

U. S. DEPARTMENT OF LABOR

JAMES J. DAVIS, Secretary

CHILDREN'S BUREAU

GRACE ABBOTT, Chief

THE PROMOTION OF THE WELFARE  
AND HYGIENE OF MATERNITY  
AND INFANCY

THE ADMINISTRATION OF THE ACT OF CONGRESS  
OF NOVEMBER 23, 1921

FISCAL YEAR ENDED JUNE 30, 1924



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## LETTER OF TRANSMITTAL

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U. S. DEPARTMENT OF LABOR,  
CHILDREN'S BUREAU,  
*Washington, February 11, 1925.*

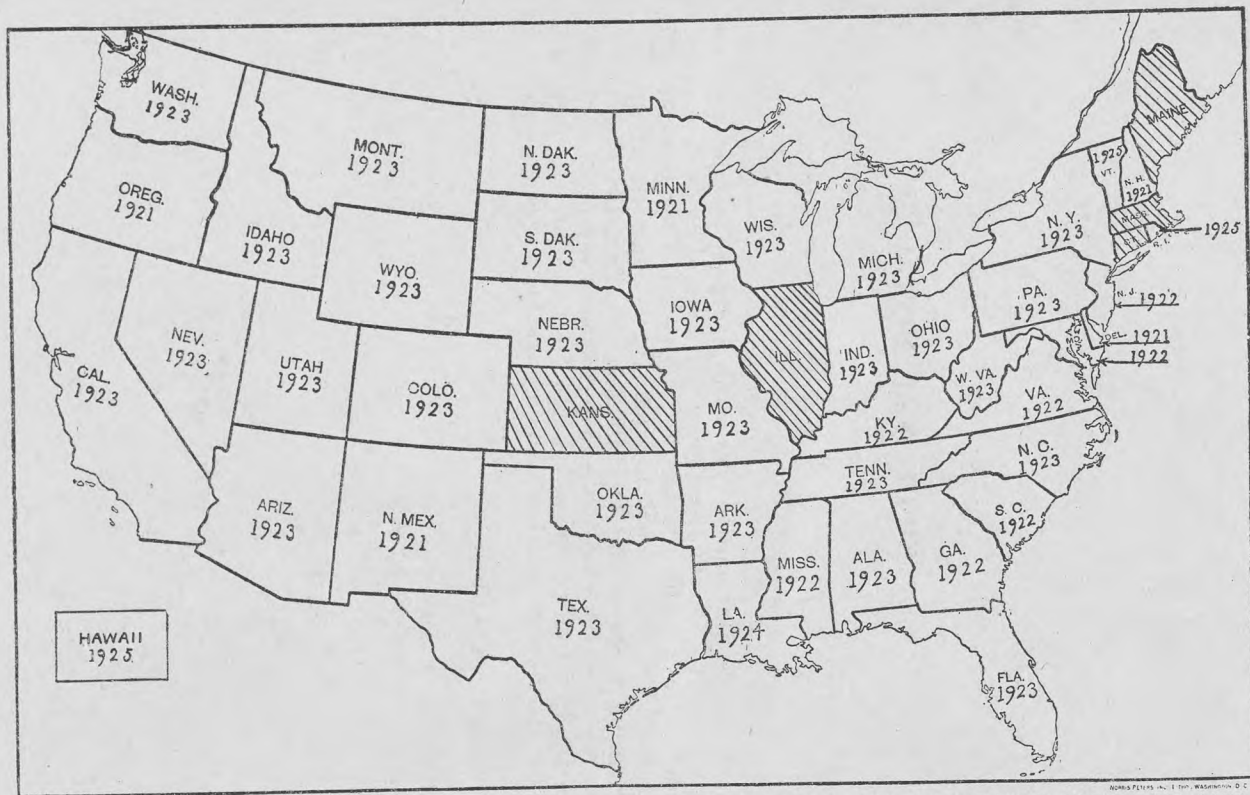
SIR: There is transmitted herewith a report of the activities undertaken for the promotion of the welfare and hygiene of maternity and infancy under the act of Congress of November 23, 1921, during the fiscal year ended June 30, 1924. Since the resignation of Dr. Anna E. Rude and Dr. Ethel M. Watters, Dr. Florence E. Kraker, associate director of the maternity and infant-hygiene division of the Children's Bureau, has been in immediate charge of this work for the bureau and has been responsible for the preparation of this report.

Respectfully submitted.

GRACE ABBOTT, *Chief.*

HON. JAMES J. DAVIS,  
*Secretary of Labor.*

v



STATES ACCEPTING THE BENEFITS OF THE ACT FOR THE PROMOTION OF THE WELFARE AND HYGIENE OF MATERNITY AND INFANCY, WITH DATES OF LEGISLATIVE ACCEPTANCE

# THE PROMOTION OF THE WELFARE AND HYGIENE OF MATERNITY AND INFANCY

## INTRODUCTION

The act for the promotion of the welfare and hygiene of maternity and infancy of November 23, 1921, popularly known as the Shepard-Towner Act, makes available to the States, if matched by State funds, Federal aid for reducing maternal and infant mortality and promoting the health of mothers and infants.<sup>1</sup>

At the close of the fiscal year 1924, 40 States—all except Connecticut, Illinois, Kansas, Louisiana, Maine, Massachusetts, Rhode Island, and Vermont<sup>2</sup>—were cooperating under the provisions of the act, and by action of the Sixty-eighth Congress its benefits had been made available to the Territory of Hawaii. Official requests that Alaska and Porto Rico be included in the benefits of the act have been made but have not yet been acted upon by Congress.

## FUNDS AVAILABLE UNDER THE ACT

The funds authorized by the maternity and infancy act became available in March, 1922. The administration of the funds from that date until June 30, 1923, has been reported in the first annual report.<sup>3</sup> The Federal appropriation for the years 1922, 1923, and 1924, with the amounts accepted by the States in each of these years, is shown in Table 1.

Under the terms of section 2 of the maternity and infancy act "so much of the amount apportioned to any State for any fiscal year as remains unpaid to such State at the close thereof shall be available for expenditures in that State until the close of the succeeding fiscal year."<sup>4</sup>

<sup>1</sup> For text of the law see Appendix A, p. 49.

<sup>2</sup> The benefits of the act have since been accepted by the Legislatures of Vermont (Feb. 20, 1925), Louisiana (July 14, 1924), and Rhode Island (Apr. 17, 1925).

<sup>3</sup> The Promotion of the Welfare and Hygiene of Maternity and Infancy. U. S. Children's Bureau Publication No. 137. Washington, 1924.

<sup>4</sup> In this connection reference may be made to rulings of the Comptroller General of the United States Treasury in regard to the appropriations for carrying out the maternity and infancy act:

"That any interest accruing while the moneys are held by the State inures to the benefit of the United States as owner of the funds and not to the States as trustees and should be accounted for and paid into the United States Treasury accordingly. The law does not contemplate, however, that the money shall be held by the States and bear interest, but shall be promptly applied to the purpose for which furnished, and the amounts should not be furnished in amounts necessarily resulting in large sums being held and thus bearing interest." (May 12, 1922.)

"That in case the State fails to appropriate an amount specifically equal to the amount of the allotment authorized by the Federal appropriation, moneys applied to the same purpose through other State appropriations may not be considered as making the appropriated funds of the State equal to the allotments authorized by the Federal appropriation, unless it is established that the fact that the other appropriation was available for the services and facilities provided for in this act controlled the State legislature in making its specific appropriation, in which case there would be justification for considering these moneys in determining that the amount appropriated by the State is equal to the Federal allotment." (June 23, 1923.)

TABLE 1.—Amounts available<sup>1</sup> to States from Federal maternity and infancy funds and amounts accepted, 1922, 1923, and 1924

States	Maximum amounts available from 1922 appropriation <sup>2,3</sup>	Amounts accepted by States from 1922 appropriation	Maximum amounts available from 1923 and 1924 appropriations	Amounts accepted by States from—	
				1923 appropriation <sup>2</sup>	1924 appropriation <sup>4</sup>
Alabama	\$10,297.56	\$10,297.56	\$25,836.95	\$25,836.95	\$25,836.95
Arizona	5,753.88	5,000.00	12,253.71	5,000.00	12,253.71
Arkansas	8,953.03	5,000.00	21,817.51	6,855.75	16,817.51
California	12,731.12	( <sup>5</sup> )	33,112.01	24,280.00	15,620.00
Colorado	7,119.83	5,000.00	16,337.20	9,986.54	10,000.00
Connecticut	8,114.75	8,114.75	19,311.48	9,655.74	-----
Delaware	5,503.10	5,503.10	11,504.01	11,504.01	11,504.01
Florida	7,184.90	5,000.00	16,531.72	8,621.28	16,531.72
Georgia	11,533.10	6,750.00	29,530.55	11,000.00	17,450.00
Idaho	5,974.30	5,000.00	12,912.66	6,250.00	7,912.66
Illinois	19,631.03	( <sup>5</sup> )	53,739.10	-----	-----
Indiana	11,611.07	8,199.09	29,763.62	24,995.00	26,250.00
Iowa	10,423.56	10,423.56	26,213.60	26,213.60	26,213.60
Kansas	8,991.51	8,991.51	21,932.52	12,097.33	-----
Kentucky	10,452.00	10,452.00	26,298.64	26,298.64	26,298.64
Louisiana	9,057.60	-----	22,129.80	-----	22,129.80
Maine	6,732.66	-----	15,179.77	-----	-----
Maryland	8,270.49	7,913.57	19,777.05	19,277.05	19,277.05
Massachusetts	13,691.06	-----	35,981.70	-----	-----
Michigan	13,276.07	13,253.97	34,741.11	34,741.11	34,741.11
Minnesota	10,385.44	10,385.44	26,099.65	26,099.65	26,099.65
Mississippi	9,039.70	9,039.70	22,076.58	22,076.58	22,076.58
Missouri	12,679.67	12,573.15	32,958.19	32,958.19	21,762.17
Montana	6,238.31	6,238.31	13,701.91	13,701.91	13,701.91
Nebraska	7,924.66	7,924.66	18,743.21	17,700.12	7,409.50
Nevada	5,174.63	5,000.00	10,522.06	5,000.00	10,522.06
New Hampshire	5,999.61	5,000.00	12,988.31	5,000.00	12,988.31
New Jersey	12,119.83	12,119.83	31,284.55	31,284.55	31,284.55
New Mexico	5,812.96	5,812.96	12,430.33	12,430.33	12,430.33
New York	28,429.70	-----	80,041.78	-----	80,041.78
North Carolina	10,773.47	10,773.47	27,259.66	27,259.66	27,259.66
North Dakota	6,459.36	5,000.00	14,362.74	6,000.00	6,000.00
Ohio	17,993.41	7,187.95	48,843.46	11,900.00	43,843.46
Oklahoma	9,575.88	5,000.00	23,679.48	5,000.00	23,679.48
Oregon	6,767.35	6,232.61	15,283.46	8,000.00	15,283.46
Pennsylvania	24,672.69	24,667.12	68,810.99	68,810.99	68,810.99
Rhode Island	6,363.54	-----	14,076.28	-----	5,000.00
South Carolina	8,798.54	8,797.50	21,355.65	21,355.65	21,355.65
South Dakota	6,436.07	6,436.07	14,293.11	14,293.11	14,293.11
Tennessee	10,274.35	5,000.00	25,767.55	18,521.94	21,825.00
Texas	15,520.41	9,363.93	41,450.52	33,056.48	41,450.52
Utah	6,013.85	5,000.00	13,030.89	6,365.00	13,000.00
Vermont	5,795.09	( <sup>5</sup> )	12,376.90	-----	5,000.00
Virginia	10,209.61	10,209.61	25,574.00	25,574.00	25,574.00
Washington	8,060.58	4,998.70	19,149.55	10,000.00	10,000.00
West Virginia	8,302.16	5,000.00	19,871.74	5,000.00	10,000.00
Wisconsin	10,938.04	10,015.85	27,751.62	27,751.62	27,751.62
Wyoming	5,438.57	4,998.87	11,311.12	5,000.00	11,000.00
	477,500.00	317,674.84	1,190,000.00	722,752.78	918,280.49

<sup>1</sup> Under the terms of the act each State accepting receives \$5,000 outright; an additional \$5,000 is available to each State if matched and the balance of the appropriation is distributed among the States on the basis of population.

<sup>2</sup> Amounts shown are the amounts actually accepted by the States less refunds of unexpended balances returned to the Federal Treasury as of June 30, 1924.

<sup>3</sup> Owing to the fact that only a few months of the 1922 fiscal year remained at the time the appropriation for that year was passed a full appropriation was not made.

<sup>4</sup> These funds are available until July 1, 1925. Actual acceptances to April 30, 1925, are here given.

<sup>5</sup> California and Illinois accepted the full amount available, and Vermont accepted \$5,000. However, these funds were not spent but were returned to the Federal Treasury.

## THE FEDERAL BOARD OF MATERNITY AND INFANT HYGIENE

Section 3 of the act creates a Federal Board of Maternity and Infant Hygiene, to consist of the Chief of the Children's Bureau, the Surgeon General of the Public Health Service, and the United States Commissioner of Education. At its first meeting (April,

1922) this board elected as its chairman the Chief of the Children's Bureau, who has continued to serve in that capacity.

Section 8 of the act provides that to receive the benefits of the act detailed plans for carrying out the provisions of the act within the State must be submitted to the Children's Bureau and be subject to approval by the board. It is specified, however, that "if these plans shall be in conformity with the provisions of this act and reasonably appropriate and adequate to carry out its purposes they shall be approved by the board." (Sec. 8, Appendix A, p. 50.)

Thus plans originate in the States and are administered by the States. The policy of the Federal board has been to consider each plan in the spirit of the act, and it has not attempted to control or influence the activities to be undertaken. It has interpreted the term "infancy" as ending with the preschool period, which means that the funds are not available for work with school children, and has ruled that Federal funds or State funds used in matching Federal funds can not be expended in subsidies to private agencies.

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## STATE ADMINISTRATION

### SUMMARY OF STATE ACTIVITIES

The activities of the States have had for their object (1) better infant care through the teaching of mothers, (2) better care for mothers through education as to the need and value of skilled supervision during pregnancy, childbirth, and the lying-in period, and (3) more widespread medical and nursing facilities so that adequate maternity and infancy supervision will be available.

In order to make a program suited to the needs of a State, careful analyses by cities and counties of the causes of infant and maternal deaths, local sanitary conditions, available medical attention and nursing service, and the general facts as to racial, social, and economic conditions are necessary. In a number of States these facts are still not available, but as a result of the previous years' work they were much better understood than at the initiation of the maternity and infancy work in 1922. Consequently, the activities undertaken have been better correlated with local needs.

#### INFANT AND PRENATAL CENTERS OR STATIONS

Children's health centers or health conferences and prenatal or maternity centers or conferences are everywhere recognized as the best teaching agencies. While the term is variously used in different parts of the country and the service available differs widely, a "permanent conference," "station," or "center" means in this discussion an established place and time at which a doctor and nurse are present for the examination of well children and for the instruction of the mothers on the essentials in the feeding and care of babies and preschool children.

In some States in which it is not possible to have regular medical attendance at the conferences the center provides the opportunity for conferring with a nurse, who explains the essentials in child care and may inspect and weigh the children brought. (In this discussion the word "center" is used for the established agency and "conference" for the "demonstration" of the type of activities which are carried on by the "center.")

An objective in most of the States is state-wide establishment of permanent, locally supported children's health centers and prenatal centers accessible to all the population in need of such assistance and instruction. In New Jersey permanent center activities are conducted by the State staff. Infant or children's conferences or centers had been established in the larger cities in many of the States, but in only a few places had a county-wide service been provided before 1922. In order to acquaint local communities with the work that these conferences would do, demonstration conferences have been held by the State agencies administering the act, and help has been given through the loan of personnel or through subsidies in the formation of permanent local conferences or centers.

The reports of the States show 15,547 child-health conferences held by the State agencies administering the Federal funds during the fiscal year ended June 30, 1924, with 303,546 infants and children of preschool age examined and 1,084 children's health centers established through the efforts of the States. The number of these conferences conducted by the State staff varied greatly.

An automobile or truck outfitted as a center has been found to be of especial advantage in initiating a maternity and infancy program in areas where the nature of the work is little understood. Since it attracts attention all along the route it has great educational value. The State Board of Health of South Carolina has such an automobile, which has been used by the child-hygiene and other divisions of this board. Conferences are held and films shown to the general public. Maryland has a "healthmobile," the staff of which has examined some 8,700 children in the 14 counties visited. Talks on infant and prenatal care were also given and health films shown. Georgia reached by the aid of its "healthmobile" 20 counties in the poorest section of the State, also a number of mountain communities which are quite shut off by bad roads and long distances from railroads. Florida has a "health movie truck" which was used for two months in rural districts, giving 26 shows at which an average of three health films were exhibited, with some conference work and the distribution of suitable literature. In Arkansas two automobiles are used for the "health caravan," which on request goes into various counties to hold conferences. The staff consists of a doctor, two nurses, and the chauffeur for the apparatus automobile, who operates the motion-picture machine, using a portable electric motor. The Tuskegee movable school, with which the Alabama bureau of child hygiene and public-health nursing cooperates by assigning a colored nurse to help in the demonstrations, has found this productive of excellent results. That specialized work, as well as that of general conference, may be done with the aid of trucks and automobiles properly equipped was shown the past year in New Jersey with a "traveling dental ambulance."

#### COUNTY HEALTH UNITS

The county has been increasingly used as the local administrative unit in the work, and there has been an encouraging increase during the past year of undertakings jointly supported by State and county, also of instances in which the county has taken over the work in full after a brief period of demonstration or subsidy by the State with State and Federal funds. In the States in which full-time county health units have been organized in a number of the counties a special maternity and infancy service has often been added by the State (usually for a specified period). If this demonstration aroused general interest and met with approval of the county, full responsibility for its maintenance frequently has been assumed by the local community.

In some States a maternity and infancy nurse has been sent to the counties for periods of two or three months to assist the general public-health nurse in the maternity and infancy program. In one State a public-health nurse is lent to give demonstrations for periods of three months to one year, with the understanding that at the end of that period the community shall assume in whole or in part the



salary and expense of the nurse. The majority of the States have generalized nursing programs, and records are kept of the time spent in maternity and infancy work with proper division of funds in accordance with these accounts.

#### HOME VISITS

Home visits give to the nurse an opportunity to observe the living conditions of the patient, and the mothers visited are more at ease and hence more willing to ask questions and to discuss their problems than at a conference. Demonstrations made on almost every conceivable point connected with maternal and infant hygiene and the health and welfare of preschool children are of still more value when made with the equipment which the home affords. In this connection it may be noted that the line between demonstrations and visits in which only advice or instruction is given can not be strictly drawn, nor is it possible to classify under "visits" the incidental nursing care which many nurses have found it imperative to give in remote districts.

Home visits are a part of the center routine, the usual custom being for the nurse to make a first visit promptly after the birth registration. In some places where there are no center activities and where demonstration conferences are impracticable the home visits of the nurse are the only possible method of reaching the mother. After demonstration or itinerant conferences the home visits are made by local cooperating nurses. Because of inadequate records in some States the total of approximately 149,000 visits recorded by the States cooperating under the maternity and infancy act probably does not indicate more than a large proportion of the visits and home demonstrations actually made.

The distances traveled and the difficulties overcome in order to attend conferences indicate the mothers' appreciation of help. A photograph sent by a nurse working in a western State shows a mother and child crossing a river in a basket swung on an overhead cable in order to attend a child-health conference. Among the mothers present at other conferences was one who had driven 14 miles with horse and buggy to bring her three children, another who brought her 6-weeks-old baby from a point in the country 17 miles distant, one who had driven 20 miles, and two others who had driven 10 miles each; and some mothers travel by mules, over trails instead of roads. The difficulty of having mothers (especially pre-natal cases) assemble for conferences or classes under such conditions of isolation and travel is evident. Although the distances are quite as great for the nurses to cover, a means of transportation has become part of the necessary equipment for a nurse, and generally she can so route her trips as to make the greatest possible number of visits on each. Some of the journeys made by the nurses in the course of their routine work involve actual hardship. This is perhaps especially true in some sparsely populated western States, yet there are isolated and inaccessible communities in every State. A nurse in a western State, who wrote that it was all in a day's work to drive 60 miles or more before 9 a. m. to hold a conference, and to take another long trip at night to the next town, added, "Some of the roads are just trails, but they all lead to mothers and babies."

## NUTRITION WORK

Physicians and nurses throughout the country have noted the prevalence of undernourishment or malnourishment among the children whom they encounter in their work. Pathological conditions caused by badly selected food or lack of food are clearly apparent; and these are noted at conferences and centers, where the physician or the nurse teaches the general principles of nutrition and gives advice on the special nutritional needs of the children under examination. In the course of visits to the home the nurse again emphasizes these matters and reiterates the main points of the instruction. The subject receives much attention in mothers' classes, little mothers' classes, and demonstrations and exhibits at State and county fairs. Literature bearing on the general topic of proper foods for infants, expectant mothers, and young children has been widely distributed; and in addition newspaper articles for occasional or for regular distribution have been prepared by a number of the State staffs.

The first lesson on nutrition for the child is properly a part of the instruction on prenatal care to be given to the expectant mother. The second lesson consists of information concerning the importance of breast feeding, which is widely recognized as a conspicuous factor in the reduction of infant morbidity and mortality. The methods by which the nutritional needs of the child after the nursing period can best be imparted to the mother are still largely experimental.

Much information concerning the value of individual foods both for normal children and in the correction of pathological conditions has been acquired in recent years; and new data are constantly being brought to light. In some States the nutrition worker specializes in the preparation of food formulas ordered by physicians for undernourished children; and the conducting of nutrition classes or courses was reported by a number of States. Since some States, as Delaware, mentioned merely "occasional" classes on this subject, the total of 309 classes reported, 82 of which were in New Jersey and 73 in Texas, is doubtless quite incomplete for the 40 cooperating States.

## DENTAL HYGIENE

Some States note that dental attention was included in the child-health conferences held. Others report that the inspection of children by nurses included sufficient observation of the teeth to determine that the child should be referred to a dentist. Dental clinics or conferences have been specifically reported by only 10 States. Over 11,000 children received examination. In addition to the 28 dental conferences (with a total of 1,120 children examined) which California reported, a special campaign for the complete physical examination of preschool children (see p. 22) was made possible in this State by the cooperation of dental as well as medical organizations. The dental hygienist on the staff is reported to have done successful work and to have been instrumental in obtaining dental clinics. All corrective work was referred to the local dentists.

In Indiana 1,649 children were examined and the cases (1,519) of decayed teeth noted; instruction on the care of the teeth was given in mothers' classes, and a chart was exhibited showing the relation between nutrition and the development of teeth. An edu-

cational film dealing with the care of the teeth was shown in Indiana and a number of other States. Although Michigan made no especial report concerning dental conferences or clinics, statistics on defects noted during physical examinations at health conferences were recorded. New Jersey reported accomplishing dental care for 1,300 children through its two clinics and traveling dental ambulance. In Pennsylvania the State division of dental hygiene cooperates with the preschool division of the bureau of child health by detailing two members of its staff to give full time to work among preschool children and prenatal cases, while 38 members of the staff give part time. West Virginia had a dentist at every child-health conference during four weeks of intensive work in four counties. Iowa has a dental adviser upon the administrative staff. An exhibit on oral hygiene was prepared and used especially at the meeting of the State dental society. It was noted here that defects of the teeth, although found among the four chief kinds of defects noted in the examination of children (diseased tonsils, malnutrition, adenoids, defects in teeth), are nevertheless practically 100 per cent correctible.

The problem of the expense involved in dental treatment was partly solved in South Carolina by charging each child treated the nominal sum of 50 cents, though the work done in many cases was actually quite costly. The State dental association furnished a dentist, who organized the work in a county with the county nurse and the local physicians. The county wishing the work done contributed a sum of money, and the State dentist assigned a dentist to do the work. In Virginia the dentist on the staff works in cooperation with the State dental association and submits all plans to the dental member of the State board of health for approval. Dental clinics were held by the State in the summer, and a dentist attended the child-health conferences. Altogether dental care was given to 69 mothers and 848 children. Since 17 counties have no resident dentists the child-hygiene division has been trying to create a demand for dentists, and the local dentists, in fact, seemed to have more work than ever before.

#### CORRECTION OF DEFECTS

Although centers and consultations are for "well" babies, defects are frequently found which require correction before the child is "free to gain" a maximum of general health and physical fitness. When the mother and baby are seen regularly by the physician in the well-established center and the nurse visits the mother in her home, the facts as to the correction of defects are easy to ascertain. Follow-up on demonstration conferences is more difficult. The defects most frequently encountered are refractive errors in the eyes, nasopharyngeal growths and abnormalities, orthopedic defects, glandular enlargements or evidences of glandular insufficiencies, dental caries, and malnutrition (always the large percentage in every group). Children are always referred to the family physicians for the correction of these defects, if there is a physician. Poverty, inaccessibility, or lack of physicians necessitates special arrangements. A few States have arranged for clinics at which defects may be corrected by a staff physician or by a specialist engaged for this purpose. In most

places the work is done by local physicians or specialists, the nurses having explained the need to the parents and made special arrangements for the indigent.

Some States have furnished calculated or estimated percentages of defects corrected, ranging usually from 20 to 40 per cent. Indiana has made a series of surveys to find just how much has been done in correction of defects found in the course of examinations previously made. In Oklahoma a total of 15 corrections in 42 cases was noted in the records of one conference. South Dakota reported 490 corrections in 2,725 cases examined; Pennsylvania reported 8,678 corrections, of which 1,107 involved adenoids and tonsils and 5,296 involved the teeth. In one county in Colorado two clinics were held at which 43 nasopharyngeal corrections were made.

#### PRENATAL CARE

Special efforts have been made in all the States to get the program for prenatal care well under way. In many parts of the United States women do not have medical supervision during pregnancy nor medical care during the confinement and lying-in period. Since the importance of prenatal care is not appreciated by a very large part of the public, the prenatal program is still fundamentally educational for the general population as well as for the individual woman who is reached through the conference. As indicated by figures from studies made in New Hampshire, New Jersey, and elsewhere, better prenatal care results in fewer stillbirths, less maternal mortality, a lower infant mortality rate during the first month of life, and better health for both mother and baby. The technique and unit costs of the prenatal or maternity conference for urban districts have been well worked out and the modifications necessary for a rural district are being learned in the activities now under way.<sup>5</sup> The States report 6,088 prenatal conferences during 1923-24, with 38,662 women in attendance. As yet only a few (188) permanent prenatal centers have been established, but a steady increase of attendance has been noted at most of these and also at the itinerant or demonstration conferences.

Wisconsin has each mother and baby center visited every four weeks by one of the physicians from the State staff, who spends the remaining conference time at other points in the same counties. The State prenatalist of Michigan has traveled about holding prenatal clinics and conferences and giving talks. Demonstrations were given in homes in the more isolated regions, where it was not possible to collect the women in groups. The bureau of child hygiene conducted a series of home demonstrations in a county in the lumber region. In New York the State obstetricians held prenatal consultations at different towns at regular intervals. Midwives are required to bring their patients for examination. Local physicians

<sup>5</sup>A worth-while detail on some programs for prenatal care has been the preparation and demonstration of model obstetrical packages, also persuading clubs to prepare such sterile obstetrical packages and to equip and maintain "loan closets" for indigent or incompetent mothers. In Minnesota such a sample obstetrical package was demonstrated in 66 of the 87 counties. In some States hospitals have generously sterilized the packages for the loan closets. Many physicians have expressed their appreciation of these obstetrical packages.



may send their patients for consultation, but no woman who is known to be the patient of a physician is examined except upon presentation of a written request from him.

In Iowa, where infant and preschool conferences have been held in every county, the foundation for a prenatal program has also been laid. In cooperation with the State medical society prenatal and obstetrical standards have been agreed upon and published; and through lectures to county medical societies the rural doctors are kept informed on the most recent developments in obstetrical practice. The obstetrician who gives these lectures carries a complete equipment of instruments as well as slides and films. Missouri held no regular prenatal conferences, but reported that general advice and instruction was given by the staff physicians to 8,024 mothers. In Minnesota two well-known Minneapolis obstetricians held conferences for pregnant women in outlying districts. Later they addressed group meetings of all the women in the neighborhood and impressed upon them the importance of proper medical care during the prenatal period as well as at the time of delivery. They also met local doctors in consultations.

Prenatal letters have been used in many States. More letters were distributed on request of physicians than in any other way. Prenatal letters were sent out in such numbers as 14,957 in Idaho, 37,713 in North Carolina, 7,168 in Michigan, 1,350 in Oregon, and in other States in lesser numbers. In Texas the letters were printed in Spanish as well as in English.

The matter of dental care during pregnancy and the nursing period has not as yet been given the attention it should receive. The importance of care of the mother's teeth is stressed in prenatal conferences, and actual treatment has been arranged for in a few communities.

#### CONFINEMENT CARE

A survey of available hospital facilities for maternity cases in certain rural districts was undertaken in Michigan. The findings indicate that the hospital facilities in the State greatly exceed the use made of them, and suggest the need of well-conducted small hospitals for lying-in patients. In Utah also the possibility of small county hospitals for confinement cases is under consideration.

The entire lack of professional confinement care in some localities is a grave problem. Many births occur with no attendance except that of members of the household or neighbors. The director of the work in Wyoming reports having noted that in some counties 40 per cent of the women were not attended by doctor, nurse, or midwife during childbirth. The help which can be given by a well-meaning even though uneducated midwife is doubtless in most cases better than the attention of neighbors alone or merely members of the family. More than one field nurse has reported cases in which the father was the only attendant, and a number of nurses have been unexpectedly called upon to take entire charge of delivery cases. Yet in isolated regions the distances to be traveled by patient or attendant are a serious matter, further complicated at times by heavy snowfalls, washouts, and the like. Consequently mothers who desire medical attention are sometimes as unable to obtain it as are mothers

who do not appreciate its advantages. In many parts of the country during certain parts of the year doctors and even "near" neighbors find it impossible to reach some confinement cases.

#### POSTNATAL CARE

When the problem of adequate confinement care is met the problem of adequate postnatal care will doubtless be solved at the same time. In the face of difficulties of prenatal care and confinement care the necessity of further aid for even a brief period has not always been easy to emphasize. Provision of trained nursing care in home confinements is still, therefore, a problem of considerable magnitude. It is possible, however, to make clear in literature, as well as in many personal contacts, the value of a physical examination of the mother six weeks after confinement. The fact that this last step in well-conducted confinement care may prevent the invalidism which would otherwise follow a large proportion of child-births is being impressed upon as wide a public as can be reached. The extent and kind of postnatal care received has been reported as a subject of investigation in a number of States.

#### INSPECTION OF MATERNITY AND INFANT HOMES

The authority to license maternity homes and lying-in hospitals or children's boarding homes is generally vested in other bureaus of State boards of health than those designated to administer the maternity and infancy act, or in other State boards altogether (such as boards of charities and corrections). Although the majority of States require that maternity and infant homes obtain licenses, the supervision exercised by the licensing authority or other designated authority varies from the strict regulation of standards and management to a mere right of inspection, which in many instances can not fail to be quite perfunctory. Some States have no legislation permitting inspection of such institutions. Much latitude also exists with regard to the keeping of records of admissions, discharges, births, deaths, withdrawals, and other data concerning patients, or data concerning persons removing infants; and reports to specified authorities may or may not be required.

Inspection of maternity and infant homes has been reported by 21 States, the work usually being done by field nurses in connection with their other activities. In some States, as Ohio, Nebraska, and Texas, the full time of one member of the staff (a nurse or a social worker) is devoted to this work. Inspection of 289 maternity homes and 459 children's homes is reported; and of 278 maternity and infant homes, giving a total of 1,026 institutions inspected. These figures include 26 hospitals inspected in one State and 87 in another.

#### MIDWIVES

Steady progress has been made in acquiring definite information on the number and character of midwives practicing legally or illegally, also in registering, supervising, and instructing the best of these women and eliminating those who seem unscrupulous as well as wholly untrained. A number of States (especially New Jersey,

New York, and Indiana) report that midwives unwilling to comply with the State laws are ceasing to practice and that further diminution in the total number has been observed. A complete program of education, registration, licensing, and supervision was first developed in New York City. New Jersey has a comprehensive scheme in operation, and a number of cities are carrying out well-planned programs on this matter. Satisfactory laws or methods of administration, or both, are now in process of development in most of the States. Midwife inspectors or supervisors were reported on the staffs of New York, New Jersey, Michigan, California, Virginia, South Carolina, and Connecticut.<sup>6</sup>

Surveys of the midwife situation have been undertaken in a number of States and have been completed in several. California made a state-wide survey, during which 500 midwives were interviewed. Four-fifths of these were well-trained Japanese women; half of the remaining number seemed capable of receiving and assimilating instruction, and the others were rated undesirable. Texas is listing its midwives and reports that the names and addresses of 1,889 have been obtained. Copies of the law on the practice of midwifery and the use of silver nitrate as a prophylaxis are being distributed to these women. Investigation in Colorado disclosed that in a county where no midwives were registered 25 women and 2 men were practicing midwifery.

In some instances educational work among midwives has been undertaken by physicians, and much is also accomplished by State and county nurses. Texas reports the employment of a Mexican nurse to instruct Mexican midwives and a negro nurse to instruct negro midwives. In most of the Northern States the proportion of births attended by midwives is large only among the foreign-born element. Pennsylvania selected four coal-mining counties where the need has seemed greatest and reports substantial progress as the result of the efforts of a staff physician who is able to cope with the linguistic difficulties arising from the varying nationalities of the midwives.

In the South the births among negroes and also among the white population in remote areas are attended as a rule by midwives, and the problem of the untrained negro midwife is serious. Special attention has been given to training the midwives in a number of these States. Virginia, North Carolina, South Carolina, Florida, and Mississippi are developing a state-wide system of instruction with the immediate purpose of supervising the best midwives and eliminating the least desirable. Mississippi, which has more than 3,200 midwives and regards them as at least temporarily necessary for prenatal and confinement care, reports 1,116 classes conducted by the State with a total attendance of 12,961 midwives and other women wishing to learn something of midwifery. Rural negro mothers were encouraged to attend these classes so that they would understand what constitutes adequate maternity care. South Carolina reports that 1,083 women completed the midwife course organized by the State staff. Several States employ negro nurses with a view especially to such educational work. A negro physician added

<sup>6</sup> During six months of 1923 Connecticut was cooperating on a six-months' continuance of the governor's acceptance after the adjournment of the legislature.



to the staff of the Children's Bureau to assist in the work among negro midwives has aided the health department of Tennessee in an investigation and educational campaign among the negro midwives of that State.

In 17 States the holding of classes for midwives is reported, with a total of over 2,300 classes held, 24,899 women in attendance, and 2,841 women completing a full course of instruction. But these figures are an imperfect indication of the amount of work actually being done, as some States kept accurate record of only the attendance totals, without full details concerning the number of classes in the different counties; others reported only the number of classes held or the number of women completing courses of instruction. In some States much instruction is given to individual midwives in addition to class work or in the place of it.

#### MOTHERS' CLASSES AND CORRESPONDENCE COURSES

Classes for the instruction of mothers were reported by 29 States. It would seem from the majority of reports that single group meetings are regarded as belonging to this category of activity. New York may be cited as an example of a State holding classes in the more precise meaning of the term. A course of seven consecutive lectures was given by a nurse in each of 29 communities, the 55 groups or "clubs" taking this course having an average membership of about 15 mothers. The work may be described as a mothercraft class, the subjects considered including preparation for confinement, establishment and maintenance of lactation, clothing, bath, and general care of the baby and the mother. A semisocial atmosphere is frequently created by the discussion of problems among the mothers, and refreshments are served by the club after the class meeting. A State nurse in West Virginia succeeded in organizing 10 "study clubs" in one county for instruction in maternal and infant hygiene. The general aim of such work is to impart an appreciation of the importance of early and continuous medical supervision for both mothers and children, together with some mastery of the simpler rules of maternal and infant hygiene.

A special "mothers' lesson outline" was prepared for use in Michigan (see p. 18), and some other States mentioned less formal material. The largest number of mothers' classes reported by any one State was 499 in Indiana. Florida reported 484 "neighborhood institutes," 228 of these for negro mothers. New Jersey reported 354 classes. The largest attendance reported in any one State was 47,544 in New Jersey; Indiana reported an attendance of 7,547, Florida 7,703, Georgia 5,041, South Carolina 3,929, Minnesota 1,842. The total number of classes was over 3,000, with a total attendance of over 95,500 mothers. Complete figures can not be furnished because some States did not record attendance at all classes, and some recorded total attendance but not total number of classes, or gave merely estimated averages of attendance, or in some cases reported only the number of women completing the entire course of instruction.

More or less formal correspondence courses have been organized in a number of States. In at least two the lessons were returned to be sent in again after revision. These courses vary from regular instruction to mothers listed on a correspondence-course registry to

the sending out of prenatal letters in a series of 9 to 13, or personal replies to all letters asking for help or information which can not be adequately and fully furnished by the forwarding of a suitable pamphlet or leaflet.

#### LITTLE MOTHERS' CLASSES

Teaching girls of the seventh or eighth grade or older the proper care of infants seems productive of excellent and far-reaching results. These young girls are often "mother's helpers" and have full opportunity to demonstrate the information which they acquire. The method of instruction varies from single and comparatively informal meetings to classes in which the pupils complete a course of a definite number of lessons and receive certificates signed by State or other public authorities. Minnesota has prepared a text-book for use in such classes conducted by nurses in the rural schools (see p. 30.)

Little mothers' classes have been reported by 24 States, with a total of nearly 3,000 classes. The largest attendance figures were reported by New Mexico (9,825), Michigan (5,327), Minnesota (4,461), Wisconsin (2,317), and North Carolina (1,826). Computation of the total attendance is not possible, since not all the States furnished the attendance figures; some gave only the number of girls receiving certificates and others kept no special record of attendance.

#### BIRTH REGISTRATION

Since accurate vital statistics are necessary for intelligent planning of a child-health program special attention has been given to improving the registration, especially in those States not now in the birth-registration area. The public-health nurses have always made registration of statistics a matter of observation and report. They furnish to bureaus of vital statistics information which they obtain in the course of their work, and frequently distribute the blank forms. The importance of registering births is always explained to expectant mothers who are visited, and the women are taught to ask the doctor to fill and return certificates without fail. In New Mexico 475 unregistered births were noted by nurses and reported to the health department. Montana distributed 1,500 birth-registration postcards, and Missouri sent out 38,685 certificates. A six months' birth-registration campaign was conducted in Oklahoma, and more or less informal campaigns were carried on in several States. In Arkansas it has been the practice to have the local registrar present at child-health conferences.

Iowa and North Dakota were admitted to the birth-registration area during the fiscal year under review in this report, and Florida's later admission<sup>7</sup> made the total number of States in the birth-registration area 33, and the percentage of the population 76.1. This situation has been brought about partly by general increased attention to the reducing of infant mortality since the Sheppard-Towner Act, and partly also by the activities of the maternity and infancy staffs.

<sup>7</sup> Florida was admitted in October, 1924.

Because the vital-statistics divisions of the State health departments are frequently understaffed it has been necessary in some States to use maternity and infancy funds temporarily for the compilation of vital statistics and the distribution of birth certificates.

For tables showing the trend of infant and maternal mortality in the birth-registration area during the period 1915-1923 see Appendix C, p. 54.

#### OTHER ACTIVITIES

Many other types of activities are undertaken by individual States, of which the following are perhaps the most important:

An antiphtheria campaign has been carried on for nine months in Pennsylvania. Antitoxin was supplied to physicians working through child-health centers for preschool children. It is reported that at the close of a two-year period a total of 135,598 infants had been immunized (figures for preschool children are not yet available). The Schick test will be given to immunized children after the six months' period. In some other States similar activity has been reported, as in Virginia where 16 toxin-antitoxin clinics were held with an attendance of 558, and in one county in Michigan, where the county supervisors voted \$500 for the expenses of carrying on this work for preschool children.

Through arrangement for the distribution of silver-nitrate solution for prevention of ophthalmia neonatorum, prompt care of infants' eyes has been stimulated. The use of this prophylaxis or an equivalent is compulsory in 24 States, and its distribution is provided for in 23 States.<sup>8</sup> Practically all State health boards distribute the silver nitrate solution where its use in the eyes of the newborn is required, whether or not the statutes specifically order such distribution. The number of ampoules distributed was mentioned in the reports of a few States; for example, Georgia, 13,291; North Carolina, 49,200; and Montana, 1,374. Cooperation has been given in goiter-prevention campaigns in connection with surveys or investigations on the part of States which have noted the prevalence of goiter in certain regions within their borders. Special campaigns for the physical examination of preschool children before their entrance into school were made in 20 counties in California and in certain regions in Michigan. Assistance in insuring a supply of pure milk was given (and part of the expense was met by maternity and infancy funds) in Oregon and Delaware; and aid or publicity was given to fly-destruction campaigns in Virginia, Delaware, and Arizona.

Surveys or studies of one kind or another were reported by many States and also were made in a number of States which gave no specific report of them. These vary from comprehensive compilation and analysis of statistical data to an assembling of certain minimum facts preparatory to the organization of health conferences or classes in a certain community. A preliminary survey of this general nature is evidently a wise first step in the undertaking of maternity and infancy work in any region. Thus in Utah such surveys were made in 11 counties, covering such items as the social and economic status of the inhabitants, housing, sanitation, water

<sup>8</sup> Legislation of 1922.

and milk supply, and other conditions affecting the welfare of the child. Similar work was done in Indiana, New Hampshire, Nebraska, North Dakota, Texas, and other States. Florida made a survey of the condition of Cuban mothers and children in Key West, likewise seeking to determine the amount of assistance that could probably be obtained locally for work among them. New Mexico made a survey of conditions among several communities of Pueblo Indians. The number of preschool children or of undernourished preschool children was investigated in a number of States, as New York, Wisconsin, Nevada, and Kentucky. Maternity and infancy divisions took part in the study of prevalence of goiter in Michigan and Colorado. Midwife surveys preceded work among or relating to midwives in most of the States devoting special attention to this problem (see p. 12). Local maternal and infant mortality studies were made in New York, South Dakota, Oregon, and Idaho, and the matter of birth registration in California, Oklahoma, and Utah. Hospital facilities for confinement cases were ascertained in Michigan and some other States, and postnatal care in others. Data on the milk supply and the extent of artificial feeding in selected areas were gathered as a preliminary step to campaigns in some States.

#### GENERAL EDUCATIONAL WORK

Opportunity for direct contact with mothers and for examination of children is provided by health conferences and the establishment of permanent health centers, also by home visits by nurses. More specialized instruction is communicated by way of instruction and supervision of midwives, in the mothers' classes, little mothers' classes, and nutrition classes or institutes. In addition much educational work of more general character is accomplished in all the States. Activity among communities consisting of certain racial groups has been found necessary in some States. Indians in Minnesota have been given instruction in the care and feeding of infants and children and on related matters by two Indian nurses who held a number of conferences and also went among their people teaching them in their homes. Work among Indians was done in Nebraska and New Mexico also. Special attention to the Mexican population was necessary in a few States, the nurses discovering a number of lines in which help was greatly needed. Much instruction has been given to negroes in certain areas in the Southern States, where the percentage of this population is especially high (see p. 12).

Lectures and talks by members of the administrative staff have been found productive of beneficial results. The largest number of lectures or talks reported from any one State was 2,413 in New Jersey. From Indiana 991 were reported, from Georgia 756, from Ohio 661. South Dakota reported 130 lectures, of which 60 were said to have been illustrated. The total for 40 States<sup>9</sup> was over 11,000.

Lectures were given by field or county nurses also in some States, as Alabama, New Hampshire, Oklahoma, and Texas. The number of persons reached by this kind of activity is difficult to estimate. Only a few States attempted to calculate or even to estimate the numbers present in all their respective audiences. Ohio reported

<sup>9</sup> Including Connecticut during the six months of cooperation. See footnote 6, p. 12.



the figure 74,904; North Carolina, 16,913; Kentucky, 49,441; Alabama, 14,175; Michigan, 13,584; Iowa, about 14,450.

Visual instruction was given in a number of States. In addition to the illustrative material consisting of slides or motion pictures used in connection with lectures mentioned in a number of States, as North Dakota, Utah, Colorado, Texas, Indiana, Georgia, Arkansas, and Virginia, the exhibition of moving pictures of some length has been found well worth while. (For mention of the Children's Bureau film see p. 46.)

All the cooperating States distribute many bulletins and leaflets directly from the administrative office in response to requests from mothers, physicians, and local organizations. An equal or possibly greater quantity is distributed indirectly at conferences, demonstrations at State or county fairs, and other places of public assembly where the subject of maternal, infant, and child welfare may appropriately be given attention. Lastly the nurses engaged in field work or other phases of activity distribute a large number of pamphlets and other printed material in connection with their work.

Children's Bureau publications (see pp. 46-47) furnish the major part of the material used, although in many States these were supplemented by pamphlets or leaflets prepared by the State for special use within its borders or in certain localities. Posters and charts were also found useful, and within the category of printed matter may be mentioned diet cards, which were used in quantities. Carefully planned examination outlines or blanks were prepared and used in Indiana, Iowa, Colorado, and other States for recording of findings at conferences and clinics. Report forms for field work and details of results were well worked out in New York especially. Patterns (as for layettes, abdominal belts, and the like) have been included in general mention of distribution of printed material by many States.

Translations into Spanish were made of certain of the Federal publications for use in some States, especially Texas and New Mexico, and these were used among the Spanish-speaking element of those States. French translations were similarly used in New Hampshire.

Many States have found exhibits very useful, whether at meetings of professional character or at popular assemblies; at State and county fairs, which furnish especially good opportunity; and in the windows of local stores whose proprietors are willing to help by giving space for exhibit material. Every children's health center is a place for exhibits, and rarely is a conference held in any place without a good supply of posters and charts and a display of clothing and simple home equipment for the care of babies. Arkansas has shown an "electrical health exhibit" 58 times and a food exhibit 55 times. New Mexico has used child-health exhibits, and Oklahoma had an exhibit covering the care of mothers and infants and pre-school children at 48 of 62 county fairs. From the State of Washington 11 special exhibits were reported, and Indiana prepared suitable exhibits for special occasions. New York has done a great deal in the preparation of exhibit and demonstration material.

Books or pamphlets on special subjects were prepared in a number of States. Special mention may be made here of a nurses' manual, mothers' lesson outline, and little mothers' league manual in Michigan; a nurses' manual on breast feeding in New York; pamphlets on breast feeding in California and other States; a pamphlet on maternal and delivery care in Ohio; pamphlets or leaflets of instruction for midwives in several States, as North Carolina, South Carolina, Tennessee, and North Dakota, or containing merely a summary of the law dealing with midwives, as in Texas. Iowa has issued a pamphlet on children's teeth, and Pennsylvania one on sleep for little children. The feeding of children has been made the content of special pamphlets in a number of States.

Oklahoma furnished the material (20,000 Children's Bureau bulletins) for use in courses on child care and maternal and infant care which the university, normal schools, and high schools in the State offer in connection with certain of their regular courses.

Publications prepared by the Children's Bureau are reported to have been used in the States in quantities indicated by such figures as 35,000 in Nebraska, 40,700 in Indiana, 42,600 in New Hampshire, 120,000 in Wisconsin, and 8,000 monthly in Oregon.

#### COOPERATION OF THE MEDICAL PROFESSION AND OF LAY ASSOCIATIONS

The success of a maternity and infancy program depends upon the interest and cooperation of the mothers and fathers and of the medical profession. Mention has been made elsewhere in this report of the assistance given by State and local medical societies and by individual physicians in conducting infant and maternity conferences and centers, in giving lectures to mothers' classes, in providing names of expectant mothers to receive prenatal letters or other literature from the maternity and infancy division of the State board of health or other local administering agency, in helping with the midwife program, and in acting as general consultants on State and local plans of work, as it is the policy to lay the plans before local physicians before work is undertaken in any district. Although in a few States it has been possible to pay these cooperating physicians a nominal fee for the help given, most of the States do not have budgets large enough for even this; and they have had to depend upon the generous aid of local physicians who appreciate the importance of such fundamental educational work. Many examples of such service have been reported by the States. For example, in West Virginia, where there is no staff physician, 265 child-health conferences have been made possible through the cooperation of local physicians. Florida reported 13 physicians helping on a volunteer part-time arrangement. The help of leading pediatricians and obstetricians who have served as consultants in practically all the States has been no less freely given; and dentists and dental societies have also assisted very generously.

Steady progress has been made in the utilization of all community resources in the promotion of the work. In some States, especially Iowa, West Virginia, Alabama, and Mississippi, a program of cooperation has been worked out with the home and farm demonstration agents, with granges, and with farm bureaus. This usually takes the form of assistance in arranging for local conferences, par-

ticularly rural ones, and in giving suitable place in their own program of activities to problems of infant and maternal hygiene. Preparation and preservation of foods recommended in the infant conferences are sometimes made a matter of especial demonstration. Women's clubs and fraternal organizations of both men and women, and in a few States the local commercial organizations, have given increasingly effective support to the work. Superintendents of schools and teachers have also helped, especially in the campaigns for general physical examinations and correction of defects before the children enter school.

Cooperation of all such organizations and agencies is important in any health program. It is particularly so in the promotion of the scientific care of children, since practically the entire adult population must be interested in the subject before the best results can be obtained.

#### PERSONNEL OF THE ADMINISTRATIVE STAFFS

Since the size of the budget and the kind of work undertaken vary considerably in the different States, the personnel of the administrative staffs varies greatly also. The following brief summary gives the main facts according to figures submitted by the States for the period January 1 to June 30, 1924:

There were over 50 physicians serving full time upon the State staffs. A physician was director on 28 staffs in the 41<sup>10</sup> cooperating States, and 15 of these 28 States reported additional physicians on the staff. A nurse was director in 9 States (Alabama, Delaware, Florida, New Hampshire, New Mexico,<sup>11</sup> South Carolina, West Virginia, Wisconsin, and Wyoming). In Iowa<sup>12</sup> and four other States the director was neither a physician nor a nurse. Three staffs (in New Jersey, Colorado, and Idaho) had part-time services of a physician. On only 10 of the administrative staffs were there no physicians, all the medical work being done by physicians detailed by the State boards of health or by volunteer physicians.

Public-health nurses were employed in every State. In some States it is the policy to have the local nurses devote themselves to the maternity and infancy program exclusively, while others, believing that a generalized nursing program is best adapted to the rural work, arrange with the counties or local communities for a definite part of the nurse's time. For example, Pennsylvania reported 132 nurses devoting part of their time to maternity and infancy work. New York reported 32 nurses giving full time to maternity and infancy work, and 46 nurses giving part time. New Jersey reported 36 nurses and Texas 31 nurses devoting full time to this work. Altogether 13 of the States which reported that they employed full-time nurses had in addition from 1 to 46 nurses doing part-time maternity and infancy work. The total number of nurses employed in the States, in addition to the 9 who served as directors, was 595; of these, nearly 300 were giving part time to the maternity and infancy pro-

<sup>10</sup> Including Connecticut during the six months of cooperation. See footnote 6, p. 12.

<sup>11</sup> In New Mexico the maternity and infancy program was administered through two bureaus, which had their separate administrative staffs and did independent work. A nurse was director of one of these bureaus, a physician of the other. See pp. 34-35, and Appendix B, p. 52.

<sup>12</sup> In Iowa the State university (under the State board of education) was designated to administer the maternity and infancy program, and a division was established for this purpose under the direction of a member of the faculty of the university. See Appendix B, p. 52.



gram. These nurses were on the staff, in the field, or detailed to counties.

There was a dental hygienist on the staff in California, and a dental advisor on that of Iowa. Virginia employed a dentist for three months, and Maryland employed a dentist for special work for short periods. Reference has previously been made to New Jersey's itinerant dental service. Dental societies and local dentists also gave considerable assistance to dental work.

Other members of the staff mentioned in addition to clerical assistants in some States were midwife supervisors or instructors, inspectors of maternity hospitals, social workers, nutrition workers, laboratory technicians, and educational directors.

#### SUMMARY OF PRINCIPAL ACTIVITIES BY STATES

A brief summary of the activities reported by the States is subjoined. In these outlines no attempt is made to mention all the lines of activity in which each State has been engaged. Some activities common to practically all the cooperating States, as, for example, general distribution of informative literature, have not been mentioned. That branch of work to which the State paid especial attention, or in which there was notable achievement in results obtained or in the overcoming of difficulties hampering the work, has frequently been made the theme of the major part of these tabular summaries. It should perhaps be stated that with very few exceptions the States have done little or no work in the larger centers except for training or demonstration purposes, or surveys or consultation on request from urban centers, but have attempted to carry out faithfully the spirit of the act by expending the funds thereby made available in reaching rural districts, isolated groups, or special elements among the population. They have thus rightly chosen the more difficult fields.

Because of the cost it is not possible to publish maps showing the geographical extent of the work in all the States, but a few believed to be fairly typical of the widely different methods and forms of organization used have been chosen. These indicate both the extent and the limitations of the work that can be done in a year with the available resources.

#### ALABAMA

Administrative agency:

State board of health, bureau of child hygiene and public-health nursing.

Staff:

Director, 3 staff nurses, 20 public-health nurses, 2 vital-statistics clerks, 1 stenographer.

Activities:

Home visits—the nurses are under the direction of the county health officer, who initiates and conducts the maternal and infant hygiene program which was prepared by the child-hygiene bureau and approved by the Federal board. The State board of health acts in an advisory capacity. The principal activity of the nurses has been home visits, of which a large number have been made.

Midwife classes—16, with an attendance of 626. These have been held by the health officers in some counties, with the nurses assisting.

Permanent preschool clinic—1 established, as the result of a house-to-house survey made in Covington County.

Through cooperation with the Alabama Sunday-school council of religious education, 80 addresses on the hygiene of maternity and infancy were given by the director at a series of community-life institutes held in 40 counties.

A negro nurse was assigned to the Tuskegee movable school. This is a demonstration automobile with a staff of instructors consisting of a carpenter, instructor in home economics, and agriculturist. They travel through rural communities, spending several days in each to show families how to remodel, arrange, and improve their homes. The nurse gave instruction in maternal and infant hygiene.

During the summer a second negro nurse was assigned to the State department of education to instruct the negro mothers in the hygiene of maternity and infancy in connection with the adult schools for the illiterate.

#### ARIZONA

Administrative agency:

State board of health, child-hygiene division.

Staff:

Director, 5 field nurses, 1 stenographer.

Activities:

Children's health conferences—181, at which 1,183 children were examined. Attention is also given to prenatal cases, and dental care is included in the advice given at these conferences. The State is divided into five districts and a nurse is assigned to each. She is responsible for as many activities as she can develop. The conferences are mostly held by the nurses, who give advice, distribute literature, and urge expectant mothers to consult a physician and have systematic prenatal care. Doctors can not often be secured to aid at the conferences, as they are relatively scarce in the regions where conferences seem most necessary.

Mothers' classes—50, with an attendance of 1,040.

Little mothers' classes—45.

Home visits—695 to prenatal cases, 537 to postnatal cases, 2,697 for infant care, 2,935 for care of children of preschool age. In these visits the nurses give demonstrations of maternity, infant and child care. One of the nurses speaks Spanish, and pamphlets in this language are distributed in connection with her work.

Midwife instruction—The nurses seek out the midwives, giving them instruction, and visiting prenatal and postnatal cases with them. No attempt has yet been made to hold regular classes because the midwives are so scattered.

Campaigns—for birth registration and for "swat the fly." The nurses have inaugurated and conducted these.

A few nutrition classes have also been held.

#### ARKANSAS

Administrative agency:

State board of health, bureau of child hygiene.

Staff:

Associate director, 3 nurses, 1 midwife supervisor (a nurse), 1 stenographer.

Activities:

Children's health conferences—142, at which 3,823 children were examined. These were held in connection with the "health caravan," which consists of a doctor, 2 nurses, a chauffeur (who operates the moving-picture machine). Two automobiles are used for transportation of the staff and apparatus. Preliminary arrangements were made by a nurse who went in advance to secure local cooperation.

Mothers' classes—40, with an attendance of 1,508.

Midwife classes—31, with an attendance of 388 women, 315 of whom received licenses to practice. A state-wide midwife survey has been begun. An active birth-registration campaign has been undertaken.

#### CALIFORNIA

Administrative agency:

State board of health, bureau of child hygiene.

Staff:

Director, 7 nurses, 1 dental hygienist, 1 midwife inspector, 2 clerks.

Activities:

Children's health conferences—57 (in 14 counties), at which 10,548 children were examined. Of these, 6,318 were examined in San Joaquin County,

where the State nurse acted for a time in a supervisory capacity for infancy and maternity work in cooperation with the county health unit. An endeavor was made in holding health conferences to stimulate local agencies to establish permanent centers.

Dental conferences—28 in 9 counties.

Little mothers' classes—14 in 2 counties.

Permanent child-health centers—25 in 5 counties.

Prenatal centers—8 in 4 counties.

Midwife survey—the state-wide survey undertaken the previous year was completed, of the 500 midwives who were interviewed 111 were licensed, and 80 per cent of these had been fairly well trained in Japan. The conclusion was that one half of the remainder could be trained and that the other half should be eliminated. An investigation has been begun to ascertain how far the midwives may be held responsible for maternal and infant deaths.

A campaign was made during April and May in 26 counties where cooperation from medical and dental associations was obtainable to have all children who were to enter school in the fall given a complete physical examination, so that all defects might receive attention before the beginning of the school year. The examinations were made by local physicians, but pediatricians were provided to assist where county medical societies requested such help. Local organizations and superintendents of schools, as well as public-health nurses, aided in the campaign.

Three new publications were issued: Breast Feeding, Care of the Baby, and a series of prenatal letters.

#### COLORADO

Administrative agency:

Department of public instruction, child-welfare bureau.

Staff:

Executive secretary, 1 pediatrician, 2 nurses, 1 clerk, 1 stenographer, 1 interpreter.

Activities:

Children's health conferences—45, at which 5,412 children were examined. (Advice on the hygiene of pregnancy was also given, and some prenatal examinations made.) Of these conferences 15 were held in connection with county fairs.

Permanent health centers—29 established. Conferences were previously held in a group of three or more towns not far apart. These were conducted by the extension division of the State university, the State board of health, State tuberculosis association, and the child-welfare bureau. A month after the first conference a nurse returns to supervise or assist at another conference, and this usually means the beginning of a permanent child-health center conducted by local physicians.

Midwife classes—5, at which 30 midwives were instructed. Although many of the midwives were too old or too ignorant to receive instruction, it is believed impracticable to eliminate them. It was therefore planned that one reliable registered midwife should be placed in each district and trained by local doctors, with the unregistered midwives permitted to assist, but not allowed to have any responsibility. For this work 3 midwives (1 Mexican, a graduate nurse) have been selected.

Community demonstrations—68, some of them at county fairs.

A goiter survey disclosed the fact that there was quite a goiter belt running from the central western part of the State to the central southern part.

#### CONNECTICUT<sup>13</sup>

Administrative agency:

Department of health, bureau of child hygiene.

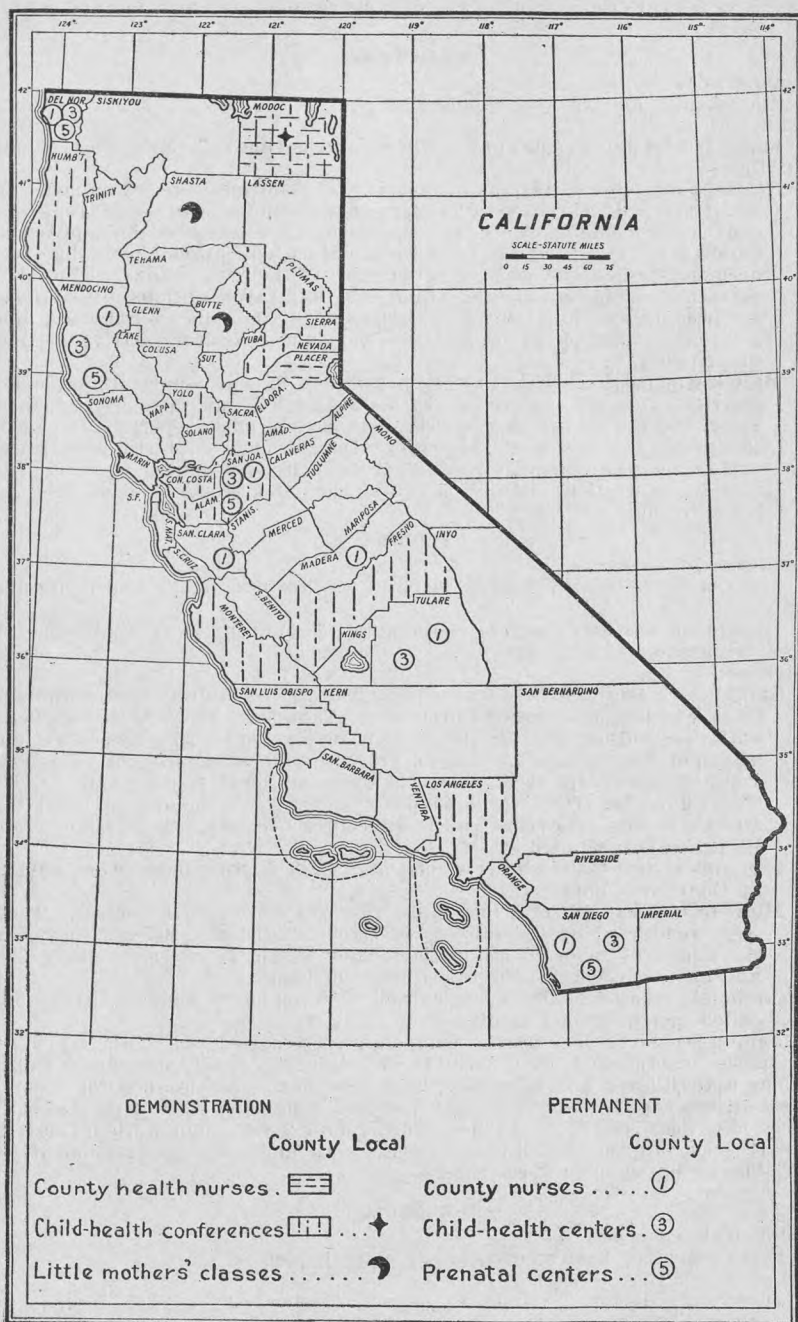
Staff:

Director, 1 doctor, 4 nurses, 1 midwife supervisor, 1 vital-statistics clerk, 1 clerk, 1 stenographer.

Activities:

Children's health conferences—11, at which 1,380 children were examined.  
Prenatal conferences—5, with an attendance of 225 (but no examinations made).

<sup>13</sup> During six months of cooperation in 1923. See footnote 6, p. 12.



ACTIVITIES IN CALIFORNIA DURING 1923-24



Community demonstrations—17, some on food values and preparation of food for children. Some of the demonstrations were at State and county fairs.

#### DELAWARE

Administrative agency:

State health and welfare commission.

Staff:

Supervisor of nurses, 10 nurses (three-fourths time), 3 clerks (half time).

Activities:

Health conferences—144, at which 11,872 children were examined. As there are only three counties, the county nurses can be stationed at convenient centers where the conference for mothers and preschool children is held regularly each week. Much educational work has been accomplished in the way of persuading mothers to realize the need of correction of defects in their children. Only three stations are equipped for prenatal examinations, but as a result of the educational work done a greater number of women are consulting doctors early in their pregnancies.

Midwife inspection—This is a responsibility of the county nurse in her district. General conferences with the midwives are held by the supervisor, but the midwives understand that they must report to the nurse the prenatal cases and the births. Improvement in birth registration and in maternal care has resulted from such supervision.

Home demonstrations—Many on infant care and preparation of food and home hygiene.

#### FLORIDA

Administrative agency:

State board of health, bureau of child welfare and public-health nursing.

Staff:

Director, 6 nurses (1 negro), 1 secretary, 1 auditor's clerk (half time), 1 stenographer (half time).

Activities:

Child-health conferences—50 at which 1,393 white children were examined; 38 at which 1,390 negro children were examined. These were conducted with the aid of the district health officers or local physicians, and attempts were made to have every case recommended for corrective work followed up by a nurse or by some local representative. The "health movie truck" was used for nearly two months in rural districts. Besides the time spent in conference, films were shown and literature distributed.

Prenatal visits—2,406 white women and 4,033 negro women were advised in their own homes.

Midwife classes—43 for white midwives; 261 for negro midwives. These were conducted by the nurses, who also visited all patients for whom the midwives reported stillbirths. They sought to ascertain the causes and made a report to the State board of health.

Mothers' classes—256 for white women; 288 for negro women. (These are called neighborhood institutes.)

An intensive birth registration campaign was carried on.

A survey was made in Key West to ascertain the conditions among Cuban mothers and children and what local assistance could be obtained for them.

As a direct result of the maternal and infant hygiene work 4 public-health nurses have been employed (2 for counties and 2 for communities), each to do part-time maternal and infant hygiene work under the supervision of the State bureau but paid by local funds.

#### GEORGIA

Administrative agency:

State board of health, division of child hygiene.

Staff:

Director, 1 doctor, 7 nurses (1 negro), 1 laboratory worker, 2 stenographers.

Activities:

Children's health conferences—870, at which 4,773 children were examined, literature was distributed, and advice was given to mothers. Preliminary arrangements were made by a nurse, who went in advance to

secure the cooperation of local organizations. A doctor, nurse, and chauffeur (who also operates the motion-picture machine) compose the staff for these "healthmobile" conferences. A white nurse and a negro nurse work in the county after healthmobile conferences, visiting the homes of children in need of corrective work. Many parents promised to have the children cared for during the summer vacation.

Permanent child health centers—5 established.

Permanent prenatal clinics—established in 6 communities.

Educational work—2 field nurses attended county fairs, giving talks to mothers and distributing literature. Nutrition work was done by county home-demonstration agents through cooperation with the extension bureau of the State department of agriculture.

Midwife classes—17 have had complete courses in 17 counties. Much personal work was done among doctors in an effort to have them appreciate the importance of instructing and supervising midwives. At the annual meeting of the State medical association a resolution was passed approving any midwife work which might be done by the State board of health.

Maternity and infancy work has increased during the past year. Nurses who were not devoting time to this branch of public-health nursing are now giving part time to it, while others have enlarged their program. Two full-time maternity and infancy nurses have been placed in counties.

#### IDAHO

Administrative agency:

Department of public welfare, bureau of child hygiene.

Staff:

Director (part time), 3 nurses, 1 clerk.

Activities:

Children's health conferences—24, at which 2,463 children were examined.

(Letters were previously sent to every mother in the county for whom a birth certificate had been received within the year.) Prenatal conferences were conducted at the same time and 371 women were examined. After the conferences a nurse remained in the county advising parents on the necessary corrective work. Letters were sent if personal visits could not be made, and over 50 per cent of the letters were answered.

Infant-welfare center—established by one community, with the work done by local people. Literature for distribution is supplied by the State bureau.

Midwives—few in number and working under the supervision of physicians.

Vital statistics—much attention has been paid to birth and death reporting.

#### INDIANA

Administrative agency:

State board of health, division of infant and child hygiene.

Staff:

Director, 3 doctors, 5 nurses, 1 secretary, 1 statistician, 3 stenographers, 1 publicity worker, 2 chauffeurs.

Activities:

Children's health conferences—279, at which 7,581 children were examined.

County-wide examination of all preschool children was planned. The publicity worker went in advance, making preliminary arrangements and securing the aid of local organizations. A physician, nurse, and exhibit director followed, remaining from 2 to 3 weeks in the county, holding conferences.

Permanent children's health centers—10 established by local agencies as a result of the child-health conferences, and 47 maternity and infancy centers conducted. At the centers 2,178 children were examined, making a total of 9,759 examinations.

Mothers' classes (run as a series of 5 lessons)—499 lessons given to an attendance of 7,547.

Midwives—reports from the State registration board and from physicians indicate the gradual elimination of midwives unwilling to comply with the State laws.

Maternity and infancy demonstrations—booths demonstrating this work were in operation at the Congress on Internal Medicine at St. Louis, the

annual meeting of the American Medical Association, the State Normal College at Terre Haute, and elsewhere.

In conjunction with the Winona-Lake Chautauqua the director, aided by a corps of assistants, held children's health conferences, conducted 8 classes for mothers and distributed literature, held 2 open-forum meetings, gave 10 lectures, and 6 talks illustrated by motion pictures.

Better-baby conferences and a day nursery were conducted at the State fair, and a demonstration was made at the better-homes exposition.

#### IOWA

Administrative agency:

State University of Iowa, division of maternity and infant hygiene.

Staff:

Director, 6 physicians, 1 dental advisor, 6 nurses, 1 social worker, 3 stenographers.

Activities:

Children's health conferences—574, at which 13,030 children were examined. At prenatal conferences in conjunction with these 5,249 women were given advice. After the advance worker has visited all the physicians in the territory, a letter is sent to each physician from the State office informing him that certain children have been chosen for examination and inviting him to attend the conference. The findings of the pediatrician are sent to the State office and the references to the local physician, this letter giving the physician specific data as that certain findings in certain cases were made.

Dental clinics—51, at which 1,088 children were cared for.

Lectures—The staff obstetrician has been placed at the service of the State medical society to bring before rural doctors the most advanced methods in obstetrics. He has delivered lectures before county medical societies, illustrating them with slides and films, also by the use of a complete equipment of obstetrical instruments. The dental advisor does similar work for the State dental society.

About 40 per cent of physical defects were corrected.

It is hoped to publish soon a complete outline of a plan for establishment of permanent prenatal centers and to devote the services of one person to aiding communities to organize their own resources.

#### KENTUCKY

Administrative agency:

State board of health, bureau of maternal and child health.

Staff:

Director, assistant director, 6 nurses, 25 part-time nurses, 1 stenographer, 1 vital-statistics clerk, 2 clerks, 1 typist, 1 bookkeeper.

Activities:

Children's health conferences—442, at which 6,648 children were examined.

Prenatal clinics—54, at which 2,959 women were examined.

Dental clinics—2, at which 100 children were cared for.

Mothers' classes—22, with an attendance of 255.

Permanent health centers—72 established. This means a permanent health center in every county where there is a county nurse. The nurses also give advice to expectant mothers in the centers and in the homes.

Community demonstrations—31, most of them in connection with county or community fairs. A physician and nurse were in attendance, many preschool children were examined, talks given to mothers, and much literature distributed.

Articles on maternal and child health written by the director (or the assistant director) have been published each week in all the county newspapers and also in the chief agricultural monthly of the State.

A nurse is assigned to act as registrar at the prenatal clinics and obstetrical wards, also the syphilitic mother and child clinics, of the University of Louisville Medical School. This nurse keeps the record cards of the clinic patients, and these records are of value to the obstetrician in charge, who contributes to a State medical journal monthly reports of abnormal obstetrical cases cared for in the maternity ward. Data on abnormal cases are thus put in the hands of many physicians, and readers of the column also write asking for the leaflets on maternal care. This work has so aroused interest in maternal and child health that a department of child health has been created in the medical school of the university, with assistance given from the Carnegie Foundation.



Local organizations cooperate most helpfully in the work, and in almost every community women act as conference aids.

The instruction of midwives is a difficult problem. These women are in isolated districts, mostly hemmed in by mountains, and are old, decrepit, and ignorant. Only a small number will attend classes, but in the summer when the roads are passable the nurses seek them out to give what instruction is possible. Some progress is being made among negro midwives, who are apparently extremely ignorant but anxious to learn.

#### MARYLAND

Administrative agency:

Department of health, bureau of child hygiene.

Staff:

Director, 6 doctors (5 part time), chief nurse, 3 child-hygiene nurses, 3 public-health nurses detailed to counties, 2 stenographers, 1 educational director.

Activities:

Child-health conferences—168, at which 3,487 children were examined. The "healthmobile" visited 14 counties. About 8,700 children were examined, and a number of community meetings were held at which moving pictures were shown and talks given on prenatal and infant care. In 24 communities child-health conferences in which the mothers were given advice and instruction were repeated two or more times.

Dental clinics—3, at which 60 dental treatments were given by dentists employed by the bureau. The State dental association is planning to cooperate so that more preschool children may have dental care.

Community demonstrations—46, covering the bathing, feeding, and clothing of babies. These have been held at county fairs, women's clubs, community meetings and elsewhere. Also 210 home demonstrations during the year are recorded.

Nutrition classes—26, for preschool children.

Midwife classes—3, with enrollment of 18.

A set of 20 lantern slides depicting various phases of child health work was prepared and distributed in groups of two to each of the rural motion-picture houses in the State.

A series of articles entitled "Talks to mothers about their children" was prepared and appeared weekly in practically all of the county papers for 10 months. Other articles were also prepared for the county papers and published by them.

Demonstration layettes, bottle-feeding and breast-feeding outfits have been assembled and sent to various counties for exhibition.

#### MICHIGAN

Administrative agency:

Department of health, bureau of child hygiene and public-health nursing.

Staff:

Director, 1 pediatrician, 1 prenatalist, 1 research worker (a physician), 12 nurses, 1 midwife inspector (a nurse), 1 vital-statistics clerk, 2 clerks, 2 stenographers.

Activities:

Children's health conferences—255 (in 42 counties), at which 5,518 children were examined by the State pediatrician (whose entire time is given to holding these conferences).

Prenatal clinics—33, held by the State prenatalist, who travels about for this purpose and has examined 40 expectant mothers. She also held 89 prenatal conferences (in 15 counties), and gave talks on the hygiene of maternity and infancy. The attendance was 2,239. Many expectant mothers were referred to local physicians.

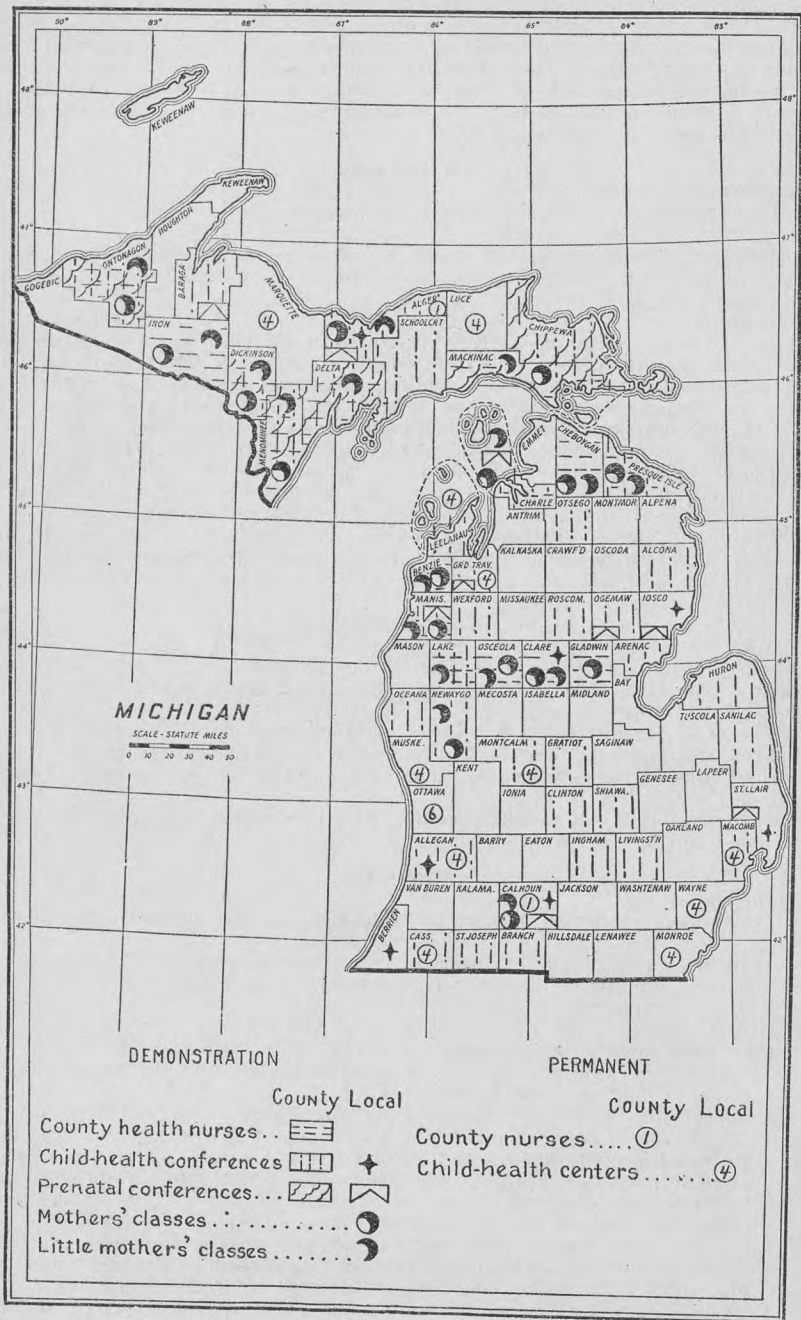
Mothers' classes—89 (in 15 counties), with attendance of 1,403.

Little mothers' classes—167 (in 17 counties), with attendance of 3,254.

Permanent children's health centers—18 established (organized under the maternity and infancy act, but not financed by Federal funds).

Permanent prenatal clinic—1 established (organized under the maternity and infancy act, but not financed by Federal funds).

Prenatal letters—A course of prenatal letters is sent out.



ACTIVITIES IN MICHIGAN DURING 1923-24

Maternity and infancy demonstrations—A demonstration was made in a county in the lumbering region in the northern part of the State. The work took place in homes, as it was not possible to collect the women in groups. Similar demonstration work is under way in a county in the farming region in the southern part of the State. The communities in both counties are awakening to their responsibilities in regard to maternal and infant death rates. A desire to cooperate with the division was evident.

A survey was made of the maternity bed capacity in 111 hospitals. It was found that more beds were available than had been used; and that small maternity hospitals were needed to meet the problems of isolation, deep snows and lack of physicians; but in order to secure patronage for such hospitals a moderate charge would be necessary, together with education of the public in regard to the desirability of hospital maternity care.

County health committees have been established in 18 counties.

Doctors and nurses of the division gave 1,108 hours of service to the State health department goiter survey, and this work resulted in a preventive program. Among 6,797 infants and preschool children examined there were found 257 cases of goiter.

A state-wide midwife survey has been begun but has not yet been completed.

#### MINNESOTA

Administrative agency:

State board of health, division of child hygiene.

Staff:

Director, 1 doctor (temporary, for midwife survey), 16 nurses, 2 vital-statistics clerks, 3 clerks.

Activities:

Children's health conferences—7 among the Indians, at which 126 children were examined. By means of a gift from the American Child Health Association, which by State law can be included in State funds used for matching Federal funds, 2 Indian public-health nurses were provided for work among the Chippewa Indians, where the infant mortality rate is very high and where there is much tuberculosis as well as trachoma. The work has consisted largely of house-to-house visits and home demonstrations.

Prenatal conferences—Monthly since January, in different places in 3 counties, conducted by two well-known obstetricians from Minneapolis. At the close of each conference the physicians gave a lecture on prenatal hygiene, to which all of the women of the community were invited. Preliminary arrangements were made by a nurse who went into the county a week before the conference. In the month after the conference the nurse visited all of the women who had attended, emphasizing to them again the necessity of seeing a physician.

Demonstrations—A nurse gave demonstrations in connection with 123 infant clinics held throughout the State by the Minnesota Public Health Association. Similar demonstrations were given at 28 county fairs. At meetings of the Farm Bureau women 2 field nurses gave demonstrations on infant care and preparation of infant food.

Little mothers' classes—671, with 4,641 girls in attendance. These were held by county and school nurses.

Correspondence course—3,110 women registered. Many of these have been organized into classes under the direction of a county or community nurse.

Prenatal letters—sent in response to 1,710 applications. The number of physicians referring women to the division for these letters is gradually increasing.

A midwife survey showed that the number of midwives in the State is gradually decreasing with the decrease in the foreign-born population.

Intensive programs for maternity and infant welfare work are under way in St. Louis and Olmsted Counties.

St. Louis County is the only county in the State having a full-time county health officer. With funds which were matched by Sheppard-Towner funds they are employing one full-time maternity and infancy nurse in the county. In addition to this full-time nurse, one-third of the time of each of the four county nurses is spent in maternity and infancy work. The program carried

out by these nurses has consisted of class work in maternal and infant hygiene for the women, little mothers' classes for girls in all of the schools in the unorganized districts of the county, and home visits for prenatal and infant cases.

#### MISSISSIPPI

Administrative agency:

State board of health, bureau of child welfare and public-health nursing.

Staff:

Director, 16 nurses (8 part time, 2 of whom are detailed to counties), 3 stenographers (2 half time).

Activities:

Children's health conferences—187 (in 24 counties), at which 8,457 children were examined. The offices of 10 county nurses serve as health centers. The nurse remains in her office one day each week for consultation with mothers of small children, expectant mothers, and midwives. The county health officer is often present at these times, and volunteer service of local people is encouraged.

Community demonstrations—187, many in private homes, on the hygiene of maternity and infancy.

Midwife classes—1,116 for negro midwives (in 27 counties), with an attendance of 12,961 women. Such classes covered a period of two months or more. This number includes not only midwives but other women encouraged to attend in order to learn what constitutes proper maternity care. An effort is being made to interest young intelligent negro women in the study of midwifery, since midwives are an economic necessity in the State. All of the midwives have been registered and are under supervision. In addition to the classes, county meetings of midwives were held in 53 counties.

Prenatal conferences—held in 28 counties.

Little mothers' classes—held in 10 counties.

Nutrition classes—held in 7 counties.

As a result of the conferences and of midwife instruction, two counties have established health units, with the nurse devoting half of her time to maternity and infancy work. Another county has employed a public-health nurse who gives half of her time to such work. Four nurses spend their entire time in field work, each giving two months to a county.

#### MISSOURI

Administrative agency:

State board of health, division of child hygiene.

Staff:

Director, 4 doctors (3 part time), 3 nurses, 8 county nurses, 1 vital-statistics clerk, 1 clerk, 1 stenographer.

Activities:

Children's health conferences—262 (in 56 counties), at which 9,431 preschool children were examined. A series of preschool clinics covering six or seven communities in a county was arranged, a physician and nurse being sent to assist with the organization. Wherever possible the nurse and local physicians continue the clinics at regular times. Through home calls the nurse keeps the interest of the parents and induces them to have physical defects corrected. The report for the second half of the year shows that 37 per cent had defects corrected.

Mothers' classes—188 (in 17 counties), with an attendance of 2,688.

Little mothers' classes—18 in 11 counties.

Dental clinics—8, at which 98 children received attention.

Home demonstrations—2,798. These covered care of mothers and babies, food preparation, and other matters.

There were no regular prenatal conferences, but advice was given to 8,024 mothers and 66 expectant mothers were examined.

Permanent prenatal clinics—2 established.

Permanent children's health centers—11 established.

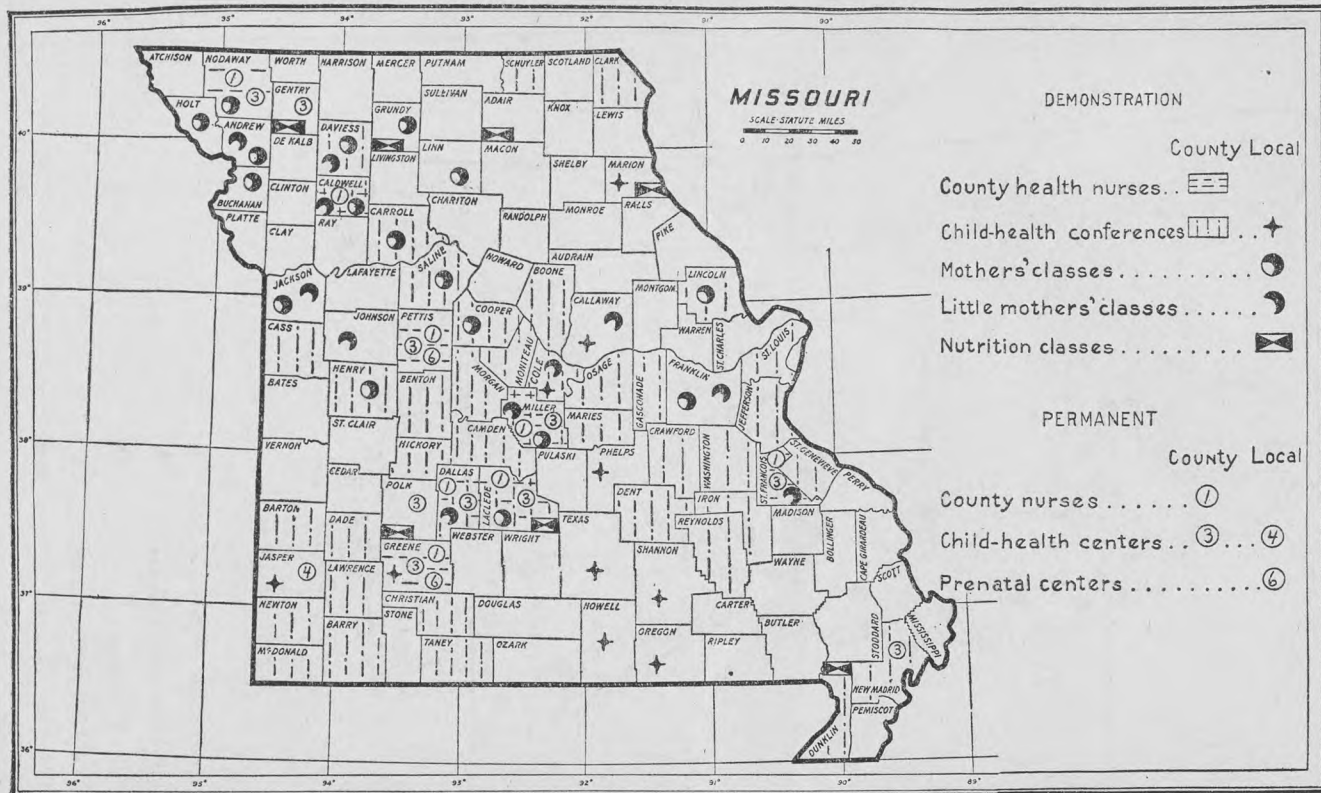
Inspection was made of 18 maternity homes and 28 infant homes.

In 7 counties a maternity and infancy nursing service was begun.

Cooperation with the department of health in a survey and pure-milk campaign resulted in the securing of better milk supply for four towns having a high infant mortality rate.







ACTIVITIES IN MISSOURI DURING 1923-24

A survey of birth reporting in six counties where there was unusual laxity was made to assist in a birth-registration campaign. During this period 38,685 birth certificates were issued.

Assistance was rendered to public health service trachoma clinics by advertising them in connection with the infant and preschool conferences in 11 counties.

## MONTANA

Administrative agency:

State board of health, division of child welfare.

Staff:

Director, 7 nurses (4 part time), 2 clerks, 1 bookkeeper.

Activities:

Children's health conferences—590, at which 7,518 children were examined.

Because of extreme difficulty in securing county nurses it was impossible to accomplish as much follow-up work as was desired.

Prenatal conferences have been held in conjunction with the children's conferences with a small number of women in attendance. A good deal of education in maternal and infant hygiene is accomplished by nurses in home visits as well as conferences.

Permanent children's health centers—7 established.

Demonstrations—A special effort was made to have maternity and infancy work explained at every county fair. The bureau was represented at two Indian fairs. Talks were given, literature distributed, and health demonstrations held where possible.

In several cases the county gradually took over more and more of the responsibility as the value of county nursing service was appreciated.

## NEBRASKA

Administrative agency:

Department of health and welfare, division of child hygiene.

Staff:

Director, 2 nurses, 1 maternity home inspector (part time), 1 vital-statistics clerk, 1 office assistant.

Activities:

Children's health conferences—85, at which 3,421 children were examined by local doctors. Some follow-up work was done, and in one town every child examined at the conference received afterwards the necessary corrective treatment.

An Indian woman who is a trained public-health nurse has succeeded in initiating a maternity and infancy program among the Indians. The Indian doctor employed by the United States Indian Service has given the nurse much assistance.

During June, 10 public-school nurses were employed by the division for special maternal and infant demonstrations in their respective counties. The results of this service were very satisfactory.

Inspection was made of 78 maternity and infant homes.

## NEVADA

Administrative agency:

State board of health, child-welfare division.

Staff:

Executive secretary, 5 public-health nurses in counties.

Activities:

Children's health conferences—62, conducted by nurses, at which both prenatal and infant conferences are held. Advice has been given to 450 mothers and 1,406 children have been examined.

Little mothers' classes—4 organized, as a result of home demonstrations by the nurses.

One county-wide survey was made by a nurse, and a local committee was organized to seek out the undernourished preschool children. Classes for general health improvement were also formed among the mothers and children.

One county has undertaken to pay all expenses of the nurses except \$65 a month, which is supplied by the child-welfare division.

## NEW HAMPSHIRE

## Administrative agency:

State board of health, division of maternity, infancy, and child hygiene.

## Staff:

Director, 7 nurses, 1 stenographer.

## Activities:

Children's health conferences—111, at which 2,021 children were examined by 26 physicians, who gave their services for an honorarium. Through the efforts of the nurses 287 children then had necessary defects corrected and 618 prenatal cases were placed under the care of physicians. The county nurses of the New Hampshire Tuberculosis Association assist at all child health conferences as a part of their regular duties. They take histories, meet the mothers, weigh and measure children, etc. Local doctors and nurses have had a large part in making the conferences a success. The nurses have given invaluable assistance before and during the conferences, bringing the children and telling the mothers how a physical examination benefits the children.

Mothers' classes—55, with an attendance of 480.

Community demonstrations—89. State nurses are endeavoring to obtain for every child of preschool age in the counties covered a thorough physical examination once during the year. This has been accomplished in several towns.

A demonstration of maternity and infancy care was made in West Manchester by a nurse detailed to this service. She visited expectant mothers, persuading them to consult physicians; held mothers' classes; directed the preparation of obstetrical packages; encouraged breast feeding; and is trying to establish a registry of "practical" nurses. This demonstration is to be continued another year, in the hope that actual figures can be secured showing that the lives of mothers and babies can be saved by this type of work.

## NEW JERSEY

## Administrative agency:

Department of health, bureau of child hygiene.

## Staff:

Director, 36 nurses, 2 social workers, 4 vital-statistics clerks.

## Activities:

Children's health conferences—weekly, in the 83 "keep-well stations," with 74,024 children in attendance. During 1924, 14 new stations were opened.

Mothers' classes—332 conducted, of which 16 were held in the State reformatory for women. A total of 47,500 women were present.

Midwife classes—114, with an attendance of 2,312. Several of these were monthly meetings.

Dental work—by means of the traveling dental ambulance 1,300 children were treated.

Permanent prenatal conferences—2 established. In general the plan followed has been that of instructing individual mothers in their homes, and referring them to physicians rather than having them attend prenatal conferences.

Inspection was made of 27 maternity homes and 262 infant homes.

## NEW MEXICO

A<sup>14</sup>

## Administrative agency:

Department of public welfare, bureau of child welfare.

## Staff:

Director, 2 doctors (part time), 1 nurse, 1 stenographer (part time).

## Activities:

Children's health conferences—163, at which 4,611 children were examined.

Mothers' classes—249, with an attendance of 3,311.

Little mothers' classes—931, with attendance of 9,825.

Permanent children's health center—1 established.

Surveys and clinics among the Pueblo Indians showed that there is no milk supply in the communities studied; the diet is inadequate, and the death rate is high. It was necessary to visit Indian and Spanish-American mothers in their homes in order to advise them as to the hygiene of maternity and infancy.

<sup>14</sup> See footnote 11, p. 19, and Appendix B, p. 52.

B<sup>15</sup>

## Administrative agency:

Department of public welfare, bureau of public health, division of child hygiene and public-health nursing.

## Staff:

Director, 1 doctor (part time), 2 nurses (part time), 1 vital-statistics clerk, 1 clerk (part time), 1 stenographer (part time).

## Activities:

Children's health conferences—30, at which 870 children were examined.

Mothers' classes—106, with an attendance of 365.

Midwife classes—92, with enrollment of 48 women, 38 of whom completed the course. After instruction the midwives showed marked improvement. Some of the more ignorant have been eliminated.

Home demonstrations—1,550 given by nurses to expectant mothers and mothers of small children.

The nurses of the county health units give part time to maternity and infancy service.

## NEW YORK

## Administrative agency:

Department of health, division of maternity, infancy, and child hygiene.

## Staff:

Director, 1 associate director, 1 obstetrician, 2 pediatricians, 1 doctor, 76 nurses (46 part time), 1 nutrition worker, 2 midwife inspectors, 5 clerks, 8 stenographers.

## Activities:

Children's health conferences—230, at which 5,765 children were examined by the children's health consultation unit, composed of 2 pediatricians and 2 nurses. Local doctors were urged to attend and every effort was made to secure their interest. Notice of defects found was sent to the family doctor as well as to the parents of the child. Follow-up visits were made by the local nurse, or by the State nurse where there was no community nurse.

Prenatal consultations—held by the State obstetrician in health centers in different towns at regular intervals. For a total of about 500 women 771 physical examinations were made, including 346 reexaminations. Many doctors send their cases for consultation, but no woman under the care of a local doctor is examined except with his written consent. Women who have not secured the services of a physician for confinement are urged to engage a physician at once. Patients of midwives are not referred to physicians except when medical attention is indicated. Midwives must bring their patients to these consultations for regular prenatal observation. Follow-up work is done by the local nurse.

Midwife classes—now regularly held, with instruction given by an obstetrician, another physician, a nutritionist, the associate director, 2 district State officers, 4 local health officers, and 2 midwife inspectors. The midwives in different sections of the State are called together for meetings from time to time, and must attend or file a reasonable excuse for nonattendance. During the past year 10 such meetings were held with an attendance of 252.

Extension course for nurses—held in 25 communities. This included 7 lectures on maternity hygiene. The nurses later organized mothers' health clubs in 45 communities, following the approved outline of lectures.

Nutrition institutes—held in three communities by the nutritionist, who gave a series of 7 lectures to nurses and others interested in the feeding of children.

Permanent health centers—28 in operation, 9 of which were previously in existence but have been extended in scope by the aid of Federal funds. Many local communities are initiating maternity and infancy work as a result of the educational work done by the State department.

Prenatal clinics—11 established, including one station where demonstration consultations are still being held.

<sup>15</sup> See footnote 11, p. 19, and Appendix B, p. 52.



Demonstrations of sterile obstetric packages were given in 144 communities by three nurses giving full time to this work, and 36 sample packages were sent to localities in which some organization plans to supply the packages.

A demonstration of breast feeding is carried on in Nassau County to stimulate and promote an interest in breast feeding and to make instruction in the technique available to mothers, nurses, and physicians. An attempt is being made to reach all the babies born within the year. To date 2,805 cases have been under observation, and the demonstration is to continue until 1,000 cases have been followed for nine months. This demonstration has served a further purpose, in that it has furnished a teaching center in the technique and promotion of breast feeding for all the nurses of the State staff.

A demonstration teaching center has been organized in Poughkeepsie at which the methods and procedure for model child hygiene stations are being tried out. This will be used as a teaching center for nurses coming into State service and for others who have no instruction in this branch of public-health work.

Surveys of three cities and one county were undertaken to discover causes contributing to high infant and maternal mortality rates, in order to devise efficient methods of reduction. Methods suggested were: Promotion of education in the hygiene of maternity; prenatal care; instruction in methods of increasing breast milk; periodic examination of preschool children; free or low-priced hospital care.

#### NORTH CAROLINA

Administrative agency:

State board of health, bureau of maternity and infancy.

Staff:

Director, 3 physicians, 6 nurses, 2 stenographers, 1 clerk.

Activities:

Children's health conferences—186, at which 1,840 children were examined.

Prenatal conferences—5 were held and 9 women examined, but no record kept of the total attendance.

Local doctors assist in some of the county infant and prenatal conferences. The three physicians of the staff serve as medical field supervisors, and instruct new county workers in the hygiene of maternity and infancy, and in the establishment of prenatal and infant clinics. They continue to supervise the work after it has been established. The health work of this State is based mainly upon the county unit system.

Mothers' classes—more than 86, with an attendance of 1,159.

Midwife classes—held in several places, and 1,433 women completed the course. In some counties Wassermann tests were made on all midwives, and those showing a positive reaction were forbidden to practice until they had undergone proper treatment.

Little mothers' classes—attended by 1,826 girls.

Permanent children's health centers—21 established.

Permanent prenatal clinics—20 established.

Home demonstrations—22,835 visits reported by county nurses who do house-to-house visiting for home demonstrations.

#### NORTH DAKOTA

Administrative agency:

Department of public health, division of child hygiene and public health nursing.

Staff:

Director, one nurse, one clerk (part time).

Activities:

Children's health conferences—58, at which 1,621 children were examined.

Four of these conferences were held at State fairs.

Prenatal conferences—53, at which 20 women were examined, advice was given, and literature distributed.

Midwife classes—5, with attendance of 15. This work is comparatively new. Circular letters of instruction are being sent every two weeks to the midwives.

Dental clinic—1, with an attendance of 43.

Permanent children's health centers—13 established.

Permanent prenatal clinics—5 established.



## OHIO

## Administrative agency.

Department of health, division of hygiene.

## Staff:

Director, 1 physician, 1 chief nurse (part time), 22 nurses (20 part time), 1 nutrition lecturer, 1 lecturer, 1 maternity hospital inspector (part time), 1 vital-statistics clerk, 1 clerk, 1 publicity worker (part time).

## Activities:

Children's health conferences—21, at which 880 children were examined, with the aid of local agencies.

Mothers' classes—37, with an attendance of 705.

A midwife survey was made, and lists prepared of midwives by counties. These are available for the use of district or city health commissioners.

Nursing demonstrations—4, of which 3 were in counties and 1 in Cincinnati. The latter was in a densely populated negro district.

Exhibitions—for the State fair and 17 county fairs, illustrating various phases of the work for promotion of child hygiene.

Inspection was made of 200 maternity homes.

## OKLAHOMA

## Administrative agency:

Department of health, bureau of maternity and infancy.

## Staff:

Director, 3 doctors (part time), 7 nurses first six months (4 staff, 3 county), 2 to 4 staff nurses last six months, 1 bookkeeper, 1 stenographer.

## Activities:

Children's health conferences—529, at which 6,339 children were examined by local physicians. Dental clinics were held in connection with most of these conferences.

Mothers' classes have been held, and many home demonstrations made. Demonstrations—at county fairs, made by nurses who showed the preparation of infant foods, of maternity bundles, layettes, etc.; they also gave advice to mothers and distributed literature.

Permanent children's health centers—2 established.

## OREGON

## Administrative agency:

State board of health, bureau of child hygiene.

## Staff:

Director, 3 doctors (part time), 8 nurses (6 part time) 1 clerk (part time), 2 stenographers.

## Activities:

Children's health conferences—122, at which 3,107 children were examined. The director also served as medical director for 103 well-baby clinics of the Portland Visiting-Nurse Association at which the attendance was 1,318.

Prenatal conferences—52, with an attendance of 201, at which 188 women were examined. These conferences were held under the joint auspices of the State bureau of child hygiene, the department of obstetrics of the medical school of the University of Oregon (which supplies the medical service and equipment), and the visiting-nurse association of Portland, which attends to the follow-up work in the homes. Local physicians have cooperated well, and have sent patients who can not pay the full amount of fee for obstetrical care. A full history of such prenatal cases is turned back to the physician for use at delivery.

Permanent children's health centers—16 established.

Permanent prenatal clinics—4 established.

Literature—a series of prenatal and postnatal letters is issued.

At the county farm exhibitions for the demonstration of raising of crops and animals Oregon stationed a nurse to teach child culture also. At these conferences babies and children were examined. Now these meetings in collaboration with the child-hygiene division are a regular institution.

## PENNSYLVANIA

## Administrative agency:

Department of health, bureau of child health, preschool division.

## Staff:

Chief, 2 physicians (1 temporarily part time), 3 field workers, 132 nurses (part time), 3 file clerks, 3 stenographers.

## Activities:

Children's health conferences—178 under State control, with a staff nurse in charge. Affiliated with the preschool division are 226 local children's health conferences, which use record forms furnished by the State and in most instances report regularly to the chief of the State preschool division. The three field workers travel over the State to organize infant hygiene work where called for, giving advice and aid to both State and local organizations. Prenatal clinics are also held in many of these health centers. The child-health centers have 695 doctors connected with them. In many instances the doctors of a community take turns in serving on the child-health center staff. At the health centers 25,928 children were examined; at the prenatal clinics and in their homes 6,203 women were examined.

Midwife classes—a doctor employed to teach and supervise midwives in four counties made a preliminary survey and is teaching four classes subdivided into groups. She speaks five languages, an important asset in this work as the midwives are largely foreign.

Through child-health centers physicians are supplied with toxin-antitoxin to administer to children under 6 years of age, and 135,598 preschool children have been immunized. Schick testing is done six months later.

In eight towns reports of high infant mortality resulted in organizations, to be approved and standardized by the State department of health, by which definite undertakings would be launched within the community to lower the infant death rate. Four towns have now undertaken the work.

## SOUTH CAROLINA

## Administrative agency:

State board of health, bureau of child hygiene and public-health nursing.

## Staff:

Director, 2 district supervisors (nurses, part time), 1 midwife supervisor (nurse, part time), 4 field nurses (1 negro), 3 assistant field nurses, 1 county nurse, 1 vital-statistics clerk, 1 clerk (part time), 2 stenographers, 1 chauffeur, 1 moving-picture operator (part time).

## Activities:

Children's health conferences—272, at which 5,487 children were examined. Prenatal conferences—168, with an attendance of 475, at which 172 women were examined.

Children's health centers—established in 3 places with an attendance (for one month) of 48.

The child-health truck visited 15 counties, and 2,050 preschool children were examined. A part-time pediatricist attended 17 child-health conferences in connection with the truck; and an orthopedist assisted at 11 conferences.

Midwife classes—conducted in 6 counties, with certificates given to 773 women completing the course. The instructors, 2 white nurses and 2 negro nurses, have remained 3 to 4 months in each of 26 counties.

Demonstrations—community demonstrations by the maternity and infancy nurses have aroused, in every county in which they were made, an interest in the matter of establishment of permanent health service. Home demonstrations have also been made, covering preparations for delivery, care of the baby, and preparation of food.

Nutrition work—one city has a nutrition worker who prepares formulas and special foods ordered by physicians for undernourished children and teaches these to mothers. This community has assumed part of the nutritionist's salary.

As a result of the field nurses' work, two counties have undertaken to maintain their own nurses.

## SOUTH DAKOTA

## Administrative agency:

State board of health, division of child hygiene.

## Staff:

Director, 8 nurses, 1 lecturer (half time), 1 stenographer.

## Activities:

Children's health conferences—74 (in 26 counties), at which 1,811 children were examined.

Prenatal conferences—65 (in 21 counties) in connection with children's conferences.

County health departments—2 established during the last 6 months, with two nurses in each; and one nurse added to a third such department. All three of these departments are full time.

Permanent child-health centers—3 established.

Permanent prenatal centers—3 established.

Lectures—The lecturer carries a motion-picture machine and has visited many isolated country districts.

Prenatal letters—1,071 sent out.

## TENNESSEE

## Administrative agency:

Department of public health, division of maternity and infant hygiene.

## Staff:

Superintendent, 1 staff nurse, 1 supervising nurse, 24 field nurses (21 part time), 1 vital-statistics clerk, 1 clerk, 1 stenographer.

## Activities:

Children's health conference—in the office of the county nurse or at private homes, with 1,981 children examined.

Home visits—596 to prenatal cases, 4,192 for preschool children. The women were advised to consult physicians early and were instructed on the importance of proper medical supervision during pregnancy. In addition to giving advice on the hygiene of the small child the nurses aided the parents in securing correction of defects.

"Well baby" clinics—26 established, with an average attendance of 987.

Little mothers' classes—20 held.

Home hygiene classes for women—141 held.

Midwife instruction—An investigation and educational campaign among negro midwives has been carried on, with the assistance of a negro doctor assigned to this work by the United States Children's Bureau.

Birth registration—Aid in this matter has been given to the State department of vital statistics.

## TEXAS

## Administrative agency:

State board of health, bureau of child hygiene.

## Staff:

Director, 31 nurses (1 supervisor, 2 advisory), 1 maternity and infant home inspector, 1 midwife supervisor, 2 midwife instructors, 24 county nurses, 1 clerk, 6 stenographers, 1 lecturer (half time).

## Activities:

Children's health conferences—469, at which 10,146 children were examined. Prenatal conferences—350, with an attendance of 1,034 women. Most of these consisted of lectures, and the women were advised to go to local doctors for examination.

Dental clinics—52, at which 380 children received attention.

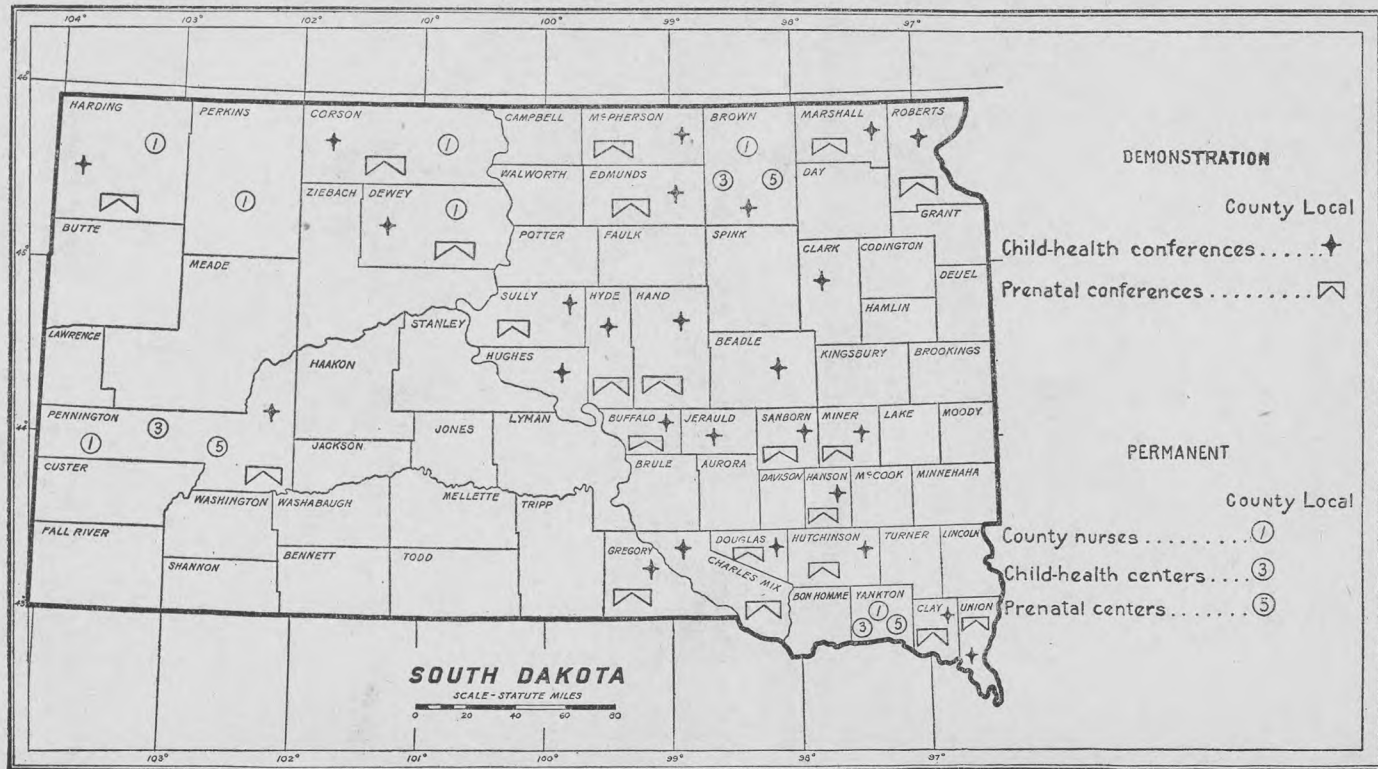
Mothers' classes—130, with an attendance of 758. Demonstrations were given to 460 mothers in their homes.

Midwife classes—136, with an attendance of 158. Individual instruction was given to 67 other midwives. During May and June the supervisor of midwives gave instruction on the teaching of midwifery to all of the county nurses.

Midwife classes and mothers' classes were conducted among negro women by the two negro nurses on the staff. A Mexican nurse is employed to instruct the Spanish-speaking midwives.

Nutrition classes—73, on the nutrition of preschool children.

Little mothers' classes—143.



ACTIVITIES IN SOUTH DAKOTA DURING 1923-24



Community demonstrations—167, including the attendance of a nurse at 35 fairs for baby conferences in which local doctors cooperated.

Permanent children's health centers—49 established.

Inspection was made of 87 maternity homes and 91 infant homes.

Birth registration—an active campaign to secure birth returns is in progress.

A cooperative agreement has been completed with the Mexican Federal health department whereby Mexican consuls and other influential Mexicans in the State assist in enabling State and county workers to do maternity and infant welfare work among the Mexican population.

#### UTAH

##### Administrative agency:

State board of health, bureau of child hygiene.

##### Staff:

Director, 5 public-health nurses (2 detailed to counties), 1 vital-statistics clerk, 1 stenographer.

##### Activities:

Children's health conferences—173, at which 7,094 children were examined. The director made notes on dental defects also and gave instruction to those cases. After child-health conferences with local physicians volunteering, all cases which upon examination show defects are reported to the State department. Correction was made in a number of cases and many needy children placed in the care of physicians.

Prenatal clinics—held at health centers, at which 180 women were advised and referred to physicians for examination.

Community demonstrations—21.

Home demonstrations—9.

Permanent health centers—established in 48 districts. At each of these a representative local group assumes the responsibility of permanent organization. In many of these centers the local doctors hold children's health conferences at regular intervals. At others the State director holds conferences once a year, oftener if possible. A nurse from the State staff makes a survey of sanitation, food supply, water supply, and other factors which influence the health of the district, as a preliminary to organization.

Inspection was made of 3 maternity homes and 2 infant homes.

Assistance is being given to the State epidemiologist in a campaign for the study of prevention of goiter in expectant mothers and preschool children.

#### VIRGINIA

##### Administrative agency:

State board of health, bureau of child welfare.

##### Staff:

Director, 2 doctors (1 for 3 months only), 1 midwife supervisor, 3 nurses, 1 dentist (for 3 months), 1 vital-statistics clerk, 1 clerk, 2 stenographers.

##### Activities:

Child health conferences—1,071, at which 14,196 children were examined.

Prenatal clinics—126, with an attendance of 288.

Midwife classes—342, with an attendance of 2,601. The full course of instruction was completed by 28.

Dental clinics—held in the summer, during which 69 mothers and 848 preschool children were treated.

Clinics—These cover child welfare, orthopedic, dental, prenatal, nose and throat, tuberculosis, and toxin-antitoxin work. Special clinics were held in remote sections, with a pediatricist in attendance in addition to the usual personnel.

Permanent children's health center—1 established. In two counties and three towns which did not previously have local nurses such service has been started.

Correspondence course—this is distributed to groups as well as to individuals. It is conducted by one of the staff nurses.

A rural training center to prepare graduate nurses for various fields of public-health nursing has been established in cooperation with the school of social work and public-health nursing. A county immediately outside of Rich-

mond is used. Two periods of training are given, one of four months and one of nine months. Three nurses have completed the long course and 15 the short course.

#### WASHINGTON

Administrative agency:

Department of health, division of child hygiene.

Staff:

Director, 2 doctors (part time), 1 nurse, 4 vital-statistics clerks (3 part time), 1 clerk (part time), 1 publicity writer (part time).

Activities:

Children's health conferences—20, at which 1,970 children were examined. In addition there were 52 conferences in a Seattle store which furnished the conference room and advertised the conferences. The medical work was under the supervision of the State board of health in collaboration with the child-welfare division of the Seattle Board of Health. An average of 60 children were examined each week.

Prenatal conferences—12, with an attendance of approximately 1,200. (No examinations were made.)

Community demonstrations—15, including talks on nutrition and the care of children.

Permanent children's health centers—2 established.

Correspondence course—A series of 15 lessons on the hygiene of maternity and infancy has been prepared and widely circulated.

#### WEST VIRGINIA

Administrative agency:

Department of health, division of child hygiene and public-health nursing.

Staff:

Director (serving as public-health nurse part time), 9 nurses (1 part time), 1 vital-statistics clerk, 2 stenographers.

Activities:

Children's health conferences—265, at which 3,341 children were examined and given dental inspection.

Prenatal conferences—19 held, at which 92 expectant mothers were examined. This led to the establishment of two permanent prenatal clinics.

Permanent child-health centers—22 established.

Mothers' classes—260, with an attendance of 9,432. Many individual conferences with mothers included demonstrations of child feeding and care, maternity bundles, layettes, etc.

Mothercraft classes—with total attendance of 7,253 girls. The lessons were outlined by the State board, and certificates signed by the State health commissioner were given.

Community demonstrations—220, held by nurses with the assistance of mothers' clubs and classes.

Correspondence course—slightly over 4,000 mothers are enrolled in the motherhood correspondence registry. They have received the series of prenatal letters, and 14,199 personal letters in addition.

Survey—made of a rural community by lay workers (members of the community health committee) and valuable data summarized in seven recommendations submitted by the State department of health.

#### WISCONSIN

Administrative agency:

State board of health, bureau of child welfare and public-health nursing.

Staff:

Director, 4 doctors (2 part time), 5 nurses (1 part time), 3 vital-statistics clerks, 2 clerks, 3 stenographers (1 part time), 1 chauffeur (part time).

Activities:

Children's health conferences—442, at which 9,715 children were examined.

Prenatal conferences—at the 16 county mother and baby health centers 193 expectant mothers were examined.

Little mothers (or infant hygiene) classes—102, with an attendance of 2,317. In March a full-time organizer was added to the staff to conduct such work in the State normal and public schools.

Prenatal letters—a series is available, and many have been sent out.

The director has induced the vocational schools throughout the State to include regular courses in infant hygiene in their curricula the past two years.

Mother and baby centers are moved each year to different parts of counties. Under this stimulation five communities have established such centers of their own. As a result of the activities of the nurse in one county where such a health center is located, a county nurse has for the first time been employed by the county board of supervisors. One physician of the staff visits each of 12 mother and child health centers regularly every four weeks and spends one week out of every four at other points in the same counties holding conferences. Another physician (who served part time during 1924 but will give full time for the future) similarly visits four such centers every four weeks and spends the remainder of her time holding conferences in various places throughout the State. A third doctor conducts child-health conferences on the "child-welfare special" from the middle of April to the middle of November, spending her remaining time in preparation of material for publication and in holding conferences in cities which are not reached by the child-welfare special.

#### WYOMING

##### Administrative agency:

Department of public health, division of maternal and infant welfare and child hygiene.

##### Staff:

Director, 2 nurses, 1 stenographer.

##### Activities:

Children's health conferences—79, at which 2,644 children were examined.

At 50 of these conferences dentists assisted by examining 1,524 children and giving advice.

Prenatal conferences—none in the precise meaning of the term, but nurses gave several talks on the hygiene of pregnancy to groups of mothers.

Mothers' classes—22, with an attendance of 150.

Demonstrations—at two State fairs, at summer school at Laramie, and at the extension-workers' conference. Staff nurses also made 380 home demonstrations.

Permanent children's health centers—18 established.

## FEDERAL ADMINISTRATION

### FEDERAL STAFF

For the administration of the maternity and infancy act the United States Children's Bureau added to its already existing six major divisions a division of maternity and infant hygiene. The staff of this division has consisted of a director and associate director, both of whom are physicians, a public-health nurse, an accountant, a secretary, and a stenographer. For a part of the year two additional physicians and one social worker were added to the staff to conduct research and to aid in consultation work.

The director and associate director have not only performed the various duties involved in the administration of a central office but at least once during the year either the director or the associate director has visited each State cooperating under the act.

The public-health nurse visits the State supervisors of nurses in an advisory capacity and observes field work in rural districts, bringing to each State the experience of the others. She has also attended institutes for public-health nurses, giving addresses and conducting classes.

The accountant has visited all the States accepting Federal funds and has audited the accounts of all cooperating State agencies.

### CONFERENCE OF STATE DIRECTORS

After a period of cooperation in Federal and State maternity and infancy activities, it was felt that a meeting devoted to the discussion of problems confronting the different States would be beneficial. The directors of all of the State bureaus of child hygiene were therefore asked to attend a conference at the Children's Bureau in Washington (September 19 to 21, 1923). Representatives from 40 States were in attendance, including two from States not cooperating under the Federal maternity and infancy act. No formal papers were presented, opportunity being given instead for general discussion on the subjects listed in an outline program. At the request of the State directors the following topics were discussed: Prenatal care (distribution of literature, consultation facilities, public-health nursing), confinement care (hospital, home, midwife), postnatal care (rest, infant feeding, discharge examination); early birth registration; health conferences (methods and standards); nutrition work for the preschool child; dental hygiene; public-health nurses (ways of increasing number and decreasing turnover; training; extent of activities in maternity and infancy programs); development of county "projects" and relative value of projects undertaken on small budgets; cooperation of the medical profession; utilization of lay workers; methods and value of surveys.



## RESEARCH AND EDUCATIONAL WORK

**Maternity-Home Study.**

This investigation was undertaken in order to secure definite information regarding the organization, management, attention to health and social aspects of the work of such institutions. Minnesota and Pennsylvania were selected for study because the two States offered a marked contrast in the legal status of maternity homes. In the two States 35 maternity homes were made the basis of the study. It was found that hospitals cooperated extensively with them. The fact that not all the available beds in these homes were constantly in use suggests that an increasing proportion of unmarried mothers are cared for in their homes. After the field work had been practically completed, officials from the institutions and investigators from the Children's Bureau came together for a conference with the State officials.

**Maternal-Mortality Study.**

A statistical study of maternal mortality in the United States (together with data from certain foreign countries) is about completed. An apparent upward trend in the mortality rate from all puerperal causes is indicated by the figures returned for the death-registration area of the United States for the last 20 years, but after allowance is made for the improvement in the certification of causes of death and certain other complicating factors, the true trend from all causes appears to be slightly downward, while the trend of mortality due to puerperal septicemia appears to have been very sharply downward through the period, the figures indicating a decrease of 36 per cent from 1900 to 1920. A factor known to be preventable, as puerperal septicemia is, should show lower figures as a greater number of those who officiate at childbirth possess adequate knowledge and training. It is unfortunately true that the number of deaths does not indicate the whole of the "cost" in mothers' lives of bringing babies into the world. Many mothers suffer serious injury or invalidism, although this can not well be expressed statistically. Reduction of morbidity is also a matter of grave concern.

**Stillbirth and Neonatal-Death Study.**

An investigation of stillbirths and neonatal deaths (conducted at the University of Minnesota) has included 250 examinations covering deaths which had occurred at various times during gestation as well as shortly after birth. The study will be continued until 500 examinations have been made. The final report will include a bibliography on the pathology and physiology of the developing fetus and the newborn child. The examinations already made show that practically the same factors which cause death before birth are responsible for deaths occurring within the first few days of life. After the first four or five days of extra-uterine life other causes appear, chief of which is infection. Prematurity is, of course, a very prominent factor in neonatal deaths, either alone or in association with other causes.

**Community Control of Rickets.**

The child-hygiene division of the Children's Bureau is cooperating with the pediatric department of the school of medicine of Yale University and the New Haven department of health in an attempt

to demonstrate that rickets can be eradicated from a community. A district including three wards, with a population of about 13,000, has been selected in New Haven, Conn. The prevention of rickets in the babies born within the district for a period of two years is one part of the demonstration, while another involves the study of many of the older children in the district to determine to what extent the disease is already present. The lowered resistance which endangers the lives of infants with rickets, also the decrease in the mechanical efficiency of individuals deformed by it, indicate the important character of work leading toward prevention of this widely prevalent disease.

#### **Bibliography on Growth and Development of the Normal Child.**

A bibliography which will contain approximately 3,000 annotated references on the growth and development of the normal child has been practically completed by the child-hygiene division of the Children's Bureau. The following subjects are included: General growth (principally height and weight changes); development of special parts of the body; metabolism; adolescence and puberty; methods and standards of judging normal development.

#### **Child Management.**

A pamphlet on child management has been written for the Children's Bureau by the director of the division of mental hygiene in the department of mental diseases of Massachusetts, who is also the director of the habit clinics of Boston. Since the health, happiness, and efficiency of the adult depend largely upon the type of habits acquired in early life, it is important that parents be informed concerning the mental life of the child, methods of developing desirable habits, and also methods of overcoming undesirable habits.

#### **Film "Well Born."**

To present in popular form the need of medical care throughout the period of pregnancy, a film which tells an interesting story while constantly emphasizing the importance of prenatal care has been produced. It has been loaned to 28 States and purchased by 25. Although it was prepared primarily for the use of health workers, it has been used by clubs, colleges, dental associations, commercial companies, and a labor union.

#### **Publications.**

A number of Children's Bureau publications bear directly upon the hygiene of mothers, infants, and preschool children. There has been a growing demand for the series of bulletins issued for mothers. During the fiscal year under review 190,000 copies of Prenatal Care were distributed, 400,000 copies of Infant Care, and 157,297 copies of Child Care. These figures include distribution in response to requests from individuals and organizations, as well as from State bureaus. With the printing appropriation available, however, it has been impossible to meet all requests. Several States have purchased copies of these bulletins directly from the Government Printing Office, in addition to quotas supplied free;<sup>16</sup> and others have reprinted them wholly or in part. During the fiscal year under review there was also issued a bulletin entitled "Habit Clinics for

<sup>16</sup> The Superintendent of Documents ordered 125,000 copies of Prenatal Care, 150,000 copies of Infant Care, and 75,000 copies of Child Care for sales in 1924.

the Child of Preschool Age: Their Organization and Practical Value." Since the preschool period is the habit-forming period, the method set forth in this bulletin is of interest to all those concerned with the physical and mental health of children. The entire edition (10,000 copies) was distributed, but a new edition is being printed.

Of a folder entitled "Minimum Standards of Prenatal Care" 42,976 copies were distributed. A folder entitled "Why Drink Milk?" was prepared, but was not ready for distribution until after the close of the fiscal year. Dodgers have been distributed as follows: Books and pamphlets on Child Care, 32,682 copies; Is Your Child's Birth Recorded? 25,574 copies; Breast Feeding, 41,545 copies; Bottle Feeding, 60,749 copies; Feeding the Child, 58,267 copies; The Care of the Baby, 60,602 copies; What Do Growing Children Need? 44,850 copies. For prices of these publications in quantities, and for a list of other bulletins, reprints, and charts issued by the Children's Bureau which touch upon maternal and infant or child welfare and hygiene, see Appendix D, pp. 55-56.

### ACCOMPLISHMENTS UNDER THE MATERNITY AND INFANCY ACT

In the report for 1923 the general trend of activities under the act and the essentials of a program for promoting the health of mothers, infants, and preschool children were summarized as follows:

1. The education of the general public as to the need and value of skilled supervision during pregnancy and medical and nursing care during and following confinement.

2. Better infant care through the teaching of mothers.

3. Stimulation of the medical and nursing professions to meet the public demand for better health protection of mothers and infants, since the result of the activities now in progress must ultimately be the provision of adequate medical and nursing facilities as applied to the hygiene of maternity and infancy.

As a successful Federal-aid measure the act has already demonstrated its value in that it has—

- (1) Stimulated State activities in maternal and infant hygiene.

- (2) Maintained the principle of local initiative and responsibility.

- (3) Improved the quality of the work being done for mothers and babies by disseminating through a central source—the Federal Government—the results of scientific research and methods of work which have been found to operate successfully.

- (4) Increased State appropriations with the passage of the act. From the appropriation for the fiscal year 1922, 15 States were able to accept only the \$5,000 unmatched funds. Six States were able to accept only the \$5,000 unmatched from the Federal appropriation for the fiscal year 1923. However, all of the States cooperating under the act either have already accepted more than the \$5,000 unmatched allotment from the 1924 Federal appropriation, or will be able to do so.

The fundamentals of a comprehensive and forward-looking program for furthering health promotion as it refers to expectant mothers, infants, and preschool children might be outlined as follows:

1. Continued education to develop public appreciation of the value of prenatal, confinement, and infant care.
2. Stimulation of complete and early registration of births.
3. Development and extension of facilities for reaching areas where no maternity and infancy work is now done.
4. Establishment of permanent health conferences for prenatal, postnatal, infant, and preschool consultations.
5. Establishment and maintenance of community public-health nursing service and of follow-up work after health consultations.
6. Provision of hospital facilities for all complicated pregnancies and confinements at least and for illnesses of infants and young children, or, where this is impracticable, provision of adequate medical attention and home nursing.
7. Increased local appropriations to cover all public maternity and infancy activities.
8. Improved training by medical schools in obstetrics and pediatrics, especially in their preventive and public-health aspects. Postgraduate work for general practitioners, especially those in rural areas.
9. Cooperation between State public-health authorities and medical practitioners for the effective carrying out of preventive measures.
10. Development of local responsibility for providing the facilities necessary to carry on permanently such public-health activities as are warranted by the demonstrations now being made.

In some States progress along all these lines has been made during the past year as this report shows; in some very considerable progress has been made along some lines and little or nothing along others; in others only the preliminary educational work on which the permanent local work must be later developed, has been possible with the available time and money. In no State can the whole field be said to have been plowed the first time. While the States report encouraging results of intensive local efforts in lowered mortality rates, it is still too soon to expect such concrete results except in those few States in which the preliminary educational work had been done and the local work was under way before the Federal funds became available. For the present it is possible only to report that methods which will produce results are being successfully adjusted to local conditions and the territory in which permanent educational centers are available is being greatly extended.



## APPENDIXES

### APPENDIX A.—TEXT OF THE ACT FOR THE PROMOTION OF THE WELFARE AND HYGIENE OF MATERNITY AND INFANCY

[S. 1039—Sheppard-Towner Act; Public 97—67th Congress; 42 Stat. 135.]

An Act For the promotion of the welfare and hygiene of maternity and infancy, and for other purposes

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That there is hereby authorized to be appropriated annually, out of any money in the Treasury not otherwise appropriated, the sums specified in section 2 of this Act, to be paid to the several States for the purpose of cooperating with them in promoting the welfare and hygiene of maternity and infancy as hereinafter provided.

SEC. 2. For the purpose of carrying out the provisions of this Act, there is authorized to be appropriated, out of any moneys in the Treasury not otherwise appropriated, for the current fiscal year \$480,000, to be equally apportioned among the several States, and for each subsequent year, for the period of five years, \$240,000, to be equally apportioned among the several States in the manner hereinafter provided: *Provided*, That there is hereby authorized to be appropriated for the use of the States, subject to the provisions of this Act, for the fiscal year ending June 30, 1922, an additional sum of \$1,000,000, and annually thereafter, for the period of five years, an additional sum not to exceed \$1,000,000: *Provided further*, That the additional appropriations herein authorized shall be apportioned \$5,000 to each State and the balance among the States in the proportion which their population bears to the total population of the States of the United States, according to the last preceding United States census: *And provided further*, That no payment out of the additional appropriation herein authorized shall be made in any year to any State until an equal sum has been appropriated for that year by the legislature of such State for the maintenance of the services and facilities provided for in this Act.

So much of the amount apportioned to any State for any fiscal year as remains unpaid to such State at the close thereof shall be available for expenditures in that State until the close of the succeeding fiscal year.

SEC. 3. There is hereby created a Board of Maternity and Infant Hygiene, which shall consist of the Chief of the Children's Bureau, the Surgeon General of the United States Public Health Service, and the United States Commissioner of Education, and which is hereafter designated in this Act as the Board. The Board shall elect its own chairman and perform the duties provided for in this Act.

The Children's Bureau of the Department of Labor shall be charged with the administration of this Act, except as herein otherwise provided, and the Chief of the Children's Bureau shall be the executive officer. It shall be the duty of the Children's Bureau to make or cause to be made such studies, investigations, and reports as will promote the efficient administration of this Act.

SEC. 4. In order to secure the benefits of the appropriations authorized in section 2 of this Act, any State shall, through the legislative authority thereof, accept the provisions of this Act and designate or authorize the creation of a State agency with which the Children's Bureau shall have all necessary powers to cooperate as herein provided in the administration of the provisions of this Act: *Provided*, That in any State having a child-welfare or child-hygiene division in its State agency of health, the said State agency of health shall administer the provisions of this Act through such divisions. If the legislature of any State has not made provision for accepting the provisions of this Act the governor of such State may in so far as he is authorized to do so by the laws of such State accept the provisions of this Act and designate or create a State agency to cooperate with the Children's Bureau until six months after the adjournment of the first regular session of the legislature in such State following the passage of this Act.

SEC. 5. So much, not to exceed 5 per centum, of the additional appropriations authorized for any fiscal year under section 2 of this Act, as the Children's Bureau may estimate to be necessary for administering the provisions of this Act, as herein provided, shall be deducted for that purpose, to be available until expended.

SEC. 6. Out of the amounts authorized under section 5 of this Act the Children's Bureau is authorized to employ such assistants, clerks, and other persons in the District of Columbia and elsewhere, to be taken from the eligible lists of the Civil Service Commission, and to purchase such supplies, material, equipment, office fixtures, and apparatus, and to incur such travel and other expenses as it may deem necessary for carrying out the purposes of this Act.

SEC. 7. Within sixty days after any appropriation authorized by this Act has been made, the Children's Bureau shall make the apportionment herein provided for and shall certify to the Secretary of the Treasury the amount estimated by the bureau to be necessary for administering the provisions of this Act, and shall certify to the Secretary of the Treasury and to the treasurers of the various States the amount which has been apportioned to each State for the fiscal year for which such appropriation has been made.

SEC. 8. Any State desiring to receive the benefits of this Act shall, by its agency described in section 4, submit to the Children's Bureau detailed plans for carrying out the provisions of this Act within such State, which plans shall be subject to the approval of the board: *Provided*, That the plans of the States under this Act shall provide that no official, or agent, or representative in carrying out the provisions of this Act shall enter any home or take charge of any child over the objection of the parents, or either of them, or the person standing in loco parentis or having custody of such child. If these plans shall be in conformity with the provisions of this Act and reasonably appropriate and adequate to carry out its purposes they shall be approved by the board and due notice of such approval shall be sent to the State agency by the chief of the Children's Bureau.

SEC. 9. No official, agent, or representative of the Children's Bureau shall by virtue of this Act have any right to enter any home over the objection of the owner thereof, or to take charge of any child over the objection of the parents, or either of them, or of the person standing in loco parentis or having custody of such child. Nothing in this Act shall be construed as limiting the power of a parent or guardian or person standing in loco parentis to determine what treatment or correction shall be provided for a child or the agency or agencies to be employed for such purpose.

SEC. 10. Within sixty days after any appropriation authorized by this Act has been made, and as often thereafter while such appropriation remains unexpended as changed conditions may warrant, the Children's Bureau shall ascertain the amounts that have been appropriated by the legislatures of the several States accepting the provisions of this Act and shall certify to the Secretary of the Treasury the amount to which each State is entitled under the provisions of this Act. Such certificate shall state (1) that the State has, through its legislative authority, accepted the provisions of this Act and designated or authorized the creation of an agency to cooperate with the Children's Bureau, or that the State has otherwise accepted this Act, as provided in section 4 hereof; (2) the fact that the proper agency of the State has submitted to the Children's Bureau detailed plans for carrying out the provisions of this Act, and that such plans have been approved by the board; (3) the amount, if any, that has been appropriated by the legislature of the State for the maintenance of the services and facilities of this Act, as provided in section 2 hereof; and (4) the amount to which the State is entitled under the provisions of this Act. Such certificate, when in conformity with the provisions hereof, shall, until revoked as provided in section 12 hereof, be sufficient authority to the Secretary of the Treasury to make payment to the State in accordance therewith.

SEC. 11. Each State agency cooperating with the Children's Bureau under this Act shall make such reports concerning its operations and expenditures as shall be prescribed or requested by the bureau. The Children's Bureau may, with the approval of the board, and shall, upon request of a majority of the board, withhold any further certificate provided for in section 10 hereof whenever it shall be determined as to any State that the agency thereof has not properly expended the money paid to it or the moneys herein required to be appropriated by such State for the purposes and in accordance with the provisions of this Act. Such certificate may be withheld until such time or

upon such conditions as the Children's Bureau, with the approval of the board, may determine; when so withheld the State agency may appeal to the President of the United States who may either affirm or reverse the action of the Bureau with such directions as he shall consider proper: *Provided*, That before any such certificate shall be withheld from any State, the chairman of the board shall give notice in writing to the authority designated to represent the State, stating specifically wherein said State has failed to comply with the provisions of this Act.

SEC. 12. No portion of any moneys apportioned under this Act for the benefit of the States shall be applied, directly or indirectly, to the purchase, erection, preservation, or repair of any building or buildings or equipment, or for the purchase or rental of any buildings or lands, nor shall any such money or moneys required to be appropriated by any State for the purposes and in accordance with the provisions of this Act be used for the payment of any maternity or infancy pension, stipend, or gratuity.

SEC. 13. The Children's Bureau shall perform the duties assigned to it by this Act under the supervision of the Secretary of Labor, and he shall include in his annual report to Congress a full account of the administration of this Act and expenditures of the moneys herein authorized.

SEC. 14. This Act shall be construed as intending to secure to the various States control of the administration of this Act within their respective States, subject only to the provisions and purposes of this Act.

Approved, November 23, 1921.

## APPENDIX B.—LIST OF ADMINISTRATIVE AGENCIES AND OFFICERS

*State administrative agencies and names of the executive officers for the administration of the act for the promotion of the welfare and hygiene of maternity and infancy (as of June 30, 1924)*

State	Department and executive officer	Division and director
Alabama.....	State board of health, Dr. S. W. Welch.	Bureau of child hygiene and public health nursing, Jessie L. Marriner, R. N.
Arizona.....	State board of health, Dr. F. T. Fahlen.	Child hygiene division, Mrs. Charles R. Howe.
Arkansas.....	State board of health, Dr. C. W. Garrison.	Bureau of child hygiene, Dr. Margaret Koenig, associate director.
California.....	State board of health, Dr. Walter M. Dickie, secretary.	Bureau of child hygiene, Dr. Ellen S. Stadtmuller.
Colorado.....	Department of public instruction, Mrs. Mary C. C. Bradford, superintendent.	Child welfare bureau, Mrs. E. N. Mathews, executive secretary.
Connecticut <sup>1</sup> .....	Department of health, Dr. Stanley H. Osborne.	Bureau of child hygiene, Dr. A. E. Ingraham.
Delaware.....	State health and welfare commission, Dr. Arthur T. Davis, executive secretary.	Marie T. Lockwood, R. N., supervisor of nurses.
Florida.....	State board of health, Dr. R. C. Turck.	Bureau of child welfare and public-health nursing, Laurie Jean Reid, R. N.
Georgia.....	State board of health, Dr. T. F. Abercrombie.	Division of child hygiene, Dr. Joe P. Bowdoin.
Hawaii.....	Board of health, Dr. F. E. Trotter, president.	
Idaho.....	Department of public welfare, David Burrell.	Bureau of child hygiene, Dr. F. W. Almond.
Illinois <sup>1</sup> .....	Department of public health, Dr. Isaac D. Rawlings, director.	Division of child hygiene and public-health nursing, Dr. R. C. Cook, acting director.
Indiana.....	State board of health, Dr. William F. King.	Division of infant and child hygiene, Dr. Ada E. Schweitzer.
Iowa.....	State University of Iowa, Dr. Walter A. Jessup, president.	Division of maternity and infant hygiene, Dr. Edward H. Lauer.
Kansas <sup>1</sup> .....	Department of the State board of health, Dr. Milton O. Nyberg, secretary.	Division of child hygiene and public health nursing, Lillian Fitzpatrick-R. N.
Kentucky.....	State board of health, Dr. A. T. McCormick.	Bureau of maternal and child health, Dr. Annie S. Veech.
Louisiana.....	State board of health, Dr. Oscar Dowling, president.	Bureau of child hygiene, Agnes Morris.
Maine <sup>1</sup> .....	Department of health, Dr. C. F. Kendall, commissioner.	Division of public-health nursing and child hygiene, Edith Soule, R. N.
Maryland.....	Department of health, Dr. John S. Fulton, director of health.	Bureau of child hygiene, Dr. J. H. Mason Knox, jr., chief.
Massachusetts <sup>1</sup> .....	Department of public health, Dr. Eugene R. Kelley, commissioner.	Division of hygiene, Dr. Merrill E. Champion.
Michigan.....	Department of health, Dr. Richard M. Olin, commissioner.	Bureau of child hygiene and public-health nursing, Dr. Blanche M. Haines.
Minnesota.....	State board of health, Dr. A. J. Chesley.	Division of child hygiene, Dr. Ruth E. Boynton.
Mississippi.....	State board of health, Dr. F. J. Underwood.	Bureau of child welfare and public-health nursing, Dr. F. J. Underwood, acting director.
Missouri.....	State board of health, Dr. Cortez F. Enloe, secretary.	Division of child hygiene, Dr. Irl Brown Krause.
Montana.....	State board of health, Dr. W. F. Cogswell.	Division of child welfare, Dr. Hazel Dell Bonness.
Nebraska.....	Department of health and welfare, Dr. J. D. Case.	Division of child hygiene, Mrs. C. H. England.
Nevada.....	State board of health, Dr. S. L. Lee, Secretary.	Child welfare division, Mrs. S. H. Wheeler, executive secretary.
New Hampshire.....	State board of health, Dr. Charles Duncan.	Division of maternity, infancy, and child hygiene, Elena M. Crough, R. N.
New Jersey.....	Department of health, Dr. J. C. Price.	Bureau of child hygiene, Dr. Julius Levy, consultant.
New Mexico.....	Board of public welfare, Mrs. Francis S. Wilson, president.	Bureau of child welfare, Dr. Janet Reid, <sup>2</sup> Bureau of public health, Dr. G. S. Luckett, executive officer; Division of child hygiene and public health nursing, Helen B. Fenton, R. N.

<sup>1</sup> These states were not cooperating.

<sup>2</sup> Resigned Apr. 7, 1924.



*State administrative agencies and names of the executive officers for the administration of the act for the promotion of the welfare and hygiene of maternity and infancy (as of June 30, 1924)*—Continued

State	Department and executive officer	Division and director
New York	Department of health, Dr. M. Nicoll, commissioner of health.	Division of maternity, infancy, and child hygiene, Dr. Florence L. McKay.
North Carolina	State board of health, Dr. W. S. Rankin.	Bureau of maternity and infancy, Dr. K. P. B. Bonner.
North Dakota	Department of public health, Dr. A. A. Whittemore.	Division of child hygiene and public-health nursing, Dr. Maysil M. Williams.
Ohio	Department of health, Dr. J. E. Monger.	Division of hygiene, Dr. R. G. Leland, chief.
Oklahoma	Department of public health, Dr. Carl Puckett, commissioner of health.	Bureau of maternity and infancy, Dr. Lucile S. Blachly.
Oregon	State board of health, Dr. Frederick D. Stricker.	Bureau of child hygiene, Dr. Estelle F. Warner.
Pennsylvania	Department of health, Dr. Charles H. Miner.	Bureau of child health, Dr. J. B. McCreary; preschool division, Dr. Mary Riggs Noble, chief.
Rhode Island <sup>3</sup>	State board of health, Dr. B. U. Richards, secretary.	Division of child welfare, Dr. Marion L. Gleason.
South Carolina	State board of health, Dr. James A. Hayne, State health officer.	Bureau of child hygiene and public health nursing, Ada Taylor Graham, R. N.
South Dakota	State board of health, Dr. P. B. Jenkins, superintendent.	Division of child hygiene, Dr. Clara E. Hayes.
Tennessee	Department of public health, Dr. C. B. Crittendon, commissioner of health.	Division of maternity and infant hygiene, Dr. E. A. Lane, superintendent.
Texas	State board of health, Dr. Malone Duggan.	Bureau of child hygiene, Dr. H. Garst.
Utah	State board of health, Dr. T. B. Beatty, State health commissioner.	Bureau of child hygiene, Dr. H. Y. Richards.
Vermont <sup>3</sup>	Department of public health, Dr. Charles F. Dalton, secretary.	
Virginia	State board of health, Dr. E. G. Williams.	Bureau of child welfare, Dr. Mary E. Brydon.
Washington	Department of health, Dr. Paul A. Turner.	Division of child hygiene, Dr. George Mohr.
West Virginia	Department of health, Dr. W. T. Henshaw.	Division of child hygiene and public-health nursing, Mrs. Jean T. Dillon.
Wisconsin	State board of health, Dr. C. A. Harper.	Bureau of child welfare and public-health nursing, Mrs. Mary P. Morgan, R. N.
Wyoming	Department of public health, Dr. G. M. Anderson.	Division of maternal and infant welfare and child hygiene, Louise Buford, R. N.

<sup>3</sup> These states were not cooperating.

## APPENDIX C.—MATERNAL AND INFANT MORTALITY RATES

TABLE I.—Trend of maternal mortality in the United States birth-registration area, by States, 1915 to 1923<sup>1</sup>

State	Maternal mortality rates in the birth-registration area in—								
	1915	1916	1917	1918	1919	1920	1921	1922	1923
Area.....	6.1	6.2	6.6	9.2	7.4	8.0	6.8	6.6	6.7
California.....					8.0	7.7	6.8	7.2	6.7
Connecticut.....	5.6	4.9	5.1	7.5	6.2	6.8	5.3	5.7	5.7
Delaware.....							6.3	6.6	8.4
Illinois.....								6.3	6.4
Indiana.....			7.2	10.4	8.4	8.7	6.9	6.6	6.5
Kansas.....			7.6	11.4	8.2	8.4	6.4	7.6	6.8
Kentucky.....			6.0	8.0	6.3	6.4	6.3	6.1	6.0
Maine.....	6.8	7.8	6.7	8.6	8.6	8.5	7.4	7.6	8.7
Maryland.....		6.4	6.8	9.5	8.4	7.6	6.7	5.9	6.0
Massachusetts.....	5.7	6.0	6.5	9.2	7.1	7.5	6.5	6.8	6.3
Michigan.....	6.7	6.8	7.4	8.6	7.7	9.3	6.9	6.9	7.0
Minnesota.....	5.2	5.5	5.6	7.8	6.7	7.9	5.7	4.9	6.0
Mississippi.....							9.5	8.3	8.8
Montana.....								7.9	7.5
Nebraska.....						7.1	6.6	5.8	5.8
New Hampshire.....	6.1	7.2	7.0	7.8	8.0	7.1	6.2	6.5	7.4
New Jersey.....							5.9	6.4	5.7
New York.....	5.9	5.4	5.7	8.0	6.2	6.9	6.3	6.0	5.7
North Carolina.....			8.2	10.8	9.3	10.0	7.3	8.0	8.0
Ohio.....			7.1	9.7	7.4	8.0	7.2	6.6	7.2
Oregon.....					10.1	9.4	7.4	8.3	6.9
Pennsylvania.....	6.4	7.0	6.5	10.5	6.8	7.8	6.8	6.2	6.6
Rhode Island.....	6.6	5.8	6.3	9.8	( <sup>2</sup> )	( <sup>2</sup> )	7.1	5.5	6.3
South Carolina.....					11.2	12.2	9.8	10.7	9.7
Utah.....			5.9	8.6	8.4	7.9	7.3	5.5	5.0
Vermont.....	6.1	7.8	6.3	8.0	8.0	7.0	7.3	7.4	7.0
Virginia.....			8.2	10.7	8.2	8.6	7.0	7.2	7.4
Washington.....			7.4	9.9	8.6	9.2	7.8	7.9	6.7
Wisconsin.....			5.7	6.0	4.8	6.7	5.8	5.6	5.8
Wyoming.....								7.1	7.3
District of Columbia.....	7.0	10.1	8.5	9.1	8.5	8.8	10.1	7.1	10.1

<sup>1</sup> U. S. Bureau of the Census.

<sup>2</sup> Dropped from the birth-registration area.

TABLE II.—Trend of infant mortality in the United States birth-registration area, by States, 1915 to 1923<sup>1</sup>

State	Infant mortality rates in the birth-registration area in—								
	1915	1916	1917	1918	1919	1920	1921	1922	1923
Area.....	100	101	94	101	87	86	76	76	77
California.....					70	74	66	71	73
Connecticut.....	107	101	94	107	86	92	73	77	77
Delaware.....							98	100	104
Illinois.....								76	82
Indiana.....			86	87	79	82	71	67	71
Kansas.....			77	80	70	73	63	65	63
Kentucky.....			87	93	82	73	62	69	72
Maine.....	105	108	93	101	91	102	88	86	89
Maryland.....		121	120	140	105	104	94	94	95
Massachusetts.....	101	100	98	113	88	91	76	81	78
Michigan.....	86	96	88	89	90	92	79	75	80
Minnesota.....	70	70	67	71	67	66	59	58	62
Mississippi.....							68	68	68
Montana.....								70	71
Nebraska.....						64	59	57	57
New Hampshire.....	110	115	110	113	93	88	87	80	93
New Jersey.....							74	79	72
New York.....	99	94	91	97	84	86	75	77	72
North Carolina.....			100	102	84	85	75	80	81
Ohio.....			92	94	90	83	75	72	75
Oregon.....					63	62	51	58	57
Pennsylvania.....	110	114	111	129	100	97	88	88	90
Rhode Island.....	120	111	108	126	( <sup>2</sup> )	( <sup>2</sup> )	93	85	94
South Carolina.....					113	116	96	93	96
Utah.....			69	64	71	71	73	69	59
Vermont.....	85	93	85	93	85	96	78	73	76
Virginia.....			98	103	91	84	79	77	84
Washington.....			69	69	63	66	55	62	57
Wisconsin.....			78	79	80	77	72	71	70
Wyoming.....								79	80
District of Columbia.....	111	106	97	112	85	91	83	85	92

<sup>1</sup> U. S. Bureau of the Census.

<sup>2</sup> Dropped from the birth-registration area.

**APPENDIX D.—LIST OF BULLETINS, REPRINTS, AND CHARTS  
ISSUED BY THE CHILDREN'S BUREAU WHICH BEAR UPON  
MATERNAL AND INFANT OR CHILD WELFARE AND HYGIENE,  
WITH TABULAR STATEMENT OF QUANTITY PRICES ON THE  
PUBLICATIONS MOST WIDELY USED TO DATE**

**BULLETINS**

- The Promotion of the Welfare and Hygiene of Maternity and Infancy—Report of the Administration of the Act of Congress of November 21, 1921, for the period March 20, 1922, to June 30, 1923. No. 137. 42 pp.
- Child Management, by D. A. Thom, M. D. No. 143. 24 pp.
- Physical Status of Preschool Children, Gary, Indiana, by Anna E. Rude, M. D. No. 111. 84 pp.
- Children of Preschool Age in Gary, Indiana.—Part I, General Conditions Affecting Child Welfare, by Elizabeth Hughes; Part II, Diet of the Children, by Lydia Roberts. No. 122. 175 pp.
- Habit Clinics for the Child of Preschool Age; their organization and practical value, by D. A. Thom, M. D. No. 135. 71 pp.
- Nutrition Work for Preschool Children, by Agnes K. Hanna. No. 138. 25 pp.
- Maternity and Infant Care in a Mountain County in Georgia, by Glenn Steele. No. 120. 58 pp.
- Maternity and Child Care in Selected Rural Areas of Mississippi, by Helen M. Dart. No. 88. 60 pp.
- Causal Factors in Infant Mortality; a statistical study based on investigations in eight cities, by Robert Morse Woodbury, Ph. D. A consolidated report of the Children's Bureau studies in this field. No. 142. 245 pp.
- Infant Mortality—Results of a Field Study in Baltimore, Md., based on births in one year, by Anna Rochester. No. 119. 400 pp.

**REPRINTS**

- Economic Factors in Infant Mortality, by Robert Morse Woodbury, Ph. D. (Reprinted from the Quarterly Publication of the American Statistical Association, June, 1924.) 19 pp.
- Decline in Infant Mortality in the United States Birth-Registration Area, 1915 to 1921, by Robert Morse Woodbury, Ph. D. (Reprinted from May, 1923, issue of the American Journal of Public Health.) 7 pp.

**CHARTS**

- A tabular Summary of State Laws Relating to Public Aid to Children in Their Own Homes in Effect January 1, 1925, and the text of the laws of certain States. Revised Edition. Chart No. 3. 37 pp.
- Deaths Under 1 Year of Age, by Cause of Death.
- Deaths Under 1 Year of Age, by Monthly Age Groups.
- Decline in Infant Mortality, from Selected Causes, 1915-1921.
- Decrease in Summer Deaths, 1915-1920; deaths under 2 years of age from diarrhea and enteritis.
- Infant Mortality Thermometer; deaths under 1 years of age per 1,000 live births.
- Maternal Mortality Thermometer; deaths from puerperal causes per 1,000 live births.
- Relative Mortality among Artificially and Breast Fed Infants; deaths among artificially fed infants compared with number expected at mortality rates prevailing among breast-fed infants.
- Summer Peak of Infant Deaths; deaths under 2 years of age from diarrhea and enteritis.

## QUANTITY PRICES ON MOST WIDELY USED PUBLICATIONS

The following table shows prices of bulletins, dodgers, and folders ordered in quantities (see pp. 46-47) :

Title of publication	Number of copies			
	100	500	1,000	Each additional 1,000
BULLETINS				
Prenatal Care, 41 pp.-----	\$3.00	\$20.00	\$25.00	\$25.00
Infant Care, 118 pp.-----	6.00	40.00	60.00	60.00
Child Care, 82 pp.-----	5.00	38.00	42.00	42.00
Child Management, 24 pp.-----		( <sup>1</sup> )	25.25	13.75
DODGERS				
Books and Pamphlets on Child Care (Mar. 1, 1925)-----			5.00	2.75
The Care of the Mother (revised)-----			5.00	2.75
Is Your Child's Birth Recorded (revised Jan. 1, 1925)-----			6.00	2.75
Breast Feeding (revised)-----			6.00	2.75
Bottle Feeding-----			6.00	2.75
Feeding the Child-----			5.00	2.75
The Care of the Baby (revised)-----			9.00	4.75
What Do Growing Children Need?-----			5.00	1.75
FOLDERS				
Minimum Standards of Prenatal Care (revised)-----	4.00		<sup>2</sup> 6.50	
Why Drink Milk? Milk is the Indispensable Food for Children-----	( <sup>1</sup> )	( <sup>1</sup> )	12.00	7.50
What Builds Babies? The Mother's Diet in the Pregnant and Nursing Periods (in press)-----				

<sup>1</sup> 3 cents per copy.

<sup>2</sup> In lots of 10,000.

