in order to promote a basis for uniform experiment, adopted an International List of Causes of Stillbirth, which was found to be not fully satisfactory for use in the United States.

Subsequently, to meet the need expressed by physicians and research workers in this country, the Children's Bureau developed a classification of the causes of stillbirth that includes a list of causes of stillbirth, a tabular list of terms included under each title of the list, and rules of procedure for selecting the primary cause when two or more causes are reported on the same certificate. This classification was approved by the subcommittee on stillbirths and was submitted to the committee on research and standards of the American Public Health Association. It was approved by that committee for publication and trial in the United States on October 11, 1940.

Comparable statistics on the causes of stillbirth for the States, together with clinical studies, will pave the way for an active and widespread effort to reduce the number of stillbirths.

New standard birth and death certificates.

The stillbirth study and studies made by many groups have demonstrated the need for additional information regarding certain conditions of pregnancy and labor that are related not only to stillbirth but to live birth, and the practicability of collecting the needed information in the ordinary process of birth registration. The Children's Bureau cooperated with the American Committee on Maternal Welfare in preparing recommendations regarding the basic data that should be obtained in connection with such registration.¹² The Bureau thereafter worked with the vital-statistics section of the American Public Health Association and the United States Bureau of the Census in developing the medical items of the standard certificate of stillbirth, the optional section of the standard certificate of live birth, which covers conditions during pregnancy and labor, and the instruction in the medical certification of the standard certificate of death which reads: "Include pregnancy within 3 months of death." The revised standard certificates, which incorporate the new medical items, were recommended to the States on January 12, 1939, for adoption as of 1940. By the end of 1939 several States had adopted the new forms, including the optional medical items, and many other States were considering their adoption.

¹² Revision of Birth, Death, and Stillbirth Certificates; a brief report by the subcommittee on causes of maternal, fetal, and neonatal death of the American Committee on Maternal Welfare. *American Journal of Obstetrics and Gynecology*, Vol. 35, No. 2 (February 1938), pp. 332-337.

The States which adopt the new forms will be able to secure through them new information greatly needed for the effective planning and conduct of the maternal and child-health program. The State health agencies which make use of instructions worked out by the Children's Bureau for editing, coding, and tabulating the medical items on the certificates will obtain comparable information regarding the conditions that surround the fetus during pregnancy and labor. The information will show the significance of these conditions in relation to whether the pregnancy terminated in live birth or stillbirth, whether the live-born infant survived the first month of life, and whether the mother lived through the 3 months following the delivery.

Child-Health Services

The child-hygiene movement started with attempts to reduce infant mortality, to prevent certain children's diseases, and to correct certain defects in children. It has become a comprehensive program to protect, promote, and conserve the health of children from the prenatal period through adolescence. It is no longer an experimental movement but is an integral part of the public-health program. Preventive pediatrics and the science of nutrition are constantly strengthening the scientific basis of child-health work and providing new tools with which to work.

The infant mortality rate is no longer considered the only index of child-health progress; yet it cannot be said that the infant-mortality problem has been solved. Improved sanitation, scientific feeding, pasteurization of milk, and immunization procedures have proved their worth in reducing the number of deaths of infants more than 1 month of age, but they are not yet applied widely enough. Diarrhea and enteritis and respiratory infections (pneumonia, influenza, and whooping cough) still remain serious problems for infants 2 to 11 months of age. Expert medical and nursing care for all mothers during the prenatal period and at delivery, and of the newborn infants, as carried out in certain limited areas, has proved its value in reducing mortality among newborn infants as well as among mothers. The provision of prenatal care as part of the public-health program is increasing, and plans for providing expert medical and nursing care at time of delivery and for newborn infants are being worked out in small areas by health departments in various parts of the country. Modern obstetrics is contributing to the saving of the lives of babies as well as of mothers.

The prevention of premature births is a problem requiring further study, but wider application of methods already well known regarding the care of premature infants will reduce the large number of deaths

due to this cause. Several States have instituted plans for dealing with this problem in a practical manner.

The infant mortality problem is not solved, but steady progress in that direction is being made. The 1939 infant mortality rate of 48 represents an all-time low for the United States and was 6 percent lower than the rate for 1938. The decrease is evident in both urban and rural areas and for both white and Negro infants.

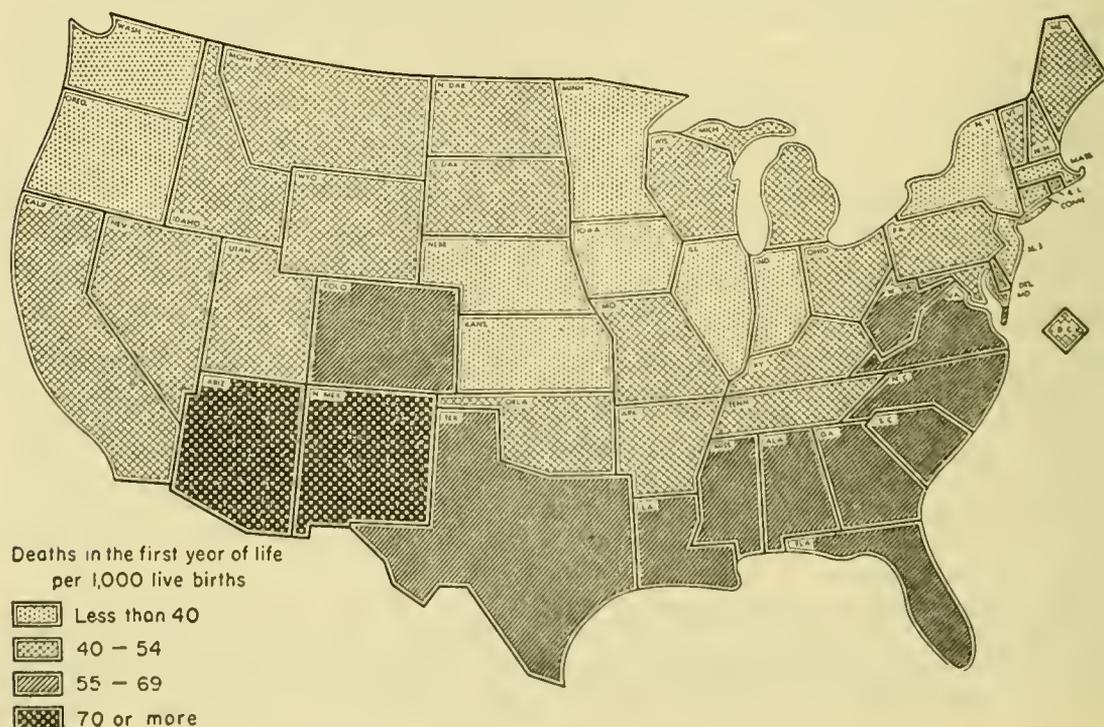
But it is not enough that more babies shall survive their first year of life. Health supervision throughout infancy and childhood pays big dividends in terms of mental and physical health, not only in preventing handicaps and defects but in making positive gains. Through child-health conferences and related activities, health departments are increasing the facilities for health supervision of infants and preschool children. In addition, there is a growing appreciation of the health department's responsibility for the health of children of school age.

Infant and child mortality.

The State maternal and child-health directors are constantly watching the infant mortality rates, as they are one index of the success of the programs. The directors are especially interested in the rates for counties and communities because these local rates indicate where maternal and child-health activities should be developed and strengthened.

In 1939 there were 108,846 deaths in the first year of life—a rate of 48 per 1,000 live births. In other words, 1 baby out of every 21 babies

Chart 7.—Infant mortality rate in each State; United States, 1939¹



¹ Based on data from U. S. Bureau of the Census.

born alive died before his first birthday. Oregon established a new low record for State infant mortality—35 per 1,000 live births. Connecticut and Minnesota had rates of 36. Thirteen States had rates of less than 40.

TABLE 6.—*Infant mortality rates by States; United States 1939, 1938, 1937, and 1936*

| State (number of deaths in 1939) | Infant mortality rate ¹ | | | |
|----------------------------------|------------------------------------|------|------|------|
| | 1939 | 1938 | 1937 | 1936 |
| United States (108,846)----- | 48 | 51 | 54 | 57 |
| Alabama (3,675)----- | 60 | 61 | 62 | 67 |
| Arizona (1,031)----- | 94 | 99 | 121 | 120 |
| Arkansas (1,637)----- | 46 | 51 | 54 | 51 |
| California (4,385)----- | 42 | 44 | 54 | 53 |
| Colorado (1,134)----- | 55 | 60 | 73 | 74 |
| Connecticut (842)----- | 36 | 36 | 40 | 42 |
| Delaware (193)----- | 44 | 53 | 64 | 65 |
| District of Columbia (669)----- | 48 | 48 | 61 | 72 |
| Florida (1,822)----- | 56 | 58 | 60 | 59 |
| Georgia (3,780)----- | 58 | 68 | 62 | 70 |
| Idaho (508)----- | 46 | 45 | 44 | 51 |
| Illinois (4,474)----- | 38 | 41 | 43 | 47 |
| Indiana (2,302)----- | 39 | 43 | 50 | 51 |
| Iowa (1,697)----- | 39 | 41 | 44 | 48 |
| Kansas (1,146)----- | 39 | 43 | 44 | 52 |
| Kentucky (3,187)----- | 53 | 61 | 59 | 67 |
| Louisiana (3,077)----- | 63 | 67 | 66 | 72 |
| Maine (785)----- | 52 | 56 | 65 | 64 |
| Maryland (1,422)----- | 50 | 56 | 61 | 69 |
| Massachusetts (2,358)----- | 37 | 40 | 44 | 47 |
| Michigan (3,955)----- | 42 | 45 | 48 | 51 |
| Minnesota (1,798)----- | 36 | 39 | 41 | 44 |
| Mississippi (2,907)----- | 56 | 57 | 59 | 58 |
| Missouri (2,655)----- | 45 | 52 | 57 | 58 |
| Montana (534)----- | 49 | 46 | 51 | 57 |
| Nebraska (816)----- | 37 | 36 | 42 | 44 |
| Nevada (87)----- | 45 | 48 | 40 | 70 |
| New Hampshire (363)----- | 46 | 48 | 48 | 46 |
| New Jersey (2,184)----- | 39 | 40 | 39 | 44 |
| New Mexico (1,549)----- | 109 | 109 | 124 | 122 |
| New York (7,370)----- | 39 | 41 | 45 | 47 |
| North Carolina (4,683)----- | 59 | 69 | 66 | 69 |
| North Dakota (645)----- | 49 | 50 | 52 | 50 |
| Ohio (4,691)----- | 43 | 43 | 50 | 51 |
| Oklahoma (2,162)----- | 50 | 49 | 57 | 60 |
| Oregon (593)----- | 35 | 39 | 42 | 44 |
| Pennsylvania (7,343)----- | 46 | 46 | 50 | 51 |
| Rhode Island (412)----- | 39 | 44 | 48 | 48 |
| South Carolina (2,834)----- | 66 | 80 | 76 | 81 |
| South Dakota (481)----- | 41 | 44 | 51 | 48 |
| Tennessee (2,874)----- | 54 | 63 | 61 | 68 |
| Texas (8,110)----- | 67 | 65 | 74 | 71 |
| Utah (514)----- | 40 | 47 | 41 | 53 |
| Vermont (291)----- | 46 | 48 | 49 | 58 |
| Virginia (3,221)----- | 61 | 66 | 70 | 74 |
| Washington (976)----- | 37 | 39 | 40 | 45 |
| West Virginia (2,272)----- | 55 | 62 | 62 | 71 |
| Wisconsin (2,179)----- | 40 | 42 | 43 | 48 |
| Wyoming (223)----- | 46 | 52 | 56 | 58 |

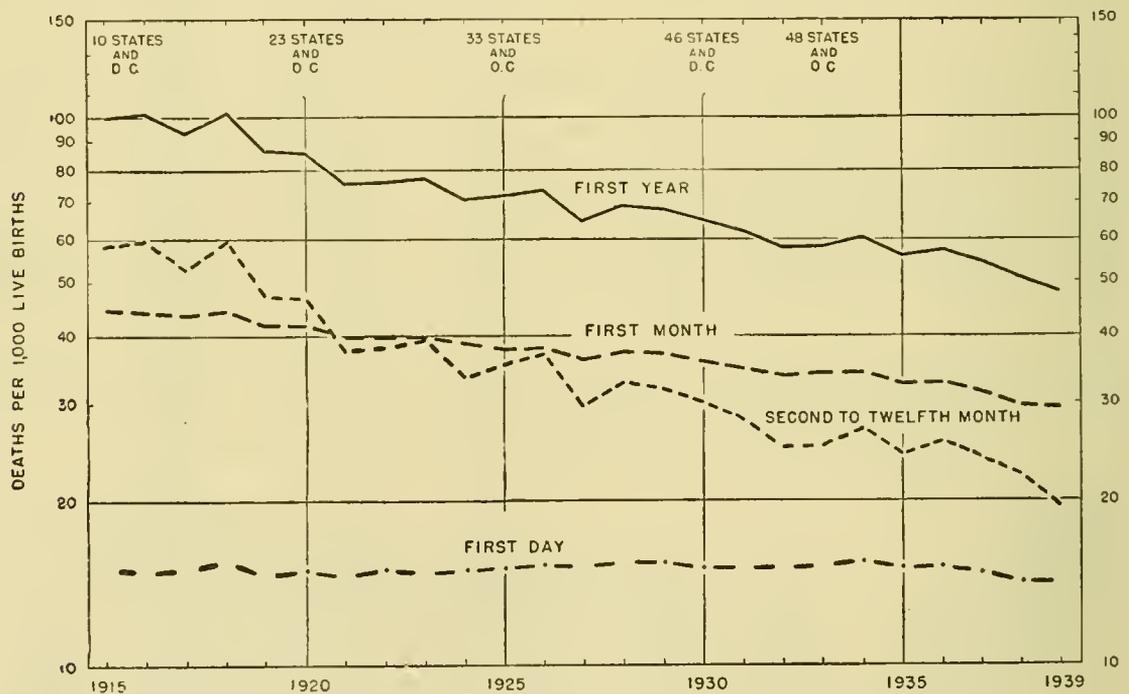
¹ Deaths in the first year of life per 1,000 live births.

Although the 1939 mortality rate for Negro infants (73) was an all-time low record for the race in the United States, this rate was still far above the rate for white infants (44). Low family income of Negro parents especially limits the medical and nursing service that they can provide for their babies, and the great majority of Negro births occur in sections of the country where community nursing, medical, and hospital facilities are inadequate.

More than half the infant deaths in 1939 occurred in rural areas; the infant mortality rate for rural areas was 51 as compared with 45 for cities of 10,000 or more population. Twenty-four cities of 100,000 or more attained a rate of less than 35 per 1,000 live births; in this group Somerville, Mass., achieved a rate of 27. Some of the cities of this size and many rural counties had exceedingly high infant mortality rates, which emphasizes the necessity of providing more adequate maternal and child-health services in such areas.

A decline in mortality from the second to the twelfth month of life accounts for most of the reduction in the infant mortality rate in the United States so far. In 1939 only 19 of every 1,000 babies who survived the first month of life died before reaching 1 year of age, as compared with 58 in 1915. This represents a decline of 67 percent during the period 1915 to 1939.

Chart 8.—Infant mortality rates by age, United States expanding birth-registration area 1915-39¹

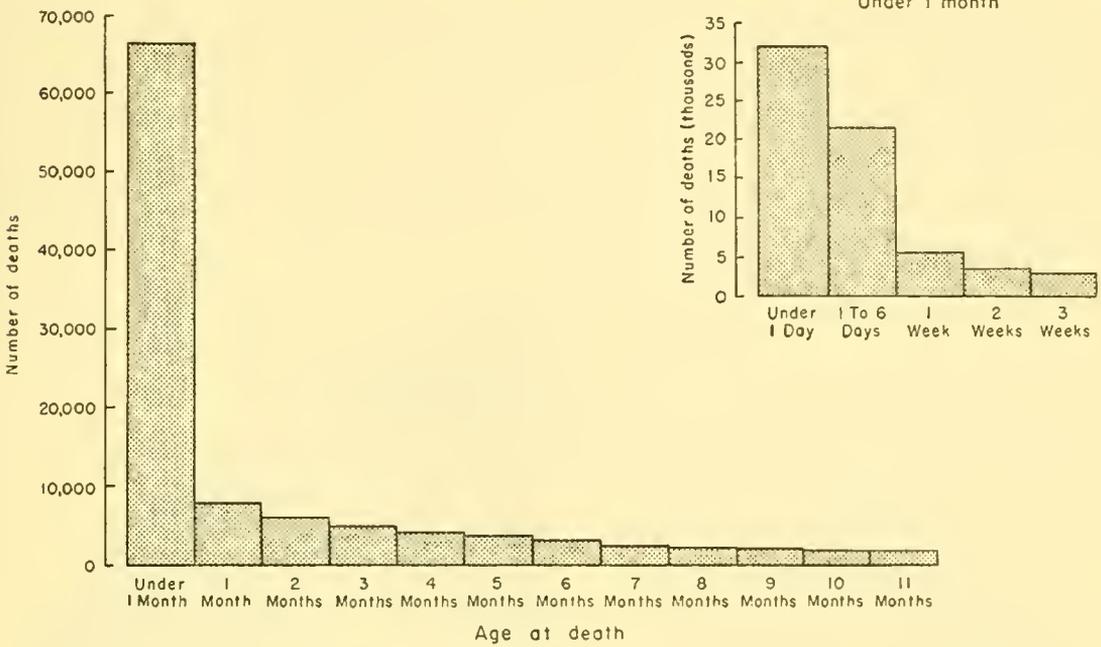


¹ Based on data from U. S. Bureau of the Census.

The 1939 mortality rate in the first month of life (the neonatal period) was 29 per 1,000 live births in the United States as compared with 44 in 1915—a decline of 34 percent. The mortality rate for the first day of life was 14 in 1939 as compared with 15 in 1915. In 1939, 66,383 infants died in the first month of life as compared with 42,463 deaths during the 11 later months of the first year (chart 9).

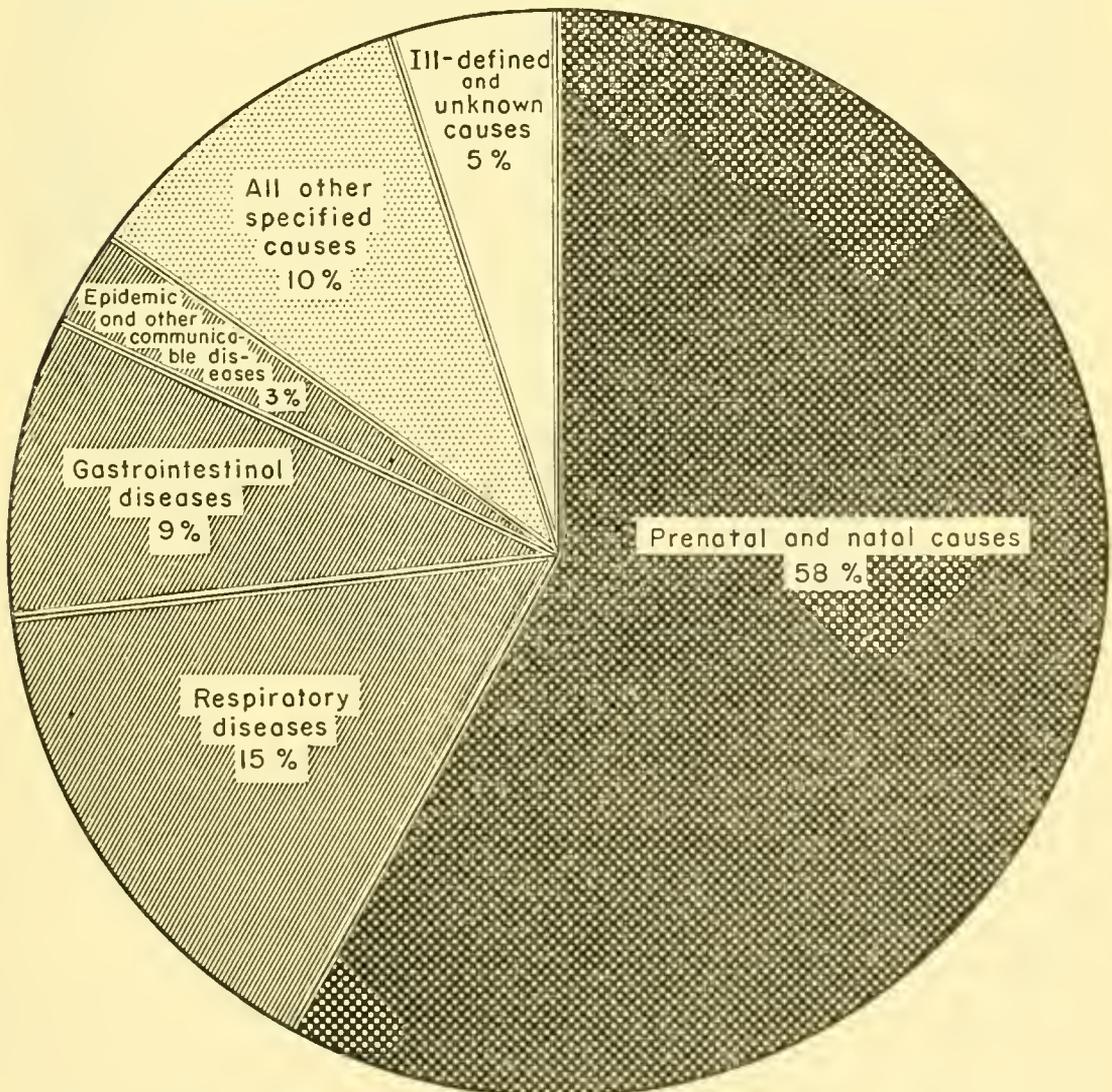
The causes of the infant deaths in 1939 are shown in chart 10.

Chart 9.—Infant deaths, by age in months, United States, 1939 ¹



¹ Based on data from U. S. Bureau of the Census.

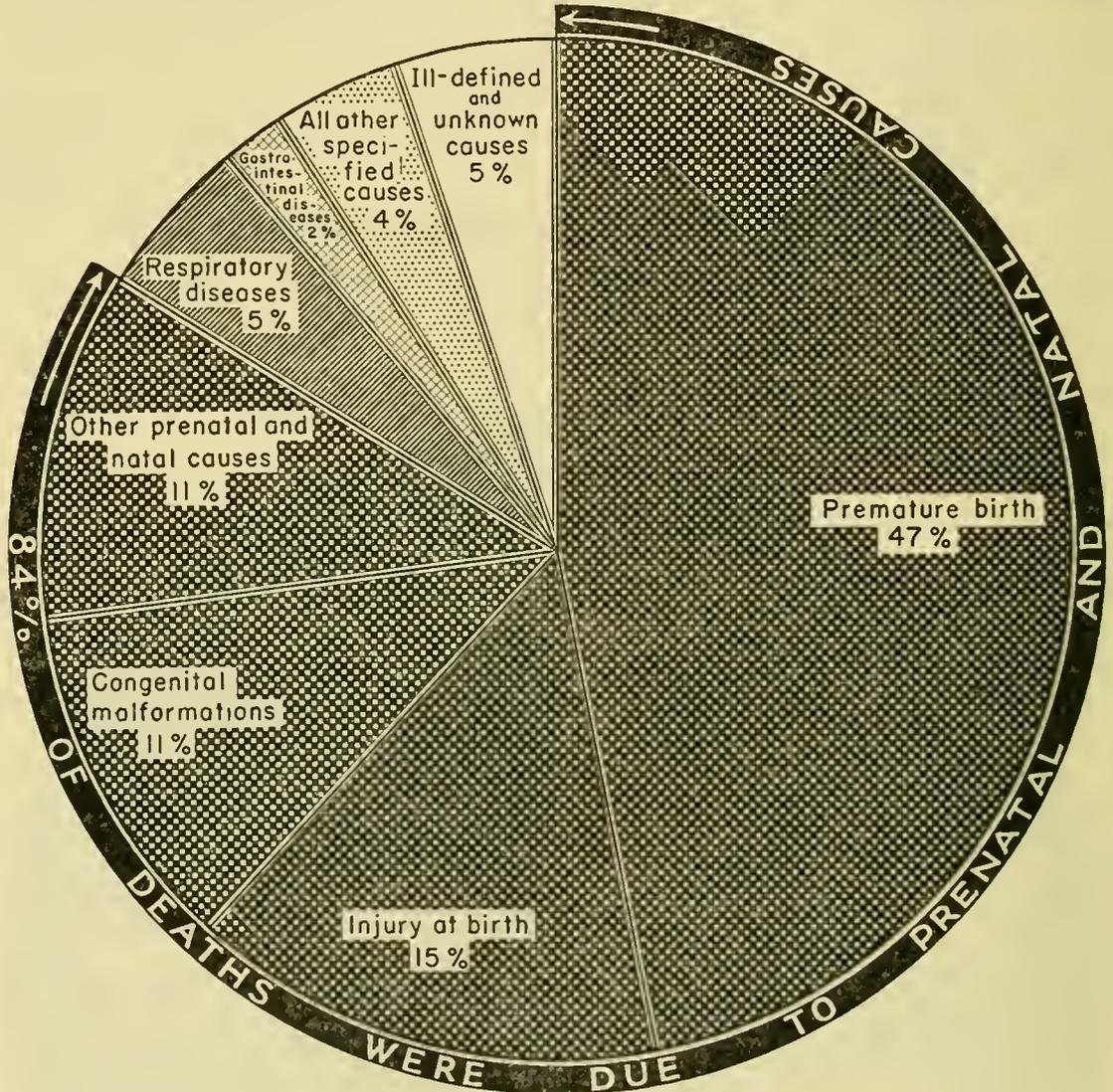
Chart 10.—Causes of infant death, percentage distribution; United States, 1939 ¹



¹ Based on data from U. S. Bureau of the Census.

In 1939 the major causes of neonatal deaths were premature birth (47 percent); injury at birth (15 percent); and congenital malformations (11 percent). The fact that 84 percent of the deaths of infants in the first month of life were due to prenatal and natal causes emphasizes again the importance of skilled care for the mother during pregnancy and labor. Special studies have shown that the neonatal mortality rate can probably be reduced one-half.

Chart 11.—Causes of neonatal death, percentage distribution, United States 1939¹



¹ Based on data from U. S. Bureau of the Census.

That marked advance has been made during the 4 years, 1936–39, when the Federal Government and the States have cooperated in a maternal and child-health program, is demonstrated by the fact that if the 1935 infant mortality rate (56) had prevailed in 1939 there would have been 18,341 more infant deaths during the year.

Mortality rates for children rapidly decrease after the first year until the lowest rate is reached at 10 or 11 years among both boys and girls. From then on the rates increase with each year of age. Study of the causes of death among children and young persons throws light on the relative importance of various diseases as causes

of both mortality and morbidity. Some of these diseases cause permanent injury to the health of children who contract them but survive.

The means of preventing death from most of the diseases especially prevalent among children are known. Yet in 1939, 182,825 deaths occurred among persons under 20 years of age. A large majority of these deaths were due to conditions for which medical science has shown the means of prevention or of cure.¹⁴ The 15 leading causes of death among persons under 20 years of age, listed according to order of incidence, are shown below.

TABLE 7.—*The 15 leading causes of death among persons under 20 years of age; United States, 1939*¹

| Cause of death | Total | | Under 1 year | 1 to 4 years | 5 to 9 years | 10 to 14 years | 15 to 19 years |
|--------------------------------|----------|----------|--------------|--------------|--------------|----------------|----------------|
| | Number | Per cent | | | | | |
| All causes..... | 182, 825 | 100. 0 | 108, 846 | 26, 887 | 12, 338 | 12, 614 | 22, 140 |
| The 15 leading causes..... | 139, 514 | 76. 3 | 88, 945 | 19, 574 | 7, 864 | 8, 191 | 14, 940 |
| Premature birth..... | 32, 251 | 17. 6 | 32, 251 | ..... | ..... | ..... | ..... |
| Pneumonia (all forms)..... | 21, 604 | 11. 8 | 13, 786 | 4, 682 | 1, 053 | 867 | 1, 216 |
| Accidents..... | 19, 394 | 10. 6 | 2, 379 | 4, 426 | 3, 158 | 3, 350 | 6, 081 |
| Gastrointestinal diseases..... | 14, 128 | 7. 7 | 10, 129 | 3, 536 | 193 | 109 | 161 |
| Congenital malformations..... | 11, 907 | 6. 5 | 10, 390 | 893 | 258 | 188 | 178 |
| Injury at birth..... | 10, 164 | 5. 6 | 10, 164 | ..... | ..... | ..... | ..... |
| Tuberculosis (all forms)..... | 6, 596 | 3. 6 | 540 | 1, 149 | 514 | 861 | 3, 532 |
| Influenza..... | 4, 759 | 2. 6 | 2, 311 | 1, 256 | 377 | 305 | 510 |
| Diseases of the heart..... | 4, 301 | 2. 4 | 370 | 373 | 719 | 1, 181 | 1, 658 |
| Appendicitis..... | 3, 980 | 2. 2 | 40 | 638 | 884 | 1, 102 | 1, 316 |
| Whooping cough..... | 3, 010 | 1. 6 | 2, 013 | 907 | 74 | 10 | 6 |
| Congenital debility..... | 2, 808 | 1. 5 | 2, 808 | ..... | ..... | ..... | ..... |
| Diphtheria..... | 1, 831 | 1. 0 | 167 | 1, 130 | 422 | 73 | 39 |
| Syphilis..... | 1, 749 | 1. 0 | 1, 300 | 140 | 38 | 70 | 201 |
| Measles..... | 1, 032 | . 6 | 297 | 444 | 174 | 75 | 42 |
| All other causes..... | 43, 311 | 23. 7 | 19, 901 | 7, 313 | 4, 474 | 4, 423 | 7, 200 |

¹ Based on data from U. S. Bureau of the Census.

In the age group, 1 to 4 years, pneumonia, accidents, and gastrointestinal diseases caused 47 percent of the 26,887 deaths. Accidents took first place in the age group, 5 to 9 years, and pneumonia and appendicitis were the next most important causes of death. Accidents, diseases of the heart, appendicitis, and pneumonia were the leading causes of death in the age group, 10 to 14 years. Accidents continued to be the leading cause in the age group, 15 to 20 years, and tuberculosis was second, followed by diseases of the heart, appendicitis, and pneumonia.

Nearly three-fifths of the deaths (108,846) of persons under 20 years of age occurred in the first year of life, and more than two-fifths of these were due to premature birth, injury at birth, and congenital debility—conditions that cause death mainly in early infancy. Also, three-fourths of the deaths from syphilis in this age group occurred during the first year of life.

¹⁴ For discussion of the means of prevention of children's diseases, see p. 56.

To the public-health administrator these figures are important signposts, which indicate the need for preventive and educational health services in the communities under his supervision. However, health-supervision services, valuable as they are in the prevention of illness and death, are of even greater value in the promotion of healthy growth and development for children and young people as they approach maturity.

Protecting the lives of the newborn.

Progress is being made in the reduction of neonatal mortality, as is shown by the rates during the years in which the social-security activities have been under way. These rates were 33 in 1936, 31 in 1937, 30 in 1938, and 29 in 1939.

Under the maternal and child-health program the State health agencies and the medical and nursing professions are enlisted in an intensive effort to reduce neonatal mortality. Saving the life and health of the baby is the co-objective in the program for better maternal care. Better prenatal care, better medical care at delivery, nurses' visits to the home before and after delivery, instruction given the mother and the members of the family on the care of the newborn child, and continuous medical supervision of the baby are integral parts of the local maternal and child-health program.

Special efforts are being made in the States to provide better care for the infant born prematurely, as prematurity is the cause of almost half of the neonatal deaths. Several States have developed State-wide educational programs in the care of premature infants for the benefit of both professional and lay groups, and nurses have been given postgraduate courses in their care. Through these efforts the people have learned that many of these infants can be saved. Community groups have equipped some health departments with special cribs for premature infants cared for at home and for use in transporting premature infants to a hospital.

Massachusetts is carrying on an especially complete program to reduce mortality and morbidity from premature birth, under the direction of a pediatrician in the State Department of Public Health. A law passed in 1937 provides for the reporting of premature births to local boards of health, for transportation of the baby by the department of health to a hospital especially equipped for his care, and for hospitalization at the expense of the local board of public welfare, if the parents are unable to pay. Special baskets for the transportation of premature infants are provided to insure keeping the baby warm during the trip to the hospital.

After a hospital has been equipped to serve as a premature center, its nursery supervisor is given a graduate course in the care of premature infants at the Boston Lying-In Hospital. These nursery super-

visors are thereafter better equipped to teach student nurses the care of the premature infant. By June 1939, 48 hospitals had been recognized by the State Department of Public Health as meeting standards set forth as necessary for the care of premature infants.

When a hospital has been designated as a premature center the physicians in the community are notified and are sent a pamphlet on the care of the premature infant. In the program of postgraduate medical education provided through the Massachusetts Medical Society, one of the lectures in the pediatric section includes the care of infants born before term.

A public-health nurse with special preparation in care of the newborn and the prematurely born infant was engaged by the Massachusetts State Department of Public Health to hold conferences with groups of public-health and hospital nurses and to instruct them by means of lectures and demonstrations. Smaller local groups were organized throughout the State as a result of these larger conferences, in which the subject was further discussed under the leadership of the district public-health-nursing consultants of the division of maternal and child health. Talks are given to groups of women on care of the premature baby, and a leaflet has been issued for their use.

In Cattaraugus County, N. Y., the county health department has undertaken a program of providing care for premature infants in their own homes. The county, with a population of about 73,000 scattered over 1,343 square miles, has 4 general hospitals, of which none had in 1939 a separate nursery for premature infants. Forty percent of the 1,400 births each year occur at home. The health-department program consists of (1) the instruction of the health-department staff as to the needs of premature infants and the methods of meeting their requirements; (2) the provision of portable incubators or heated beds which are distributed throughout the county in the district health stations where they are quickly available on the request of local physicians; (3) the provision of information to the medical profession of the county regarding the care of premature infants and the equipment available; and (4) general publicity for the education of the public.

The staff-education program is conducted by the department's consultant in maternal and child hygiene, who is informed on the special techniques used at the Sarah Morris Station in Chicago, and by the supervising nurse who has had special training in this field of nursing. All the physicians of the county have attended an institute on the care of premature infants. Various types of incubators have been tested for the selection of the most efficient types for use in homes with and without electricity.

The child-health conference.

In the expanding program of maternal and child-health services the State health agencies are making increasing use of the child-health conference as a means of providing health supervision for large numbers of infants and preschool children. In 38 States, the District of Columbia, Alaska, and Hawaii, such child-health-conference facilities were provided under State and local health-department auspices, according to 1939 reports. These facilities vary in the States from a single conference center in some counties to more than one center in many counties. Conferences were held in every county in Connecticut, Delaware, Rhode Island, and Hawaii. Fourteen other States reported child-health conferences in half or more of their counties.

During the year ended June 30, 1939, the State health agencies of 36 States reported the establishment of 522 child-health centers at which conferences were held at least once a month, making a total of 2,394 centers in which monthly conferences were held (appendix table 1). This increase of 22 percent in the number of operating centers in 1 year indicates that the State health departments are encouraging the use of the child-health conference as one of the best means of giving parents the educational services of the physician and the public-health nurse.

There is great need for the expansion of preschool health supervision. Although most of the largest cities have long had facilities for the health supervision of infants and preschool children in child-health centers, such centers where child-health conferences are held monthly are provided in only about one-fifth of the rural counties in the United States. In certain States the scattered population makes it impracticable to provide enough conferences so that they are sufficiently accessible for monthly sessions during the winter months. In the counties without a public-health nurse to serve in rural areas (780 counties on January 1, 1939), no one was responsible for the organization of child-health conferences and the related health services.

In some States the policy has been followed of providing health-supervision service for infants and preschool children through the public-health nurse, with emphasis on the parents' taking their children to their private physicians for medical supervision. Under this plan the community fails to obtain the full benefits of medical participation in child-health supervision, as many families take their children to physicians only in case of active illness. The influence of the child-health conference in the community is not limited to the children who can attend the conference. It has been found that a good child-health conference stimulates the community to demand and the practicing physicians and dentists to give increased health supervision to children cared for through private practice.

When a conference becomes well established and good service is being rendered, frequently the greatest problem is that more children come than can be cared for properly. Recognition of this fact leads to the development of more conference sessions in the same or in other locations. The appointment system is being used successfully even in rural areas.

During 1939 the Children's Bureau sent out to several hundred pediatricians, physicians, and public-health nurses participating in the maternal and child-health program a draft of a publication on the child-health conference with a request for suggestions. Many of the suggestions and comments made were incorporated in the final draft before its publication. This publication is, therefore, the product of experience in conducting child-health conferences in all parts of the country.¹⁵

The physician at the child-health conference.

During the year ended June 30, 1939, the health agencies in 33 States employed practicing physicians to conduct child-health conferences, and in 16 States practicing dentists received payment for services rendered in connection with child-health conferences. The increasing utilization of practicing physicians and dentists for this work appears to be a very significant development.

The development of an effective child-health conference requires careful planning. The physician who conducts the conference must know the fundamentals of pediatrics. He must have some idea of what "normal" physical and mental development is from early infancy through childhood. He must know the "points" of a "good" child just as a judge in a stock show knows the points of a good animal. With a standard of excellence in mind and a knowledge of the fundamentals of nutrition and of mental hygiene, the physician is able to give health supervision that helps each child to realize his own potentialities in mental and physical health.

Of equal importance is the physician's interest in teaching mothers how better to understand their children and to provide for their needs, for the chief function of the health conference is education. It offers a golden opportunity to teach parents the things about raising children that they have never had a chance to learn. Most of them, having grown up before the new science of nutrition was sufficiently developed for practical application in daily life, are often unaware of the possibilities it offers for the greater health, happiness, and efficiency of their children. The same can be said of the new concepts of mental hygiene. This new knowledge will have no effect

¹⁵ The Child-Health Conference; suggestions for organization and procedure. Children's Bureau Publication No. 261. Washington, 1940.

on the coming generation unless it is taught to the parents of today's children and to the young people who will be parents tomorrow.

Desirable as it may be, it is not necessary to have all child-health conferences conducted by pediatricians, but it is necessary that the physicians who conduct them know preventive pediatrics and receive assistance and consultation service from pediatricians. More and more, general practitioners of medicine are taking on the new role of supervising the health as well as taking care of the illnesses of their patients. This is the result not only of increased medical emphasis on preventive medicine but also of increased public demand for this type of service.

The 1938 list of physicians certified by the American Board of Pediatrics showed that less than 3 percent of its diplomates were practicing in communities of less than 10,000 population. Yet as many babies are born in rural areas and small cities as in urban areas. The responsibility for caring for rural children intelligently rests with the general practitioners serving these areas. The presence of a well-run child-health conference in a community exerts a good influence not only on the children and their parents but also on the type of medical practice in the community.

The State reports of activities under maternal and child-health plans recorded for the year 1939, show that 137,567 infants and 276,425 preschool children were admitted to medical service, and 402,479 visits of infants and 472,462 visits of preschool children were made to medical child-health conferences. Dentists and dental hygienists made 69,050 inspections of preschool children, most of which were probably made at child-health conferences (table 4, p. 16).

In the expanding program of maternal and child-health services under the Social Security Act, the State and local health agencies have been confronted with the problem of supervising properly the professional services in the large number of child-health conferences being established. A number of methods have been developed in the States for setting and maintaining high standards in these conferences. Several States employ pediatricians on the State staff to work with the local practicing physicians or health officers who have not had experience in child-health supervision. In some States practicing pediatricians serve the conferences in the areas in which they live, and are paid on a part-time basis by the State. Other States have developed training centers where physicians who are to conduct conferences may go for a short period of training.

In Connecticut more than 100 well-child conferences in rural areas are conducted by local physicians under the supervision of the State Bureau of Child Hygiene. Physicians who wish to participate in these conferences and who are considered qualified by the State Department of Health, are required to attend six sessions of model

child-health conferences conducted by pediatricians. At the sixth session the local physician conducts the conference under the supervision of the pediatrician in charge. These local physicians are usually appointed to serve for 1 year, and when the appointments are made, preference is given to physicians who are interested in or who are devoting a major portion of their time to medical practice for children. The local conferences are visited periodically by full-time pediatricians on the State staff who can advise on the proper administration of the conference and on the kind of services to be rendered.

The public-health nurse in the child-health program.

An alert, well-trained public-health nurse is as indispensable in the child-health conference as she is in all phases of the child-health program. One of her chief functions in the conference is interpreting the findings and advice of the physician to the individual mothers and making sure they understand how to follow instructions given. The nurse's conference with the mother is not a mere repetition of the physician's conference. It serves to enhance the total educational value of the visit. Aside from this function and that of taking responsibility for the smooth running of the conference, the nurse performs an invaluable function in direct teaching in the home. She makes the lessons of the health conference more effective by explaining and demonstrating ways in which they may be carried out under the conditions existing in the child's own home. Organized classes for mothers are proving invaluable adjuncts to the teaching in the conference, and they enable the nurse to reach larger numbers of mothers than she is able to reach in individual visits. Her knowledge of and use of community resources helps to implement the work of the conference.

All the States, the District of Columbia, Alaska, and Hawaii reported home visiting by public-health nurses for infant and preschool hygiene in one or more counties or local areas during the year ended June 30, 1939. However, only 11 States and Hawaii reported such service in every county. Seven other States reported nurses' home visits in all but one or two counties, which may have been similarly served by city health departments. Twenty additional States reported the service in one-half or more of their counties. With a total of more than 5,600 public-health nurses in local communities rendering service under the administration or supervision of the State public-health agency, this was the most extensive type of activity provided under the State maternal and child-health plans. The volume of service rendered by the public-health nurses under the State plans for maternal and child-health services has increased greatly since 1936.

Continuous health supervision.

Great emphasis is being placed on the desirability of providing continuous health supervision from infancy throughout childhood. Formerly infant-welfare centers were established to provide health service during the first year or two of life, and conferences for preschool children were established separately later. Such a separation has been recognized to be entirely artificial, as growth and development are a continuous process. Great skill and knowledge of child development and behavior are required of the health-conference staff to manage the manifold problems of the preschool period. Only in recent years has instruction on these subjects been given in medical schools, whereas the feeding and care of infants has been part of the curriculum for three or four decades.

The growing practice of transferring the conference record to the school tends further to emphasize the desirability of continuing regular health supervision throughout childhood.

An educational program that begins with the child of school age loses its greatest opportunity for preventive service. Undoubtedly one reason for dental programs in the past having been almost exclusively concerned with the child of school age is that no comparable opportunity of reaching large numbers of preschool children existed. The infant and preschool child-health conferences are providing this opportunity.

Health services for children of school age.

As the objective of child-health work is to protect, promote, and conserve the health of children from the prenatal period through adolescence, it is obvious that an important phase of the work is concerned with the health of the child of school age. With school health work conceived to be a part of community health activities serving the child of all ages it should not be necessary to continue indefinitely devoting major effort to detecting and correcting the preventable defects of school children. The numbers of physical and mental defects among school children indicate lost opportunities for prevention during infancy and preschool years.

Most State departments of health are responsible for school health service, especially in rural areas, as part of the maternal and child-health program and are cooperating with State departments of education in developing programs of school health education. School health service includes providing a health-permitting school environment, controlling communicable disease, making the health resources of the community available to school children, encouraging periodic health supervision of children and teachers by physicians and dentists, and making available the services of public-health nurses in explaining the health needs of the pupil to teachers and parents. Of primary

importance are efforts to render these services so that they will have real educational value to the child, to his parents, and to the school personnel.

The State health agencies reported that during the calendar year 1939, 1,385,078 examinations of school children were made by physicians, and 1,439,890 visits on behalf of school children were made by public-health nurses as part of the activities under the State plan for maternal and child-health services. During the years 1936 to 1939 the expansion of this service has not been emphasized as much as the expansion of service for infants and preschool children, partly because this phase of child-health service had previously been better developed, and partly because it was increasingly recognized that health supervision during the earlier years is the first essential to the protection of the health of the school child.

The Division of Maternity, Infancy, and Child Hygiene of the New York State Department of Health undertook a school health study in the Astoria-Long Island City health district. In this project the faults and shortcomings of the "routine" school medical examination were explored from the standpoint of the adequacy of the examination itself, the educational value which theoretically the examination is supposed to hold for child, parent, and teacher, the kinds of records kept, and the types of nurse and doctor contacts made subsequent to the examination. The results of the study and the standards being developed will doubtless be of great value to those responsible for school health programs in all parts of the country.

Nutrition in the child-health program.

In no other phase of maternal and child-health work is the act of "taking thought" day by day more effective than in the field of nutrition, for mothers of even very small means have some freedom of choice in the foods they give their families. The nutrition program under the maternal and child-health plans is primarily an educational program. Problems of malnutrition arise from ignorance, inertia, and poverty. The nutritionist can cope with two of these—ignorance and inertia—and she can make some headway against poverty by convincing those responsible for appropriating funds for assistance to the needy that it is a good investment to spend funds to conserve health.

To translate science into everyday use is the task of the nutritionist at work in the States. She has studied the needs of individuals for the essential food elements, including the ever-lengthening list of vitamins; and she teaches the family to use green vegetables, milk, and whole-grain cereals. She works in terms of foods that the family can grow at home or can afford to buy, of recipes that can be followed easily with a minimum of time and equipment. Her aids are leaflets, posters,

and exhibits, and above all the word-of-mouth advice that the public-health nurse gives during her home visits. The nutritionist on the State staff helps her coworkers, State and local, to keep up to date on the subject of nutrition and to teach nutrition effectively in the home, the health center, and the school. Forty-one State health agencies and Hawaii reported that during the year ended June 30, 1939, instruction in nutrition had been included as part of in-service education given to physicians, dentists, dental hygienists, and nurses.

From Minnesota comes a typical series of four nutrition fliers—"Stretch the Food Dollar, Make It Buy Health," "Protective Foods," "A Day's Meal for Your Family," and "The School Lunch." Maine has printed a French edition of its nutrition folders for French-Canadian families; Kansas has made a Spanish translation of its folders for its Mexican families. The Minnesota housewife who lives in rural areas is urged to plan the family's food supply a year ahead, to plant a garden, and to can and store surplus fruits and vegetables for the long winter. She is given homely advice such as: "Use the wild Minnesota greens—lamb's quarter, watercress, dandelion, dock, and others, in the months before the garden produces. Gather wild fruits when they are available. Fish caught in Minnesota in season—pike, fresh herring, and white fish—are much cheaper than many other kinds."

Mothers are told that the noonday lunch, especially when it is eaten at school, requires careful thought and planning to meet the child's needs. They learn that children learn—as an army advances—"on the stomach," and that the hot lunch pays high dividends. Hot lunches at school have been widely encouraged by maternal and child-health nutritionists.

Other fields in which the nutritionists have been active include: Giving dietary advice to child-caring institutions; conferring with managers of school lunchrooms; organizing an educational program for migratory workers; helping rural teachers to make possible good nutrition practices at school; planning for nutrition work in maternal and child-health demonstrations; and consulting with welfare workers on family budgets and food allowances.

Since 1936 the Georgia State Department of Public Health, through the health unit in Hancock County, has carried on a demonstration of maternal and child-health services with special emphasis on nutrition. This demonstration has been made possible through the active cooperation of several other agencies concerned with the relation of the food supply of rural people to their health. Among these agencies are the College of Agriculture and the extension service of the University of Georgia, the State Agricultural Experiment Station, and the State Department of Education. Studies of the nutritional status of children, together with surveys of their dietary habits, have

revealed need for increased consumption of protective foods. Studies of the soil and of farming practices have shown that more protective foods can be raised in the county. Educational programs to that end have been undertaken and have resulted in increased production in both home and school gardens. To supplement the foods provided at home, hot lunches are served to a large proportion of children attending school. Under the leadership of farm agents, home-demonstration agents, and Jeanes teachers, both adult and youth groups are carrying on projects directed toward provision of better food for all age groups, especially for infants and young children. Through an active program of prenatal clinics, instruction of midwives, child-health conferences, and medical examinations of school children the county health unit is working for better health of mothers and children.

In Maine the food service in a State normal school was reorganized after a study by the State nutritionist. The Illinois nutritionist was lent for 4 weeks to flooded areas in the southern part of the State where she organized and supervised food service in refugee camps, made out special diets for hospital patients, and set up infant-feeding stations. The Ohio nutritionist made a 3½-month survey of the need for nutrition programs in representative counties of the State.

How even a single nutritionist strengthens the nutrition content of the maternal and child-health program throughout a State is illustrated by reports from Maryland, where this work was started in 1937. County health officers and their staffs of public-health nurses have been quick to take advantage of the consultative services of the State nutritionist. As soon as she has had an opportunity to learn the most pressing nutrition problems of a county, through conferences with the health workers and visits to typical homes in the company of the field nurse, she looks into the local resources that may be mobilized for meeting these problems. With the support of the State departments concerned she works out a plan for coordinated service among local teachers, welfare workers, extension agents, and public-health workers. There has been general agreement that group instruction may well reinforce and supplement the individual teaching done by the public-health nurse in homes and at the health conference. In several counties the home-demonstration agents of the extension service of the State university now attend prenatal clinics to teach mothers the essentials of a good diet for themselves and their families and to show them how simple, low-cost foods can be made so palatable that their families will enjoy them. In two counties arrangements have been made whereby home-economics teachers, paid by the county department of education with funds for adult education, give a series of 10 lessons on foods and nutrition to groups organized by county health workers. Soon after this work

was in progress there was evidence that the health and welfare workers had a better understanding of how to meet the food and nutrition problems of low-income families, and that the public-education agencies were making more of a contribution to public health and social welfare.

In a southern city, with a population of some 60,000, the health department and the school system have worked out a cooperative project built around the school lunch. The board of education found it difficult to maintain school lunchrooms because of competition from commercial enterprises that sold unsuitable food under insanitary conditions on the edge of the school grounds. The school administrators appealed to the health department for help. By joint effort it was possible to enlist public support for the passage and enforcement of an ordinance forbidding "dog wagons" to operate in the neighborhood of the schools. The field was thus left clear to build up patronage for the school lunchrooms. Both the health department and the board of education sought help from the head of the home-economics department of the State college located in the city. Through her good offices a home economist who had majored in education and in lunchroom administration was employed to organize the lunchrooms as part of the educational program of the schools. Obviously the first step was to serve nutritious and appetizing food at low cost and then to devise means whereby needy children could be fed without being set aside from the group. Funds have been obtained from local agencies for the lunches of younger children whose families are unable to pay for them. Nearly all older children who need to do so are given an opportunity to earn their lunches by working in the lunchroom. All children who work in the lunchroom are given the regular health examination for food handlers and instructions in the sanitary handling of foodstuffs. The health officer and the superintendent of schools in this southern city have not been content with merely providing good lunches at low cost but have built the health-education program around the school lunch. The lunchroom manager, the school nurse, and the teachers of physical education and home economics have been leaders in setting up a health-education project in which every teacher and pupil has participated.

The nutrition services of State departments of health have worked with the departments of public instruction to develop special summer training programs for lunchroom managers of schools in communities that are too small to employ trained dietitians. Nutritionists from the State department of health take part in a course, lasting from 3 days to 2 weeks, which is given at a State teachers' college. These courses have been popular with both the managers and their employers, who in some cases pay the expenses of the workers. As a follow-up

measure, a nutritionist is available throughout the school year for consultation with school administrators and with managers of school lunchrooms.

Many State health departments are prepared to assist school administrators, especially those working in rural areas, to plan units in health education and nutrition and programs of related activities. It is not uncommon for the health department to serve as a source of bulletins, exhibits, and illustrative materials for use in connection with school health projects. Several nutritionists on the staffs of State and local departments of health maintain a lending library of posters, food charts, and food models. In some States arrangements have been made to supply litters of white rats to schools that are equipped to conduct feeding experiments.

Dental-hygiene service.

The dental programs of the States vary considerably. Educational programs for teachers, pupils, and lay groups are widespread. Programs of prophylaxis involving the cleaning and inspection of the teeth are carried on in many State maternal and child-health programs. As yet these programs for the most part have reached school children, and little emphasis has been given to the care of the teeth of the preschool child. It is frequently necessary for the public-health nurse to explain to mothers the importance of dental hygiene in relation to general health and nutrition and the importance of early discovery and treatment of defects.

In Oregon the oral-health program was begun July 1, 1937, under a full-time dental director as a function of the Division of Maternal and Child Health of the State Board of Health, with the active cooperation of the Oregon State Dental Association. The program was planned to include prenatal, postnatal, and preschool activities, but the school program was given the greatest emphasis in order to familiarize the teachers and the general public with the value of dental health. The plan includes provision for education in the home, the community, and the school, and for professional groups. Remedial service through private dentists is encouraged. For children whose families are unable to provide necessary care, the attempt is made to finance this service through community groups or relief agencies. In the first year of the program in a county special emphasis is given to providing dental care for every first-grade child, and each year another grade is added, up to the fourth grade. The service includes prophylaxis and repair of carious teeth. The education program for the home, the community, and the school advocates for the expectant mother, the preschool child, and the younger school child more complete information on matters of nutrition, oral hygiene, and early dental attention.

The usual procedure in school dental inspection is to send the child home with a slip saying (in 9 cases out of 10) that his teeth need the attention of a dentist. Few communities have made provision for the follow-up of these children to see whether the recommendations are carried out. Even fewer communities have made provision for giving the corrective care needed when the families are unable to pay for such care from their own resources. The inspection of the teeth of tens of thousands of children without provision for the correction of defects cannot be considered a satisfactory type of service. The problem of providing corrective care for all dental defects of children has raised serious questions in the minds of everyone involved in the administration of public-health programs, including leaders in the dental profession. The number of children with dental defects is so great that even limited programs for selected age groups cannot be developed on a Nation-wide basis unless present resources for care are greatly expanded and many more dentists are trained in children's dentistry.

The technical procedures of dentistry have made great advances, but many dentists realize that they are not now in possession of sufficient facts to formulate an effective preventive program. The greatest need in dentistry today is for a united effort by medical and dental educators and research workers to enlist all available resources for a fundamental dental-research program. The present Federal grants-in-aid for maternal and child-health services are not available for extensive research. Many health authorities and their dental advisers incline to the opinion that, pending better knowledge of how caries may be prevented, the limited maternal and child-health funds now available for dental hygiene can best be spent in strengthening the nutrition program. They fully recognize the great importance of carrying out corrective procedures, especially among young children, but point out that funds are not yet available in sufficient amount to make an appreciable attack on the problem.

Prevention of children's diseases.

The whole health-supervision program is directed toward the development of optimal health in children through building sound foundations of mental and physical health, through instruction of parents and others on how to protect children against infection, through immunization against certain communicable diseases, and through the early recognition of abnormalities and incipient disease at the stage when remedial treatment offers the best chance to prevent the development of serious illness.

For a number of the communicable diseases there are specific preventive measures that increasingly are being used in the maternal and child-health program.

Congenital syphilis, which causes the death of many children and injury to the physical and mental development of many more children, can be prevented. Routine testing of the mother early in pregnancy followed by adequate treatment in case the tests are positive has been made standard procedure from the start in the prenatal clinics conducted under State health-department supervision. This recommended procedure by the end of 1939 had been reinforced by the passage of laws in 17 States requiring physicians or midwives in attendance upon pregnant women promptly to send specimens of the patient's blood to approved laboratories for syphilis testing.¹⁶

In New Jersey, where this procedure has been widely adopted through medical initiative and as a result of a law passed in 1938, it was estimated that tests were made on the mothers of at least two-thirds of the babies born in 1939. A study of information obtained from 1 month's birth certificates showed that only 30 percent of the women whose infants were stillborn had been tested, compared with 84 percent of the women who gave birth to living children.¹⁷ In the supervision of prenatal clinics, in the postgraduate courses in obstetrics, and by every available educational means the State health agencies are emphasizing the importance of these tests. The provision of laboratory facilities for making tests as a part of the State health agency's venereal-disease control program is also an important factor in increasing the effort to prevent congenital syphilis.

Immunization against diphtheria in the first year of life has long been standard medical practice. The State and local health agencies, through the child-health conferences, provide the opportunity for early immunization for infants brought under health supervision and for the immunization of preschool children not previously protected. Extending beyond the doctor's office and the areas where such conferences are held, the health-education programs of State and local health agencies, especially through the public-health nurse and the summer round-up for medical examination of children entering school, encouraged by parent-teacher associations, are steadily increasing the proportion of children who have been immunized against diphtheria. The State health agencies reported for the calendar year 1939 a total of 1,059,478 immunizations against diphtheria as part of the maternal and child-health program. The number of persons under 20 years of age who died from diphtheria dropped from 4,586 in 1933 to 2,401 in 1937 and to 1,831 in 1939. The figures indicate that substantial

¹⁶ These 17 States are California, Colorado, Delaware, Illinois, Indiana, Iowa, Maine, Massachusetts, Michigan, New Jersey, New York, North Carolina, Oklahoma, Pennsylvania, Rhode Island, South Dakota, and Washington.

¹⁷ Prenatal Blood Tests for Syphilis; operation of the New Jersey law, by John Hall. *The Child* (published by the Children's Bureau, U. S. Department of Labor, Washington), Vol. 4, No. 8 (February 1940), pp. 201-204.

gains have been made but that large numbers of children are not yet reached by preventive measures. It is essential that protection against diphtheria be extended into all communities and that the immunization measures be maintained as routine procedures in all physician's offices and all child-health programs.

Similarly vaccination against smallpox during the first year is possible for an increasing proportion of children as a result of the extension of maternal and child-health services. The State health agencies for the year 1939 reported 1,465,136 vaccinations against smallpox as a part of maternal and child-health activities.

It is advisable that each child attending the child-health conference be given a tuberculin test. In case the test is positive the child is referred to a physician for further examination and recommendation of care, and a careful search for the source of infection is made.

The need for medical care.

A serious block in the provision of health service for children comes at the point where medical care must be provided for the treatment of disease or for the correction of defects. It is the customary practice in child-health conferences and health examinations at school to advise parents to take their children to a private physician for the treatment of such conditions. In cities free medical and hospital services and out-patient clinics are frequently available for children in families with low incomes. Each of the cities of more than 250,000 population has one or more out-patient clinics. But only 2 percent of the cities with less than 10,000 population have such resources¹⁸; and in the smaller towns and rural areas often the only resource is the service given without charge by practicing physicians. In many sparsely settled and mountainous areas doctors and hospitals are not readily available.

In some States medical care is provided to some extent for communicable diseases, especially for tuberculosis, hookworm disease, and, recently, for syphilis. All the States, with the aid of Federal grants under title V, part 2, of the Social Security Act, are providing medical care for crippled children, and additional funds made available by the 1939 amendments of the act will make possible the starting of medical-care programs for children suffering from rheumatic heart disease.¹⁹

¹⁸ Proceedings of the National Health Conference, July 18-20, 1938, p. 46. Interdepartmental Committee To Coordinate Health and Welfare Activities, Washington, 1938.

¹⁹ See Services for Crippled Children under the Social Security Act; development of program, 1936-39 (Children's Bureau Publication No. 258, Washington 1941).

The county public-health nurses are ingenious in aiding families to use whatever medical-care facilities are available for children in their communities. However, the assumption by communities of responsibility for providing facilities for the care of sick children whose families are unable to provide the care needed is sporadic and incomplete, even in many progressive communities. This need became apparent during the first years of the Federal-State maternal and child-health program, but with the funds available little could be done to deal with the problem.²⁰

Mental health of the child.

The maternal and child-health program which deals with the mother during her pregnancy and with the child during the first months and years of life affords the earliest opportunity for assisting in building the foundation for the mental health of the child. The doctor and nurse who explain to husband and wife what is involved in parenthood can contribute immeasurably to the mother's assurance and peace of mind during pregnancy and the first weeks of motherhood. The early training and care of the baby and of the young child affect his health, happiness, and mental attitude throughout life. The doctor in his office and at the prenatal and child-health conference and the public-health nurse in all her contacts with parents can aid parents in promoting the mental health as well as the physical health of children.

The pattern for the mental health, as well as the physical health, of the child is laid during infancy and the early years. Intelligent care during these years will aid in preventing the development of behavior problems that later may require treatment at a child-guidance clinic.

Most of the State health agencies have recognized that instruction in how to promote mental health in the child-health program should be part of the postgraduate educational training given to doctors and nurses as public-health workers and as private practitioners. In a few States the promotion of mental health has been given greater emphasis. In New Jersey courses in child care and training have been given for nurses.

The Division of Child Hygiene of the Massachusetts State Department of Public Health carries on a research project in selected local areas to study and eliminate the preventable causes of early school failure in rural and village areas. Three factors are recognized as interfering with success in the first grade—physical handicaps, psychological factors such as emotional tension due to feelings of inadequacy and to repeated failure and criticism, and educational causes. The program

²⁰ See recommendations included under Expansion of Maternal and Child-Health Services in a National Health Program (Report of the Technical Committee on Medical Care, 1938, issued by the Interdepartmental Committee To Coordinate Health and Welfare Activities, Washington, 1938).

in each local area includes testing and examination of children; lectures to teachers, school physicians, and nurses; and consultation service on the institution of preventive measures. The Massachusetts Division of Child Hygiene also has a coordinator of parent education, who coordinates all the parent-education activities of members of the staff and gives group instruction to teachers, nurses, and social workers. She meets with groups of parents for instruction in habit training in fields indicated by the findings of well-child conferences. Lay leaders are given a 3-year course on parent education as it relates to the infant and to the child of preschool age, school age, and the adolescent group. These leaders under supervision carry on community projects in parent education.

A division of child psychiatry was operated in the Bureau of Maternal and Child Health of the Indiana State Board of Health from August 1937 to March 1939. The demonstration under the State maternal and child-health plan was started to initiate a mental-hygiene program for the children of Indiana through the cooperative efforts of the State Board of Health, the State Department of Public Welfare, the Indiana University School of Medicine, the State Department of Public Instruction, and the Indiana Medical Association. A unit including a psychiatrist, a psychologist, and two social workers provided a clinical psychiatric and child-guidance service for the children in three counties, in a State orphanage, and at the James Whitcomb Riley Hospital (affiliated with the Indiana University School of Medicine), which receives child patients from all parts of the State. The psychiatrist in charge gave each year a series of 10 lectures to the senior class of the Indiana University School of Medicine. Consultation service was also given to practicing physicians, to matrons and officials of State correctional institutions, and to teachers' colleges. Many talks on child training were given to teacher groups and parent-teacher groups. In March 1939 the division of child psychiatry was transferred to the new division of medical care in the Department of Public Welfare, to form the nucleus of an enlarged mental-hygiene program for both children and adults.

Health education.

As health education is a major objective of health departments in rendering their many services, increasing consideration is being given to ways and means of making these educational efforts more effective. In addition to the need for informing the public of the functions of the health department and of means whereby community health may be improved, there is the need for teaching individuals how they can achieve better health for themselves and the members of their families. Many kinds of educational techniques are required. An increasing number of health departments are employing health-

education specialists to take charge of general educational activities, to help all health-department staff members do more effective teaching in the performance of their jobs, and to help coordinate the health-education activities of other agencies, such as the schools, with those of the health department. During the fiscal year 1939, 20 State health departments employed specialists in the field of health education.

According to reports from the States, 47 State health departments during 1939 assisted public schools in the improvement of their programs of health instruction, and 33 State health departments aided teacher-training schools in the improvement of their teaching of health. In 25 States classes in maternal and infant care were offered in high schools, with the assistance of the State health departments; the enrollment for these classes in 1939 was 66,245. Effective health education is increasingly recognized to be the result of the combined efforts of the home, the physician, and the dentist, the health department, and the schools. This cooperative approach to the problem characterizes the health-education programs being developed under the stimulus of the State health departments.

Many interesting methods of attacking health-education problems are being worked out in the States. The basic idea of the Kentucky health-education plan is that public health is concerned not only with saving human lives but also with guiding individuals to live healthfully and effectively in their daily environment.²⁰ Since the first step toward the application of this principle is an efficient corps of public-health workers who render all health services in an educative way, committees on "continued learning in service" of State staff, local staff, and allied groups map out annual plans for weekly staff conferences in which all staff members participate. Through district public-health study groups and weekly conferences staff members are kept informed of progress in all phases of the public-health program and of the most effective ways in which they can render service that will have educational value. The plan is under the direction of a committee made up of bureau directors of the State Department of Health, with the assistance of a health-education consultant.

The health-education consultant of the Montana State Board of Health spent her first year in teaching classes in health education in the teacher-training colleges upon the invitation of their presidents. She thus was afforded an opportunity to become acquainted with the teachers as they were being equipped for health-education work in the schools of the State. This formed a basis for planning an in-

²⁰ Kentucky's Plan for Public Health Education, by A. T. McCormack, M. D., and Reba F. Harris, M. A. Public Health Reports, Vol. 52, No. 44 (October 29, 1937). U. S. Public Health Service, Washington.

service program for teachers in cooperation with the education authorities of the State.

The health-education consultant spent the second year in the field, visiting schools in all sections of the State, which gave her an acquaintance with actual school situations. An advisory committee on problems of health in the schools was appointed by the State superintendent of public instruction at the suggestion of the health-education consultant. The committee prepares material for use in the schools and acts in an advisory capacity on programs of health in the schools. Two "laboratory" situations were developed, one in a typical urban school system, which affords an opportunity for actual coordination of the school and community health program, and the other in the schools of a rural county. It is hoped that in these situations health-education methods can be worked out and measurable results obtained.

In Oregon, under the direction of the health-education consultant on the staff of the State Board of Health, great progress has been made in organizing State and community groups interested in child-health education. As it was recognized that no one professional or social group has a monopoly of interest in and responsibility for child health, groups of parents, teachers, physicians, dentists, public-health workers, community welfare and social agencies, and civic groups are represented on a State joint committee. Work has begun in several local communities in developing a coordinated program of health education, involving all community groups interested in or concerned with child health.

The Professional Workers and the Postgraduate- Training Program

The entire value of a service program depends upon the knowledge and skill of those who render the service. It is fortunate for the maternal and child-health program that the personnel for the State and local programs has been drawn from the medical and allied professions, which have a steadily growing volume of scientific knowledge and standards for training and measuring the attainments of their members. The growing acceptance of the procedures advised in the care of the mother and child is evidence of the confidence that the public feels in doctors, nurses, and other public-health workers.

During the period 1936 to 1939 the State health agencies selected State personnel and gave advisory service in the selection of local personnel for the maternal and child-health program in accordance with qualifications recommended by the Children's Bureau Advisory

Committee on Maternal and Child Health Services and by the State and Territorial health officers meeting in annual conference with the Children's Bureau.

The careful selection of personnel was supplemented by providing incoming appointees with the opportunity to observe and to practice procedures in county health units where, for purposes of demonstration, the best available personnel in the State was assigned to conduct maternal and child-health centers. Tennessee and West Virginia are among the States that maintain such training centers to which incoming appointees are sent for periods of weeks or months for their initiation into the service.

It was also found advisable by the State health agencies to provide stipends from maternal and child-health funds to enable State maternal and child-health directors, others on the State staff, and local public-health nurses to go to centers for professional education in order to supplement their basic training with training for public-health administration or for special phases of the maternal and child-health program. Forty-four State health agencies reported that during the year ended June 30, 1939, 794 staff members were given stipends for postgraduate education, including 115 physicians, 34 dentists, 5 nutritionists, and 640 public-health nurses (table 8). The same practice, which had been followed to a lesser extent in the preceding 3 years, has been an important factor in improving the quality of maternal and child-health services, one of the objectives named in the Social Security Act.

Hundreds of local practicing physicians participate in the conduct of maternal and child-health conferences, and doctors, dentists, and nurses in private practice are responsible for the care of mothers and children among all groups. To reach the practitioners in each of these professions, the State health agencies, in cooperation with the State and county medical societies and the societies of other professional groups, have undertaken extensive programs of postgraduate education. The response in attendance at courses offered is indicative of the active desire of members of these professions to keep abreast of advancing knowledge and techniques in their fields.

Growing recognition of the value of the selection of personnel on a merit basis and of the retention of qualified personnel led the Congress in 1939 to amend title V, part 1, of the Social Security Act, so as to require that State plans for maternal and child-health services should provide after January 1, 1940, for the establishment and maintenance of personnel standards on a merit basis.²¹

²¹ See the text of section 503 (a) of the Social Security Act, as amended, p. 90.

TABLE 8.—*Postgraduate education received by State and local staff members, year ended June 30, 1939*

| Type of course and staff members receiving— | Number of States in which given | Number of staff members receiving |
|---|---------------------------------|-----------------------------------|
| All types of courses..... | 44 | 794 |
| Physicians..... | 21 | 115 |
| Dentists..... | 9 | 34 |
| Nutritionists..... | 5 | 5 |
| Public-health nurses..... | 42 | ¹ 640 |
| Supervisory..... | 29 | 75 |
| Nonsupervisory..... | 40 | 565 |
| General public-health courses..... | 39 | 554 |
| Physicians..... | 17 | 94 |
| Dentists..... | 6 | 6 |
| Nutritionists..... | 2 | 2 |
| Public-health nurses..... | 38 | ¹ 452 |
| Supervisory..... | 19 | 31 |
| Nonsupervisory..... | 36 | 421 |
| Other types of courses..... | 27 | 246 |
| Physicians..... | 10 | 21 |
| Obstetrics..... | 3 | 3 |
| Pediatrics..... | 3 | 7 |
| Venereal disease..... | 3 | 10 |
| Type not reported..... | 1 | 1 |
| Dentists: Public-health dentistry..... | 3 | 28 |
| Nutritionists: Nutrition..... | 3 | 3 |
| Public-health nurses..... | 24 | ¹ 194 |
| Maternity nursing..... | 11 | 103 |
| Pediatrics..... | 3 | 4 |
| Orthopedic nursing..... | 2 | 25 |
| Venereal disease..... | 5 | 27 |
| Physiotherapy..... | 1 | 2 |
| Public-health-nursing supervision..... | 1 | 6 |
| Type not reported..... | 5 | 27 |

¹ Of these 640 nurses, 6 received both general public-health and other types of training.

Seventeen States, the District of Columbia, Hawaii, and Puerto Rico already had civil-service laws covering their State health agencies. In the other States the selection and retention of qualified personnel was dependent upon the administrative policy of the State health officers and of the Governors. To assist the State health agencies in developing personnel systems under which they will be in position to comply with this new requirement in the Social Security Act, the Children's Bureau presented a draft of recommended standards for the establishment and maintenance of a merit system of personnel administration, and for qualifications of certain classes of professional employees in State and local agencies administering maternal and child-health services, at a special conference of State and Territorial health officers on October 23, 1939. After suggestions of the conference were incorporated these recommended standards were issued to the States on November 1, 1939. At the same time a statement of policies adopted by the Children's Bureau as a basis of review of

provisions for a merit system of personnel administration was issued to the States. The State health agencies were asked to submit by January 1, 1940, supplements to their maternal and child-health plans signifying their intention of establishing a merit system of personnel administration.

On the advice of the State health officers the Surgeon General of the United States Public Health Service issued regulations under title VI (Public-Health Work) of the Social Security Act, directing that in a State where a merit system of personnel administration is established for one part of the public-health agency it should be made applicable to all State and local personnel who are rendering services in accordance with budgets submitted to the United States Public Health Service.

By these means the efforts made by the State health officers to select and retain qualified personnel for maternal and child-health services and for other public-health work were reinforced.

The physician.

The maternal and child-health director in each State is a physician. Each State program is carried on in cooperation with medical groups in the State; each local program in cooperation with the physicians of the community.

The budgets in the State plans for the year ended June 30, 1939, provided for 118 full-time and 8 part-time physicians on State staffs; on local staffs, for 49 full-time physicians, 1 part-time physician, and 65 part-time consultants. Thirty-three States reported the employment of more than 2,600 local practicing physicians on a fee basis for consultation service, conduct of clinics and conferences, and home-delivery medical service. Organizing and directing the program were the State and county health officers, who are also physicians. Hundreds of other physicians contribute advisory and volunteer service each year. Thousands take advantage of the opportunities offered for postgraduate education in obstetrics and pediatrics.

A characteristic of all the State maternal and child-health programs has been the selection of medical personnel on the basis of qualifications recommended for this type of service by the Children's Bureau Advisory Committee on Maternal and Child Health Services and the conference of State and Territorial health officers. State advisory committees for the most part have concurred in these recommendations, and the State health officers have written them into civil-service examinations or have used them as a guide in the selection of appointees for maternal and child-health positions. Similarly the recommendations have been used as a guide by the county health officers for local appointments and in the selection of physicians to conduct prenatal clinics, child-health conferences, and examinations

of school children. At the April 1939 conference of State and Territorial health officers with the Children's Bureau the health officers recommended that after June 30, 1939, newly appointed State and local maternal and child-health personnel should meet the minimum qualifications recommended for each position.

Summaries of State reports show that each year a larger proportion of the physicians on State staffs in both administrative and clinical positions have had special training in the fields of pediatrics or obstetrics; and others have devoted a major portion of their practice to these specialties; most of the maternal and child-health administrators have had special training or long experience in public-health administration.

Since many of the medical staff at work on maternal and child-health programs in 1936 and many of the incoming appointees had not had an opportunity to obtain the desirable combination of training in obstetrics, pediatrics, and public-health administration, the State health agencies in many cases have granted leave for supplementary training. Most of these physicians took courses at university schools of public-health administration and returned to their States to serve as directors or assistant directors of maternal and child-health divisions.

States have established county training centers including well-rounded maternal and child-health programs conducted by the best personnel in the State, to which local health officers and other physicians on local staffs have come for periods of training—frequently for an initial period of training before entering service in another county of the State.

Programs for continued in-service training for all public-health personnel in the State are being developed slowly. The details of organization and conduct of this type of staff education have been unusually well outlined by the Kentucky State Department of Health. (See p. 61.)

One of the most widely welcomed phases of the maternal and child-health program has been postgraduate education in pediatrics and obstetrics for practicing physicians. During the year ended June 30, 1939, more than 14,700 physicians in 43 States and Hawaii attended courses of one or both types, financed with maternal and child-health funds and organized by State health agencies in cooperation with State and county medical societies. At the beginning these courses were given occasionally at various centers in the State, but a tendency to develop them as a permanent educational service in the States has appeared. Examples of three types of postgraduate education are:

Under one plan, full-time instructors give lectures and hold clinics for physicians in the various regions throughout the State. In Tennessee this plan has been admirably carried out at first by a staff

obstetrician and later by a pediatric lecturer. The Tennessee courses are planned and financed jointly by the State Department of Public Health, the Commonwealth Fund, the State medical society, and the medical school of the State university. Similar courses were conducted in Oklahoma and several other States during the year 1938-39.

Another type is the course given by the part-time instructor. Most of the States have at one time or another employed specialists in pediatrics or obstetrics, to give "refresher" courses in local centers. The success of these courses depends first on painstaking preparation made long in advance to insure the attendance of physicians busy in their daily practice and, second, on the ability of the lecturers to deal with the problems that confront practitioners in various communities.

The extent of this type of postgraduate education is shown by the following figures for the year ended June 30, 1939:

| Lecture courses for practicing physicians: | Number of communities in which given | Number of lectures given | Number of physicians attending |
|--|--------------------------------------|--------------------------|--------------------------------|
| Pediatrics..... | 499 (in 37 States) | 1,284 | 14,760 |
| Obstetrics..... | 617 (in 37 States) | 2,152 | 14,606 |

A third type of postgraduate education has developed in response to requests on the part of local physicians for short clinical courses in medical centers. The State health departments in Illinois, Minnesota, Michigan, and Indiana, in cooperation with the State university medical schools, have arranged for short courses at the medical teaching centers where local physicians can observe and study the more recent advances in the fields of obstetrics and pediatrics. This type of postgraduate education must be separate from undergraduate education and requires the undivided time of full-time instructors.

The supervisory services provided for local physicians conducting prenatal clinics and child-health conferences, and the clinical consultation service offered physicians in some States are also important types of postgraduate medical education.

As part of this program a Negro pediatrician on the medical consultant staff of the Children's Bureau has given postgraduate lectures to Negro physicians in Alabama, Mississippi, and Georgia under the auspices of the State departments of health. In Mississippi, in 1937-38, in order to reach all Negro physicians the State was divided into 9 districts, a central meeting place was designated in each district and a 10-lecture course was completed during a 2-week period. In addition, conference and clinic visits with individual doctors were made at their request. The lectures were directed to maternal and child care but, because no other lecturer was giving courses to Negro physicians, related subjects in general health were included in the courses—periodic health examinations, immunizations, tuberculosis, malaria, and the diagnosis and treatment of venereal diseases. Of

the 58 Negro physicians in Mississippi, 55 attended the course. Competition with midwives, inaccessibility of patients, and uncertainty of pay have made the practice of obstetrics unattractive to most Negro physicians in the State. For very practical reasons their major interest is in general medical practice. All the physicians were interested and eager to adopt suggestions made concerning their opportunities to help educate their patients in health matters and concerning improvement of their practice, including immunization of children and periodic health examinations.²²

The medical profession recognizes its responsibility for providing better care for mothers at childbirth. In 1937 the Council on Medical Education and Hospitals of the American Medical Association reported that:

* * * the teaching of obstetrics is at a lower level than that of the other major clinical departments. Comparatively few schools offer to their students an adequate practical experience under competent supervision.

During 1938 the Children's Bureau analyzed 2,538 replies to questionnaires on clinical training of the medical graduates of 1936 and found that during their medical training 59 percent had attended a total of 20 or fewer deliveries; 19 percent had delivered no women in hospitals; 27 percent had delivered no women at home. Of interns who had attended hospital deliveries, 22 percent reported the deliveries attended by them had not been supervised by an obstetrician. Yet 72 percent of these graduate physicians planned to practice obstetrics; 15 percent planned to specialize in this field. The lack of opportunity for training in obstetrics has made practicing physicians eager to take advantage of the opportunities offered for postgraduate education in obstetrics; and their realization of the importance of such training will bring better provision for obstetric training in undergraduate courses in the medical schools.

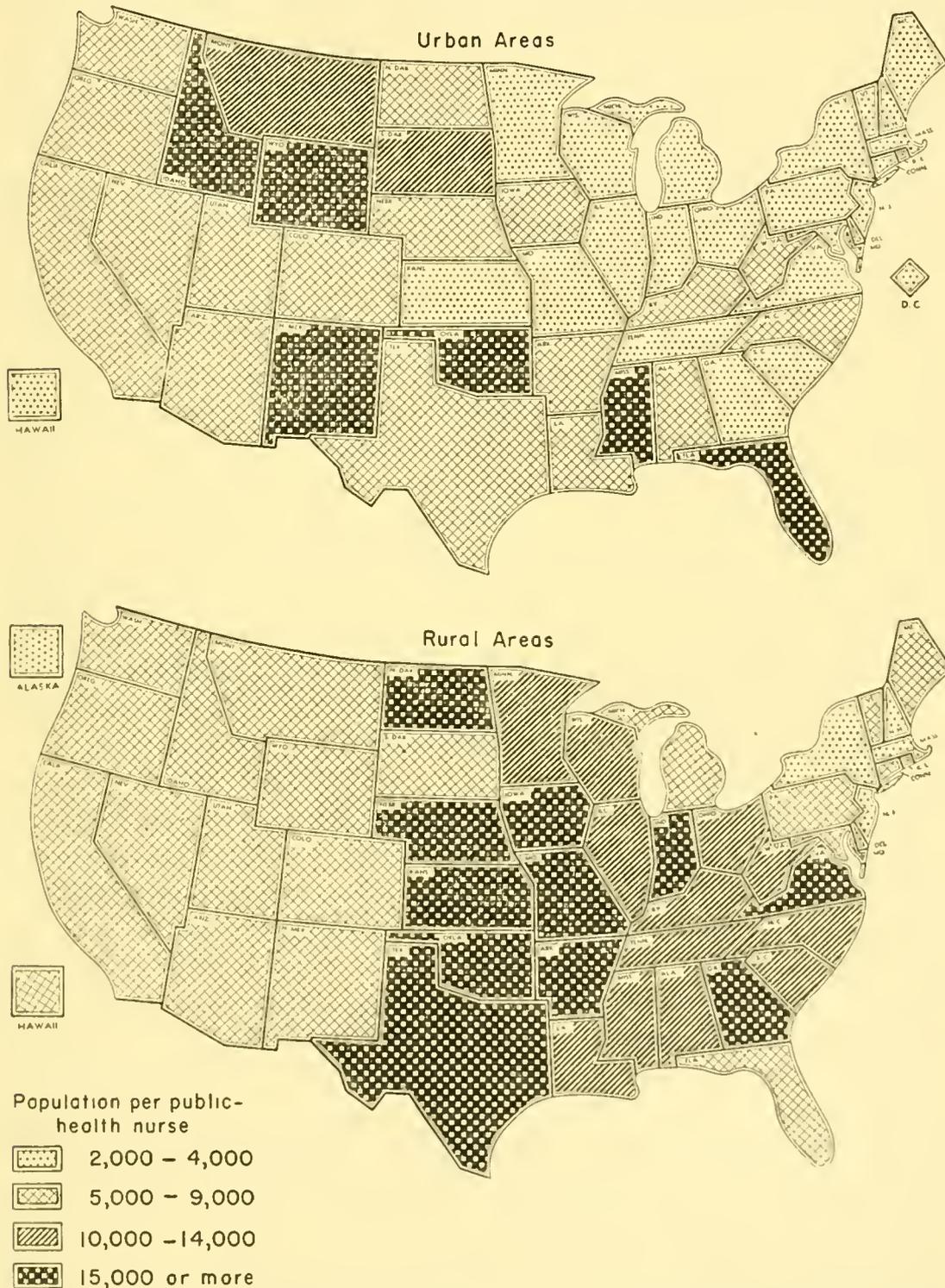
The public-health nurse.

The number of public-health nurses is increasing in the United States in response to a growing demand. A survey made in January 1939 showed an 8-year increase of 45 percent for the whole country; a 42-percent increase in urban areas and a 50-percent increase in rural areas. From 1937 to 1939 the number employed by public agencies showed an increase of 19 percent. The great need for nursing service for mothers and children was probably the most powerful force in building up the Nation's staff of 23,029 public-health nurses. Of these, 5,322 were employed on January 1, 1939, by public agencies for service in rural areas, but there were still 780 counties (25 percent of the total number) that had no rural public-health-nursing service.

²² See *Postgraduate Courses for Negro Physicians in Mississippi*, by Walter H. Maddux, M. D. *The Child*, Vol. 3, No. 8 (February 1939) pp. 181-182.

At least three times this number of public-health nurses is necessary to make such service available in all areas, urban and rural, in the United States. The population per public-health nurse in each State and in Alaska and Hawaii as of January 1, 1940 is shown in chart 12.

Chart 12.—Population per public-health nurse in urban and rural areas in each State; Continental United States, Alaska, and Hawaii, January 1, 1940 ¹



¹ Based on data supplied to the U. S. Public Health Service by State and Territorial health departments.

More than half of the Federal, State, and local funds budgeted in State maternal and child-health plans for the fiscal year 1939 were designated for public-health-nursing service. On June 30, 1939,

the State health officers reported that under these plans public-health nurses in 1,950 counties were rendering service under the supervision of the State health department or in local health departments receiving financial or supervisory aid from the State health department.

Especially notable has been the increase in the number of public-health nurses who serve in State health departments in an advisory or supervisory capacity. Reports from the States for the year ended June 30, 1939, show 418 nurses so employed. The State nursing personnel is usually composed of a director, district advisory nurses, and consultants in special phases of public-health nursing. The number of States that have appointed public-health-nursing consultants in maternal and child health since 1936 has increased steadily. The service of the consultants makes possible a closer integration of the work of the maternal and child-health divisions with the public-health-nursing units, which enables the nursing aspects of the maternal and child-health program to be put into action more effectively. Such consultants also assist the general supervisor with staff nursing education in which an intensive effort is made to improve the quality of performance of staff nurses, State and local, and to give the needed emphasis to the maternal and child-health phases of the work of the public-health nurse carrying on a generalized family health program.

During the year ended June 30, 1939, more than 5,600 public-health staff nurses were employed in local communities, under the administration or supervision of the State health agencies. During 1939 more than 1,000,000 nursing visits were made for prenatal and post-natal care to mothers, and more than 2,750,000 visits were made for services to infants, preschool children, and school children.

The count of visits indicates the volume of nursing activity in the maternal and child-health field, but it does not reveal the significance in the community of the continuing services of the public-health nurse. Day by day she makes parents acquainted with the health resources of the community—the prenatal clinic, child-health conference, crippled children's clinic, tuberculosis and venereal-disease clinics, hospital out-patient service—and with social resources such as welfare services and recreational facilities. After the baby's birth the nurse encourages the mother to return to the physician for the postpartum examination that may in later years mean health instead of invalidism due to neglect. Her intelligent observation of the baby and the child may lead to early recognition and treatment of potentially serious conditions.

Qualifications for public-health nurses serving in the maternal and child-health program, which follow closely the standards set by the National Organization for Public Health Nursing, have been recommended by the conference of State and Territorial health officers and

by the Children's Bureau advisory committees on public-health nursing and on maternal and child-health services. For the most part these recommendations have been observed by State and local agencies in making new appointments, and the State health officers have recommended that, after July 1, 1939, no appointments be made of public-health nurses who fail to qualify under these standards.

In the expanding maternal and child-health program it has been found to be desirable to provide supplementary training for public-health nurses. During the first 3 years, 1936-38, of the social-security program more than 2,700 nurses received stipends from public-health and maternal and child-health funds to enable them to take additional training for periods extending from 6 weeks to a school year. The stipends of 800 of these nurses were paid in whole or in part from maternal and child-health funds. To meet the demand for training, 6 additional public-health nursing courses were offered by universities in various parts of the country, making a total of 26 public-health-nursing courses approved by the National Organization for Public Health Nursing. A number of the nurses receiving stipends from maternal and child-health funds have completed programs of study in advanced maternity nursing. Those responsible for such courses have been stimulated to enlarge the program in their institutions to meet an ever increasing demand by the public-health-nursing group for further preparation.

Staff-education programs for nurses have been carried on in all the States to enable the nurses to keep abreast of current scientific developments. In many States institutes have been held on maternal and child-health nursing and related subjects. Regular conferences of nurses and other professional workers have been organized, as well as separate study programs for the public-health-nursing staff. In counties designated as teaching centers, to which well-qualified personnel has been assigned to assist with the instruction, planned programs have been organized for the introduction of new staff nurses to the work.

Many of the States have prepared general manuals outlining public-health-nursing policies and procedures, and uniform record systems have been developed.

The dentist and dental hygienist.

Only 17 State departments of health had any well-developed dental program as part of their public-health service in 1936. For the fiscal year 1939, 40 States budgeted a portion of their maternal and child-health funds for dental-education programs. More than \$381,000 was budgeted for dental services in the State plans. Federal grants through the United States Public Health Service increased this amount to approximately \$460,000. Maternal and child-health funds were

to be used for the employment of 66 full-time dentists and 49 dental hygienists on the staffs of State health departments, and approximately \$80,000 was budgeted for payments to local practicing dentists for their services.

State health departments reported for the calendar year 1939, that more than 1,480,000 dental inspections of children were made by dentists or dental hygienists employed or supervised by the health departments. Only one-twentieth of these inspections were of children of preschool age. Service by dentists at prenatal clinics is increasing, but information as to the extent of this type of service is not available as yet.

The difficulties of treating children and the time consumed in relation to the financial reward have tended to limit the number of dentists who have given special attention to the care of children's teeth. The problem of what qualifications should be required of dental hygienists and what should be the sphere of their services requires the most careful consideration.

Recently several of the State health agencies have initiated post-graduate-education programs in children's dentistry for practicing dentists, and it is likely that many States will expand graduate education in this field.

For the year ended June 30, 1939, 18 State health agencies reported lecture courses for practicing dentists under the maternal and child-health program as follows:

| | |
|--|--------|
| Communities in which lecture courses for dentists were given . . . | 158 |
| Lectures given | 282 |
| Number of dentists attending | 4, 945 |

The nutritionist.

Before the social-security program for maternal and child-health services was started in 1936, only 2 State health agencies employed nutritionists in their maternal and child-health divisions. In one additional State a nutritionist was in charge of a bureau of public-health education and nutrition. By June 30, 1939, 22 State health agencies and the District of Columbia were employing nutritionists, and the plans for 28 States, the District of Columbia, Hawaii, and Puerto Rico for the fiscal year 1940 provided for 62 nutritionists. Other State health agencies have improved their nutrition services to mothers and children through enlisting the cooperation of other State agencies, notably the home-demonstration divisions of the agricultural extension service.

To meet the increased demand for nutritionists trained for public-health work, six colleges and universities have expressed willingness to offer supplementary courses to nutritionists in the employ of State

and local health departments. Up to June 30, 1939, six State agencies had taken advantage of this offer.

A committee of State health officers on the basis of an inquiry made in January 1939 reported that five times as many nutritionists were needed in the public-health program as were then employed.

Qualifications for such nutritionists recommended by the State health officers are based on standards set by the American Home Economics Association and the American Dietetic Association.

The health educator.

Twenty State health agencies in their maternal and child-health plans for the fiscal year 1939 provided for 34 employees in the health-education field. Of the total of 20 States, 3 States provided personnel for both public-health education and school health education, 8 States provided personnel for school health education only, 6 for public-health education only, and 3 for health education without specifying the type of program.

That the health-education aspects of the public-health program benefit greatly by the presence on the staff of specially trained personnel is a fact being recognized increasingly by the State health agencies.

Studies and Investigations

Medical research and study of administrative procedures are important to continuing improvement in the program for maternal and child-health services.

The Division of Research in Child Development of the Children's Bureau currently makes studies of the growth and development of children that are intended, on the one hand, to provide basic research data for the development of methods of medical diagnosis and treatment of conditions affecting children and, on the other hand, to serve with other medical research as the basic information for Children's Bureau publications for physicians and for parents on the care of children. An important part of the Children's Bureau research has been centered on stillbirths, maternal care and maternal mortality, premature infants, neonatal mortality and morbidity, and indices of physical fitness of children.

As one phase of its series of studies on infant and maternal mortality the Children's Bureau in 1936 undertook a study of stillbirths in cooperation with the subcommittee on stillbirths of the American Public Health Association. The study was based on 6,750 stillbirths occurring in 223 hospitals located in 49 cities in 26 States.

The findings of the study suggest that there is a special risk both for the first child and for later-born children of mothers of relatively late childbearing ages and that such mothers are aware of this risk and are

seeking hospital care in considerable proportions. The findings demonstrate that adequate care during pregnancy is the most fundamental approach to the stillbirth problem, but improvement in delivery technique is also important. Fifty-seven percent of the white and 68 percent of the Negro fetuses died during the prenatal period. The prenatal care received by the great majority of the mothers of these still born infants was inadequate.²³

The data of the study have been used in formulating a classification of the causes of stillbirth that has been proposed for national adoption (see p. 35). Interest aroused among physicians and health officers has resulted in the effort to obtain more accurate knowledge as to the causes of stillbirth and methods of prevention. Studies in which the Children's Bureau stillbirth schedule is used have been undertaken in several cities. Medical committees are determining the causes of individual stillbirths and are fixing responsibility, a method similar to that used in maternal-mortality studies.

The Children's Bureau frequently cooperates with medical groups or hospitals on research projects. A study of maternal mortality in the District of Columbia, a study of birth weights of 2,000 newborn infants in Union Memorial Hospital in Baltimore, and studies of premature infants at Johns Hopkins Hospital, Baltimore, and New York Hospital, New York City, were under way in 1939, or the reports were in preparation.

At the request of the Bureau of Health of the Maine State Department of Health and Welfare the Children's Bureau in 1938-39 made a study in northern Maine of the diets and the vitamin-C content of the blood of a group of school children.

A study of the effect of rickets on the pelves of adolescent children was started in 1938. The children included in the study are those who were studied in early infancy in connection with the New Haven rickets-control demonstration study made by the Children's Bureau in 1923-25.

The report of a study of the physical fitness of 713 school children made for the purpose of comparing methods of assessing the nutritional status of children has recently been published by the Children's Bureau. This is based on anthropometric, clinical, and socioeconomic

²³ Analysis of the findings of the study may be found in the following preliminary reports: *The Causes of Stillbirths* (based on the first 2,000 stillbirths studied; *Southern Medical Journal*, Vol. 30, No. 6, June 1937); *Problem of the Causes of Stillbirths* (based on 6,750 cases; *American Journal of Public Health*, Vol. 28, No. 4, April 1938); *The Problem of Stillbirths* (276 cases in the District of Columbia *Medical Annals of the District of Columbia*, Vol. 7, No. 8, August 1938).

observations made of 713 7-year-old white boys and girls in New Haven, Conn.²⁴

The Social Security Act authorizes the Children's Bureau to make studies and investigations to promote the efficient administration of the maternal and child-health program and the other two programs that are administered by the Children's Bureau under the provisions of the act. Limitation of funds as yet has prevented the Bureau from undertaking such studies, except to a minor extent. Four studies directed at special problems in State maternal and child-health programs were made by the Maternal and Child Health Division during the fiscal year 1938. These were:

Maternity care in New York State.—In cooperation with the New York State Departments of Health and Social Welfare, the Children's Bureau made a study of maternity care in six counties in New York State, to determine the number of women receiving prenatal, delivery, and postpartum care at public expense and the cost of such care.²⁵

Obstetric education.—A survey, by questionnaire, was made of clinical obstetric education of physicians in undergraduate and graduate years, based on the obstetric education of 2,538 medical-school graduates of the year 1936.

Hospital maternity-care survey.—A survey, by questionnaire, was made of hospital maternity care in towns or cities of less than 50,000 population, based on replies from 1,449 of the 2,816 hospitals addressed.

Resources and facilities for maternal care and care of newborn infants.—This summary was based on questionnaires sent to each State and Territorial health officer. Forty-one State health officers, including those of the District of Columbia, Alaska, and Hawaii, were of the opinion that facilities and resources for maternal care did not meet the needs of their regions. Replies from the other State health officers indicate that their needs also were not fully met. In 17 States the number of general practitioners including obstetrics in their practice was reported to be insufficient. In 40 States the number of specialists in obstetrics was reported to be insufficient. In only 1 State was nursing service on a State-wide basis provided for bedside care for mothers at time of delivery for families who were unable to provide such care themselves. Fifteen of the eighteen States in which more than 5 percent of the live births were attended by midwives reported that training for midwives was

²⁴ Methods of Assessing the Physical Fitness of Children. Children's Bureau Publication No. 263, Washington, 1940.

²⁵ Maternity Care at Public Expense in Six Counties in New York State. Children's Bureau Publication No. 267, Washington, 1941.

unsatisfactory. Fourteen States reported that no funds were available for medical or nursing care in the home. To the question of whether the geographic distribution of hospitals having obstetric service was satisfactory, 33 State health officers replied that such distribution was not satisfactory, and added such comments as the following: "Twenty-seven out of ninety-nine counties do not have an approved hospital," "Seventy-two out of one hundred and twenty counties have no hospital," "Many persons in mountainous districts are 100 to 200 miles from any hospital facilities," and "No hospital obstetric service available to rural colored population of 14,000." In 28 States the number of beds for obstetric cases was not considered sufficient. Eleven States reported that in none of the hospitals in rural areas and small cities were obstetric consultants available. Twenty-nine States reported no funds available for free or part-pay care in hospitals for maternity cases, other than the funds provided by local county welfare or relief boards.

State maternal and child-health studies.

The State health agencies, in addition to their studies of maternal and infant mortality, are undertaking studies of factors affecting the health of mothers and children, of the effectiveness of procedures and equipment used in promoting their health, and of diseases especially prevalent among mothers and children.

Special studies by the State divisions of maternal and child health were reported in all the States but 6 during the year 1938-39. Studies relating to the health of mothers made by the State health agencies during 1938 were the following: In Maryland, study of diets of 50 pregnant women; in Massachusetts and Wisconsin, studies of delivery by Cesarean section; in Flint, Mich., a study of maternal deaths, hospital standards, and obstetric procedures; in Minnesota, a study of the results of obstetric practice; in San Miguel County, N. Mex., a study of maternity records; in Utah, a survey of economic need in a two-county demonstration area preliminary to initiation of a medical delivery service.

Several State health agencies directed their attention to the problems related to stillbirths and neonatal mortality, for example, the following studies: In Kansas, a survey of incubators for premature infants; in Maryland, a screened-crib survey; in Maine, a study of hospital facilities for care of premature infants; in New York, studies of the factors of age and order of birth in maternal mortality, and of fetal and infant loss in up-State hospitals; an analysis of the births in the Buffalo City Hospital; on familial susceptibility to stillbirths and neonatal deaths; on the age of the father and survival of offspring; in Tennessee, the incidence of premature birth and the frequency of

hospital births; in Wisconsin, the analysis of causes of infant deaths by hospitals.

Another group of studies were directed toward the problems of child health. For example, in Colorado, a survey of eye conditions in 4 counties; in Georgia, a study of the calcium and phosphorus metabolism of 18 families, and a study of vitamin-A deficiency in 400 children examined annually; in Maryland, a study of tuberculosis patch testing; in Maine, a study of vitamin-C nutrition, a study of hereditary hypoplasia in conjunction with the National Institute of Health, and a study of a week's dietary at each State institution; school-lunch surveys in Massachusetts, Ohio, Oklahoma, and Maine; in Massachusetts, a study of audiometer testing and tuberculosis surveys; in Nevada, a survey of fluorine stain and its distribution throughout the State among preschool and school children; in Ohio, a study of the food habits of school children in 2 counties; in Oregon, the registration of handicapped children and a 2-year study of the hearing of children; in Tennessee, continuation of a school health study based on the records of 58,921 children. In Wisconsin, a study of the deaths of children under 12 years of age from appendicitis.

A group of studies relating to the adequacy of maternal and child-health services included, among others: In Indiana, a survey of child-health conferences and prenatal clinics, and a survey to determine the number of dental reparative programs being financed by lay groups; in Maine, reports on town dental-health-education projects; in Massachusetts, school hygiene surveys and 11 dental surveys; in Mississippi, the report on the Pike County maternity service; in Montana, a study of dental care and dental-health education; in New Hampshire, a study of the conduct of child-health conferences; in New Jersey, a survey of resources for maternal and child-health services in each county; in Ohio, a study of health education in the public schools; in South Dakota, a survey of the distribution of cod-liver oil; in Tennessee, an analysis of Gibson County delivery-nursing service; in Texas, studies of immunization, of school health-education facilities, and an analysis of nurses' activities in 1938; in Virginia, a survey of maternal and child-health activities in each full-time county health department; and in Washington, a diphtheria-immunization survey.

State Initiative at Work

The following selections from narrative accounts of progress for the year ended June 30, 1939, sent in by State maternal and child-health directors, show the variety of activities that are carried on in the States in extending and improving their maternal and child-health services. Many other States are carrying on similar activities, more

extensively developed, in some cases, than the activities here described. Other accounts might have been selected to show additional examples of ingenuity and persistence in seeking to make the maternal and child-health programs of the greatest possible value to mothers and children who could be reached with the funds available during the first 4 years of the Federal-State program.

Alaska.

Up to June 30, 1939, public-health-nursing service had been established in 12 local areas. In January 1939 the Office of Indian Affairs made a contract with the Territorial Department of Health to provide nursing service to the Indians in two towns, thus eliminating duplication of service. In the Cook Inlet area the nurse employed by the Office of Indian Affairs serves the northern end of the area and Kenai Peninsula, and the nurse employed by the health department serves the southern end.

In the Matanuska Valley project, established in the fall of 1938, a health center has been established where prenatal nursing conferences and medical and nursing child-health conferences are held. Medical and hospital care are provided for mothers and children. Prenatal care is given by the physician in his office by appointment.

California.

To achieve continuous health education from birth throughout the years to maturity, a committee made up of members of the staffs of the State departments of health and of education was formed to work out a health-education course of study for the elementary and secondary schools of the State.

The 3 series of institutes for nurses (1938-39) were attended by 1,857 public-health and school nurses, private-duty nurses and hospital-staff nurses, physicians, dentists, and educators. In addition to 25 pediatricians who gave talks and participated in discussion, 11 persons trained in child guidance participated in the panel discussion. The institutes are of great value in the school health program and bring to the attention of the public the role of the public-health nurse in community life.

Colorado.

To meet the problems of high maternal and infant mortality rates among its Spanish-American population and in sparsely settled regions with limited facilities for rural maternity-hospital service Colorado established demonstration units in Otero and Las Animas Counties. The activity of these units has contributed to the drop in the State infant mortality rate from 73 in 1937 to 60 in 1938 and to 55 in 1939.

During the year ended June 30, 1939, eye clinics were held in 4 rural

sections as part of the maternal and child-health program. About 1,000 elementary-school children were examined and about one-third of these were given refraction service without charge. It was planned for the following year to encourage these eye clinics where the county and State can share the expense equally.

Hawaii.

Thirty maternal-health centers and eighty-nine child-health centers were in operation in the Territory of Hawaii on June 30, 1939. The effort to bring all hospitals accepting maternity cases up to a minimum standard each year has brought higher standards of service, especially in rural hospitals. Hospitals are being graded in three classes, and the hospitals in the lowest class are urged to discontinue service, as their equipment and personnel do not enable them to give good service to mothers. Other hospitals have plans for reconstruction that will bring them up to a higher rating. Mass school health examinations carried on in the rural areas have proved unsatisfactory. In Honolulu it has been found practicable to have 95 percent of the children examined in a private physician's office, and the program called for extending this plan to rural areas. Effort is being concentrated on the incoming first-grade children.

Kansas.

After a study had shown that 32 percent of the deaths of infants in Kansas during 1934-37 were due to prematurity, a survey was made of facilities for the care of premature infants in the State. Many areas were found to be without such facilities. Eighteen electrically operated and twenty-five hot-water incubators were purchased and placed in the areas of greatest need, in the belief that better facilities for care will result in a reduction in infant deaths due to this cause.

Maine.

Twice as many child-health conferences, providing for the examination of preschool children and infants of families in the low-income group, were held in 1938-39 as in the preceding year. The services of local practicing dentists, a new service, were available at 15 of the conferences.

Nutrition studies and surveys during 1938-39 included a vitamin-C study in Aroostook County, conducted by the State Bureau of Health and the Children's Bureau of the United States Department of Labor, with the assistance of the Maine Agricultural Experiment Station, studies at Fort Kent and Newport, and related studies and surveys of food served in high schools, academies, and State institutions. A study of vitamin-deficiency diseases among children in

relation to dental health was made, and educational projects in dental health were conducted in the schools of a number of towns, which served both as research studies and demonstrations of service.

Michigan.

In May 1939 a 5-week "refresher" course in pediatrics, with an attendance of 306 physicians, was given in 5 centers in the Upper Peninsula by pediatricians selected by the advisory committee of the Michigan branch of the American Academy of Pediatrics. In April 1938 the University of Michigan, in cooperation with the Bureau of Maternal and Child Health of the State Department of Health, began a series of 2-week courses for intensive training in obstetrics to which, at first, 2 physicians and later 4 physicians were admitted for each course, with a total of 54 physicians attending during the year 1938-39. A field consultant in obstetrics was appointed on July 1, 1938, to give consultant service to rural practitioners where no such service was already available. During the year 1938-39 the consultant visited 41 counties; gave 275 consultations in hospitals doctors' offices, and patients' homes; and delivered 33 talks to local medical groups. A pediatric consultant was appointed in August 1939 to cooperate with maternal-health committees of local medical societies in developing studies of maternal deaths, hospital standards, obstetric procedures, and other methods of improving obstetric care.

Missouri.

The increase in the number of county nursing services has done more to stimulate interest in maternal and child health than any other factor. Local advisory committees, home-hygiene classes, and the distribution of literature are described by nurses as the most successful means of disseminating information. Forty infant and preschool centers were established during the year ended June 30, 1939, and are making notable progress. With the steady increase in county nursing services more such centers will be established.

Montana.

Counties throughout the State are realizing the importance of continuity of public-health-nursing service and are giving increased financial support to these programs; 23 of the 56 counties in the State now have 12-month service. Well-child conferences held once a month had been developed in 5 counties by June 1939, as compared with 1 county prior to that year. Plans for conferences are under way in 3 more counties.

Nevada.

Classes in home nursing, infant and child care, personal hygiene, prenatal and postnatal care, communicable-disease control, and first aid have been held by public-health nurses in all districts for mothers and high-school girls. Prenatal cases are being found earlier than in former years, and expectant mothers are urged to seek early regular medical supervision. Well-baby conferences are a growing success; during 1938-39, 72 such conferences were held.

New Hampshire.

A full-time well-qualified public-health nurse serves the Belknap County demonstration area. Excellent health committees are active in each town, with local physicians and nurses serving as *ex officio* members. The great majority of expectant mothers are reached fairly early in pregnancy and are cared for by private physicians. Formerly the great majority of mothers were confined at home, but now an increasing number are going to hospitals as a result of the new evaluation of care needed and because more physicians are refusing to attend home deliveries. All babies are visited soon after birth and, if accepted for public-health-nursing service, they are visited once a month during the first year. Preschool children are visited at least four times a year. All children are immunized for diphtheria after the age of 6 months.

New Jersey.

The maternal-welfare committee of the State medical society, in cooperation with the Bureau of Maternal and Child Health, has arranged a program of prenatal care for mothers who cannot pay for such care from their own resources. All public-health nurses working in the State have been informed that any such mother will be taken care of by a designated physician in the county in which she lives. These physicians are giving voluntary service. The mother is referred to the designated physician by the field physician associated with the Bureau of Maternal and Child Health.

Parent-child relationships were the subject of several courses for public-health nurses held during 1938-39. Twenty-five discussion groups were held by district supervisors. A New York University extramural course of 15 lectures on "An Educational Program for the Care of Mothers and Infants" was given to 37 nurses in central and south New Jersey. The University of Newark gave a course of 13 lectures on "The Understanding, Care, and Guidance of Children" to 29 nurses. A course of 6 lectures was given to the supervisory nursing staff by the Child Study Association of America.

New Mexico.

The school health consultant appointed in July 1938 accepted during the first year invitations from 21 county and 6 town schools to study problems of healthful living in school, home, and community and to guide them in the solution of these problems. School administrators submitted 2,500 questions and problems in writing, and 1,000 high-school boys and girls expressed interest in some special phase of healthful living, which formed the basis for planning service to schools. Two publications were issued with the approval of the State superintendent of education entitled "Indoor and Outdoor Play Activities" and "Healthful Living Through the School Day and in Home and Community." Progress has been made in analyzing needs and in beginning to meet these needs through improvement of school environment, better use of school facilities, safer playgrounds, organized play with pupil leadership and teacher guidance, better home-school relationships, and appreciation of healthful living as part of all the activities of the school day and in the home and community.

Ohio.

Under the nutrition program many rural people have been taught wiser purchase and planting of food articles. School lunchrooms have been inspected, and suggestions for improvement have been made. Summer camps have been studied and constructive criticism given. Talks by the State nutritionist at teachers' institutes and farm institutes have directed the teaching of nutrition into constructive channels. Civic and other groups have had the benefit of nutrition service. Experiments with rats have had a dramatic appeal which has provoked the interest of large groups of school children, teachers, and parents. Local health commissioners and physicians have learned a great deal from the nutrition program. Assistance has been given rural physicians in devising diets for diabetic, nephritic, or anemic patients. Exhibits at institutes and fairs have been studied by large numbers of rural people.

Rhode Island.

During the year 1938-39 the number of visits of mothers and babies to well-child conferences increased, and more mothers attended the conferences regularly. The whooping-cough immunization program was continued satisfactorily. Diphtheria immunization also was continued, and a large number of preschool children were protected against the disease. There was only one death in the State from diphtheria in 1939. The tuberculin skin-testing program in the high schools was continued, and more parents and physicians became interested in it. The public-health nurses expanded their educational

work by conducting home-hygiene courses, sponsored by the American Red Cross, and by conducting an educational program among girls employed on National Youth Administration projects, a group found to be badly in need of education in health and personal hygiene.

Texas.

Progress has been made in coordinating the activities of the agencies interested in public health. Coordinating committees have been organized. The State medical association has assigned members of the staff of the State Department of Health to all its outstanding committees. The director of maternal and child health is a member of the association's committee on maternal and child health. Effort has been directed toward avoidance of competition among specialized services within a community, a policy that has been accepted by the State Department of Education, the State Tuberculosis Association, and other groups. To avoid duplication the school and the local tuberculosis associations have begun to participate financially in the establishment of community-wide services. Counties which had some type of full-time health service included approximately 50 percent of the population of the State by June 30, 1939, as compared with 20 percent the year before. The service has been strengthened by uniting the local nursing services with the full-time health units.

Vermont.

In spite of the hurricane which necessitated expending large sums for reconstruction, the State legislature in 1939 appropriated \$15,000 for the Maternal and Child Health Division of the State Department of Public Health, an increase of \$10,000 over previous years. Local appropriations amounted to more than \$8,000, a substantial increase over the \$6,000 of the previous year. The increased local appropriations and the many requests for establishment of maternal and child-health services in additional towns indicate the interest of the people in the service.

Washington.

The Snohomish County maternal-health center, the central unit of a proposed group of maternal-health centers for the county, was opened in May 1939. Medical examinations are held every 2 weeks. The examining physician is on a 9-month rotating service. An obstetrician has been employed as a consultant to the health center.

On January 1, 1939, a maternal-mortality survey was begun. Up to June 30, 1939, 48 maternal-death certificates had been received from the Division of Vital Statistics. Questionnaires had been sent to the physicians who signed the certificates, and 40 had been filled out and returned. The certificates are reviewed by the "committee

of eight," the State maternal and child-health medical advisory committee. The survey will be continued indefinitely.

Wisconsin.

Visual-educational materials have been extensively used throughout the State. The films "By Experience I Learn" (child development from 9 to 18 months) and the photographic work on "Now I Am Two" (the third of the child-development series) were completed. Books placed on the shelves of the State traveling library reached many rural mothers. The trailer classroom continued to carry the message of "Safer Motherhood" to parents in remote areas.

Special Projects in Urban Areas

The Social Security Act as passed in 1935 called for the extension and improvement of maternal and child-health services especially in rural areas. Although this provision did not preclude the use of part of the Federal maternal and child-health funds in urban areas, the State health agencies found it necessary to use most of the funds in rural areas because maternal and child-health services were limited or lacking in the larger part of the rural areas of the United States.

In many counties having small or medium-sized cities the county health service covers the urban as well as the rural section of the county, and in such cases the maternal and child-health program serves the mother and the child in the town as well as in the country. The postgraduate-education program for physicians, nurses, and dentists in most of the States is made available to members of these professions in all parts of the State. Other State-wide phases of the maternal and child-health program also benefit the cities as well as the rural areas.

Under several State plans for maternal and child-health services special projects in the larger cities have been provided to meet special needs, for example:

Jefferson County, Ala.—In Alabama the Jefferson County demonstration, serving the city of Birmingham and the rest of the county, includes public-health-nursing services and prenatal, postnatal, and child-health clinics at 11 centers, with consultant obstetric and pediatric services, conducted by physicians; and the Jefferson County health department participates in a maternal and child-health service for Negroes at the Slossfield health center in Birmingham.

Kansas City, Kans.—Beginning in 1937 the Kansas State Board of Health provided funds for a demonstration maternal and infant-health program in Kansas City, Kans., conducted in cooperation with the health department of Kansas City and the University of Kansas Medical School.

St. Louis, Mo.—From June 1936 to December 1938 a special demonstration study of the Millcreek and downtown districts of St. Louis was made in cooperation with the Missouri State Board of Health, to discover the factors contributing to the excessively high maternal and infant mortality and to reduce the mortality.

Memphis and Nashville, Tenn.—In Memphis, Tenn., the State Department of Public Health provides part of the funds for maternal and child-health activities of the city health department because of the high maternal and infant mortality rates. The State Department of Public Health also provides part of the funds for a demonstration of adequate school health service in the city of Nashville.

District of Columbia.—The District of Columbia, which was included with the States as eligible for grants for maternal and child-health services under the Social Security Act, is an urban area with a population of approximately 660,000 within an area of 62 square miles. It is, therefore, the outstanding example of the development of maternal and child-health services in an urban area, financed with the aid of Federal funds.

The number of expectant mothers receiving prenatal care at health-department clinics in 1938 (3,868) was 60 percent of the number of patients registered for prenatal care in all clinics of the city; in hospital clinics 2,610 expectant mothers registered for prenatal care. The fact that the number of expectant mothers registered at prenatal clinics (6,478) is equivalent to nearly 50 percent of the 13,401 births (including stillbirths) occurring in 1938 is concrete evidence of the proportion of families in the District of Columbia who are in need of assistance for health and medical services attendant on childbearing.

In health supervision of the infant and preschool child the Health Department provides an even greater percentage of the services rendered in the city, as there is only one other child-hygiene service—that offered by the Child Welfare Society at Children's Hospital. The number of infants registered for health supervision at all clinics in 1938 was equivalent to 59 percent of the 12,950 live births in the city. The infant and preschool children registered for health supervision come from three economic groups in the community: (1) Those totally dependent upon public services for both preventive service and medical care (this group is comparable to the group of expectant mothers receiving prenatal care at Health Department clinics); (2) those dependent on public services for preventive care and partly dependent for medical care (comparable to expectant mothers registered in hospital clinics for prenatal care); and (3) those who have private general family medical care for ordinary illnesses, but not regular preventive health service. Experience has shown that as the economic status of a family improves, the appreciation of the value of health

supervision gained through clinic services results in the family's having private preventive care to the extent of its resources.

With the birth certificate a leaflet is sent to the parents of each newborn child, giving the addresses of the health-department clinics and the Children's Hospital clinic, where health supervision and instruction in the care of babies are available to those unable to pay for private preventive care. The 1938 response to this information service is indicated by the fact that 70 percent of the new babies registered for preventive services at the clinics were registered before the third month of life.

Marked increases were reported in the immunization of babies against diphtheria in the first year of life, in the number of protective vaccinations of children in advance of the compulsory vaccination for school entrance, and in tuberculin testing at the child-health clinics.

The increase in 1938, as compared with 1937, of 63 percent in the number of preschool children given service at the Health Department child-hygiene clinics reflects progress in bringing preschool children under supervision. More significant is the evidence of improvement in the continuity of health supervision for young children; 54 percent of the preschool children registered in 1938 had been registered at the child-health centers during a previous year, whereas in 1937 this was true of only 48 percent.

The marked increase in the number of home visits during the prenatal and postnatal periods made by Health Department public-health nurses to maternity patients registered at the Health Department clinics represents noteworthy progress. Some increase in nurses' home visits to infants and preschool children occurred in 1938, but, because the staff was limited, far too few of the children registered at the clinics received home-nursing visits.

Other developments included (1) a plan for the assignment of maternity patients for home or hospital delivery service which would use to best advantage the hospital facilities, the medical-school home-delivery service, visiting-nurse service, so far as it is available, and W. P. A. housekeeping-aide service; (2) coordination and integration of preventive services and services for the care of sick children, to obtain medical care and hospitalization for them and to direct children who have been sick to health-supervision services; (3) nutrition service, including individual teaching conferences at maternal and child-health centers, consultation service on nutrition to medical, nursing, and social-service staffs, the provision of surplus-food orders to families certified by nurses, and a special case study of diets consumed in relation to income and expenditures of patients attending maternal and child-health centers, as a basis for educational activities; (4) the introduction of medical-social service for both maternal and child-

health and crippled children's programs; (5) a case study of every maternal death in cooperation with the medical society of the District of Columbia and the United States Children's Bureau; (6) formulation of minimum standards of care and rules and regulations for obstetric wards and nurseries for newborn infants; (7) assistance to child-placing agencies in connection with social aspects of issuance of permits for boarding homes, institutions for children, and day nurseries; and (8) detailed analysis of statistics of mortality and clinic attendance to evaluate adequacy of services in relation to needs, and analysis of special problems of various sections of the city as a basis for better planning to meet concrete needs.

The Status of the Program at the Close of 1939

Reports sent in by the State health agencies each year show significant progress in extending and improving maternal and child-health services, especially in rural areas. The stronger consultation service from the staff of the State health agencies, the increasing numbers of counties and communities with full-time public-health service, the growing number of public-health nurses giving family nursing service, the increasing numbers of prenatal and child-health centers where the health of mothers and children is supervised by physicians and dentists, the advances made in the early immunization of children against diphtheria and smallpox, the substitution of health supervision of school children for the hurried physical examination, the tremendous advances in health-education programs for all members of the family—these gains have been pronounced during the past 4 years. The eager acceptance by the medical, dental, and nursing professions of the opportunities offered for postgraduate education affords a promise of continuing improvement in maternal and child-health services. The recent reductions in maternal, neonatal, and infant mortality bear striking witness to the improved care that is being given to mothers and children.

However, the operation of a Nation-wide program brings to light not only the advances made but also the areas and the individuals that are not reached by the program offered. The evidence presented in the foregoing pages of the extent to which maternal and child-health services are available emphasizes the gains made recently, but it also makes abundantly clear the necessity for greatly expanding the program, if maternal and child-health services are to reach mothers and children in every community in every State. Better health organization in more local areas, more public-health nurses, more prenatal clinics, more child-health conferences, more and better supervision of the health of the school child, more health education are immediate objectives to be sought in every State. The accomplish-

ment of these ends requires the continuance of the training program for the personnel in State and local health departments in order to provide the leadership that an advancing maternal and child-health program needs.

The active participation of the members of the medical, dental, and nursing professions in the development of the maternal and child-health program shows their recognition of the opportunity for and the significance of preventive service in promoting family health and the health of the community. Further assistance from these professional groups will be needed as the program spreads into new communities and reaches more mothers and children in each community where it is established.

Even with the additional funds made available under the Social Security Act Amendments of 1939, the maternal and child-health program still faces the inability of many families and communities to provide treatment facilities and service for the mother when the baby is born and for the child when he is ill.

The 4 years, 1936 to 1939, have forged an alliance among the parents, the medical and allied professions, and the public-health agencies of the United States that promises to raise to a new level the family health experience in this country.

Appendix 1.—Text of the Sections of the Social Security Act Relating to Grants to States for Maternal and Child-Health Services, as Amended by the Social Security Act Amendments of 1939¹

[Original law printed in roman; new law printed in *italics*.]

Title V.—GRANTS TO STATES FOR MATERNAL AND CHILD WELFARE

Part 1.—MATERNAL AND CHILD-HEALTH SERVICES

APPROPRIATION

Section 501. For the purpose of enabling each State to extend and improve, as far as practicable under the conditions in such State, services for promoting the health of mothers and children, especially in rural areas and in areas suffering from severe economic distress, there is hereby authorized to be appropriated for each fiscal year, beginning with the fiscal year ending June 30, 1936, the sum of \$5,820,000.² The sums made available under this section shall be used for making payments to States which have submitted, and had approved by the Chief of the Children's Bureau, State plans for such services.

ALLOTMENTS TO STATES

Sec. 502. (a) Out of the sums appropriated pursuant to section 501 for each fiscal year the Secretary of Labor shall allot to each State \$20,000, and such part of \$2,800,000³ as he finds that the number of live births in such State bore to the total number of live births in the United States, in the latest calendar year for which the Bureau of the Census has available statistics.

(b) Out of the sums appropriated pursuant to section 501 for each fiscal year the Secretary of Labor shall allot to the States \$1,980,000⁴ (in addition to the allotments made under subsection (a)) according to the financial need of each State for assistance in carrying out its State plan, as determined by him after taking into consideration the number of live births in such State.

(c) The amount of any allotment to a State under subsection (a) for any fiscal year remaining unpaid to such State at the end of such fiscal year shall be available for payment to such State under section 504 until the end of the second succeeding fiscal year. No payment to a State under section 504 shall be made out of its allotment for any fiscal year until its allotment for the preceding fiscal year has been exhausted or has ceased to be available.

¹ 49 Stat. 629; 53 Stat. 1360.

² \$3,800,000 in the law as enacted in 1935.

³ \$1,800,000 in the law as enacted in 1935.

⁴ \$980,000 in the law as enacted in 1935.

APPROVAL OF STATE PLANS

Sec. 503. (a) A State plan for maternal and child-health services must (1) provide for financial participation by the State; (2) provide for the administration of the plan by the State health agency or the supervision of the administration of the plan by the State health agency; (3) provide such methods of administration (*including after January 1, 1940, methods relating to the establishment and maintenance of personnel standards on a merit basis, except that the Board*⁵ *shall exercise no authority with respect to the selection, tenure of office, and compensation of any individual employed in accordance with such methods*)⁶ as are necessary for the *proper and*⁷ efficient operation of the plan; (4) provide that the State health agency will make such reports, in such form and containing such information, as the Secretary of Labor may from time to time require, and comply with such provisions as he may from time to time find necessary to assure the correctness and verification of such reports; (5) provide for the extension and improvement of local maternal and child-health services administered by local child-health units; (6) provide for cooperation with medical, nursing, and welfare groups and organizations; and (7) provide for the development of demonstration services in needy areas and among groups in special need.

(b) The Chief of the Children's Bureau shall approve any plan which fulfills the conditions specified in subsection (a) and shall thereupon notify the Secretary of Labor and the State health agency of his approval.

PAYMENT TO STATES

Sec. 504. (a) From the sums appropriated therefor and the allotments available under section 502 (a), the Secretary of the Treasury shall pay to each State which has an approved plan for maternal and child-health services, for each quarter, beginning with the quarter commencing July 1, 1935, an amount, which shall be used exclusively for carrying out the State plan, equal to one-half of the total sum expended during such quarter for carrying out such plan.

(b) The method of computing and paying such amounts shall be as follows:

(1) The Secretary of Labor shall, prior to the beginning of each quarter, estimate the amount to be paid to the State for such quarter under the provisions of subsection (a), such estimate to be based on (A) a report filed by the State containing its estimate of the total sum to be expended in such quarter in accordance with the provisions of such subsection and stating the amount appropriated or made available by the State and its political subdivisions for such expenditures in such quarter, and if such amount is less than one-half of the total sum of such estimated expenditures, the source or sources from which the difference is expected to be derived, and (B) such investigation as he may find necessary.

(2) The Secretary of Labor shall then certify the amount so estimated by him to the Secretary of the Treasury, reduced or increased, as the case may be, by any sum by which the Secretary of Labor finds that his estimate for any prior quarter was greater or less than the amount which should have been paid to the State for such quarter, except to the extent that such sum

⁵ This reference to "the Board" appears to have been made inadvertently as uniform amendments to several titles of the act were being considered by the Conference Committee of the two Houses of Congress. It should be construed as if it read, "the Chief of the Children's Bureau."

⁶ "Other than those relating to selection, tenure of office, and compensation of personnel" in the law as enacted in 1935.

⁷ Added by the amendments of 1939.

has been applied to make the amount certified for any prior quarter greater or less than the amount estimated by the Secretary of Labor for such prior quarter.

(3) The Secretary of the Treasury shall thereupon, through the Division of Disbursement of the Treasury Department and prior to audit or settlement by the General Accounting Office, pay to the State, at the time or times fixed by the Secretary of Labor, the amount so certified.

(c) The Secretary of Labor shall from time to time certify to the Secretary of the Treasury the amounts to be paid to the States from the allotments available under section 502 (b), and the Secretary of the Treasury shall, through the Division of Disbursement of the Treasury Department and prior to audit or settlement by the General Accounting Office, make payments of such amounts from such allotments at the time or times specified by the Secretary of Labor.

OPERATION OF STATE PLANS

Sec. 505. In the case of any State plan for maternal and child-health services which has been approved by the Chief of the Children's Bureau, if the Secretary of Labor, after reasonable notice and opportunity for hearing to the State agency administering or supervising the administration of such plan, finds that in the administration of the plan there is a failure to comply substantially with any provision required by section 503 to be included in the plan, he shall notify such State agency that further payments will not be made to the State until he is satisfied that there is no longer any such failure to comply. Until he is so satisfied he shall make no further certification to the Secretary of the Treasury with respect to such State.

* * * * *

Part 5.—ADMINISTRATION

Sec. 541. (a) There is hereby authorized to be appropriated for the fiscal year ending June 30, 1936, the sum of \$425,000,⁸ for all necessary expenses of the Children's Bureau in administering the provisions of this title, except section 531.⁹

(b) The Children's Bureau shall make such studies and investigations as will promote the efficient administration of this title, except section 531.

(c) The Secretary of Labor shall include in his annual report to Congress a full account of the administration of this title, except section 531.

* * * * *

Title XI.—GENERAL PROVISIONS

DEFINITIONS

Section 1101. (a) When used in this act—

(1) The term "State" (except when used in sec. 531) includes Alaska, Hawaii, and the District of Columbia, *and when used in titles V and VI of such act (including sec. 531) includes Puerto Rico.*¹⁰

(2) The term "United States" when used in a geographical sense means the States, Alaska, Hawaii, and the District of Columbia.

* * * * *

(d) Nothing in this act shall be construed as authorizing any Federal official, agent, or representative, in carrying out any of the provisions of this act, to take charge of any child over the objection of either of the parents of such child, or of the person standing in loco parentis to such child.

⁸ The amount for each fiscal year is determined by Federal appropriation acts.

⁹ Sec. 531 deals with vocational rehabilitation.

¹⁰ Added by the amendments of 1939. The amendment (shown in italics) became effective January 1, 1940.

RULES AND REGULATIONS

Sec. 1102. The Secretary of the Treasury, the Secretary of Labor, and the Social Security Board, respectively, shall make and publish such rules and regulations, not inconsistent with this act, as may be necessary to the efficient administration of the functions with which each is charged under this act.

SEPARABILITY

Sec. 1103. If any provision of this act, or the application thereof to any person or circumstance, is held invalid, the remainder of the act, and the application of such provision to other persons or circumstances shall not be affected thereby.

RESERVATION OF POWER

Sec. 1104. The right to alter, amend, or repeal any provision of this act is hereby reserved to the Congress.

SHORT TITLE

Sec. 1105. This act may be cited as the "Social Security Act."

Appendix 2.—Tables Summarizing State Progress in Maternal and Child-Health Services Administered or Supervised by State Health Agencies for the Fiscal Year Ended June 30, 1939

APPENDIX TABLE I.—*Maternity and child-health-conference centers supervised by State health agencies, by States, year ended June 30, 1939*

| State | Maternity centers (prenatal and post-partum) | | Child-health-conference centers (infant and preschool) | |
|----------------------|---|---|--|---|
| | Total, June 30, 1939 | Number established during year ended June 30, 1939 | Total, June 30, 1939 | Number established during year ended June 30, 1939 |
| United States | 1, 229 | 347 | 2, 394 | 522 |
| Alabama | 55 | 35 | 14 | — |
| Alaska | 1 | 1 | 2 | 1 |
| Arizona | 27 | 5 | 37 | 13 |
| Arkansas | 7 | 4 | 6 | 2 |
| California | 6 | 1 | 299 | 32 |
| Colorado | 7 | 4 | 7 | 5 |
| Connecticut | — | — | 58 | 1 |
| Delaware | 1 | — | 20 | — |
| District of Columbia | 8 | 1 | 14 | 1 |
| Florida | 43 | 17 | 30 | 8 |
| Georgia | 181 | 88 | 204 | 80 |
| Hawaii | 30 | 3 | 89 | 8 |
| Idaho | 4 | 2 | 9 | 8 |
| Illinois | — | — | — | — |
| Indiana | 5 | 1 | 8 | 1 |
| Iowa | — | — | — | — |
| Kansas | 1 | — | 4 | — |
| Kentucky | 94 | 12 | 225 | 60 |
| Louisiana | 9 | 5 | 1 | 1 |
| Maine | — | — | 2 | — |
| Maryland | 51 | 11 | 64 | 4 |
| Massachusetts | — | — | — | — |
| Michigan | — | — | — | — |
| Minnesota | 17 | — | 26 | — |
| Mississippi | 122 | 59 | 234 | 76 |
| Missouri | 1 | — | 41 | 40 |
| Montana | — | — | 10 | 8 |
| Nebraska | — | — | — | — |
| Nevada | 1 | — | 9 | 2 |
| New Hampshire | 3 | — | 7 | 7 |
| New Jersey | 2 | — | 95 | 1 |
| New Mexico | 28 | 6 | 41 | 7 |
| New York | 43 | — | 56 | 8 |
| North Carolina | 171 | 17 | 171 | 17 |
| North Dakota | — | — | — | — |
| Ohio | — | — | — | — |
| Oklahoma | 18 | 4 | 61 | 33 |
| Oregon | 7 | 5 | 16 | 9 |
| Pennsylvania | 14 | — | 180 | 1 |
| Rhode Island | — | — | 20 | 1 |
| South Carolina | 117 | 25 | 65 | 22 |
| South Dakota | 3 | 1 | 3 | 1 |
| Tennessee | 19 | 1 | 73 | 16 |
| Texas | 22 | 7 | 36 | 9 |
| Utah | 9 | 1 | 66 | 6 |
| Vermont | — | — | 11 | 2 |
| Virginia | 74 | 19 | 26 | 6 |
| Washington | 1 | 1 | — | — |
| West Virginia | 27 | 11 | 54 | 25 |
| Wisconsin | — | — | — | — |
| Wyoming | — | — | — | — |

APPENDIX TABLE II.—Number of counties with specified type of service, by States, year ended June 30, 1939

| State | Total counties with 1 or more services | Full-time health units | Maternity service | | | Infant and preschool hygiene | | | School hygiene | | | Services of dentists or dental hygienists | | | Serv-ices of nutri-tion-ists | No speci-fied serv-ice pro-vided |
|----------------------|--|------------------------|------------------------------------|--|---------------------------------------|------------------------------------|------------------------|---|--------------------|-------------------------|------------------------|---|----------------|----------------|------------------------------|----------------------------------|
| | | | Ante-partum or post-partum clinics | Antepartum or postpartum nursing service through— Home visits | Group in-struction in mater-nity care | Organ-ized home-deliv-ery serv-ice | Med-ical con-fer-ences | Nursing service through— Home visits | Group in-struction | Med-ical exam-ina-tions | Nurs-ing super- vision | Edu- ca- tional | In- spec- tion | Cor- rec- tive | | |
| Alabama | 67 | 67 | 27 | 67 | 22 | 1 | 4 | 66 | 2 | 67 | 67 | 18 | 18 | 19 | 35 | |
| Alaska | | | | | | | | | | | | | | | | |
| Arizona | 10 | 6 | 9 | 10 | 5 | | 10 | 10 | 2 | 5 | 8 | 5 | 7 | | 4 | |
| Arkansas | 75 | 68 | 7 | 75 | 26 | | 6 | 75 | 24 | 41 | 74 | 15 | 6 | 15 | | |
| California | 49 | 18 | 6 | 21 | 2 | 1 | 39 | 42 | 1 | 48 | 48 | 32 | 31 | 17 | 5 | |
| Colorado | 36 | 2 | 5 | 36 | 36 | 5 | 5 | 36 | 36 | 2 | 36 | 8 | 8 | | 27 | |
| Connecticut | 8 | | | 1 | 2 | 1 | 8 | 8 | | | | | | | | |
| Delaware | 3 | 3 | 1 | 3 | 1 | | 3 | 3 | 1 | 3 | 3 | 3 | 3 | | | |
| District of Columbia | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| Florida | 17 | 17 | 15 | 17 | 16 | 1 | 12 | 17 | 15 | 17 | 17 | 14 | 13 | 13 | | |
| Georgia | 159 | 54 | 84 | 159 | 91 | 1 | 64 | 158 | 66 | 53 | 159 | 71 | 99 | 99 | 3 | |
| Hawaii | 4 | | 4 | 4 | 4 | | 4 | 4 | 4 | 4 | 4 | | | | | |
| Idaho | 11 | 9 | 3 | 9 | 9 | 4 | 3 | 9 | 10 | 11 | 10 | | | | | 33 |
| Illinois | 90 | 69 | | 37 | 16 | 5 | | 39 | 16 | 42 | 85 | | | | | 12 |
| Indiana | 71 | 23 | 5 | 59 | 55 | 3 | 13 | 63 | 60 | 58 | 63 | 43 | 7 | | 34 | 21 |
| Iowa | 27 | 27 | 1 | 27 | 15 | 1 | | 27 | 15 | 2 | 26 | | | | 6 | |
| Kansas | 79 | 4 | 2 | 26 | 26 | 2 | 1 | 24 | 24 | 15 | 25 | 25 | 21 | 42 | | 26 |
| Kentucky | 92 | 88 | 82 | 88 | 4 | 11 | 86 | 88 | 5 | 87 | 87 | 41 | 38 | 43 | 28 | |
| Louisiana | 41 | 41 | 7 | 41 | 22 | 2 | 41 | 41 | 17 | 41 | 38 | 41 | 41 | 41 | 21 | 23 |
| Maine | 16 | 16 | | 16 | 16 | 1 | 1 | 16 | 16 | | 11 | 16 | 1 | | 16 | |
| Maryland | 23 | 23 | 20 | 23 | 13 | 3 | 13 | 23 | 13 | 23 | 23 | | 12 | 12 | 18 | |
| Massachusetts | 14 | 3 | | 2 | 7 | 2 | 10 | 8 | 3 | 1 | 4 | 14 | | | 14 | |
| Michigan | 69 | 60 | | 60 | 2 | 2 | 10 | 60 | 1 | 60 | 60 | | 51 | 52 | 35 | 14 |
| Minnesota | 59 | 16 | 1 | 44 | 42 | 6 | 10 | 53 | 51 | 29 | 55 | 32 | 28 | 12 | 19 | 28 |
| Mississippi | 56 | 39 | 39 | 51 | 51 | 1 | 39 | 51 | 51 | 39 | 61 | 27 | 27 | 50 | | 26 |
| Missouri | 112 | 112 | 1 | 112 | 1 | 1 | 7 | 112 | 1 | 61 | 61 | 76 | 63 | 50 | | 2 |
| Montana | 35 | 4 | | 30 | 1 | 1 | 6 | 32 | 7 | 5 | 34 | 5 | 4 | 2 | | 21 |
| Nebraska | 16 | 16 | | 16 | 4 | | | 16 | | | 16 | 16 | 16 | | | 77 |

APPENDIX TABLE III.—Specified type of activities, by States, year ended June 30, 1939

| State | School health education | | | | Instruction in nutrition | | Special studies made | Number of meetings of State MCH advisory committee | Number of communities having medical examinations of school children | Number of public-health nurses rendering MCH services under administration or supervision of State health agency | | | | Number of nutritionists giving nutrition service | | MCH demonstrations |
|----------------------|-----------------------------|-------------------|--|------------------|--|---------------------------------|----------------------|--|--|--|-------------------------|-------|--|--|------|--------------------|
| | In teacher training schools | In public schools | In classes in high schools in maternal and infant care | | In-service education for physicians, dentists, dental hygienists, and nurses | Cooperation with other agencies | | | | Total | Supervisory or advisory | Staff | Under administration or supervision of State health agency | Consultation service to MCH program | | |
| | | | Number of communities | Total enrollment | | | | | | | | | | | | |
| Alabama | Yes | Yes | | | Yes | Yes | Yes | (1) | (2) | 174 | 16 | 158 | 2 | | Yes. | |
| Alaska | No | Yes | | | No | No | Yes | | 26 | 13 | 1 | 12 | | 1 | Yes. | |
| Arizona | Yes | Yes | 1 | 20 | Yes | Yes | No | 2 | (2) | 33 | 2 | 31 | | | Yes. | |
| Arkansas | Yes | Yes | 12 | 160 | No | No | Yes | | (2) | 104 | 6 | 98 | | | Yes. | |
| California | No | Yes | | | Yes | Yes | Yes | | | 117 | 13 | 104 | 3 | 1 | Yes. | |
| Colorado | Yes | Yes | 3 | 30 | Yes | Yes | Yes | 1 | 3 | 62 | 8 | 54 | | | Yes. | |
| Connecticut | Yes | Yes | | | Yes | Yes | Yes | 4 | | 11 | 1 | 10 | 1 | | Yes. | |
| Delaware | Yes | Yes | 5 | 125 | Yes | Yes | Yes | 1 | 51 | 26 | 3 | 23 | 1 | 1 | Yes. | |
| District of Columbia | No | No | | | No | Yes | Yes | | | 73 | 9 | 64 | 1 | | Yes. | |
| Florida | No | Yes | | | No | Yes | Yes | 3 | (2) | 62 | 16 | 46 | | | Yes. | |
| Georgia | Yes | Yes | (2) | (2) | Yes | Yes | Yes | (4) | (2) | 188 | 5 | 183 | | 1 | Yes. | |
| Hawaii | No | Yes | | | Yes | Yes | Yes | | (2) | 65 | 13 | 52 | | | Yes. | |
| Idaho | Yes | Yes | 5 | (2) | Yes | Yes | Yes | | 71 | 30 | 5 | 25 | | 5 | Yes. | |
| Illinois | Yes | Yes | | | Yes | Yes | Yes | 3 | 189 | 69 | 13 | 56 | 3 | | Yes. | |
| Indiana | Yes | Yes | 10 | 1,200 | Yes | Yes | Yes | 2 | 6 | 508 | 15 | 493 | 1 | 5 | Yes. | |
| Iowa | Yes | Yes | 67 | 1,134 | No | Yes | Yes | | | 45 | 5 | 40 | | | Yes. | |
| Kansas | Yes | Yes | | | Yes | Yes | Yes | 1 | (2) | 46 | 4 | 42 | 1 | | Yes. | |
| Kentucky | Yes | Yes | (1) | (2) | Yes | Yes | Yes | | 880 | 155 | 5 | 150 | | (1) | Yes. | |
| Louisiana | Yes | Yes | (2) | (2) | Yes | Yes | Yes | | (2) | 107 | 8 | 99 | | | Yes. | |
| Maine | No | Yes | | | Yes | Yes | Yes | 3 | | 32 | 4 | 28 | | | Yes. | |
| Maryland | No | Yes | | | Yes | Yes | Yes | 2 | (2) | 94 | 2 | 92 | 1 | 1 | Yes. | |
| Massachusetts | Yes | Yes | | | Yes | Yes | Yes | 1 | 1 | (2) | (2) | (2) | 8 | 21 | Yes. | |
| Michigan | Yes | Yes | 129 | 36,774 | Yes | Yes | Yes | | 60 | 370 | 22 | 348 | 1 | 2 | Yes. | |
| Minnesota | Yes | Yes | 83 | 2,033 | Yes | Yes | Yes | | 52 | 166 | 8 | 158 | | 3 | Yes. | |
| Mississippi | Yes | Yes | 235 | 11,854 | Yes | Yes | Yes | 1 | 630 | 125 | 8 | 117 | | | Yes. | |
| Missouri | Yes | Yes | | | Yes | Yes | Yes | 3 | 1,308 | 107 | 5 | 102 | | 2 | Yes. | |
| Montana | No | Yes | | | Yes | No | Yes | 1 | | 55 | 3 | 52 | | 1 | Yes. | |

APPENDIX TABLE IV.—Services for which practicing physicians, dentists, and nurses received payment, by States, year ended June 30, 1939

| State | Physicians | | | | | Dentists | | | Nurses |
|----------------------|--|---|--------------------------------|-----------------------------|--|---|--------------------------------|-----------------------|--------|
| | Antepartum and postpartum clinic service | Infant and preschool conference service | Examination of school children | Clinic consultation service | Antepartum and postpartum clinic service | Infant and preschool conference service | Examination of school children | Home-delivery service | |
| Alabama | 92 | 40 | | 2 | 12 | 13 | 1 | | |
| Alaska | | | | | | | | | |
| Arizona | 32 | 46 | | | | | | | |
| Arkansas | | | | | 1 | 15 | 15 | | |
| California | 15 | 105 | | | | | | | |
| Colorado | 177 | 177 | | | | | | | |
| Connecticut | | 9 | | | | | | 4 | |
| Delaware | | | 4 | | | | | | |
| District of Columbia | | | | | | | | | |
| Florida | 76 | 37 | 30 | 20 | | 24 | 58 | | |
| Georgia | 203 | 203 | | | | | | | |
| Hawaii | 26 | 55 | | | | | | | |
| Idaho | 5 | 6 | 1 | | | | | 4 | |
| Illinois | | | | | | | | | |
| Indiana | 14 | | | | | 4 | 4 | | |
| Iowa | | 47 | | | | | | 2 | |
| Kansas | | | | | | 20 | 197 | | |
| Kentucky | | | 24 | | | | | | |
| Louisiana | | | | | | | | | |
| Maine | | 298 | | | | | | | |
| Maryland | 19 | 73 | | | | 15 | | | |
| Massachusetts | | 1 | | | | 5 | | | |
| Michigan | | | | | | | | | |
| Minnesota | 1 | 2 | 12 | | | | 7 | 2 | |
| Mississippi | | | | | | | | | |
| Missouri | 1 | 20 | | | | | | | |
| Montana | | 19 | | | | | | | |
| Nebraska | | | | | | | | | |
| Nevada | 1 | 16 | 9 | | | | | | |
| New Hampshire | 3 | 88 | | | | 6 | | 3 | |

| | | | | | | |
|----------------|-----|-----|-----|---|----|-----|
| New Jersey | 3 | 68 | 82 | 3 | 1 | 286 |
| New Mexico | 54 | 88 | | | 1 | |
| New York | 20 | 126 | 1 | 6 | 7 | 16 |
| North Carolina | 220 | 220 | | | | |
| North Dakota | | 3 | | | | |
| Ohio | | | | | | 4 |
| Oklahoma | 7 | | | | | |
| Oregon | | | | | | |
| Pennsylvania | 12 | 122 | 424 | | 10 | 10 |
| Rhode Island | | 7 | | | | |
| South Carolina | 121 | 58 | | | | 1 |
| South Dakota | | 48 | 77 | | 16 | 27 |
| Tennessee | | | | | | 103 |
| Texas | | | | | | |
| Utah | 5 | 72 | | | 59 | |
| Vermont | | 53 | 53 | | 15 | 11 |
| Virginia | 210 | 165 | | | 1 | 20 |
| Washington | 1 | 2 | | | | |
| West Virginia | 37 | 347 | | | 80 | |
| Wisconsin | | | | | | |
| Wyoming | | 3 | | | | |

APPENDIX TABLE V.—Postgraduate education received by practicing physicians, dentists, and nurses, by States, year ended June 30, 1939

| State | Obstetrics | | | Pediatrics | | | Children's dentistry | | |
|----------------------|--------------------------------------|--------------------|--|--------------------------------------|--------------------|--|--------------------------------------|--------------------|--|
| | Number of communities in which given | Number of lectures | Number of persons attending 1 or more lectures | Number of communities in which given | Number of lectures | Number of persons attending 1 or more lectures | Number of communities in which given | Number of lectures | Number of persons attending 1 or more lectures |
| Alabama | | | | | | | | | |
| Alaska | | | | | | | | | |
| Arizona | 3 | 6 | 150 | 5 | 7 | 50 | 1 | 1 | 200 |
| Arkansas | 5 | 30 | (1) | 9 | (1) | 150 | 6 | 36 | 88 |
| California | 10 | 11 | 275 | 8 | 10 | 276 | | | |
| Colorado | 1 | 2 | 150 | 1 | 2 | 150 | | | |
| Connecticut | | | | 2 | 6 | 3 | | | |
| Delaware | | | | | | | | | |
| District of Columbia | | | | | | | | | |
| Florida | 1 | 10 | 110 | 1 | 10 | 110 | | | |
| Georgia | 10 | 10 | 136 | 10 | 10 | 174 | 5 | 18 | 203 |
| Hawaii | | | | 4 | 16 | 175 | | | |
| Idaho | 1 | 5 | (1) | 5 | 10 | (1) | | | |
| Illinois | 30 | 485 | 1,434 | 28 | 50 | 1,268 | | | |
| Indiana | 77 | (1) | 1,325 | 30 | 42 | 475 | 42 | (1) | 42 |
| Iowa | 2 | 8 | 78 | 2 | 8 | 78 | 10 | 11 | 769 |
| Kansas | 25 | 200 | 800 | 25 | 200 | 800 | | | |
| Kentucky | | | | | | | | | |
| Louisiana | 1 | 7 | 38 | 5 | 24 | 72 | | | |
| Maine | 6 | 6 | 130 | | | | 9 | 12 | 440 |
| Maryland | 1 | 1 | 40 | 1 | 1 | 14 | | | |
| Massachusetts | 18 | 36 | 795 | 19 | 85 | 799 | (1) | | 147 |
| Michigan | 1 | (1) | 54 | 5 | 25 | 306 | 7 | 21 | 403 |
| Minnesota | 10 | 80 | 256 | 10 | 80 | 256 | 6 | 24 | 403 |
| Mississippi | 10 | 50 | 217 | 4 | 20 | 94 | 6 | 9 | 260 |
| Missouri | 108 | 108 | 2,648 | 171 | 171 | 5,226 | 7 | 7 | 402 |
| Montana | | | | | | | | | |
| Nebraska | 21 | 21 | 1,384 | 19 | 19 | 1,897 | 6 | 6 | 160 |
| Nevada | | | | | | | | | |
| New Hampshire | | | | | | | | | |
| New Jersey | 1 | (1) | 10 | | | | | | |
| New Mexico | 4 | 23 | 65 | | | | | | |
| New York | | | | 5 | 5 | 27 | 3 | 3 | 22 |

APPENDIX TABLE VI.—Postgraduate education received by staff members, by States, year ended June 30, 1939

| State | Physicians | | Dentists | | Nutritionists | | Nurses | | | | | |
|----------------------|--------------------------|-----------------|--------------------------|-----------------|--------------------------|-----------------|--------------------------|-----------------|--------------------------|-----------------|--------------------------|-----------------|
| | Physicians | | Dentists | | Nutritionists | | Total | | Supervisory or advisory | | Staff | |
| | In general public health | In other fields | In general public health | In other fields | In general public health | In other fields | In general public health | In other fields | In general public health | In other fields | In general public health | In other fields |
| Alabama | | | | | | | 2 | | | | 2 | |
| Alaska | | | | | | | 3 | | | | 3 | |
| Arizona | 1 | 1 | | | | | 6 | 1 | | 1 | 5 | 1 |
| Arkansas | 6 | | | | | | 13 | 1 | | 1 | 12 | |
| California | 1 | | 1 | | | | 12 | | | | 11 | |
| Colorado | | 1 | | | | | 2 | | | | 2 | |
| Connecticut | | | | | | 1 | 25 | | 3 | | 22 | |
| Delaware | | | | | | | 19 | | 1 | | 18 | |
| District of Columbia | 4 | | | | | | 12 | | 3 | | 9 | |
| Florida | 16 | 1 | | | | | 37 | 1 | | | 37 | |
| Georgia | | | | | | | 9 | | | | 9 | |
| Hawaii | | | | | | | 8 | | | | 8 | |
| Idaho | 1 | | | | | | 17 | | 3 | | 12 | |
| Illinois | | | | | | | | | | | | |
| Indiana | | | | | | | | | | | | |
| Iowa | | | 1 | | | | 18 | 2 | | | 17 | 2 |
| Kansas | 4 | | | 1 | | | 40 | | 1 | | 39 | |
| Kentucky | 19 | | 1 | | | | 3 | | | | 3 | |
| Louisiana | | 1 | | | | | 4 | | | | 4 | |
| Maine | | | | | | | | | | | | |
| Maryland | | | | | | | | | | | | |
| Massachusetts | | | | 1 | | 1 | 2 | | 2 | | 20 | |
| Michigan | 4 | | | | | 1 | 11 | | 2 | | 11 | 1 |
| Minnesota | 1 | | | 1 | | | 2 | | 2 | | 6 | |
| Mississippi | | | | | | | 7 | | 1 | | 11 | |
| Missouri | | | | 1 | | | 11 | | | 1 | 3 | |
| Montana | | | | | | | 4 | | | | | |
| Nebraska | | | | | | | | | | | | |
| Nevada | | | | | | | 2 | | | | 2 | |
| New Hampshire | | | | | | | | | | | | |
| New Jersey | | 1 | | | | | 84 | | | | 18 | |
| New Mexico | | | | | | | 2 | | | | 1 | |

Appendix 3.—State Health Agencies Administering Maternal and Child-Health Services Under Title V, Part 1, of the Social Security Act, December 1939

| | |
|---------------------------|--|
| ALABAMA..... | <i>State Department of Public Health</i> , James N. Baker, M. D., State Health Officer. Bureau of Hygiene and Nursing, B. F. Austin, M. D., Director. |
| ALASKA..... | <i>Territorial Department of Health</i> , W. W. Council, M. D., Commissioner. Division for Maternal and Child Health and Crippled Children, Marcia Hays, M. D., Director. |
| ARIZONA | <i>State Board of Health</i> , Coit I. Hughes, M. D., Superintendent. Division of Maternal and Child Health, Jack B. Eason, M. D., Director. |
| ARKANSAS..... | <i>State Board of Health</i> , W. B. Grayson, M. D., State Health Officer. Maternal and Child-Health Division, W. Myers Smith, M. D., Director. |
| CALIFORNIA..... | <i>State Department of Public Health</i> , W. W. Dickie, M. D. Director. Bureau of Child Hygiene, Ellen S. Stadtmuller, M. D., Chief. |
| COLORADO..... | <i>State Division of Public Health</i> , R. L. Cleere, M. D., Secretary and Executive Officer. Division of Maternal and Child Health, Burris Perrin, M. D., Director. |
| CONNECTICUT..... | <i>State Department of Health</i> , Stanley H. Osborn, M. D., Com- missioner of Health. Bureau of Child Hygiene, Martha L. Clifford, M. D., Director. |
| DELAWARE..... | <i>State Board of Health</i> , E. F. Smith, M. D., Acting Executive Secretary. Division of Maternal and Child Health, Floyd I. Hudson, M. D. Director. |
| DISTRICT OF COLUMBIA..... | <i>Health Department of the District of Columbia</i> , George C. Ruhland, M. D., Health Officer. Bureau of Maternal and Child Welfare, Ella Oppenheimer, M. D., Director. |
| FLORIDA..... | <i>State Board of Health</i> , A. B. McCreary, M. D., State Health Officer. Bureau of Maternal and Child Health, W. H. Ball, M. D., Director. |
| GEORGIA..... | <i>State Department of Public Health</i> , T. F. Abercrombie, M. D., Director. Division of Child Hygiene, Joe P. Bowdoin, M. D., Chief. |
| HAWAII..... | <i>Territorial Board of Health</i> , Richard K. C. Lee, M. D., Acting Territorial Commissioner of Public Health. Bureau of Maternal and Infant Hygiene, Charles Wilbar, M. D., Director. |
| IDAHO..... | <i>State Department of Public Welfare</i> , Emory Afton, Com- missioner. Division of Public Health, H. L. McMartin, M. D., Director. Bureau of Maternal and Child Health and Crippled Children, G. H. Bischoff, M. D., Director. |
| ILLINOIS..... | <i>State Department of Public Health</i> , A. C. Baxter, M. D., Director. Division of Child Hygiene and Public Health Nursing, Grace S. Wightman, M. D., Chief. |
| INDIANA..... | <i>State Board of Health</i> , Verne K. Harvey, M. D., Director. Bureau of Maternal and Child Health, Howard B. Mettel, M. D., Director. |

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|----------------------|---|
| IOWA | <i>State Department of Health</i> , Walter L. Bierring, M. D., Commissioner of Health. Division of Maternal and Child Health, J. M. Hayek, M. D., Director. |
| KANSAS | <i>State Board of Health</i> , F. P. Helm, M. D., Secretary and Executive Officer. Division of Child Hygiene, H. R. Ross, M. D., Director. |
| KENTUCKY | <i>State Department of Health</i> , A. T. McCormack, M. D., State Health Commissioner. Bureau of Maternal and Child Health, C. B. Crittenden, M. D., Director. |
| LOUISIANA | <i>State Board of Health</i> , J. A. O'Hara, M. D., President. Division of Maternal and Child Health, Virginia Webb, M. D., Acting Director. |
| MAINE | <i>State Department of Health and Welfare</i> , George W. Lead- better, Commissioner. Bureau of Health, Roscoe L. Mitchell, M. D., Director. Division of Maternal and Child Health, Robert E. Jewett, M. D., Acting Director. |
| MARYLAND | <i>State Department of Health</i> , R. H. Riley, M. D., Director. Bureau of Child Hygiene, J. H. Mason Knox, M. D., Chief. |
| MASSACHUSETTS | <i>State Department of Public Health</i> , Paul J. Jakmauh, M. D., Commissioner of Public Health. Division of Child Hygiene, M. Luise Diez, M. D., Director. |
| MICHIGAN | <i>State Department of Health</i> , H. Allen Moyer, M. D., Com- missioner of Health. Bureau of Child Hygiene and Public Health Nursing, Lillian R. Smith, M. D., Director. |
| MINNESOTA | <i>State Department of Health</i> , A. J. Chesley, M. D., Secretary and Executive Officer. Division of Child Hygiene, Viktor O. Wilson, M. D., Director. |
| MISSISSIPPI | <i>State Board of Health</i> , Felix J. Underwood, M. D., Executive Officer. Maternal and Child Health Division, J. A. Milne, M. D., Acting Director. |
| MISSOURI | <i>State Board of Health</i> , H. F. Parker, M. D., State Health Commissioner. Division of Child Hygiene, James Chapman, M. D., Director of Child Hygiene. |
| MONTANA | <i>State Board of Health</i> , W. F. Cogswell, M. D., Secretary. Maternal and Child Health Division, Edythe P. Hershey, M. D. Director. |
| NEBRASKA | <i>State Department of Health</i> , P. H. Bartholomew, M. D., Acting Director of Health. Division of Maternal and Child Health, Roland H. Loder, M. D., Director. |
| NEVADA | <i>State Department of Health</i> , Edward E. Hamer, M. D., State Health Officer. Maternal and Child Health Division, H. Earl Belnap, M. D., Director. |
| NEW HAMPSHIRE | <i>State Board of Health</i> , Travis P. Burroughs, M. D., Secretary. Division of Maternal and Child Health and Crippled Children's Services, Mary M. Atchison, M. D., Director. |
| NEW JERSEY | <i>State Department of Health</i> , J. Lynn Mahaffey, M. D., Director of Health. Bureau of Child Hygiene, Julius M. Levy, M. D., Consultant. |
| NEW MEXICO | <i>State Department of Public Health</i> , E. B. Godfrey, M. D., Director. Division of Maternal and Child Health, Hester Curtis, M. D., Director. |
| NEW YORK | <i>State Department of Health</i> , Edward S. Godfrey, M. D., State Commissioner of Health. Division of Maternity, Infancy, and Child Hygiene, Elizabeth M. Gardiner, M. D., Director. |
| NORTH CAROLINA | <i>State Board of Health</i> , Carl V. Reynolds, M. D., State Health Officer. Maternal and Child Health Services, G. M. Cooper, M. D., Director. |

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| NORTH DAKOTA | State Department of Public Health, Maysil M. Williams, M. D., State Health Officer. Maternal and Child Health Division, (Director to be appointed). |
| OHIO | State Department of Health, R. H. Markwith, M. D., Director of Health. Bureau of Child Hygiene, A. W. Thomas, M. D., Chief. |
| OKLAHOMA | State Department of Public Health, Grady F. Mathews, M. D., State Health Commissioner. Division of Maternal and Child Health, Paul J. Collopy, M. D., Director. |
| OREGON | State Board of Health, Frederick D. Stricker, M. D., State Health Officer. Division of Maternal and Child Health, G. D. Carlyle Thompson, M. D., Director. |
| PENNSYLVANIA | State Department of Health, John J. Shaw, M. D., Secretary of Health. Bureau of Maternal and Child Health, Paul Dodds, M. D., Director. |
| RHODE ISLAND | State Department of Health, Lester A. Round, Ph. D., Director. Bureau of Child Hygiene, Francis V. Corrigan, M. D., Chief. |
| SOUTH CAROLINA | State Board of Health, James A. Hayne, M. D., State Health Officer. Division of Maternal and Child Health, R. W. Ball, M. D., Director. |
| SOUTH DAKOTA | State Board of Health, J. F. D. Cook, M. D., Superintendent of Health. Division of Maternal and Child Health, Viola Russell, M. D., Director. |
| TENNESSEE | State Department of Public Health, W. C. Williams, M. D., Commissioner of Public Health. Division of Maternal and Child Health, John M. Saunders, M. D., Director. |
| TEXAS | State Department of Health, George W. Cox, M. D., State Health Officer. Division of Maternal and Child Health, J. M. Coleman, M. D., Director. |
| UTAH | State Board of Health, William M. McKay, M. D., Acting State Health Commissioner. Bureau of Maternal and Child Health, Lela J. Beebe, M. D., Director. |
| VERMONT | State Department of Public Health, Charles F. Dalton, M. D., Secretary and Executive Officer. Maternal and Child Health Division, Paul D. Clark, M. D., Director. |
| VIRGINIA | State Department of Health, I. C. Riggin, M. D., State Health Commissioner. Bureau of Maternal and Child Health, B. B. Bagby, M. D., Director. |
| WASHINGTON | State Department of Health, Donald Evans, M. D., Director of Health. Division of Maternal and Child Hygiene, Percy F. Guy, M. D., Chief. |
| WEST VIRGINIA | State Department of Health, Arthur E. McClue, M. D., State Health Commissioner. Division of Child Hygiene, Thomas W. Nalc, M. D., Director. |
| WISCONSIN | State Board of Health, C. A. Harper, M. D., State Health Officer. Bureau of Maternal and Child Health, Amy Louise Hunter, M. D., Chief. |
| WYOMING | State Board of Health, M. C. Keith, M. D., State Health Officer. Division of Maternal and Child Health, Margaret H. Jones, M. D., Director. |

Appendix 4.—Advisory Committee on Maternal and Child Health Services, and Special Advisory Committees on Public Health Nursing and on Dental Health, 1939

ADVISORY COMMITTEE ON MATERNAL AND CHILD-HEALTH SERVICES ¹

Chairman, Fred L. Adair, M. D., Professor of Obstetrics and Gynecology, University of Chicago School of Medicine, Chicago, Ill.; Chairman, American Committee on Maternal Welfare.

S. Josephine Baker, M. D., Princeton, N. J.

Horton Casparis, M. D., Professor of Pediatrics, Vanderbilt University School of Medicine, Nashville, Tenn.

Hazel Corbin, R. N., General Director, Maternity Center Association, New York, N. Y.

M. Edward Davis, M. D., Associate Professor of Obstetrics and Gynecology, University of Chicago School of Medicine, Chicago, Ill.

Robert L. DeNormandie, M. D., Boston, Mass.

Amelia H. Grant, R. N., Director, Bureau of Nursing, City of New York Department of Health, New York, N. Y.

Clifford G. Grulee, M. D., Secretary and Treasurer, American Academy of Pediatrics; Editor, American Journal of Diseases of Children; Clinical Professor of Pediatrics, Rush Medical College, University of Chicago, Chicago, Ill.

Henry F. Helmholz, M. D., Professor of Pediatrics, Mayo Foundation, University of Minnesota Medical School, Rochester, Minn.

George W. Kosmak, M. D., Editor, American Journal of Obstetrics and Gynecology, New York, N. Y.

George M. Lyon, M. D., Chairman, Committee on Postgraduate Education, American Academy of Pediatrics, Huntington, W. Va.

Alice F. Maxwell, M. D., University of California Medical Center; Assistant Professor of Obstetrics and Gynecology, University of California Medical School, San Francisco, Calif.

Lyle G. McNeile, M. D., Professor of Obstetrics and Gynecology, University of Southern California School of Medicine, Los Angeles, Calif.

Guy Millberry, D. D. S., Dean, University of California College of Dentistry, San Francisco, Calif.

Norman F. Miller, M. D., Professor of Obstetrics and Gynecology, University of Michigan School of Medicine, Ann Arbor, Mich.

Mary E. Murphy, Director, Elizabeth McCormick Memorial Fund, Chicago, Ill.

Harry S. Mustard, M. D., Professor of Preventive Medicine, New York University College of Medicine, New York, N. Y.

Alice N. Pickett, M. D., Assistant Professor of Obstetrics, University of Louisville School of Medicine, Louisville, Ky.

¹ Appointed for a 2-year term by the Secretary of Labor in December 1937.

- E. D. Plass, M. D., Professor of Obstetrics and Gynecology, College of Medicine, State University of Iowa, Iowa City, Iowa.
- Grover F. Powers, M. D., Professor of Pediatrics, Yale University School of Medicine, New Haven, Conn.
- Lydia J. Roberts, Chairman, Department of Home Economics, University of Chicago, Chicago, Ill.
- M. Hines Roberts, M. D., Professor of Pediatrics, Emory University School of Medicine, Atlanta, Ga.; Chairman, Committee on Child Health Relations, American Academy of Pediatrics.
- Viola Russell, M. D., Director, Division of Maternal and Child Health, State Board of Health, Pierre, South Dakota.
- Marion W. Sheahan, R. N., Director, Division of Public Health Nursing, State Department of Health, Albany, N. Y.
- Clifford Sweet, M. D., California State Chairman, American Academy of Pediatrics, Oakland, Calif.
- Howard C. Taylor, Jr., M. D., Associate Editor, American Journal of Obstetrics and Gynecology, New York, N. Y.
- Douglas A. Thom, M. D., Director, Division of Mental Hygiene, State Department of Mental Diseases; Professor of Psychiatry, Tufts College Medical School, Boston, Mass.
- Felix J. Underwood, M. D., Executive Officer, Mississippi State Board of Health, Jackson, Miss.; President, Conference of State and Provincial Health Authorities of North America.
- Philip F. Williams, M. D., Assistant Professor of Obstetrics, University of Pennsylvania School of Medicine, Philadelphia, Pa.

SUBCOMMITTEE: ADVISORY COMMITTEE ON CHILD HEALTH

Chairman, Henry F. Helmholz, M. D.

- | | |
|---------------------------|---------------------------|
| S. Josephine Baker, M. D. | Grover F. Powers, M. D. |
| Horton Casparis, M. D. | M. Hines Roberts, M. D. |
| Clifford G. Grulee, M. D. | Clifford Sweet, M. D. |
| George M. Lyon, M. D. | Felix J. Underwood, M. D. |

SUBCOMMITTEE: ADVISORY COMMITTEE ON MATERNAL HEALTH

Chairman, Fred L. Adair, M. D.

- | | |
|------------------------------|------------------------------|
| Hazel Corbin, R. N. | Lyle G. McNeile, M. D. |
| M. Edward Davis, M. D. | Norman F. Miller, M. D. |
| Robert L. DeNormandie, M. D. | Alice N. Pickett, M. D. |
| George W. Kosmak, M. D. | E. D. Plass, M. D. |
| Alice F. Maxwell, M. D. | Howard C. Taylor, Jr., M. D. |
| James R. McCord, M. D. | Philip F. Williams, M. D. |

SPECIAL ADVISORY COMMITTEE ON PUBLIC-HEALTH NURSING ²

- Chairman*, Katharine Tucker, R. N., Director, Department of Nursing Education, The School of Education, University of Pennsylvania, Philadelphia, Pa.
- Hazel Corbin, R. N., General Director, Maternity Center Association, New York, N. Y.
- Elizabeth G. Fox, R. N., Executive Director, Visiting Nurse Association, New Haven, Conn.

² Members appointed in July 1937 for a 2-year term.

- Amelia H. Grant, R. N., Director, Bureau of Nursing, City of New York Health Department, New York, N. Y.
- Florence L. Phenix, R. N., Assistant Director, Crippled Children's Division, State Department of Public Instruction, Madison, Wis.
- Winifred Rand, R. N., Staff Member, Merrill-Palmer School, Detroit, Mich.
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