STANDARDS OF CHILD WELFARE

SEPARATE NO. 3

THE HEALTH OF CHILDREN AND MOTHERS

WASHINGTON
1919
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LETTER OF TRANSMITTAL

U. S. DEPARTMENT OF LABOR,
CHILDREN'S BUREAU,
Washington, D. C., June 15, 1919.

Sir:

Herewith are submitted the proceedings of a conference on Child Welfare Standards recently held under the auspices of the Children's Bureau as the conclusion of its Children's Year program.

Children's Year, as the second year of the war was called in this connection, grew out of the studies made by the Children's Bureau of child welfare abroad under war conditions. It was seen that, under circumstances of such difficulty as we happily can not conceive, the civilian population of Europe were achieving new laws for the protection of childhood, new ideals for the future development of the race. It was felt that the second year of the war in the United States ought to show a popular sense of responsibility for child welfare in some degree commensurate with our opportunities. Hence a program was stated briefly in the Fifth Annual Report of the Children's Bureau, which was adopted by the Women's Committee of the Council of National Defense and, for the purpose of carrying it forward, an organization of the great bodies of women associated under that committee was effected by a specially created Child Welfare Department, of which Dr. Jessica B. Peixotto was the secretary.

When the President wrote a letter approving Children's Year, he concluded with the following statement:

"I trust that the work may so successfully develop as to set up certain irreducible minimum standards for the health, education, and work of the American child."

So that this conference was a natural part of Children's Year, and by means of a special allotment from the President's fund, and with your approval, it was held. It was felt that the presence at the conference of guests who were engaged in the practical protection of children under war conditions in the allied countries would be an invaluable stimulus to this country.
The following guests from abroad attended the conference at your invitation:

Sir Arthur Newsholme, late Principal Medical Officer of the Local Government Board, England.

Mrs. Eleanor Barton, of the Women's Cooperative Guild, England, an organization of the wives of British wage earners.

Mr. Ronald C. Davison, Director of the Juvenile Labour Exchanges of England.

Sir Cyril Jackson, Board of Education, England.

Dr. Clothilde Mulon, War Department, France, who has done special work in the supervision of industrial creches during the war.

Dr. René Sànd, Professor of Social and Industrial Medicine at the University of Brussels, and Adviser on Medical Inspection of the Ministry of Labor.

Miss L. E. Carter, Principal of High School C, Brussels.

Mr. Isador Maus, Director of the Division of Child Protection, Ministry of Justice, Belgium.

Mr. Takayuki Namaye, Department of Interior, Japan, in charge of reformatory and relief work and the protection of children.

Dr. Radmila Milochevitch Lazarevitch, from Serbia, a physician and leader in social service activities.

Dr. Fabio Frassetto, Professor of Anthropology at the University of Bologna, Italy.

Their coming to this country to attend the conference gave signal proof of the new international sense of responsibility for child welfare. The generosity and graciousness with which each individual has assisted the conference is gratefully recognized.

This conference consisted not of a single meeting, but of a series of regional conferences, eight in number, beginning with one in Washington, May 5, 1919. Following the Washington conference, meetings were held in New York, Cleveland, Boston, Chicago, Denver, Minneapolis, San Francisco, and Seattle. In addition, certain of the foreign guests were speakers at various national associations, such as the Southern Sociological Congress, the National Conference of Social Work, the National Women's Trade Union League.

Because of the crowded living conditions in Washington, it was practicable to invite to the Washington conference only a small number of American experts upon the different subjects considered, and the discussions were of an informal round-table character. The attendance at the regional conferences was large and representative.

Naturally somewhat varying views of method and approach are presented by the different authorities whose contributions make up this volume. On the great essentials of a child-welfare policy for the nation there is, however, marked agreement. Public responsibility for the
LETTER OF TRANSMITTAL

growing generation, confidence in constructive measures, insistence upon greater uniformity in laws, and upon the necessity of enlisting able and devoted citizens to carry on both public and private child-welfare activities, are all steadily emphasized. At the end of the Washington conference the tentative child-welfare standards which appear in this book were agreed upon. They were printed and distributed for discussion by the regional conferences and a committee was named to revise them in the light of criticisms and suggestions which might be received from the later conferences and from other interested citizens and associations.

This committee consists of Dr. Hastings H. Hart, of the Russell Sage Foundation, New York City; Mrs. Ira Couch Wood, of Chicago, Director of the Elizabeth McCormick Memorial Fund; Mr. Owen R. Lovejoy, of the National Child Labor Committee, New York City; Dr. H. L. K. Shaw, of the State Department of Health of New York, Albany; and Mrs. Helen Sumner Woodbury, of Chicago.

The Bureau invited the head of the Public Health Service, Dr. Rupert Blue, and the Commissioner of Education, Dr. P. P. Claxton, to act with it as a Committee of Arrangements.

Miss Grace Abbott was the secretary of the conference, and Mr. William L. Chenery has written the general summary and, assisted by Miss Ella A. Merritt, has prepared this volume of proceedings for publication.

Respectfully submitted,

Julia C. Lathrop,

Chief.

Hon. William B. Wilson,

Secretary of Labor.
This publication is an excerpt of a larger work and comprises introductory material numbered through page 9, Section III numbered pp. 143-304, and Section VI numbered pp. 431-444.
Section III

The Health of Children and Mothers

(The minimum standards for the protection of the health of children and mothers adopted by the Washington Conference will be found on pages 436-439.)
MATERNITY AND INFANCY

STANDARD REQUIREMENTS FOR OBSTETRICAL CARE

By DR. J. WHITRIDGE WILLIAMS

Professor of Obstetrics, Johns Hopkins University, Baltimore, Maryland

Taking into consideration the varying conditions obtaining in different localities, it is not easy to lay down universal standard requirements for obstetrical care; for it is obvious that the problem will differ in large cities, in small urban communities, and in rural districts. Furthermore, the problem will vary in large cities according as they contain medical schools with their attendant students, who may be utilized in solving some of the problems, as well as by the proportion of the population that employs midwives.

Broadly speaking, it is not difficult to lay down standard requirements for cities, which for the present must be of such a character that they can be carried out by general practitioners of average intelligence. In such a standard the following requirements seem essential:

1. Monthly prenatal visits during the second half of pregnancy, with examination of the urine;
2. A careful preliminary examination four or six weeks before the expected date of confinement, which should include a general physical examination, as well as pelvimetry, mapping out the position of the child and the determination of the existence of any serious disproportion between the size of the head and the pelvis;
3. Reasonable care at the time of delivery by one who will observe the ordinary rules of aseptic technique and who knows enough to abstain from meddlesome midwifery, with the understanding that suitable hospital accommodations are available for all patients presenting such complications as cannot be satisfactorily treated in their homes;
4. A careful postpartum examination four weeks after the birth of the child, for the purpose of relieving or treating minor abnormalities and of detecting the existence of such lesions of the birth canal as may require operative relief;
5. Supervision of the baby for the year following its birth.

It will be noticed that I have not included the Wassermann test as part of the routine prenatal care, nor the determination of the blood pressure at each monthly examination. This is not because I do not fully appreciate the serious rôle played by syphilis, but because I consider that such examinations are feasible only in institutions with
well-equipped laboratory facilities, or in communities in which the health department maintains an efficient laboratory and is willing to cooperate in the work. Of course, it is understood that such an omission will result in the birth of a certain number of syphilitic babies, as well as in the development of hereditary syphilis in others who survive. But, at the same time, I feel that under average conditions the Wassermann test should be obligatory only for patients who present a suggestive history, or in whom the repeated occurrence of premature labors or stillbirths strongly suggests the existence of syphilis. Routine blood pressure determinations were omitted for the reason that in the vast majority of cases the subjective symptoms and the presence of albumin in the urine permit a diagnosis of pre-eclamptic toxemia to be made without their aid.

At the present time I think that it is conservative to estimate that even such standards as are here outlined will not be applicable to more than one-half of the population of most communities. A more liberal estimate might be made in the case of large cities, which are abundantly supplied with hospital facilities and other philanthropic resources; but, on the other hand, they would prove difficult to carry out if any considerable proportion of the population were attended by midwives. Furthermore, under present conditions, such standards could not be maintained in many rural districts, and particularly in the open country, as is evidenced by the reports issued by the Children's Bureau concerning the conditions in certain counties of Kansas and North Carolina; for in many such localities physicians are not available and the woman is often fortunate if she can avail herself of the services of even a partially trained midwife.

It appears to me that progress in this regard can be made only along three lines: (a) by a campaign of education, in which the women and their husbands are taught that it is their right and duty to demand reasonable care during pregnancy and at the time of labor; (b) by the institution of State aid and by National subventions, partly for educational purposes, but particularly for the carrying out of such minimal standards as seem essential; and (c) by legislation requiring local health officers, in localities in which midwives are generally employed, or in the open country where they represent the most available source of assistance, to assume charge of the situation and to lay down certain regulations which the midwives must be compelled to follow.

I take it that the first step in such a campaign of education for the improvement of obstetrical conditions must consist in the compulsory registration of pregnancy through the local health officer. In this event, it will be possible for every pregnant woman throughout the entire country to be supplied gratis with certain of the publications...
of the Children's Bureau, and thereby, if able to read, to be convinced of the importance of insisting upon adequate care. Furthermore, it should be the duty of the local health officer to see that the women who register should promptly arrange for suitable care during pregnancy and at the time of labor. If a physician were engaged, the health officer's responsibility would end, but if the patient is to be cared for by a midwife, it would be his duty, or that of a paid substitute acting for him, to see that certain examinations and requirements were carried out.

Thus, I believe that it should be stipulated that midwives could attend only such patients as offer every prospect of having a normal labor. This could be effected by providing that they could not assume charge of a patient until a certificate had been procured from a properly qualified medical man stating that he had made a suitable preliminary examination and had found everything in order and that he considered a normal outcome likely. This could be further checked by the health department providing suitable blanks for the purpose, and stipulating that they must be returned when the birth certificate is filed. Furthermore, the midwives should be required by law, even in cases which had been certified as presumably normal, to call a physician whenever labor lasts for more than 24 hours, or when any unexpected abnormality develops.

Such a procedure would have a highly educative effect upon the patients, especially upon the foreign born who are accustomed to believe that midwives are thoroughly competent; it might also teach the midwife something, and it would certainly constitute an important step toward her eventual displacement. In cities, the midwives might bring their patients to the obstetrical dispensaries, when such are available, where the certificates could be filled out gratis for the very poor, and for a small fee in the case of women in more comfortable circumstances.

On the other hand, women who present some abnormality at the preliminary examination should be referred directly to a physician, or be sent to the hospital at the county seat for treatment.

Of course, the general adoption of such regulations would necessitate a revolution in the methods of medical practice in rural districts, and could only be carried out if funds were available for the employment of suitable persons to regulate the midwives, as well as for the institution of hospitals at the county seats, which would be available for the reception of patients urgently needing hospital care.

The suggestions here made do not cover in any way the supervision of the child during the first year of life, and I imagine that in rural communities this can be effected only by the employment by the county of visiting trained postnatal nurses, who would make tours through
their districts at regular intervals and see the children under their care. I take it that radical reform in these directions can only be attained after a campaign of intensive education, for we have learned that the most efficient method of safeguarding the interests of the child is by teaching the mother how to care for it. No amount of supervision will accomplish the greatest good unless at the same time the mother is taught what her duties are to herself, and how they can be best carried out.

DISCUSSION

Sir Arthur Newholme (Late Principal Medical Officer, Local Government Board, England): In regard to the notification of pregnancy we have in our country hitherto preferred to make provision to induce prospective mothers to come, rather than to make notification obligatory. Therefore we have set up in our centers prenatal consultation clinics and have tried to induce mothers to come, and at the same time have used our official machinery in connection with the midwives, who assist in 75 per cent of the births, to induce them to bring mothers to these clinics.
THE CONTROL OF VENEREAL INFECTION

By DR. PHILIP C. JEANS
Associate Professor of Pediatrics, Washington University, St. Louis

The Importance of the Subject

Gonorrhea.—Though gonorrhea plays a large rôle in the sterility and general ill-health of the mother, it has, with the exception of infection of the eye, usually but mild effects upon the newly born infant. Occasionally gonococcal arthritis may be observed, but this condition, though quite painful, usually ends in complete recovery without loss of function. Vaginitis may occur in the newly born, but more frequently occurs at a later time as a result of contagion. Vaginitis at this age is frequently quite painful and always disagreeable, but it does not have the serious sequelae that it has in adults. Infection of the eye in the newly born is serious in that it frequently results in permanent blindness, and unless treated early and vigorously it may result in impaired vision even with good treatment. It has been estimated that from 25 to 30 per cent of blindness as found in adults is due to gonococcal infection of the eyes at birth. This alone makes the condition one of common interest.

Syphilis.—In syphilis we have a much more serious disease. In the study of a large number of syphilitic families, it has been found that 75 per cent of the pregnancies result in syphilitic offspring; one-fifth of these die at or before term from the infection; one-fourth of those born alive die in infancy as a result of syphilis; and but one-sixth of all the pregnancies result in non-syphilitic children who survive the period of infancy. The waste in infant and child life in a large group of syphilitic families is over 60 per cent as compared to less than 25 per cent in a similar group of non-syphilitic families of the same social plane. The list of serious disabling lesions of syphilis is a long one. Those infants who do not die as a result of the infection frequently suffer from a long period of malnutrition, and the maintenance of their nutrition becomes a difficult matter. Most of the serious affections other than those mentioned appear as later manifestations, but for purposes of prophylaxis should be considered as a part of the subject under discussion. One-third of these surviving children sooner or later develop an inflammation of the cornea. This condition if untreated or neglected frequently results in blindness, and under the best of treatment there is usually a prolonged period of loss of function. In one-third of
STANDARDS OF CHILD WELFARE

syphilitic children the nervous system has been seriously invaded by the spirochete of syphilis. It is perhaps going beyond our knowledge to say that all of these sooner or later develop some outward evidence of such invasion, though it is certain that a large number of them do develop paralysis, dementia, blindness, or other neuro-syphilitic manifestations. The numerous painful and disagreeable lesions of syphilis need not be further enumerated. Enough has already been said to emphasize the seriousness of hereditary syphilis.

A proper question, and one which can not be answered accurately, is with what frequency does syphilis occur. Statistics from four cities of this country show that about 10 per cent of married pregnant women are actively syphilitic as shown by the Wassermann reaction. It is to such women that syphilitic children are born. Statistical studies made in St. Louis and New York indicate that from 5 to 6 per cent of our infant population is syphilitic. These surveys among the mothers and infants were all made among the poorer classes.

It is obvious that any disease affecting in so serious a manner such a large number of families is worthy of our best efforts for prevention.

Preventive and Curative Treatment

Gonorrhea.—Gonococcus infection of the infant occurs during or after birth, the infection occurring directly or by contagion from a localized open infectious process in the mother. In most instances ophthalmia neonatorum occurs as a result of infection of the eyes during the birth of the infant. For this, the most serious gonococcus infection for the infant, there exists a means of prevention both harmless and easy of application, i. e., the instillation of a 2 per cent solution of silver nitrate into the eyes immediately after birth. Credé, who first advanced this method of prevention, was able by its use to reduce the incidence of gonococcus ophthalmia in his hospital practice from 136 to 1 per thousand births. This measure is universally recognized as effectual in prevention and all that is needed is some means by which those attendants at confinement who otherwise would be negligent may be compelled to take such a precaution. In many States this matter is well looked after by follow-up visits and prosecution by the health boards under State law. The details of methods of checking and follow-up need not be enumerated. Propaganda through lectures, motion pictures, and leaflets intended for the people in general makes a very useful adjunct to legislation and health-board activity. The Federal Government is already carrying on such propaganda to some extent. The rather obvious next step would be to have suitable laws passed in those States which do not have them and to activate those State boards of health that need it.

Syphilis.—Except in rare instances, syphilis of infants and young
children is a congenital or hereditary infection transmitted to the infant before birth by way of the maternal blood. It is generally agreed that germ transmission does not take place and in order that the child be infected before birth it is necessary that the mother first be infected. Though this view may be shown later not to be entirely true, preventive work based upon this conception has been demonstrated to be effective. It is probable that the fetal infection occurs in all instances by way of the placenta and that the spirochetes reach the placenta by way of the maternal blood stream in which there occur occasional small showers of spirochetes from a more or less active focus elsewhere in the body. Whether or not the child will be infected depends upon the activity of the process in the mother, which in turn depends in a large measure upon the length of time which has elapsed since the maternal infection. Those children born soon after the maternal infection are severely affected. Even without treatment the infection in the mother in many instances tends to subside to such an extent that it is not transmitted to the offspring. This is not necessarily so at an early date. In some instances a syphilitic mother has non-syphilitic children eight to ten years after her infection, while in others she continues to have syphilitic children 25 years after her infection. In a few instances the period between the infection of the mother and the birth of the first child is of such a length that none of the children are syphilitic. It may be stated as a general and probable truth that the Wassermann reaction will be positive in any mother whose infection is active enough to allow the infection of her child in utero and that a mother whose infection has subsided sufficiently so that the child will not be infected will give a negative Wassermann reaction. The exceptions to this rule must be very few. From this it is seen that a Wassermann reaction on the serum of a prospective mother may be taken as a criterion, not as to whether or not she has syphilis, but as to whether or not she is likely to infect her infant. Some such criterion as this is necessary for the reason that nearly 90 per cent of the mothers of syphilitic children honestly deny all knowledge of infection or later manifestations of such infection. In many instances a history of abortions and stillbirths may lead one to suspect syphilis, but this alone is insufficient evidence upon which to make a diagnosis. The one most constant and reliable symptom of syphilis is the positive Wassermann reaction.

It has been fully demonstrated that adequate antisyphilitic treatment of a mother throughout her pregnancy will result in the birth of a non-syphilitic infant. It is probable that this treatment acts to cause a retrogression of the maternal infection or at least in its being held in check to such an extent that the fetus is not infected. Based in part upon laboratory studies of the products of conception, it is thought that—in most instances at least—fetal infection does not take place.
until the later months of pregnancy. Upon this basis may be explained the fact that even if a mother is treated only during the latter half of her pregnancy the infant in the great majority of instances will not be infected. The shorter the period of treatment prior to birth the more likely is the child to be syphilitic, but even the shortest periods of treatment are not without benefit. The cure of syphilis is at best a laborious process, and it would seem greatly preferable to prevent infection of the infant in this way than later to treat the infant for the disease even though eventually it may be cured.

The treatment of the mother during one pregnancy does not protect the subsequent pregnancies unless that treatment is continued to the point of "cure" of the mother.

In the prevention of inherited syphilis, we are confronted with a somewhat complicated problem. It is necessary first to make a diagnosis of syphilis in the mother at a fairly early period of her pregnancy, and it is necessary in our present knowledge to depend in a very large measure upon the Wassermann reaction for this diagnosis. The conscientious physician will try to verify the diagnosis made in such a manner in as many ways as possible. Serological and physical examination of the husband and of the other children would be very useful not only for this purpose but also as a public-health measure. In this connection it is well to remember that many husbands, though the source of infection, will give a negative Wassermann reaction at the time of such examination, for relatively few men will marry with a known active infection. The standards for good prenatal care should include an examination of the blood just as they include urine and other examinations. The diagnosis of syphilis having been made, the mother should be treated according to the best recent standards for the treatment of this disease.

In those instances in which the infection has not been diagnosed until the puerperium there is the added factor of management of the syphilitic infant. The first goal in the management is the diagnosis. It is necessary to realize that a very large number of syphilitic infants show no outward signs of their infection either at birth or during the customary period of obstetrical observation, and any infant that does show marked signs at this early date has a relatively poor prognosis. The Wassermann reaction on the infant's blood is also unreliable in this period to the extent that fully one-third of actively syphilitic newly born infants give a negative reaction, though the reaction if positive means syphilis as much as at any other time. These same negatively reacting infants will a few weeks later give positive reactions. Though the obtaining of blood in sufficient quantity for a Wassermann reaction is a relatively easy matter in expert hands, the practical difficulties are such that many physicians would not undertake it as a matter of routine.
Nor is it a procedure that would be universally tolerated by parents unless some urgent need were shown. As a substitute for taking blood from the infant, blood might be taken from the placental end of the cord at delivery. This procedure has the advantage of ease of accessibility. The same objection holds for this blood as for that of the infant, that only about two-thirds of the infections can be diagnosed thus. In the hands of a competent pathologist, a much larger number of infections may be diagnosed by histological examination of the placenta. Perhaps 95 per cent of the infections may be diagnosed in this way. This method of diagnosis is but little trouble either to the obstetrician or to the pathologist. It also has the possible advantage of avoiding what might be awkward explanations. A Wassermann reaction on the mother's blood has the same advantage in diagnosis as it does earlier in her pregnancy, and the agreement between this and the infection of the infant closely approaches 100 per cent unless the mother has had antisyphilitic treatment during her pregnancy.

Except in small towns and rural communities, the obstetrician does not ordinarily undertake the treatment of syphilis. Since the nutritional factor is often a very large one in syphilitic infants, it is desirable to make extraordinary efforts, if necessary, to have the baby breast fed. The patient should be referred at the earliest possible date to those who are competent both in the management of infant nutrition and the treatment of syphilis. In the absence of nutritional disturbance and intercurrent disease, infantile syphilis may be completely cured, according to our present standards of cure, in the great majority of instances, and the policy of "why not let them die" apparently held by many is entirely unwarranted.

The Control of Syphilis

Having means to diagnose and treat syphilis which are on the whole fairly adequate, it becomes necessary, in order to apply these measures, to locate infected individuals. For successful prevention it is necessary to bring the mothers under observation early in their pregnancy. The public is more and more becoming educated to the desirability of obstetrical supervision throughout pregnancy. Further propaganda along this line is needed. It is not necessary to advance any arguments here as to the desirability of such care. The encouragement and wider distribution of prenatal clinics will reach a large proportion of those who most need such care. A "blood examination" should be made a part of the general examination of each such patient and the finding of a positive Wassermann should be the signal for anti-syphilitic treatment, enforced if necessary. This whole idea must be carried out largely by publicity, since it is scarcely feasible to require legally a Wassermann test on every mother.
Failing in prevention it becomes desirable to diagnose syphilis in the infant at the earliest possible moment. Though good obstetrical standards should require a Wassermann on the mother, a positive reaction is merely presumptive evidence of infantile infection, though in most instances the presumption is correct. A negative Wassermann on the infant at this age may lead to a false sense of security. The most constant evidence of infantile infection is found in the placenta. Since the examination of the placenta requires so little time and at the same time reveals such important information, it should be a part of proper obstetrical routine in every case. Before carrying this plan out on a large scale, however, its reliability should be better founded. In case it proves to be satisfactory, it could be required that all placentae or proper pieces of all placentae be sent to the board of health. Material from stillbirths and miscarriages should be included in this requirement. One pathologist with one or more technicians could easily examine promptly material from all the births of a city. The details of the follow-up by the health board could well be left to depend upon local conditions within certain limits, but there should be some means provided by which the infant would receive prompt and effective treatment either voluntarily on the part of the parents or enforced if necessary. The diagnosis made in this manner should later be checked by serological examination of the infant.

For those patients handled by prenatal and obstetrical clinics, the logical sequence is to refer the infant to postnatal clinics whether suspected of syphilis or not. In such clinics overlooked infections would be diagnosed as symptoms appear.

In conclusion, the chief points to be emphasized in the control of hereditary syphilis are as follows:

1. Infection of the infant can be prevented by treatment of the mother during pregnancy.

2. The Wassermann reaction, checked by other observations, if possible, is the one most dependable criterion as to whether or not a mother should receive treatment.

3. In about 95 per cent of instances of infantile syphilis placental examination will show evidence of such infection. Of the various clinical means of diagnosis of syphilis in the newly born infant this examination indicates the presence of infection with the greatest frequency.

4. Both a Wassermann reaction on the serum of the mother and an examination of the placenta should be included as a part of good obstetrical standards.
DISCUSSION

Sir Arthur Newsholme, M. D. (Late Principal Medical Officer, Local Government Board, England): The question of venereal infection has been mentioned. In regard to that I think we can claim to have done some very important work. Regulations were issued by the Local Government Board, about three years ago, which made it an obligatory duty on the part of the sanitary authority in every large center of population, to provide clinics at which anyone (millionaire or pauper) could obtain secret and gratuitous treatment for syphilis or gonorrhea. And we have in our country now a complete system of free clinics for the treatment of venereal diseases. Having provided free treatment, we endeavored to insure that these diseases should be treated only by regular practitioners, and to this end we persuaded Parliament two years ago to pass an act prohibiting any druggist or other unqualified person from treating them. In view of the facts we have heard as to the importance of venereal disease in the destruction of child life and child health, in the impairment of the health of the mother, and in the sterilization of potential mothers, I am quite sure you will agree with me that this is an important step forward in regard to child welfare.

Dr. Dorothy Reed Mendenhall (Children's Bureau): I have made some estimates from the percentages Dr. Jeans has given us in regard to the prevalence of syphilis, and the result is rather startling. We have two million and a half estimated births in this country, and 234,600 estimated deaths under one year, in 1916. We had therefore, using Dr. Jeans' estimate, 125,000 stillbirths, and of these 41,700 were caused by syphilis. We had 125,000 live births, the victims of congenital syphilis, and 31,300 of these died as a result of syphilis. This gives 41,700 stillbirths and 31,300 deaths in infancy, a total of 73,000 infant losses in one year due to congenital syphilis.

Dr. S. Josephine Baker (Division of Child Hygiene, Health Department, New York City): I hesitate to question Dr. Jeans' figures on the number of babies under one year that die from syphilis, but they are of extraordinary interest because they are so entirely contrary to anything we have experienced in New York City.

Syphilis as a cause of stillbirths is universal, I think, but with us syphilis as a cause of infant deaths does not figure largely at all statistically. It is a minor consideration. Inanition, congenital debility, and those vague titles it is possible may have syphilitic origin, but if anything which would prove they have been done in New York it is unknown to me. I do not know of anything which would warrant us in saying that there were any such extensive deaths from syphilis under one year of age as these figures would show. In fact it is quite contrary to our general opinion.

Dr. Jeans: The figures that I gave were averages from a large number of cases from a great many sources, some from New York and some from other places. It was my impression that the averages were somewhat near the correct figures, but I may be mistaken.

Very often syphilis is an indirect cause of death. In an article published by Dr. Holt, using material from New York City, he stated that about 25 or 30 per cent of the syphilitic babies studied died from syphilis, and that, in all, more than

1 These percentages were given in a paper read by Dr. Jeans before the Association for the Study and Prevention of Infant Mortality at its ninth annual meeting, December, 1918. Paper published in The American Journal of Syphilis, Vol. III, No. 1, Jan., 1919.
50 per cent of them died. Whether or not syphilis was the cause of death in the remainder of those instances is difficult to say. But certainly it is not a factor to be ignored.

Dr. Baker: I did not question the number of syphilitic babies that died in proportion to the number of cases of syphilis. I was questioning the number of syphilitic deaths in proportion to the total number of deaths.

Dr. Jeans: The fact that 10 per cent of mothers among the poorer classes give positive Wassermann reaction would seem to make the subject of considerable importance, as well as the fact that 90 per cent of those mothers will give no history nor show any signs of syphilis.
The only midwife problem with which I am familiar is that of our manufacturing cities with a large foreign population, of which my own city, Providence, is typical. In Providence the midwife is not indigenous. She came to us with our recent immigrants, from Russia, from Austria, from Poland, from the Azores, but chiefly from Italy.

Medical practitioners in general, and obstetricians in particular, denounce the midwife; social workers and public health nurses do not like her; and health officers do not consider her an asset to the community. The latter, however, while desirous of replacing her by something better, admit that she is not so inimical to public health as are many physicians. Thus in some cities the midwives report births and cases of ophthalmia better than do the physicians. They report births more promptly. In Providence, though there are no accurate data, midwives certainly report births more completely than do physicians. Last year 10 per cent of physicians' reports were late and only 1 per cent of the midwives'. For the prevention of infant mortality prompt returns are necessary, and the health officer is grateful to whoever makes them. There are very many physicians who know little about infant feeding, and their babies die and the health officer can do nothing about it. With the midwives' babies it is different. The nurse engineers them to the welfare station, where they are cared for by specialists. No wonder that in Providence, in 1917, the infant mortality rate of midwives' babies was 77, while of all others it was 117. It cannot be argued that this is because the midwives care for a stronger stock of women and healthier babies. About 85 per cent of the midwives' babies are of Italian mothers. In the years 1902-1909, before there was any instructive nursing service for mothers, the infant mortality rate among Italians was 138. In 1917 it was 93. The midwife, therefore, does not thus far seem to have been a hindrance to the prevention of infant mortality.

Objection to the midwife is based almost entirely on a priori reasoning. In the biological sciences this mode of reasoning is dangerous, though I doubt not that in this instance it is valid. Midwifery is a branch of medical practice, and we have abundant evidence that training and knowledge make for better practice. Nevertheless, there is
some truth in the old adage that "a little knowledge is a dangerous thing." We are safe in assuming that imperfectly educated physicians and imperfectly educated midwives are not as useful members of society as those who are well educated. In medicine we need the best. Even this, owing to the limitations of human knowledge, is far from the ideal. In knowledge the midwife must always be far below the physician, and it is a safe deduction that she is not an institution to be fostered, but is rather to be tolerated only until such time as an acceptable substitute can be found. We allow non-medical individuals to provide glasses for our eyes and to attend women in confinement, but in no other specialty is this permitted.

Nevertheless, it would be desirable to show by comparative statistics whether the practice of the midwife results in sickness and death. When comparison is made between the results of midwives' practice and that of physicians, it is at times apparently unfavorable to the latter. Dr. Williams, a few years since, aroused great interest by his argument that poor doctors have more deaths against them than do the midwives, and that there are many poor doctors. The majority of teaching obstetricians were of his opinion. Dr. Baker of New York says that the morbidity and mortality, both of mothers and of babies, is greater among those attended by physicians than among those attended by midwives. Dr. Van Ingen has presented figures, relating to the lower East Side of New York, which show that stillbirths are much more frequent in the practice of physicians than in the practice of midwives. The great fallacy in all such statistics is that there is a selection of cases. Difficult confinements gravitate to the physician or the hospital, while normal confinements remain with the midwife.

There are several reasons why there is a demand for midwives:

1. They are cheaper. In my own city at the present time the prevailing rate for midwives is $15, with a dollar or two thrown in the baby's bath for tub money, and for physicians $25 and upwards, though a number of physicians will take cases at the same rate as midwives. Such physicians, however, are likely to be below the average. It is believed by many that economy is the most potent reason for the retention of the midwife.

2. Many foreign women do not wish to have a man attend them in confinement, or what is probably much more common, their husbands do not wish it. This is a custom or fashion, but I cannot believe that it will prove very difficult to change it as soon as good medical service and other care is available within the mothers' means. When one sees the remarkable change in customs, clothes, food, drink, etc., among foreigners, after only a few months' residence, one can be confident that the preference for a midwife must yield to the force of American public opinion. The Italian will, in time, substitute the doc-
tor for the midwife, just as she has substituted the milliner's hat for the
bright colored handkerchief that formerly covered her head. In this
process of education the public-health nurse must play an important
part. Her influence with a family is very great, and she can do much
to teach the importance of the best medical attendance. The woman
physician, too, can be utilized to give medical service to those who ob-
ject to a male attendant.

3. The midwife performs more or less household service for the
family, "tidying" the rooms, preparing the meals, and caring for the
older children; but apparently there is a tendency for the midwife to
do less and less of this sort of work.

There is evidence to show that midwifery is decreasing. Dr. Wood-
ward stated that in the District of Columbia, between 1896, the date of
the adoption of the law regulating midwives, and 1915, the number of
births attended by midwives in the District of Columbia fell from 50
per cent of the total births to less than 10 per cent. In 1918 it was 5.5
per cent. This was due chiefly to the elimination of midwives by ex-
amination. In New York, in 1905, 42.1 per cent of all births were at-
tended by midwives, while in 1917 the per cent was 33.5. The decrease
has been especially rapid since the opening of the war, which is in-
terpreted as indicating that it is the newcomers who are most in-
clined to rely upon the midwife. In Providence the proportion of
births attended by midwives increased with the increasing tide of
Italian immigration up to 1913, when over 33 per cent of all births
were attended by them. In 1918 the percentage was 27.5. An en-
couraging feature in Providence has been the almost complete disap-
ppearance of the Jewish midwife. Ten years ago nearly 150 births
annually were attended by Jewish midwives. Last year there were but
four so attended, although we have a Jewish population of nearly
20,000. This seems to be due largely to the appreciation on the part
of Jewish women of the value of medical service. In Rochester the
number of midwives and the number of births attended by them has
decreased during the last eight or ten years. In other cities, as Newark,
it is stated that the proportion of births attended by midwives has
remained quite constant.

Various plans have been adopted, or proposed, for solving the mid-
wife problem. One is absolutely to forbid her practice by statute law.
This is true of Massachusetts now and was true in Rhode Island up to
last year. In neither of these States was any serious attempt made to
enforce the law and to drive out the midwives. When I saw that the
midwife was to remain in Providence I tried to secure her cooperation,
with the result that her births are more completely and promptly re-
ported than before, as are her cases of ophthalmia, and her babies are
promptly brought under the care of public-health nurses and physi-
STANDARDS OF CHILD WELFARE

Another plan, which may be developed in different ways, is to license the midwife. This has as yet been attempted in only a few States. The statutory provision should be as broad as possible so as to allow opportunity for experiment and the development of new methods of control. The Rhode Island law provides that "the State board of health is hereby authorized and directed to make rules for the regulation and practice of midwifery, and for the licensing of midwives." The New York statute, authorizing the enactment of a sanitary code by the public health council, provides that this code "may contain provisions regulating the practice of midwifery."

Under such general provisions the licensing may amount to a mere registration, or it may develop into an elaborate system under which midwives are carefully examined, educated, trained, and supervised. The advocates of licensing are divided into two groups. One of these believes that the midwife is but a temporary institution, is unnecessary, and can sooner or later be eliminated. They would issue a license annually, perhaps establish moderate standards of conduct, and gradually eliminate those midwives shown to be careless, dirty, ignorant, or neglectful. They would not attempt to teach obstetrics to the midwife, or to raise her social or economic status, fearing that, by so doing, her position would be made more permanent. The midwife who is educated in a school and who has a diploma will be independent and will resent efforts to draw away her clientele. She will believe that she has rights which she must defend. On the other hand, the midwife who is made to feel that she has no real status, that she is allowed to practice only on sufferance, and that she is dependent on the good will of the health officer, will not dare to make much fuss if she sees her patients leave her. Dr. Stone, our superintendent of child hygiene, finds that our best qualified midwives are the least tolerant of advice and correction. If the midwife has no real status, she can the easier be made to obey the rules of the department; thus such midwives can often be made to report births and inflamed eyes more promptly than the physicians. Perhaps they may even be made to report pregnancies. Under control, such midwives are not dangerous to the babies, as is shown by the Providence figures previously given. That they are not dangerous to the mother is indicated by data from Philadelphia, where there were only 17 deaths in about 12,000 confinements attended by supervised midwives.

Others think that the midwife will surely remain with us for a long time and they prefer to attempt to improve her status. They would fix educational standards, and by definite supervision of her work see that these standards are lived up to, thus following the ideas of most
European countries. Thus the New York code requires that midwives must possess a diploma from a recognized school or must have received personal instruction from a licensed physician, of which instruction he must make a report. A school for midwives had previously been established at Bellevue Hospital in New York City in 1911. The New York State Department of Health has planned for the supervision of midwives through the medium of nurses. These nurses cover chiefly those parts of the State outside the great cities. New York City had previously undertaken similar control in 1911.

New Jersey has adopted much the same plan as New York.

In Pennsylvania midwives are licensed by the bureau of medical education and licensure, and are also supervised by the same bureau. The system is best developed in the district in which Philadelphia is situated. In this district there is a supervisor, a specialist in obstetrics, who has under him a number of women physicians who act as inspectors. The midwife must call upon the inspector for advice in every abnormal delivery, and definite rules are given to guide her judgment. In practice nearly every patient is seen by the inspector. The midwives receive considerable systematic instruction, but, as I understand it, the authorities look to the ultimate extinction of the midwife and think that this result will be endangered if the requirements are such that women of some education will be led to prepare themselves, at some expense, for midwifery as a "profession." In Pittsburgh close supervision of the midwives is maintained by nurses.

In Providence the "baby nurses" of the health department have, for some time, sought, by personal instruction given to each midwife, to make her more cleanly and in other ways to take better care of her cases. She has been made to report births and sore eyes promptly. She is shown the necessity for sending for a physician in case of any abnormality and is warned of the danger of delay. Many midwives secretly prescribe medicines, and the endeavor is made to break up this practice. Very much was done along these lines before we had a license law, and now it is hoped that the State board of health will refuse licenses to those women who do not follow directions.

If midwives are to be supplanted, some substitute must be offered which appeals to their patrons as desirable. Perhaps the most important reason why the midwife is preferred is because she costs less than a doctor. If the midwife is to be supplanted by a physician, the latter must not cost more than the former, and the supplanting process will be more rapid if he does not cost as much.

A free out-patient obstetrical service certainly draws cases from the midwives. Wherever there is a medical school, such a service is necessary for teaching purposes. Even if the patient is able to pay a midwife, I consider it entirely legitimate to draw her away by free treat-
ment, particularly as the patient is to be used for teaching purposes. Moreover, some compensation may be received even from this kind of a service. Thus at the Boston Lying-in Hospital the out-patients contributed on the average, in 1916, $1.38 each, which was an appreciable help in meeting the low cost of the service. That such a service pays from a public health standpoint is shown by the fact that maternal mortality in the last 5,000 out-patients was .04 per cent. That this low rate was not secured by sending an undue number of difficult labor cases into the hospital is indicated by the mortality of the house cases, which during substantially the same period was 1.1 per cent, certainly not abnormally high.

Unfortunately, or rather fortunately, most of our cities are not supplied with a medical school, so some other means than the utilization of medical students has to be found to provide obstetrical service for the poor. An out-patient service would seem to be best provided in connection with a maternity hospital. The country certainly needs a much larger maternity service than it now has. Many general hospitals are, however, now adding a maternity service, often because a number of States are requiring of their licentiates in medicine a hospital internship with a prescribed obstetrical training. This will certainly draw cases from the midwives, and will at the same time, by the training thus secured, make the young doctor a better obstetrician, a most desirable result.

The cost of out-patient obstetrical work is a matter of much moment in these times when there are so many demands on philanthropy and so many lines of municipal health work. We must all admit that it is a great injustice to ask so much gratuitous public service of physicians. Many of us are trying to draw away from this practice, though it will probably be a long time before all such public medical service will be adequately paid for. The tendency in some places is to utilize interns, or other members of a resident hospital staff, for out-patient work of all kinds. In this way the out-patient worker is likely to be paid something besides his board, and he may even be paid a fair compensation, yet I am sure that less money will be required in this than in any other way, and that this arrangement will better satisfy the medical man. The utilization of a resident staff for out-patient work also makes for efficiency, as the work can be supervised by the hospital management and the service is sure to be more prompt and regular. Hence out-patient obstetrical service would seem to be desirable in connection with maternity hospitals whenever possible.

At Manchester, N. H., a city of about 80,000 people, out-patient obstetrical service is carried on by the district-nursing association, which has a medical man for director of the service. Young physicians, just coming to the city, do most of the work, and they are glad to do it, as
they are thus brought in touch with the more influential people. The city has many textile operatives, and it is estimated that about 10 per cent of all confinements are in need of free service. About 6 per cent are now served by the dispensary.

The "pay clinic" has, for various types of medical service, been strongly advocated in Boston as a means of securing efficient treatment for a class of persons who can pay only a moderate sum, but yet sufficient in the aggregate to afford modest compensation to the physician. It was deemed advisable in East Boston to establish such a service in connection with the Maverick Dispensary, a private institution, not connected with any hospital. This has been running only a short time, but is drawing cases from the midwives. A charge of $15 is made, just the amount charged by midwives, and of this $10 goes to the physician. The physicians are men who are glad temporarily to take this service to perfect themselves in obstetrics.

Enough has been said to show that in the United States a variety of views prevail as to the midwife and that there are various ways of dealing with her. Those who would dispense with her service have different plans for doing so. This is the period for experiment, and our Federal system, with its forty-eight legislatures, favors experimentation. It is too early to standardize and not a time for dogmatism. It is not unlikely that different plans will be found best for different parts of the country. Meanwhile my own conclusions, applicable chiefly to our cities with large foreign populations, are as follows:

1. The midwife is unnecessary and can gradually be eliminated.
2. There should be an annual registration, and supervision should be maintained.
3. The foreign population must be educated, the most valuable agencies being nurses and clinics.
4. Prenatal clinics are needed and especially an enlarged outpatient obstetric service, partly free and partly pay.
5. More maternity wards are needed.
6. There should be better obstetric training for medical students, which will be made possible by greater opportunity for clinical instruction.

DISCUSSION

Dr. Julius Levy (State Board of Health, New Jersey): I want to recall some of the points that Dr. Chapin made very tellingly and clearly. He made the point that midwives are not so bad as some doctors; he made the points that births are reported more frequently and more promptly by midwives than by doctors, that there is less ophthalmia than in cases handled by doctors, and that midwives are more disposed, under advice and instruction, to use silver nitrate. He also made the point that infant mortality is lower among cases handled by midwives; and then he wants us to believe that we are to eliminate midwives!
As far as our studies can show, experience has proven that under regulation and supervision and proper instruction our standards are better maintained by midwives than by doctors as they exist. And I may add that where that does not occur it is not the fault of the midwife but of the public-health officer. I will not claim that with the same kind of regulation and supervision of doctors the results would not be better, but Dr. Chapin also stated that he discovered it was much easier to regulate and supervise the midwife than it was the doctor.

Dr. Chapin also pointed out that as the midwife became educated she was more difficult to handle. You notice she is getting a little like the doctors and the results are not always as good.

I ought to suggest that I do not think that obstetricians need fear the existence of the midwife in perpetuity. Elevating her status I think is a sly way to eliminate her, if you really wish to eliminate her, because as you elevate her standard she demands more for her service, and when she demands more for her service, she is in competition with the doctor. By the law of the survival of the fittest, if the doctor is a superior individual, he will survive.

Sir Arthur Newsholme (Late Principal Medical Officer, Local Government Board, England): So far as England is concerned, at the present time 75 per cent of all confinements are attended by midwives, whose practice on the whole is satisfactory. Favorable statistics could be quoted similar to those that Dr. Chapin has quoted as regards Providence. But we have midwives in England under absolutely complete control. Midwives that are on the register to practice can be removed from the register if they are guilty of malpractice or inefficiency. They are so removed frequently. They are subject to regulation and systematic inspection by local supervising authorities; so that any midwife who gets a bad reputation or has an excessive number of complications is sure to be hauled over the coals and her practice will diminish very seriously. In those various ways we have secured that midwifery is a fairly safe profession.

Moreover, the Local Government Board has arranged for Government grants to fifty per cent of the total expenditure for the employment of midwives, these grants being given to the rural authorities and to the poorer districts and towns where midwives are located, the other half of the total expenditure being paid by volunteer subscribers or by the local authorities.

In addition every midwife is required when any complication occurs to call in a doctor. There has been great difficulty in the past in providing a fee for this doctor, and now it is made obligatory upon the local authorities to pay this doctor’s fee, so that no doctor can be excused for not going at once when the midwife requires his assistance in any complication, however minor that complication may be. I think you will agree that, if the practice of midwifery by midwives is to continue, we have in that way safeguarded it.

In the last twelve months I have also been advocating that an additional duty should be imposed on midwives, to which I personally attach the greatest possible importance. This is that if for any reason during the time (ten days or a fortnight) that the midwife continues her attendance after confinement, the mother proposes to give up breast feeding, it is the duty of the midwife to notify the medical officer of health of that fact at once, so that he or his assistants may visit that house at once to see that breast feeding, which is the most essential element of the welfare of the child, shall be continued if it be possible to continue it. This has now been secured by a regulation of the Central Midwives’ Board.

Furthermore, the Local Government Board has given grants for the formation of maternity homes and maternity hospitals, and it has been prepared, and expressed its anxiety, to pay fifty per cent of the total cost of these hos-
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...pitals and homes without any limit of the total amount which is thus payable. Such maternity hospitals and homes, I am glad to say, are springing up in many parts of the country. They are, in my view, one of the greatest needs of town life. It is a great shame that it should be so, but it is the fact that in a large proportion of the tenement houses of our big towns it is not possible for a confinement to take place under conditions that can be regarded as anything approaching satisfactory.

The Local Government Board pays doctors' fees; we pay for maternity homes and hospitals; and we also pay for the provision of home helps. We were glad to have the help of the Women's Cooperative Guild in securing that additional boon. We were pushing it at the same time, and we eventually succeeded in getting the Treasury to give money without any limit of the amount for the provision of home helps. That is somewhat similar to domestic service; the helpers visit the homes of women who have been recently confined; provide assistance during confinement and afterwards; and, if the mother is ill during pregnancy, see that she has a physician or nurse to attend her.

Dr. S. Josephine Baker (Division of Child Hygiene, Health Department, New York City): It is a very great pleasure to have heard Sir Arthur Newsholme speak of the control of the midwife in England, because it is exactly duplicated by our control in New York City. We have a six months' preliminary education at municipally controlled schools for midwives.

By the constant supervision of the midwife, and the elimination from practice of every midwife who violates our regulations, the number of practicing midwives has been reduced in ten years from 3,000 to 1,600. There is one sure way of eliminating the midwife, and that is to educate her. Midwives are a condition and not a theory. In seeing what can be done with midwives it is essential to remember that poor people who have to deal with them are guided by practical considerations rather than by academic theories.

I think Dr. Chapin quite unwittingly did us a little injustice when he said the infrequency of stillbirths and the low mortality among mothers and babies attended by midwives were due to the fact that hard cases were transferred to the doctors. That is true, but they were counted against midwives. Every case that had a midwife in attendance at any time was counted as a midwife case. Of course the complicated cases went to the doctors and were reported by them as deaths, but not reported against them in the final sense. But that shows what have been the practical results of the control of midwifery in New York City.

I think that we can grant that whatever improvement has been made in obstetrical practice in New York has been counterbalanced by the improvement of obstetrical practice in every other large city in the country. Why is it then, that in a study of the maternal mortality rates in seven large cities of the United States, made by the Children's Bureau, these rates were shown to be increasing or stationary in every one of them with the exception of New York City, and New York City showed a decrease? The only difference between New York City and the other cities is our method of control of midwives.

Beginning ten years ago with no method of finding out whether there were cases of blindness, we had literally thousands of cases of ophthalmia, and literally hundreds of cases of blindness—no way of computing how many we had. Last year—we do not claim these are exact figures—with the most painstaking methods that we could devise by a follow-up of every case of sore eyes reported by the midwife, by a follow-up at the hospitals where ophthalmic cases might come, by every means we could devise to control the situation, we found that out of 135,000...
births in New York City we had 35 cases of ophthalmia and one case of blindness.

Nothing that I know of has changed in regard to the practice of doctors, but a very great deal has changed in regard to the practice of midwives. I am an advocate for the strongest kind of supervision, the most thorough control, and above all the education of the women to such a high standard that only a woman of extraordinary intelligence and ability will be able to be a midwife.

Dr. Mary Sherwood (Baltimore, Maryland): It occurs to me that possibly we might look at this from another angle. There is no topic that provokes so much discussion as this question of the midwife. And after all it is not the question of whether the midwife is better than the doctor, or whether the doctor is better than the midwife. The question is, is the midwife or the poorly trained doctor good enough?

Is there anyone who will discuss the practice of obstetrics from the point of view of surgery? Is not obstetrics a branch of surgery, and is it not entitled to the kind of care we are inclined to give, and always do give to a hospital matter—surgical operating room, all the appliances of modern surgery, all the precautions of modern surgery? Is obstetrics something that can be compromised with poor doctors and with midwives?

Dr. Helen MacMurchy (Department of the Provincial Secretary, Toronto, Canada): I think the best way to make students understand that it is a matter of surgery is to make them realize that at the time of birth we have to care for what is really an enormous open wound. Of course it is quite true that that wound is physiologically produced. It is quite true that the danger of infection through that wound is very much reduced by the wonderful provision of nature for shutting these gaping avenues of infection. But nevertheless that is what it is.
ESSENTIALS FOR PUBLIC CARE OF MATERNITY
AND INFANCY

By MRS. ELEANOR BARTON
Women's Cooperative Guild, England

At the present time most countries are turning their thoughts to
the question of child welfare. I am sure that we are at the beginning
of a new era which will also recognize the mother of the child. Some-
one has said that to have a healthy child you must begin with its
grandmother. If we today can start with the mother we shall be
making a real bid for public health in the best possible way.

In the old days the Greeks would not allow a pregnant mother
to look on anything unpleasant, let alone feel it. What a difference
between their ideas of the expectant mother and those of our world
today. A campaign to reduce the death rate among infants under
one year of age has already decreased the death rate by nearly one-
third, showing very clearly that many of our social evils are amenable
to treatment. Bad housing and sanitation are responsible for a good
deal, but ignorance and the absence of medical advice and help are
also responsible for much suffering. It is vital to the welfare of all
countries that an enlightened and generous care of maternity should
replace the present indifference and neglect.

The Women's Cooperative Guild of England has for several years
given special attention to this subject. When our Insurance Act was
before the country, and before it became a law, the Guild specially
asked that a maternity benefit should be included in the act, and it was
included. Some of us were astounded to find that this maternity bene-
fit was the husband's property, especially after we had had our cities
placarded with huge placards portraying the mother with her child in
her arms. However, when the act was amended we had the maternity
benefit made the property of the mother.

Since then we have gone on inquiring and getting information,
working out a scheme which we placed before our Local Government
Board in 1914. As the outcome of all the inquiries we have issued a
book giving an account of the suffering of the working women them-
selves at the time of pregnancy and of childbirth, showing very clearly
to all thinking people the great need of the care of maternity. It has
been so common for children to be born that the large majority of
people have not considered the question at all. Most young mothers
today turn for advice to older women, and very often when she is
suffering they tell her, "Well, it is just a symptom of pregnancy and
you will not be better until you get through with it."

We realize today that pregnancy is not a nine-months disease and
that women can be cared for and can be helped. A very pathetic
case some time ago came to my notice. A young woman who was
pregnant for the second time came to one of the Cooperative Guild
members saying that she would not go through with her pregnancy,
that it was impossible for her to do so, that she had suffered in
exactly the same way from her first pregnancy, and that she would
prefer to make a home in the water, that is, to commit suicide. She
was finally persuaded to go to a doctor, and her suffering was much
relieved throughout the period of her pregnancy. The physician said
that if she had consulted him during her first pregnancy he could
have cured her.

We have all sorts of information, all sorts of reasons, all sorts of
statistics before us which show that we must have better care for
maternity in the future than we have had in the past. One of the
features of the work of the Cooperative Guild is this: Whenever we
take up a question we go into it thoroughly, through all the branches
throughout the country, and having got all the information we can and
pronounced on it, we at once decide upon some practical campaign in
connection with it. We never leave a subject that we have taken up
without trying to get some practical results from it. As a result of our
inquiry concerning maternity we decided that it was best for the local
health authorities and the national health authorities to be the people
to carry out the great maternity help that was to be given to the large
majority of women in our country.

So we set out to form public opinion. I suppose it is true in America
as in all countries that the governments will go just as far as they are
pushed from behind, or from underneath, shall we say, and that what
must be done is to arouse public opinion. In order to do that we
published and distributed widely some attractive little pamphlets, each
one on some subject relative to maternity. The women in our local
branches cooperated with the women in their areas and arranged
deputations to their health committees and to medical officers of health,
pushing forward these questions of maternity. During the war, espe-
cially in the early days, we found many women were suffering because
they could not get food and milk, and we pushed in that way also.

In 1915 we had secured compulsory notification of births. We have
a good scheme of health administration, and every mother, directly
she gives birth to a child, is visited and advised by a health visitor who
follows the case up, and when the mother is ready to come out advises
her to bring her child to a public clinic. So because of the act of 1915
we are in touch with births at the present time. Finally in 1918 we had a maternity act passed by our House of Parliament, and we are very proud today in England that we have got so far because we do realize it is a great step in the right direction.

We have maternity centers where advice and minor treatment are provided. Where there are complicated cases or where real medical attention is needed, the patient is always told to consult her own doctor. Where treatment is provided for mothers during prenatal and postnatal periods, health visitors visit the mother in the home. Food and milk are supplied for expectant and nursing mothers—the amount of milk given being determined according to the advice of the person who has the case. Hospitals or wards are provided for complicated maternity cases and for babies up to five years; also maternity homes for normal cases and convalescent homes after maternity. Homes are provided for mothers and babies in fatherless, illegitimate, widowed, or deserted cases; or grants are made to such mothers to enable them to stay at home and care for their children.

The service of home helps has also been organized. Perhaps I ought to explain what the service of home helps is. I believe this is a great outcome of our inquiry. We found that when the mother was in bed practically the whole of her household was disorganized, and that many of our women got up at the end of three days, or before they should do so, to attend to their household duties. We found that in many cases the mother had her bed carried down into the living room where she could lie with her purse under her pillow and direct the younger children or neighbors to make purchases. Under the system of home helps women are to be trained to go into the homes, not to do any medical work or to do the nurse’s work, but to work under the direction of the nurse or midwife who is attending the case, performing the mother’s household duties, such as getting the children off to school and preparing the food. We feel that this is one of the greatest essentials to our working-class mothers. Our bill at the present time makes provision for it only in this way, by providing that the local authority may adopt the scheme after approval by the Local Government Board.

Services of midwives, and of doctors when the doctor is called following the midwife, have been regulated under the Midwives’ Act. We have had very many sad cases where women’s lives have been lost because there was no doctor to follow the midwife. Sometimes a doctor has been sent for but refused to attend the case because he was not sure whether he would get his fee or not. The Government gives a grant of 50 per cent of the net cost of all this service I have outlined, provided the local scheme has been sanctioned by the central authority.

Where a local authority adopts a scheme of this kind they must
appoint a maternity committee on which there must be two women. The Cooperative Guild is very anxious that working women should be on the maternity committee as they will understand the lives and homes of the women who will be treated under this scheme. Mr. Hayes Fisher, of the Local Government Board, himself has expressed the hope that working-class women will be appointed. In recent years they have become articulate and have been able to give very valuable service and information to all committees of this kind. Now we are hoping that all local authorities will take advantage of this scheme and will make this provision for mothers and babies.

I ought to say that the maternity benefit is 30 shillings to the child. This maternity benefit is given to the wives of men who are insured and come under the income tax limit. And the women who go out to work, if they themselves are insured, would also receive benefits in their own right, thus making a double maternity benefit.

We must remember that under the present industrial system the wages do not permit women who are bearing children to get the medical attention or the help in the home which they need. We must try to relieve their financial burdens. We have had some excellent lessons during the war period in the allowances paid to mothers and children, and many people today are hoping that we shall be able to outline some scheme for an endowment under which the mother will not be so worried because of the coming of another child into the home and will therefore be able to bear her children better.

We believe that the whole question of maternity should come under the Ministry of Relief, now in the process of formation, instead of being managed largely by insurance societies and organizations of that kind, as it is at the present time. We have had cases which have shown us that these are the very worst institutions under which our maternity benefits can be paid. At the present time, therefore, we are considering a Ministry of Relief in which there shall be a maternity department with a woman at the head of it. We are asking that there should be women adequately represented on all those committees. We are asking, too, that in addition there shall be what we are calling a council of men and women representing the people who have to be treated by our public-health officers because, as we found in regard to our food supplies during the war, these are the people who know the difficulties and these are the people who can best deal with them.

What I feel that we want now in all countries is to raise the standard of maternity. We want to be proud of our expectant mothers; we want to alter the idea that we have had, and instead of thinking about material things, think more about human things; instead of building up huge industries and huge warships, let us build up able-bodied men and women. I think it was an American who said that where the
greatest number of able-bodied men and women stood, there stood the greatest city. Now, it is up to each country to see where the greatest city shall be.

It will be good to have competition in that direction. It will certainly raise the whole standard of life. It will raise the standard of women and children; and we must remember that when we raise the standard of women we raise the standard of the race.

**DISCUSSION**

**Dr. Helen MacMurchy** (Department of the Provincial Secretary, Toronto, Canada): May I take this opportunity to say something? Do you think we pay enough attention to the father? I would say to him, "Now, you are the whole thing, we are just acting under your orders. It is for you to take care of the mother; it is for you to provide for the child." I do think that the education of the father is a most important thing for us all to attend to. I do not know just where you would insert it in the very excellent outline that has been prepared, but I do not like to see the father neglected.

**Mrs. Barton:** There are many people who say today, "Yes, the husband and father should provide in this way," but we in England, at any rate, have got a free elementary-school service and recognize that our elementary-school service is very much better than in the days when the father did provide individually. We should have this system in exactly the same way as we have public libraries for the use of all citizens, whether rich or poor. The fathers cannot do it. The money that comes into the working-class home, even with wages up as they are, is not sufficient. Has not everything else gone up, and are the wages very high in proportion? Not at all. The working-class home is not fitted to receive a confinement case in a proper way. There are thousands of homes unfit for a woman to lie in, even if it were a question of policy and not of wages.

We want exactly the same thing applied to our maternity service. It is not enough for us to say that the man should provide. We want the public service. After all, the child is the asset of the nation, and we want the nation to recognize that the welfare of the child is its business. During the war when the State wanted the boys they put their hands on their shoulders and took them, without any questions being asked. Now we want the State to realize that it is responsible in exactly the same way for its children.

The thing you must consider is whether you can get a better service by a communal service, as it were, or by leaving it to the individual. I think the individual system has broken down absolutely, and now we want to put in its place municipal and national service.

If we are going to have a system that will work efficiently and do the best for the mothers, we have to make it a national thing, so that every woman can feel that she is accepting that service as a right and as a citizen. If there were anything that savors of a charitable institution, our women would not accept it.

While I am on this point I want to emphasize that it should be national and free. The book we have issued (Maternity) shows terrible examples of suffering, and yet we have to recognize that our working women are the most self-respecting, the better class of working women. The Guild would not advocate anything that savors of charity.

What we have to do at the present time very largely is to educate the mother.
to take her baby to the child-welfare center. The women are gradually seeing the advantages of this, and are coming to these centers more and more, feeling that it is their right, as much as it is the right of the elementary-school child to receive its education in the free school. I want to emphasize the fact that we wish to put the whole question of maternity under national supervision, so that a woman can receive maternity care and nobody shall ask whether she is rich or poor.

A Member: May I ask how the English women appreciate the nurses? What has been the experience? Do they enjoy having the nurses come to them?

Mrs. Barton: I saw a case in Wales, in the mining district, where the husband, a miner, was objecting to the nurse telling his wife, who had had several children, what to do. I think on the whole that this attitude is gradually being gotten rid of, however.

Mrs. William Lowell Putnam (Boston, Massachusetts): We have a scheme somewhat similar to that of the mother helps of which Mrs. Barton has spoken, that is, provision for the care of sickness in the homes of persons of small or moderate means. They cannot possibly afford trained nurses, and yet they must have care in sickness as well as during confinement. Accordingly we undertake to provide trained helpers, giving them a course of study. These women are supervised by trained nurses, who visit the homes and see that the work is being done properly. We can furnish these women with supervision for $18 or $20 a week. That is not a small sum, but is very different from the price demanded by trained nurses, and I believe there is a very great future for that sort of care.

Dr. S. Josephine Baker (Division of Child Hygiene, Department of Health, New York City): Although I am a strong American, and advocate our form of government, it is refreshing to get the message that Mrs. Barton brought us. It would be a wonderful thing if the Federal Children's Bureau, or any other national organization could solve this entire problem of infant mortality by one stroke of the pen in the way that England has done it. But we have to do it 48 times.

Their method of home helps is practically new to us. The idea of having one visitor to every 500 children, as I believe they have in England, is something that we ought to copy. The fact that the Government gives grants to help these women during the period of pregnancy, and to see that their children have the proper care, is something that we should give heed to. England, I believe, has set us a very high standard. And England has reaped its reward because England's infant death rate, as we all know, is extraordinarily low and has gone down very much in the last few years.
SERBIAN EXPERIENCE

By DR. RADMILA MILOCHEVITCH LAZAREVITCH

Legation of the Serbs, Croats, and Slovenes, Washington, D. C.

The question of child welfare is an urgent question to us. How urgent it is these few words will show you, which were spoken in Parliament in Belgrade on the 24th of February, this year, by one of our prominent members, an ex-minister, Mr. V. Veljkovitch. He said: "We have in Serbia 100,000 invalids, 100,000 children who need immediate care, and 50,000 orphans." I would ask you to remember that these numbers are taken from a country that had before this war 4,500,000 inhabitants.

I want to try to tell you something about the urgent conditions prevailing among our children in Serbia because I love my country, and knowing the great generosity of the American people toward all oppressed nations and all who are in misery, I wish to awaken your interest in our children.

In attempting to tell you what we have done in Serbia for the protection of the child, I shall not be able to compare it with what you have done here, but I shall try to give you a little picture of the history of the country which will explain to you why we are no further advanced in this respect. For 150 years my country has been fighting for her deliverance, during which time we have had about ten wars and fifteen revolutions. Fighting always for our liberation, we neglected many other important matters, among which was the scientific study of child welfare.

Our country holds a high place in the percentage of large families. Our birth rate proves this record, but alas, our infant mortality rate is also very great. Why? Because notwithstanding the fact that our people are very strong and healthy, bad hygienic conditions exist and ignorance of the fundamental rules for the proper care of the expectant mother and the baby prevails. The State, which has been obliged to buy guns and munitions to insure its very existence, has had neither the time nor the money to devote to hygienic conditions and the care of the mother and the baby.

Our women in the country give birth to and bring up their children with only God's help. The pregnant woman works in the household and in the field until the last moment. It often happens that the baby is born in the field, when the mother picks up her little one and carries
it home. On the morrow you can see her again in the field, but this time with her baby so she can nurse him.

Our mothers in the country always nurse their babies; they know of no other kind of feeding. But in the cities the mothers have adopted bottle feeding. Although the country mother nurses her child, she knows nothing about the technique of nursing and preparation and technique of artificial feeding if breast feeding is not possible. The mothers are healthy, however, and the newborn baby is usually healthy, too; he weighs from eight to twelve pounds. Although I speak in the present tense, this splendid condition existed only before our last two wars. Now after seven years of hard fighting, which have brought misery and privations, we have lost the one good thing which we had, namely, the healthy newborn baby. Epidemics (especially typhus), hunger and misery, and their companion, tuberculosis, have nearly destroyed our nation. We have lost one-fourth of our population through epidemics and war, and those remaining are mostly tubercular.

If you are interested, I beg that you will allow me to read you a few statistics that may give you a better idea of what we have been called upon to meet in this war.

The population of Serbia before the war was 4,500,000

1. Number killed or died from wounds from August, 1914, to December, 1915 ........................................ 170,925
2. Deaths in civilian population from epidemics ................................................................. 350,000
3. Soldiers killed during the retreat in the autumn of 1915 .................................................. 150,000
4. Soldiers dead from hunger and starvation in Albania during the same period ......................... 60,000
5. Boy recruits dead from hunger during the retreat .......................................................... 80,000
6. Deaths from hunger and cold among civilian population during the retreat ..................... 250,000
7. Prisoners and interned in Bulgaria, Austria, and Germany ............................................ 130,000
8. Number killed (hanged and slaughtered) by the Bulgarians, Austrians, and Germans................. 60,000
9. Number killed during a revolution in Nish, Prokoupil, and Leskovatz ............................... 40,000
10. Soldiers killed on the Saloniki front ............................................................ 40,000

Total .................................................................................. 1,330,925

So you see we are not what we were before this terrible conflict. Our mothers can give no more little giants to their country. The women as well as the men have deteriorated in health.

Before the war we had begun to devote some attention to the welfare of the child, but only through private associations, without the help of the State. Now we are beginning to realize the importance of the health of the child to the nation. In 1917, after our retreat, we started in Vodena the Society for the Protection of Children, with Dr. Popovitch as president. The aim of the society was to look after the
physical and moral health of the children; to find out the causes of all
sickness and if possible to provide remedies; to reduce the mortality
among children, and also to care for the abandoned children of refu-
gees and soldiers. Now our United Kingdom of the Serbs, Croats, and
Slovenes started on the 5th of February, 1919, the State Department
for Child Welfare. The vice-minister president is in charge of it, which
shows how earnestly the State takes the problem. The number of
children without both parents is about 120,000; the number with only
one parent lost, 500,000.¹

¹ The statistics are not yet complete.
The care of infants in a city falls logically into three divisions:
1. The care of the unborn infant.
2. The care of the infant during and immediately after the birth act.
3. The postnatal care of the infant.

At the present time in most communities the prenatal care of the infant is almost entirely neglected. The postnatal work has reduced the death rate from diarrheal diseases and respiratory infections very markedly, but has not affected that of congenital diseases, which has remained practically constant. One-third of the total deaths of infants under one year occur in the first month of life. Two-thirds of these deaths occur in the first ten days. They are caused largely by conditions that are preventable by prenatal care. Prematurity, syphilis, stillbirths, and birth injuries can in a large measure be overcome by good prenatal care. The supervision of the mother should include (1) advice as to diet, (2) control of the urine and blood pressure, (3) pelvic measurements, and (4) a routine Wassermann examination of all mothers. With adequate treatment during pregnancy the ravages of syphilis would be very markedly reduced. Laws to prevent mothers from working in factories during the last months of their confinement would increase the weight of the newborn baby by pounds and so reduce the group that are at present dying from prematurity. Furthermore, the examination and measurement of the pelvis would cull out that group of mothers that would probably need hospital care and should not be taken care of in the home and be rushed at the last minute to the hospital when it is too late to save the baby and probably the mother also. Constant watching and control of urine and blood pressure will reduce materially the maternal as well as the infant death rate.

As a minimum to do this work one nurse to every three hundred births would be required. This very important period has received relatively little attention and deserves very much more. The results of prenatal care will become especially evident if the work is done in close cooperation and coordination with the actual birth care of the child. Only when proper facilities in hospital and home are at hand can the results of prenatal care manifest themselves. If the lying-in
hospital facilities are insufficient to care for the probably difficult cases
that have been discovered in the routine examination of the prenatal
work, then naturally much of the work will go for naught. It is there-
fore important that adequate hospital facilities are at hand to care for all
difficult cases and an ample obstetrical out-patient service to care for
the mothers who remain at home. What the ultimate outcome of the
midwife or obstetrical nurse question will be I do not know, but certain
it is that if the busy general practitioner alone is in attendance there
will be entirely too many forceps deliveries. We must have someone
whose duty it is to carry through the watchful expectancy necessary
to a normal labor.

Important as is the close coordination between the prenatal and
the obstetrical work, still more vital to the welfare of the infant is
constant uninterrupted supervision from birth. Too frequently at pres-
cent valuable time is lost, and instead of bringing a normal breast-fed
infant to the infant-welfare station the mother brings an infant that
is weaned and is suffering from some gastrointestinal disturbance. In
our work in Chicago over two-thirds of all babies come to us for the
first time when they are over two months old. As the death rate is
highest during the first month of life, our postnatal work has missed
this very valuable period for its work.

The postnatal work must begin early. There must be a regular
transfer of the case from the obstetrical nurse to the infant-welfare
nurse. As is quite generally accepted at the present time, the most
successful postnatal care is given in the infant-welfare station to which
the mother brings her baby at regular intervals to be weighed and
examined, and to receive instruction from the doctor regarding the
care and feeding of her child. The station nurse follows up this instruc-
tion by visiting the mother in her home and showing her how with her
utensils she can prepare the baby’s food and arrange her home hygien-
ically. With regard to feeding, the emphasis must be placed first and
foremost on breast feeding. The closer the cooperation with institu-
tions doing the obstetrical work the greater will be the number of
mothers that can nurse their babies. In our experience, improper
teaching and technique of nursing, and not the unwillingness to nurse,
account for the large number of artificially fed babies.

The artificially fed child must have good milk, constantly controlled
and supervised. It seems to me likely that in the not very distant
future powdered milk will in a large measure replace the fresh milk be-
cause it is safer and cheaper. The supervision of the milk, the housing
question, water supply, garbage disposal, and flies are of great impor-
tance to the child of the city. They must be closely watched by our
health departments. The housing question is one that needs more
attention than any of the others because the public has not been edu-
The hygiene of the home, on the other hand, the ventilation, the bath, the sleep, the clothing, and the fresh air must be looked after by the station doctor and nurse. In the postnatal work the nurse can care for not over 150 babies. In close cooperation with the infant-welfare stations we must have ample dispensary and hospital facilities to which the sick infants can be referred from the stations. Just one word with regard to the preschool age. The care of the child from two to six can in all probability be best looked after in connection with the infant-welfare station. We have at present in Chicago six such stations in operation.

In every city we ought to have an organization that is doing both the prenatal and the postnatal work, this organization to be closely affiliated with the various organizations that are doing the city's obstetrical work, connecting and consolidating the work which is being done for mother and child so as to keep them constantly under supervision.
MATERNITY CENTERS IN NEW YORK CITY

By DR. R. W. LOBENSTINE
New York City

We are considering today the momentous question of providing this country with the means of more adequately safeguarding motherhood. Upon our decisions may rest the ultimate fate of millions of women and children, who are dying or who are crippled because of poor medical and nursing care, or no care at all.

Never before have nations been brought to such a keen realization of the value of the mother and her child. With the frightful losses at the front, with the startling ravages of the world plague continually before us, and with the inevitable injuries wrought in the home by the strenuous efforts of war, conservation of life stands out as the pressing need of the hour.

Our aim should be to furnish every mother during pregnancy with intelligent oversight, to protect her from the dangers incident to industrialism, and to render childbirth reasonably safe. Reckless sacrifice of infant life should stop. Childbearing has long been regarded as merely the natural lot of women, and its hazards have been either neglected or accepted as inevitable. Can a function, however, that kills thousands of women annually, that cripples many thousands more, and that is responsible for a very large infant mortality, be called safe? Childbearing still possesses for the mother many dangers—some of which are avoidable and some of which are not; but this we know, and we know it very definitely, that the closer the supervision during pregnancy and the better the care at the time of delivery, the fewer will be these complications and the more satisfactory will be the results.

We find, moreover, that approximately fifty per cent of gynecological operations are performed for injuries resulting at the time of labor— injuries many of which are preventable and most of which could be fairly satisfactorily treated at the time of their occurrence or soon after. The truth is that we cannot estimate the number of partial or complete invalids who are invalids as the result of either poor nursing, inefficient medical attention, or meddlesome midwifery at the time of miscarriage or at the time of labor. Furthermore, spontaneous and criminal abortions occur with astounding frequency. The great majority of women have little or no care at such times. As a result of ignorance, thoughtlessness, and the failure to grasp the real significance of unnatural termination of pregnancy, thousands never recover their health.
Turning to the newborn child, we find that although the loss in life due to stillbirths is unduly high, and that although approximately forty per cent of all deaths of infants under one year of age are due to congenital causes, nevertheless, progress in remedying such a deplorable state of affairs is very slow. In New York City during the thirty-year period from 1884 to 1914, the death rates from diarrheal, respiratory, and contagious diseases have been markedly reduced—approximately seventy-five per cent, fifty-three per cent, and eighty-eight per cent respectively—while the death rate from congenital diseases has been reduced by only one and one-half per cent.\footnote{Jacob Sobel, M.D., Department of Health, New York City: "Instruction and Supervision of Expectant Mothers in New York City," in New York Medical Journal, Vol. CVII, No. 2 (Jan. 12, 1918), p. 49.}

Since the first year of the war our birth rate, as in Europe, has gone down everywhere, while our mortality rate has steadily gone up. Actual death is one thing, but what about the child that lives for a short time, or for many years immature in body and mind or actually deformed? These abnormal or subnormal beings are so in part because of causes over which we have more or less control, and in part because of factors arising in the course of pregnancy or during labor, over which we may at times be almost powerless. The studies carried on by the Federal Children’s Bureau, as well as by certain public and private organizations in this country, all strikingly reveal the fact that "the nine months of intra-uterine life coupled with the first month after birth represent the high mark of danger in the life span of every individual." It is high time that every community should be roused to the fact that the logical time to begin guarding infant life is not after birth, but rather in the earlier periods of development.

This is the era of preventive medicine. It is because we believe in prevention, coupled with coordination of effort, that we meet in conference at this time. With properly organized clinics, such as can be established in progressive communities, we feel justified in stating that there should result a reduction of from thirty to thirty-five per cent in the deaths under one month of age; a material lowering in the number of stillbirths; a reduction in premature births of at least twenty-five per cent and in the maternal death rate of from sixty to sixty-five per cent below the general rate of unsupervised cases. This great conservation movement is, aside from its medical and nursing aspects, a great social undertaking. It is a fight against poverty, filth, rum, tuberculosis, and ignorance of the barest fundamentals of health. These are the hostile forces that are ever busy, ever eager to accomplish the physical and moral undoing of the community. Expectant mothers and young children fall easy prey to their attacks. As Mrs. West, of the Children’s Bureau, has well said, “One of the reasons which es-
especially justify the necessary expenditures for giving prenatal care, is that in studying the problem of the mother we get closer to the fundamental causes of suffering than in almost any other way.” In passing, we should recall that approximately forty per cent of the labors throughout the country have been handled, in most part, by careless and unclean midwives; and that a very considerable percentage of the other sixty per cent of the women, have been in the care of physicians poorly trained in obstetrics, who have been graduated from the medical schools with only a minimum amount of practical equipment for this branch of medicine.

The problem of the city differs in many respects from that of rural districts. On the one hand it is easier because distances are less great than in the country, thus offering greater accessibility to doctors, to nurses, and to hospitals; on the other hand, it is more complex because of the overcrowding, the frightful poverty, and—in many cities at least—because of the great mixture of races.

In New York City we began two years ago to develop a plan for the coordination and extension of maternity care among the poor. After thorough investigation, it was found that while much good work was being carried on by the department of health, by maternity hospitals, and by a few lay organizations, yet on the whole the situation was unsatisfactory. This was due in part to the inadequacy of the care given, in part to the confused standards of medical and nursing supervision, and perhaps especially to the evident lack of coordination and to the relatively small number of expectant mothers reached. We therefore began to look at the needs of the obstetrical community not from the standpoint of the individual clinic or of a particular society, but from the standpoint of communal interest.

The first question to present itself was one of distribution of hospital cases. By means of a map, the house location of every woman cared for by the different maternity hospitals in the Borough of Manhattan during the year 1915 was graphically shown. By studying the distribution of these cases in their relationship to existing clinics, and at the same time computing the total number of births in different sections, there was developed a zoning system. As it now stands, the borough is divided into ten zones, each zone comprising a group of official census districts. The plan itself, however, is not an official one. The Borough of Manhattan has, roughly, two and a half million inhabitants with from sixty to sixty-five thousand births annually. The districting has many advantages: First, it encourages the hospitals to draw their patients from their particular zone rather than from a great distance, thus rendering prenatal oversight of their registered cases far easier, by economizing the time of both patient and visiting nurse; second, it encourages patients to seek hospital aid more readily because of their
greater familiarity with the hospitals in their own neighborhood; and third, it forms the basis for our entire maternity center plan. The Maternity Center Association early in its career decided on a broad, far-reaching program. The difficulties were in a large measure foreseen, but the great call for help could not go unheeded. The originators of the movement had in mind three fundamental purposes:

First, the coordination of the work of those agencies already in the field engaged in maternity welfare.

Second, the awakening of community interest in the needless sacrifice of health and life and in the value of prenatal care both to mother and child.

Third, the providing of additional nurses for field work, and the establishment of new prenatal clinics in the several zones whenever existing agencies should prove unable to cope with the demand.

With these definite objects in mind, we felt that the most satisfactory method of attacking the program was through the establishment of a maternity center in each zone.

In the Borough of Manhattan about thirty-three per cent of the births were cared for by the indoor and outdoor services of maternity hospitals; yet at the beginning of this movement most of these either had no follow-up system during pregnancy, or had at best a very inadequate one. By arousing community interest, we hoped not only to reach gradually the remaining sixty to seventy-five per cent of expectant mothers, but we confidently looked forward to the time when the hospital boards would be aroused to the need of systematic social and nursing service in the homes of their registered mothers.

During this first year of definite organization, nine of the ten zones have maternity centers; the tenth zone, having but a small annual birth rate, has been left for later development. One of the great difficulties in New York City, as in most other communities, lies in the fact that there are available all too few "free or moderately priced" obstetrical beds. In the large Borough of Manhattan, with its great congestion, we find that there are not more than 725 available beds to accommodate the many who are really in sore need of hospital attention. In the Borough of Brooklyn, with approximately two million inhabitants, a careful survey made by some of the physicians there recently showed that they had scarcely 275 available beds. Think of it, and we are progressive!

There are engaged in this prenatal work, at the present time, about 58 nurses and perhaps a half score of social workers. The numbers employed fluctuate somewhat, from month to month. Several of the hospitals are now giving their undergraduate nurses, through the maternity center, a number of weeks' training in maternity care in the tenements. Furthermore, a certain number of student nurses, who are...
taking the public-health course at the Teachers' College, and at the
Henry Street Settlement, are likewise receiving post-graduate training
in the care of obstetric patients under the difficult conditions presented
by tenement-house life.

There are at the present time, twenty-one clinics for expectant moth-
ers in the Borough of Manhattan, in addition to the regular hospital
ones. All of these aim to follow the same general standards, and all, I
am sure, are looking forward to continued improvement in the service
rendered the community.

A maternity center should be the center of an educational cam-
paign for prenatal care of the mothers of the district. (The fathers,
too, need education and should not be neglected!) It should be the
coordinating agent or clearing house for the expectant mothers in the
zone. It should keep records of every case coming under the care of
the clinics in the neighborhood and follow up each case so that no
woman who registers will be allowed to slip out from under medical
care by reason of illness, carelessness, or other causes. It is this fol-
low-up system, after all, which is the chief point of the whole scheme.

Nurses and social workers should be used as follow-up visitors in order
to keep in touch with each expectant mother in the district. How im-
portant this is may be realized from the studies of the Bureau of Child
Hygiene in New York City, which has disclosed the fact that from thirty-
five to forty per cent of the population of childbearing age of a given
section move during the year, and that some of these families move
as frequently as three or four times during the year.

The center should promote and extend the work of every agency
working within the zone, that is engaged in the problems of maternity
and child welfare. It should secure the opening of new prenatal clinics
conveniently located when not enough of these clinics exist to serve the
needs of the district. The district doctors and midwives should be
urged to bring their cases to these clinics for consultation. It should
be open day and night for emergency calls and should see that a doctor
or midwife is supplied for all cases of labor, and a nurse for abnormal
labors. This beyond question is perhaps our hardest problem to solve,
and on it but very little work has as yet been done. In the districts in
which there is no hospital with an out-patient obstetrical service, the
problem of supplying the patients with even fair medical attendants
(either doctor or midwife) is a difficult one. The midwife situation
in New York City is greatly improved, but the medical aspect is less
satisfactory. In the new prenatal clinics that are being developed by
the Maternity Center Association, we are endeavoring to provide
women physicians as far as possible, in order through these clinics to
reach the large class of foreigners who go to the midwife because of
their prejudices towards the male physician. These prejudices may
be considered unimportant, but they can only be broken down slowly and cautiously.

All the clinics are standardized so far as records, nursing care, and medical oversight are concerned, and an effort is being made to encourage all "abnormal cases" to go to the hospitals for supervision and delivery. Such a system will gradually extend its benefits to a large part of the poorer classes in the community; in time it should gradually and effectively eliminate the midwife; it should raise markedly the general average of obstetrical knowledge among the doctors who most need this experience; it should lessen the maternal invalidism so often a result of poor obstetrical care; and it should do away with many of the evil results affecting the child due to immaturity or injury during labor.

This is a comprehensive plan for the guarding of infant life from the prenatal state through childhood to young adolescence. If carried out it offers a progressive, systematic scheme for the compilation of accurate statistics in this country. We need national, state, and municipal action. The machinery must be provided by which the poor can find it possible to raise families without undue sacrifice of health or unreasonable financial strain.

Standards of prenatal requirements for both hospitals and maternity center clinics were formulated by the Maternity Service Association of Physicians. These requirements are:

1. Patients should be urged to register at a clinic early in pregnancy. This is of great importance in order to obtain prenatal care at an early date, and in order that the physicians may determine the presence or absence of abnormalities. Strange as it may seem, two of our leading obstetrical hospitals have until recently been unwilling to examine applicants until in the fifth and seventh month of pregnancy, respectively.

2. At the first visit patients should be given printed instructions for their general guidance during pregnancy. The instructions given are simple and concise and will be read when more elaborate ones would be disregarded.

3. Patients should be urged to return every four weeks (every two weeks for maternity center patients) up to the end of the sixth month, and every two weeks thereafter (for maternity center patients every ten days up to eight months and every week thereafter). If they do not do so, a postal should be sent, and if there is no answer within two days, a nurse or social worker should visit the house. In case the patient's condition is not entirely satisfactory at the time of any one visit, and in case she does not return on any appointed day, the visit to the home should be made at once. By such watchfulness a considerable number of complications may be avoided. These
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home visits are of particular value in obtaining the confidence and interest of the patient. They enable the visitor to familiarize herself with the particular social and economic difficulties of each family under her care, and afford an opportunity of teaching the fundamentals of personal hygiene.

4. The patient should bring a specimen of the urine at each visit.

5. The medical examination shall include:
   (a) Thorough physical examination.
   (b) Urine examination every four weeks up to six months and every two weeks thereafter (maternity center cases every week during the last month).
   (c) A blood pressure estimation at each visit.
   (d) A Wassermann test in every suspicious case (this can be carried out through the board of health).

DISCUSSION

Mrs. William Lowell Putnam (Boston, Massachusetts): I have a very strong belief that the people of moderate means are the people who are least cared for in this matter of protection of the health of mothers and children. For five years we have carried on an experiment in Boston to try to bring this care within the reach of those mothers who cannot afford the prices required by the best physicians, and yet who should not be offered charity, and who under no circumstances would consent to accept it. We have not yet made this experiment pay, but we have made a start. We have been given the use of two rooms at a hospital for our clinic. Our plan requires at least two visits by the patient to the clinic for medical care; then every ten days a visit to the home by the nurse from as early in the pregnancy as the patient can be persuaded to apply. The nurse is also present with the doctor at confinement, which, if possible, takes place in the home. If there is any complication, the patient must be taken to the hospital. After confinement follow two to four more visits by the doctor, according to the need; visits twice a day for three days by the nurse; once a day for the next two days, and then less frequently until the mother is able to get up, by which time she has had a good opportunity to observe the proper way to care for her child.

We have thought that we could supply such care with thoroughly trained physicians and nurses for $25 a case for the whole period. As I say, I am not sure of this; we may have to raise the price. The only thing I am sure of is that we shall not take a case for charity, because the whole object is to provide care for those of limited means and to provide it without dependence on medical schools where students can be used without expense.

I think that if this can be done, our experiment ought to be worthy of being copied in other places. If we can prove that this care can be given for $30 or even $35 a case, that ought to be of value to the community, and I hope we shall be able to bring this about.
RURAL PROBLEMS

By MISS ELIZABETH G. FOX

Director, Bureau of Public Health Nursing, American Red Cross

The rural mother needs the same prenatal, natal, and postnatal care and advantages as the city mother. She needs to be kept well, protected from avoidable complications, provided with adequate medical and nursing care during the lying-in period, properly instructed in infant hygiene, and guided in caring for her infant.

Translated into concrete terms, she should have at least one thorough medical examination including pelvic measurements and urine and blood tests. Where a venereal disease is discovered, suitable treatment should be available. She should be visited frequently by a public-health nurse who would teach her how to care for her health and to prepare for confinement, would help her to arrange for medical care, and would make urinalyses. Some arrangement should be made to relieve her of her more arduous duties such as washing, carrying water, and milking. A hospital should be within reach for the care of all complicated cases, and possibly also for those normal cases that might be able to take advantage of it. After confinement the mother should continue to be visited frequently by a public-health nurse, who would watch and guard the baby's growth and would teach her how to give it intelligent care; who would encourage maternal nursing, and would show her the relation between this function and her own health. It should be possible for her to secure advice from a doctor familiar with modern pediatrics if the baby shows any departure from normal or if it becomes necessary to resort to artificial feeding.

It is one thing to outline these essentials; it is quite another thing to provide them. A number of difficulties lie in the way of such provision, some of which are now slowly being removed while others remain. One of the chief difficulties is the inaccessibility of adequate medical care. In many rural localities, the distance between farm houses, poor roads, and the large area covered by one doctor make his attendance at confinement very uncertain and often impossible, and also partly account for the frequent absence of prenatal and postnatal visits. It has been shown that many country women do entirely without medical supervision both before and after confinement, relying entirely upon their own resources except for the actual delivery.

Furthermore, many country people, unused to handling much ready
money, are unable or not inclined to afford the cost of good medical care. They have not yet learned to regard childbirth as a serious and important event and do not understand the justice of the seemingly high price which the doctor places upon this service. Even should they recognize his fee to be a proper one, poverty would make it impossible for some of them, perhaps a good proportion of them, to pay it. Many country doctors, moreover, are not informed concerning the best obstetrical practice, to the great and sometimes fatal disadvantage of the woman whose pregnancy or delivery may be complicated.

The result of all this is that many country women are cared for entirely by neighbors, who may or may not have acquired some skill from experience; or by their husbands; or in some parts of the country, by midwives. Normal cases usually survive this amateur assistance, but abnormal cases suffer a high injury and death rate. Except to those living near small towns or cities, hospital care is practically unknown. Complicated cases no matter how serious remain at home. Very few farmers' wives would find it possible to leave their homes well in advance of confinement in order to travel to a hospital in some distant city.

Many counties and communities have not as yet installed a public-health nursing service. Moreover, even where public funds are available for maintaining a public-health nurse, her work is often directed toward the development of school nursing. Where there is but one public-health nurse in the county, as is usually the case, and she is expected to make school nursing her primary duty, she cannot undertake also to develop a prenatal and maternity service. If she is allowed to develop a general service, she can give prenatal, natal, and postnatal care and can eliminate many of the dangers which now surround childbirth in the country.

Another condition which causes many miscarriages and undermines the health both of mother and baby is the heavy work which the mother must perform. Many a farmer's wife does her daily chores, even to carrying water long distances, up to the very eve of her confinement; and she resumes them within a very few days after it. These duties must be carried on, and servants are hard to secure even when the family budget permits of their employment. Relatives and neighbors are generous with their services, but usually have families of their own, and cannot be expected to assume household duties other than their own for any length of time.

Another foe, usually more beforehand than the doctor or the nurse can be, is the patent-medicine vendor, who finds all too ready a sale for his wares. And finally, behind all of these difficulties lies the ignorance or the indifference of the farmer and his wife. Although there is a great awakening everywhere—as a result of the lessons taught by the
war and the work of the Children's Year Campaign—to the importance of safeguarding pregnancy, maternity, and child life, much must still be done to translate this new knowledge into conviction, determination, and action. This problem has been discussed for a number of years, and various partial remedies have been suggested. No definite experiments have yet been reported to prove their worth.

The rapid development of rural public-health nursing seems to offer one of the most immediate and tangible remedies. In order to make the nurse's work at all effective, counties must be divided into districts with a general nurse in each district. She will then have time to teach the rural women the hygiene of pregnancy, to visit them frequently, to watch for symptoms of complications, to make urinalyses, to care for women during and after confinement, and to teach them the principles of infant and child hygiene. She too can convince them and their husbands of the necessity for proper care throughout this period and may be able to find ways to help them lessen their household burdens.

Some way must be found of providing adequate obstetrical service. As such service must be of the best it will necessarily be costly. It must be put within the reach of all, nevertheless, through health insurance, mothers' pensions, or some form of State aid, or else through a more just economic distribution of the profits of labor. Cottage hospitals or county maternity hospitals are necessary for the proper care of complicated cases. The attention of a child specialist must be available for all country babies in need of special treatment. Some form of itinerant children's clinic might make this possible. Some provision must also be made for supplying mothers with household help before and during the lying-in period. The public-health nurse might be able to arrange, direct, and supervise an attendant or practical nurse service.

It has been suggested that all of these agents might work together as a unit on the county basis, radiating out into the country from a center. Dr. Grace Meigs Crowder has described this plan in her paper, "Rural Obstetrics," given before the Association for the Study and Prevention of Infant Mortality in 1916. She says: "The fundamental provisions necessary to meet this problem naturally vary with the density of the population and with the differing living conditions found in various parts of the country. It is probably safe to say that the county would in general be the unit in any plan, and that county centers of maternal and infant welfare could be established, ordinarily at the county seat, but accessible to all the women of a county, where they could obtain free or for pay simple information as to the proper care of themselves and their babies. The plan for such a center would naturally include, first, a county nursing service; second, a cottage maternity hospital or beds in a general hospital, for the care of complicated cases or
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for normal cases where women can leave home for confinement; third, provision for skilled attendance for normal cases at their homes, with access to especially skilled assistance for complicated cases; and lastly, provision for obtaining temporary household help for mothers whether confined at home or at the hospital."

Had not the war drawn away so many of our doctors and nurses, some such plan would undoubtedly have been tried out and its practicability proved or disproved. Let us hope that the new and universal interest in health and the protection of child life resulting from the war will make many such experiments possible and successful.

The Red Cross through its plan to promote rural health nursing hopes to contribute toward the protection of maternity and infancy in the country.

DISCUSSION

Miss Mary Power (Director, Child Welfare Bureau, Ontario): I am greatly interested in rural problems because I come from the Province of Ontario where the cities so far are fairly well organized and the chief concern of our bureau is the extension of medical and nursing service to the rural communities. By rural communities I mean communities other than the large cities, from towns of less than 5,000 population to strictly isolated country districts. Our Bureau is at the present time considering the possibility, and we hope the probability, of demonstrating public-health work for rural communities in our province. We hope to use the county seat or some other convenient point as a center for the surrounding country. The staff might consist of at least a physician and a supervising nurse. The physician in charge might perform the duties of medical inspector in the schools, and might hold weekly baby clinics. The supervising nurse might direct the nursing service in the district. Thus we will be able to do the follow-up work in connection with medical inspection, and in addition take care of maternity cases and general sickness cases which require visiting nurses. It may be that we are asking a great deal for a small unit, but we want to show what can be done. Before organizing this unit we desire to secure the hearty cooperation of every practical nurse in the district and to enlist certain volunteer workers who might be called "home helpers" for the aid of the supervising nurse. In addition, we should like to have a dentist to follow up the medical inspection work, who might hold weekly or at least biweekly clinics for children of preschool age and for adults.

In this way we are hoping to accomplish something in the reduction of maternal mortality, maternal sickness, and infant and child mortality. At the same time we hope to bring the whole community, through this health center, to a higher plane of general health.

We have felt that whereas our diarrheal diseases and respiratory diseases have decreased slightly, we have not yet by the means we have used been able to make any impression upon the large group of deaths under one year due to congenital causes; and we trust this new departure will be a help in reducing the large mortality from those diseases, which in 1917 constituted 50 per cent of Ontario's total deaths under one year, excluding stillbirths from both births and deaths.

An inspector of education with whom I talked recently and who was interested in the provision of hot lunches for children in rural schools said that he had been
working at the problem only since last September but had been able to accomplish a good deal in that time. In 100 rural schools they are now serving hot lunches to the school children. He mentioned, however, that a grant of $40 is given to the school and $20 as a special bonus to the teacher. I asked him if he thought he would have been able today to report the same results had no grant been offered, and he said absolutely, "No."

I am hoping that as a result of this meeting we shall be able to arrive at the point where we can say that grants in aid from central authorities will be the greatest help we can have in our work. Mrs. Barton says that in some cases where the agency has been approved by the Local Government Board, the Board grants 50 per cent of the net cost; on the other hand, the municipal government will give 50 per cent of the net cost. In other words, the entire cost of a maternity and child-welfare scheme in England can be met, half by the central authority and half by the municipal authority.

Mrs. Edna Hatfield Edmondson (Field Secretary, Indiana Child Welfare Committee, and Field Worker, Indiana University Extension Division): I come from a State where our problems are strictly rural. We have one city of approximately 250,000 population and only 25 cities of over 10,000 population. The rest of the State is made up of small cities and towns of less than 10,000 population and country districts. Our problem is one of providing machinery to get this service into the rural districts.

Miss Lydia Holman (North Carolina): Twenty years ago a call to a special patient took me into a remote mountain county in Western North Carolina, a county one hundred per cent American. Before my patient had fully recovered, I discovered that mothers and babies were dying at such a rate that I felt that the matter should be investigated and that something should be done for these neglected Americans. There was not an organized State board of health at that time, Dr. Lewis being a volunteer secretary. There were no vital statistics.

Though I told the people I was only a nurse they insisted upon calling me a doctor. I have been obliged in this work to do many things which as a nurse I was taught not to do. Fortunately, in my training I had observed the methods of first-class doctors and surgeons and in consequence met many emergencies successfully. Grave necessity has even driven me to perform minor operations. In fact I have been brought before the court for practicing medicine, though there was but one practicing graduate physician in the county, and he was frequently incapacitated. But our judges are our most enlightened men, knowing usually the needs of a district, and they rarely interfere with an essential for the betterment of the people.

The work grew. Doing careful maternity work, I had more calls than one person could respond to in such rough country. Teaching careful and cleanly methods at each place helped the situation and stamped out of my district "child-bed fever." It can be done.

In my travels there were times when the rivers were up and the trails so bad that it was impossible for horses to travel fast; naturally, we were not always in time for the birth. However, out of 500 maternity cases there were no losses of mothers or babies.

We have by publicity secured more and better things; great is the need still. Our doctors have taken postgraduate work. The expectant mothers are so well instructed that they demand good clean service. Their husbands are ambitious to secure the best attendants.

At first we were 28 miles from a railway station. Twenty years is a long time
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To talk about, but at last we are ready to put up a new building—a community center with a ten-bed infirmary for mothers and babies and for emergency cases. The work of the State board of health has not yet reached our county. Will the mountain counties be reached by the State? In my estimation only the government can make possible right conditions and give such service as will remedy the long neglected problem of rural mothers and babies.

Mrs. Kate Brew Vaughan (North Carolina State Board of Health): I do not want you to think that there is no public-health work done for mothers and babies in North Carolina. We have a very vibrant State board of health. We have, of course, that lack of funds from which, I presume, nearly all State boards of health suffer. The different agencies for child welfare in North Carolina have usually heretofore been of the philanthropic kind—usually the mission church and the mission nurses. This past year, however, the Governor of North Carolina proposed some excellent health bills which were passed by the legislature. We have now an appropriation of $50,000 for school inspection, which, to some of you, must seem like a drop in the bucket, but to North Carolina it seems like a great deal. We have a traveling dental clinic and our adenoid and tonsil clubs which will give relief not only to the children but to the parents as well. Incidentally, they teach hygiene as they go along. We have also rural nurses. Four nurses are already installed, working directly under the State board of health doing the work that Miss Fox spoke of as necessary. We have two cooperating with the Red Cross and four cooperating with the philanthropic organizations.

The biggest problem we have to contend with is our midwives. Eighty per cent of our colored mothers are delivered by midwives. They are ignorant, they have no idea of cleanliness. Educated women would hardly undertake the work of these midwives, for they are paid so little. Forty per cent of our white mothers are delivered by midwives, a few of them white women of not very excellent status. That is one of the problems we have to meet.

We have started something in the way of hygiene. For three years there has been a movement with regard to soil pollution work in the South, which is the biggest work there, since it removes the hook worm and the diarrheal diseases.

Referring to infant hygiene, nearly one-fourth of the deaths in North Carolina are infant deaths, and most of these are attributable to congenital diseases and diarrheal diseases.

I want you all to know that North Carolina has big possibilities. For instance, it has the highest birth rate of any State in the whole Union in proportion to its population; and since we are going to reduce the death rate North Carolina may soon come to the front.

Dr. Julius Levy (New Jersey State Board of Health): I think it is important to realize that the real solution of the rural problem lies in the responsibility of the State department of health. I believe that the most worth-while effort of the Red Cross or any other organization is merely to insist that the State department of health shall perform its proper function in protecting the health of the rural population and that the function of private organizations is not to do in piecemeal the things that are needed in rural communities.

Miss Holman's experience serves a magnificent purpose if it is used properly. I do not think that any group of citizens could listen to her without being ready to say: "Here is something that the State department of health ought to solve." Today child-hygience and the general health work is sufficiently advanced so that we do not have to demonstrate how it should be done. We have passed the demon-
stration stage. We know sufficiently what we ought to do and that it can be done. We have a right to say that we know what we ought to do.

In New Jersey we obtained this past year, available July 1st, an appropriation of $125,000 for the child-hygiene work. The Council of Defense was of considerable help. Our plan calls for applying to every city in the State a proper preventive hygiene program. I personally believe we should forget somewhat the distinctions between rural and urban population, recognizing the difference wholly in the application of details. You need the same kind of work in the rural population in North Carolina and New Jersey that you do in the city of Newark. We must do it differently in order to put it across.

I think I heard mentioned the question of traveling clinics. In New Jersey we prefer the idea of having a motor car which will bring the people to a permanent station. I will not go into the reasons why, but I think you will find it will have many advantages. We are so distributing our stations—whether they be infant-welfare clinics or mental-hygienic clinics—as best to adapt them to the roads and transportation conditions, and get the cooperation of motor cars so that we can bring the women and children to the stations; and then we divide the community up among nurses in order that each one may get the greatest possible benefit.

New Jersey intends to put on 100 workers July 1st. This staff is paid for by the State. In addition, the city of Newark has nurses of its own. I treat that as I would any part of the State, since the nurses are there and we do not have to put them there. We should stimulate the city to carry on its own work. The rural communities can not carry on their own work unless we can make large communities.

Dr. Andrew Wilson (Wheeling, West Virginia): We are talking about stimulating the State board of health, stimulating the social organizations, stimulating this organization and that organization. We are considering the problem, when the thing we should consider is the specimen. We take it coldly; we do not consider, apparently, that it has brains. The fundamental thing to do is to teach people to take care of themselves. We have organizations enough to do this already, in the public-school system of the United States. It is the most far-reaching organization for the teaching of health that we have. The organization is made and is here. Why not use it? Why not have the department of public health teach public health in every public school in this land?

Dr. Dorothy Reed Mendenhall (Children’s Bureau): I think that the rural problem is the most vital and interesting health problem that we have to face, and I believe that we are going to solve it in the next ten years. I do not agree with Dr. Levy on one point, and that is that the rural problem is the same in the different communities. The rural problem in New Jersey is very different from that in Wisconsin, for one thing because of the difference in size of the two States. The largest counties in Wisconsin are about one-quarter of the size of the State of New Jersey; and there are 71 counties, large and small, in Wisconsin. There is not a public-health system in any of the counties. We have an excellent State board of health, but we cannot, with the small appropriation we have, expect to do very much work in States as large as most of the Middle Western States.

We all know that rural communities should have the same opportunities that cities now enjoy. We want every child to have proper care at birth, proper prenatal care, proper care during infancy and during the preschool age, as well as proper schooling and care during the period of adolescence. Safeguarding the social welfare as organized for city children is also needed. How is it possible to bring this about in the country? What is the short cut? I believe we have
found it in the public-health nurse. I believe that Wisconsin in making it mandatory to have public-health nurses in its 71 counties is paving the way towards a solution of her problem, for where you have a public nurse, if she is a visiting nurse and not a school nurse only, there is the beginning of a health center and there is the beginning of the best educational work in the home.

Miss Holman has shown what a public-health nurse can do in one of the isolated counties in North Carolina. I think her splendid work shows what can be done elsewhere. If you can put the right sort of a nurse into a rural county, she will soon have a public health center and perhaps itinerant clinics started such as they are having in Minnesota and such as they have also started in New York, so that we can begin to safeguard the life of the mother and her child in rural districts. It is continuity of care that we must work for—from conception to adolescence.

I believe the best way we have to educate the public in these isolated counties to want this work is to start with a public-health nurse. She will bring in a public center, a maternity center, a social center, and pave the way for the best school work; and we want all these features in our health work.

I want to refer for a moment to a bill that was presented at the last Congress for the protection of maternity and infancy in rural districts. It was favorably reported by the committee of the House to which it was assigned, but did not go any further. In this bill the attempt was made in a way to adopt the principle of the Smith-Lever Bill for the promotion of agriculture and to copy what the Department of Agriculture has carried out so successfully. The bill is for the purpose of promoting the care of mothers and babies in rural districts, and of providing instruction in the hygiene of maternity and infancy. It provides for Federal aid to be given through State authorities to rural counties to help them carry out this work through public-health nursing, consultation centers, the provision of medical and nursing care for mothers and infants at home or, when necessary, at a hospital, and other methods. According to the bill a certain sum of money would be given outright to each State; the remainder of the sum to which the State would be entitled would be given only after an equal sum had been appropriated for the purpose by the State. It is, as you see, a matter of giving Federal aid on a fifty-fifty basis. If such a bill is passed, there might be a center of public-health nursing in every county. I think that this bill is one of the most important proposals that have been made in connection with the welfare of the women and children of this country, and that, of course, means the welfare of the nation.
A health center, within the meaning of this paper, is a place where people may come to learn how to keep well. The term “health center” is gradually coming into use and replaces, in part, the less desirable one of “clinic.” To many persons the word “clinic” means nothing at all, while to many others it carries an unpleasant connotation of sickness and medical treatment of one sort or other. There is danger, however, that the term “health center” will, for a time at least, carry to many persons a less definite impression than does the older term. This is only another way of saying that as yet the idea of disease prevention, and especially health preservation, is less clearly defined in people’s minds than the idea of medical treatment and disease cure. Nevertheless, the health center will be a positive force in the future.

While this paper is entitled “Health Centers for Preschool Children,” I do not mean to imply that a health center for children of this age should be considered to have any peculiar attribute not possessed by one for children of any other age. It may safely be said, however, that at the present time the public is not sufficiently awake to the fact that the child of preschool age is being considerably neglected. The reasons for this are indubitably that the high infant mortality and the general helplessness of the baby call attention to his needs; and on the other hand, the somewhat better organized activities for the protection of the child of school age detract attention from the younger child.

In the State of Massachusetts we have annually about 3,500 deaths among children over one year and under five years of age. This represents about one-fifteenth of our total mortality of all ages. Apart from the death rate, many of the defects and disabilities discovered in children of school age take origin in the earlier age group.

It may well be said that under our modern conditions strait is the gate and narrow is the way which leadeth unto good health, and few there be that find it; and wide is the gate and broad is the way that leadeth to self-indulgence and neglect of health, and many there be who go in thereat. As far as the child is concerned, this is due to the ignorance of the parents; hence the great function of a health center is to radiate an educational influence. The work done there should be posi-
tive; the workers should deal in "do's" rather than in "don'ts." This being the case, a different type of nurse and physician is needed from that often found in clinics for the sick. They must have the enthusiasm to inspire in people the desire to pursue an ideal, without having the advantage of the keen incentive which goads to action the sick man in his pursuit of health.

To repeat, a health center, then, is a place where people may come to learn how to keep well. This does not necessarily call for any particular machinery. Like the college which consisted of Mark Hopkins on one end of a pine bench and a student at the other, a health center for preschool children might well consist only of a roof sheltering an enthusiastic public nurse or physician, and a mother with her child of preschool age. In fact, I think the emphasis in the past has often been laid too much on the surroundings and too little on the essentials.

The ideal should be that of the benefactor of the New Zealand Society's Baby Hospital, quoted by Dr. Truby King: "I specially desire that, so far as possible consistent with doing full justice to the babies admitted, the hospital will continue to be so directed and managed that any mother in ordinary circumstances visiting it may feel that almost everything done in the institution could be effectively carried out by herself in her own home after receiving the necessary instruction. As conducing to this end, it is hoped that strict economy and simplicity in regard to buildings, furnishings, appliances, clothing, etc., will be maintained as heretofore, and that the treatment will continue to be conducted, as far as possible, on broad, simple, practical, scientific lines, easily comprehensible by the ordinary mother." Two or three rooms in any central location, even in a business block, will furnish an office and examining room for the doctor, a waiting and weighing room for the children, and an office for the nurses; on occasion even one room is enough. Accommodations can be varied to suit the circumstances of the case.

This brings us to the question: "Who should conduct the health center?" I may as well say at once that I believe this to be the plain duty of the municipality. The health of the citizen is of vital importance to the community. The community calls upon the citizen to perform certain duties; it is equally important that the community furnish the citizen the opportunity to fit himself for the performance of these duties. This principle is well recognized so far as cultural education is concerned. Furthermore, it is recognized that as a matter of self-protection the community handles communicable disease, spending money in the process without legally pauperizing the persons involved. Why should this not be equally true of physical education and noncommunicable disease? To quote Truby King again, "They (the workers of the Special Health Mission) have recognized throughout that the
need for more light and higher standards is as essential for one class as for another—a matter for friendly cooperation and free education, not a matter for patronage or charity."

It will be noticed that I use the phrase "duty of the municipality" rather than that of the State or county. In my State, Massachusetts, the principle of home rule is highly cherished. There, the town or city is the unit rather than the township or county. But whatever the unit, it would seem that the ultimate community responsibility should be on the collection of homes rather than on the collection of municipalities, subject, of course, to a certain unifying control on the part of the larger body—the State. In many instances, however, the individual community is too small or too poor to maintain the proper agencies for the well-being of its citizens. Theoretically, such a community has no excuse for existence, but nevertheless it does exist. The only recourse, then, is for such a community to combine with one or more similarly situated to get the service both desire; or a county made up of such towns may assume the responsibility. Often the question of transportation in winter must be a governing factor.

Too often, on the other hand, the community as a whole is not awake to its duty of seeing that physical education is available for its citizens. Under such circumstances, private organizations must furnish a demonstration of the value of such service in the hope of educating the municipality to a sense of its obligations. This, I presume, has been the usual method of procedure in the majority of places. Of these private bodies, the hospital would seem to be the least suitable for clinics for well children or for health centers. It is far better from a psychological point of view to emphasize the value of health as an end in itself rather than as a means of avoiding disease. There are, however, many private organizations suitable for this work of establishing health centers. Visiting nurses' associations, those which lay the emphasis on public-health nursing rather than on bedside nursing, can do it well. So can child-welfare committees, women's clubs, settlement houses, and other such philanthropic agencies.

An unusual example of the health center as conducted under semi-private auspices is afforded by the so-called Health Demonstration at Framingham, Massachusetts. The prime object of this demonstration is to show what can be done in the way of control of tuberculosis by a well-financed private enterprise working in cooperation with the local health authorities. All modern methods are employed to this end: physical examinations of various age groups, with special reference to tuberculosis; school inspection; child-welfare work; and educational work along public-health lines. The Framingham demonstration is, however, an unusual instance, in view of the amount of money available from private funds, and in view of the national interest in the
work. Another well-known example is the work done through the National Social Unit Organization in Cincinnati.

There is, however, one very real danger in much of this. It is that there will be a multiplicity of organizations, each with its own overhead expense, running a variety of poorly supported enterprises, each in competition with the other. This is fatal to good work and is utterly inexcusable from an economic standpoint. The municipality can do the work much better. It is often argued in favor of private organizations, that they can conduct such enterprises more efficiently and with less political interference than can the municipality. The claim is made, furthermore, that such projects, sponsored by aggregations of allied private interests, are conducted in an especially democratic manner. I do not agree with this view. If public health were to be looked after in this way permanently it would represent a reversal to the earlier days before self-government became an accomplished fact. The venality of certain forms of municipal control is no valid argument against municipal control. If the same amount of effort were put by the public into correcting municipal abuses as is often put into well-meaning private enterprises, there would be no occasion to lament such abuses, for they would not exist.

It will be seen, now, why I have not gone into great detail as to plans for a center for the child of preschool age. It is because we may say that there should not be any such thing, per se. We should have health centers which should include all, from the baby to the adult. The day is not far distant when even adults will seek periodical health examinations. These health centers for all ages should be conducted by the municipal board of health, whose duty it is to guard the health of all the people. In small communities the whole health center will be under one roof. In large places there should be one main center, preferably in some municipal or county building, with as many branch offices as are necessary to reach all the people conveniently and to give a sense of neighborhood proprietorship. I believe this neighborhood proprietorship is absolutely essential.

This plan saves overhead expense and makes for economy as well as efficiency. Under this roof could be grouped the branch of the health work having to do with prenatal care; the infant could be brought here to be weighed and measured, and to have his feeding supervised; the older child, not yet of school age, would also have his place and consultation days here. The school work, of necessity, must largely be done in the school and the home, but the special examinations needed might well be made at the health center. The child in industry, too, need not be excluded from such a center; regular physical examinations would check up the healthfulness of his work. Lastly, the adult could learn here how to live a little longer.
I have purposely left out the obstetrical work. I doubt if it is wise to combine a hospital with a health center. This same objection would hold good for nose and throat operations. I do not see that they belong in a health center. Eye and dental examinations, however, might be included with propriety. Dental treatment would be on the border line and, at first at any rate, would be included simply because people demand it.

Needless to say, the center would serve as headquarters for the public-health nursing force of the city or town, since adequate public-health work would now be unthinkable without the services of the public-health nurse at the center and especially in the home. Indeed, one may say paradoxically that the real work of the health center must be done by the nurses in the homes. This phase of the subject, however, is being treated elsewhere. Proper medical social-service work, too, would be included as an essential factor in the success of the center.

Such an outline as I have presented belongs partly to the present and partly to the future. A center is sketched from which would radiate all effort directed toward keeping the citizen and his family physically and mentally fit. It would recognize community responsibility and yet, with a little State regulation, would not be unduly narrow; it would be economical both in money and in time; it would be simple. Best of all, it would serve as a great educational center, comparable only to our public schools.
THE PUBLIC HEALTH NURSE

By DR. C.-H. A. WINSLOW
Professor of Public Health, Yale School of Medicine

When the modern movement for health protection began in England fifty years ago it was chiefly concerned with the sanitation of the environment. Sir John Simon and his followers were occupied with the purification of water supplies, the supervision of foods, the disposal of sewage, and the elimination of "accumulated obvious masses of filth," which threatened the health of the community through the exposure of excreta and the incubation of insect carriers of disease. It is true that Sir John Simon himself had a wider vision. He said:

"Long before our modern codes of public sanitary law had begun to shape themselves, elaborate counsels of personal hygiene had become current in the world; counsels as to the ways and habits of life which would most conduce to healthful longevity; counsels, above all, for moderation in life—'the rule of not too much'; and those counsels for personal self-government, enforced from age to age by the ever growing common experience of mankind, are not now to be deemed superfluous because boards of local government have arisen. In relation to the sexes and their union, and to the many personal influences which are hereditary; in relation to eating and drinking; in relation to work and repose and recreation for mind and body; in relation to the charge of infancy, and to proper differences of regimen for the different after-periods of life; there are hygienic rules, perhaps not less important to mankind than the rules which constitute local authorities."

At the beginning of any public-health campaign, however, it is necessary to deal first with the great sweeping pestilences whose origin lies primarily in the environment. When General Gorgas went to Panama his first preoccupation was necessarily with the engineering difficulties involved in obtaining a supply of pure water and eliminating mosquito-breeding marsh lands. After a time, however, these engineering problems are in a measure solved and become matters of routine, and the primary interest of the public-health official is then focused on another type of problem, that of the community infections, due not to defects of sanitation but to the spread of the germs of disease from person to person by the more or less direct routes of contact. On the first period—the period of the engineer—follows that of the bacteriologist; and the detection of carriers, the isolation of infected persons, the disinfection of discharges, and treatment by the use of sera and vaccines occupy the most prominent place in the health campaign.

The control of community infections in its turn is gradually being
accomplished, although the recent pandemic of influenza makes it clear that we have yet much to learn in this field. The statistics for even 1918, however, when the figures for the last three terrible months are merged with those for the rest of the year, show that other causes of death are quantitatively more important than even influenza and pneumonia. After all the death rate for the year only carries us back about ten years; it was only about the normal death rate for ten years ago.

The greatest problems which we face, day by day, require for their solution not merely the sanitation of the environment, not merely the control of community infections, but in addition, and in an even more important degree, attention to daily individual habits of hygienic living. In the future the sanitary engineer and the bacteriologist will, I believe, both yield to the physiologist the premier rôle in the drama of health protection. I may say that my confidence in this analysis of the phases of public health is strengthened by the fact that a year or two ago Dr. Chapin and I both independently presented the same analysis of the history of the health movement at two different meetings within a week or two of each other. So since he agrees I think probably the analysis is correct.

Take for example the problem of infant mortality with which we are here specially concerned. There is no other line of activity in the whole field of public health that will yield more definite and tangible results than can be obtained by well-directed efforts at the reduction of the infant death rate. Infant mortality may be reduced in part by sanitation, by the pasteurization of milk, by the removal of conditions which facilitate the breeding of disease-carrying flies, and by better housing, which will make possible the maintenance of lower room temperatures during the hot summer weather. Infant mortality may be reduced in part by measures of isolation and disinfection, which tend to protect the infant against the germs of communicable disease, so much more deadly to the infant than to its elders. Yet even greater is the need for hygienic instruction of the mother, for the training in the knowledge of child physiology and child hygiene which is the primary essential in keeping a well baby well. Sanitation and the control of community infections may be accomplished by official regulations; but the inculcation of hygienic habits of living and hygienic methods of infant care can be accomplished only by education of the individual mother in the individual home. The great tasks of modern public health are educational tasks.

We have found in this country that by far the most effective agent for the conduct of this type of educational work is the public-health nurse. Her hospital training gives her not only a fundamental knowledge of the human body and its needs, but a discipline, a loyalty, and a tradition of service that fit her in an unusual degree for the arduous
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The tasks of her profession. Above all, the fact that she is able to bring immediate physical relief in a thousand emergencies ensures her a welcome, and makes it possible for her to deliver her message in a way that is quite beyond the reach of one who enters the home merely as a teacher. There are others who think differently about this question. There is a tendency abroad, and to some extent in this country, to introduce a new type of health educator, and we are all interested to see how that works out. Personally, however, it seems to me that the wisest tendency is in the other direction, to combine more and more closely the educational work and the bedside care in the person of the health nurse.

The public-health nurse is always in attendance at the infant-welfare station to weigh the babies and prepare them for examination and to give instruction to groups of mothers in the preparation of artificial feeding and in the other essentials of infant care. By far the most important part of her work, however, is accomplished in the home. The infant-welfare nurses spend a day or a half day each week at the welfare stations and devote the rest of their time to visiting in the homes where they teach the mothers how the food of the baby should be prepared, how it should be clothed and bathed, and where and when it should sleep, and do these things with the actual utensils and under the actual conditions with which the mother must deal. As Dr. J. H. Mason Knox said:

"All the work hinges upon the better care of individual babies coming under our influence, and it is here that the trained nurse should be given the first place, both because of her unique opportunity and because of the good results which she has and does accomplish. It is she who enters the home, a welcome visitor, but one armed with expert knowledge and kindly tact. It is she who can open the closed windows, remove superfluous clothes, prepare the baby's feedings, give it a bath as an object lesson to the mother, and perform a hundred other services which together mean the difference between life and death."

The development of public-health nursing in the infant-welfare field has been a rapid one. According to a study made by the Children's Bureau in 1915, there were in that year, in 142 cities of 10,000 population or over, 539 infant-welfare stations in operation, maintained by 205 different agencies. In the summer these stations maintained a corps of 866 nurses, reduced to 604 in winter. In the same year 466 nurses, not connected with infant-welfare stations, devoted their entire time in summer to infant-welfare work, while 122 were assigned entirely to this duty in winter. In addition, 460 nurses in summer, and 491 in winter, were employed for a part of their time in the infant-

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welfare educational campaign. In other words, there were in these
cities, in 1915, nearly 2,000 nurses engaged in whole or in part in
infant-welfare work, and that number has been since greatly increased.

We are still very far from the ideal, however. The infant-welfare
nurses of the visiting nurses' association in New Haven care for ap-
proximately 400 babies each, but it is the conviction of those most
familiar with activities of this kind that the number of babies assigned
to one infant-welfare nurse should be not over 150. On this basis
we should have something like 16,000 nurses devoted to this type of
public-health activity in the United States.

This calculation is based on the assumption that infant-welfare nurs-
ing is to be conducted as a specialty, by public-health nurses who de-
vote all of their time to this particular task. Personally I am far from
convinced that this is the wise policy. It is the opinion of a majority of
those who have had experience in the public-health field that specializa-
tion in public-health nursing has in the past been carried too far. Fric-
tion and confusion result from the visit to one home of several different
public-health nurses, and the large area covered by a nurse doing only
infant-welfare work, or only tuberculosis work, causes waste of time
and militates against intimate personal knowledge of family and social
conditions. Public-health nursing should be organized on the lines of
localities rather than specialties. This is one phase of a problem
which seems to me to be confronting us in almost every field of social
organization, the problem of functional or regional organization. We
are meeting it even in the question of instruction in medical schools.
Shall we go on teaching physiology, anatomy, and histology, or begin
to teach the systems of the body? And so here: Shall we organize
this work functionally or locally? In business the functional organiza-
tion is replacing the local organization. In health nursing, however,
I believe the organization will have to be local with a functional staff
for consultation. I think the ideal way is to have your local nurse do-
ing all the work in your district, and have her backed up by various
kinds of special nurses who will assist her when she gets into difficulty.

In this way the nurse may know her district thoroughly in all its as-
pects, and may come to be a sort of community mother, a trained
and scientific modern representative of the good neighbor who nursed
the sick and helped out in all sorts of emergencies in the village life of
earlier days.

I am inclined to think that the most successful public-health educa-
tion in the future will be done by the district nurse working with a
small population unit, ready to do ordinary visiting nursing, infant-
welfare work, or tuberculosis work, and combining in every field the
care of the sick with the educational activities of the modern public-
health campaign. I do not agree with Dr. Champion here. I do not
believe in separating this educational work from the medical work. I believe, on the other hand, we have got to absorb medical and nursing work into public health and keep them more closely combined than ever before.

Under average conditions a public-health nurse can perhaps care in this way for a population of 2,000 persons. That, it seems to me, is the program we should set for ourselves—50,000 women of this type, public-health nurses, devoting perhaps on the average, very roughly, a third of their time to infant-welfare work, a third to tuberculosis, and a third to the general task of visiting nursing. In addition, of course, school nurses and factory nurses are necessary. These are special lines that must be organized functionally, but these nurses could turn their home work over to the district nurse, I think.

The program is an ambitious one; but in New Haven, a city of 160,000 population, our visiting nurses' association has a budget for the coming year of $100,000, and will employ a total of approximately 50 nurses, about two-thirds of the ideal number indicated by the calculation above. So that this ideal is not beyond the limits of achievement.

And I may say that this visiting nurses' association in New Haven in order to get this budget went out for a four-day drive for $80,000. At the end of three days they had a hundred thousand. That shows the popular support that you can get for work of this kind. There is absolutely nothing you cannot secure for a visiting nurses' association which is doing its job well.

It is evident that for the conduct of educational work of this character we need women of a high type with a sound and broad education. You see, we are outlining a program which calls for 50,000 public-health nurses, and we want good ones. We must go further than this. We have to create the demand, on the one hand, and we have to do something to create the supply, on the other. What does the public-health nurse need to know? What do we need for this work? I am not discussing what the doctor needs for bedside assistance with sick cases. We are talking about a public-health nurse. For her work she should be well grounded in the fundamental sciences of chemistry, physics, and biology, for these sciences form the basis for all scientific thinking and all scientific applications. She should know something of the principles of sociology and economics, for her work is closely related at every point with that of the social reformer. A knowledge of foreign languages is very helpful. In some cases the ability to speak Italian or Polish or Yiddish may be essential, and I heard recently of a case where Chinese was a prerequisite. The requirement of high-school graduation before entrance upon the course of the nurses' training school should represent a minimum of prelimi-
nary general education for the nurse who is planning to enter the field of public health, and a full college course would furnish the most desirable preparation.

The course in the training school itself must be fundamentally reconstructed in order to supply the type of training that is needed by the public-health nurse of the future. Training schools in the past have grown up in a haphazard fashion and have often been actuated rather by the need for obtaining unpaid help in the hospital than by any educational ideals. Hours are too long and formal instruction too casual. The lengthening of the training-school course from two to three years was inspired by the hope that the third year would be devoted primarily to education, but such has not been the case, and we are at present in this country face to face with the need for a radical reform. The first essential, as I conceive it, is the complete divorce of the training school from hospital control. It must be independently endowed and governed like any other educational institution by authorities primarily interested in education, the relation to the hospital being essentially the same as that maintained by the medical school of the present day. Much progress has been made in this direction by the establishment, at some dozen different places, of training schools as an integral part of universities, and at the best of these schools two years of college work are required for entrance and the bachelor's degree is conferred for the completion of the training course. I am personally of the opinion that for women who have had two years of college, a six months' course of theoretical instruction, followed by eighteen months in the wards and a year of special training in public-health nursing would probably furnish the ideal type of education. In any case, the independent endowment of the training schools is a fundamental need, and there is no problem in the whole field of public health that seems to me more urgently pressing than the obtaining of endowments of this sort.

As soon as you get educational authorities interested in the education of the nurse, rather than solely in running the hospital, these things will come. This question of the endowment of training schools is the biggest single problem in public health and the biggest opportunity for philanthropy. I have nothing to do with training schools except delivering fifteen lectures a year in one, and I am not interested in the question personally, but if anybody asked me where to give a million dollars, I would say, "Don't give it to a department of public health; give it to endow a nurses' training school," because the first person that endows a nurses' training school will do what Johns Hopkins did for medicine, and what William Barton Rogers did for engineering when he established the Institute of Technology.

Finally in closing let me point out the significance of such develop-
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ments as have been here discussed in relation to the broader problem of organizing the resources of medical science for efficient service along preventive lines. As I pointed out at the beginning of my address, public health is becoming more and more preoccupied with the human machine and its efficient operation. We must not be satisfied to teach merely the broad principles of personal hygiene as they apply to one and all alike, but rather to bring to each individual the particular knowledge that he needs in order to use his own body, with its physical defects and limitations, to the best advantage—just what Dr. Edsall pointed out in connection with employment and factories. In speaking of dangerous occupations, he suggested that we should ask "dangerous to whom?" Is it dangerous to John Jones? Perhaps. Is it dangerous to Simon Smith? Perhaps not.

Sound instruction in personal hygiene can be based only on a preliminary diagnosis which will reveal physical defects in their incipient stage. The line between public health and private medicine must be broken down in the interests of both; for the physician as well as the public-health worker realizes that under our present organization the resources of medical science are generally applied too late. We in America are far behind some of the other nations represented at this conference in the development of an organized system of social medicine; we can boast of relatively slight accomplishment in making the resources of medical science available for the prevention of disease; but the organization of public-health nursing by our best visiting nurses' associations furnishes a striking lesson of what may be done to attain a similar end in a related field. The accomplishments of the public-health nurse are not only fruitful in themselves but pregnant with inspiration for the task of organizing the knowledge of the physician in a similarly effective way.

DISCUSSION

Dr. Julius Levy (State Board of Health, New Jersey): I shall discuss Professor Winslow's paper in particular, because he raises a very important practical question in the conduct of preventive child-hygiene work. I believe we ought to make a distinction in the very beginning between public-health nursing work and district-nursing work. To my mind public-health work deals with the prevention of disease and not with its treatment or cure. If that is true, that phase of the nurses' work which deals, for instance, with the bandaging of an ulcerated leg cannot be included in public-health work. Therefore the greatest development of public-health nursing work must not be expected to come from district nursing associations, although I realize that sick-nursing work makes an especial appeal in raising funds and for philanthropic support.

The next point is that a logical and well-organized public-health child-hygiene program cannot be combined with district nursing, because in public-health work you wish to reach as many babies as possible and help maintain them all in health,
and you must lay out a systematic program. Sick nursing does not permit that system. It is of necessity emergency work.

For instance, in a rural district you can not say you are going to give a certain nurse a district covering four or five small communities, and that she is to be on a certain day in each one of these communities, because if she had a confinement case in one town she would have to stay there, and work that she expected to do in another town would have to go by the board. I know that those of you who are in practical work will understand the reasons why emergency sick nursing can not be combined with a logically developed preventive health program.

In the second place, I do not believe that the nurse as now trained is the best person for public-health work. Professor Winslow has fully realized that, as evidenced by the program he has laid out for her proper education. I want to stress particularly the defect of the hospital training of the nurse as a public-health worker. She has been taught that her greatest function is not to think independently but to do only as she is ordered by a superior person, the doctor. Public-health nursing in a broad child-hygiene sense can be done properly only by a person who has developed independent thinking in the solution of problems connected with the family and who is willing even to tell the doctor that he does not know how to feed a certain baby.

Now, in regard to the specialized and the generalized nurse, some distinction should be made. I think we can approve of the specialized nurse in child-hygiene work if we will include under child hygiene prenatal care, infant care (but not actual maternity obstetrical care), preschool work, and school hygiene. I believe that a child-hygiene nurse ought to be specialized in that way. I see no excuse in placing school hygiene under a board of education. A board of education can not protect the health of the school child; that is part of a health program and belongs to the school nurse. That is to me a very important point. Moreover, in State work we ought to have a specialist instructor in prenatal care, infant hygiene, and school hygiene, who will help the nurses to stimulate that particular phase.

Dr. S. Josephine Baker (Director, Division of Child Hygiene, Department of Health, New York City): Sometimes practical experience is of more value than the most delightful theories. As a matter of fact, I agree perfectly with Dr. Levy that public-health nursing is not nursing the sick. Public-health nursing is nursing the well; it is the prevention of disease and not the cure or correction of disease or the treatment of disease.

And secondly, from a practical point of view the two cannot go together. When I say that, I say it not because I believe it and always have believed it, but because I have tried it. For two years in New York we tried out a system of combined nursing in one of our large boroughs, the Borough of Queens. It was a total failure for the reason that, just as Dr. Levy has said, the emergency work always took precedence. Weeks went by when no school children were visited. Weeks went by when no babies were visited. Why? Because it was not essential; they could wait.

In a well-evolved program of public-health work for children the work is not ready-made to your hand. You have to go out and make it for yourself, and if you have other duties especially pressing and essential, you are not going out to make it for yourself, and necessarily the baby work, the child work, will always be neglected.

One of the great arguments against this so-called overspecialization—and in my view there is just as great a danger in overgeneralization as there is in
overspecialization—has been the question of what we call overlapping. People have said that at times you may see a tuberculosis, a school-hygiene, a district, and a child-hygiene nurse all visiting the same family. I know of investigations in Detroit, and in Grand Rapids, covering a great many cases, to settle that point. In New York we investigated 25,000 consecutive visits for the same purpose. In no one of those cities was there three per cent of duplication. That is, not three per cent of the families had had more than one nurse visiting them at any time. There was practically no duplication.

If there is no duplication the next question is the cost, and careful studies that we have made to determine as nearly as may be the expense of the matter have shown that it is not more costly to employ a nurse who knows her business and who goes to the house with a definite purpose, than it is to send the general-utility nurse who does everything and perhaps not anything very well.

It is a specialized thing to care for children. We are quite sure of that. We have bureaus of child hygiene, and in that connection I do not agree with Dr. Champion that we can have a health center which will take care of babies and take care of adults. We must specialize if we are going to accomplish anything. As long as child welfare was considered a part of the generalized work we did not get results. If we are going back to this old idea of doing everything, and expect to do everything equally well, I think we are going to be disappointed in the outcome.

As to the need of professional training for nurses for child-hygiene work or for preventive health work, there can be no two opinions. Dr. Winslow has expressed the opinion of every one who knows anything about public-health nursing, that we are not getting trained nurses; we train them after we get them. They are trained to treat disease, to cure disease, and I think I am not exaggerating when I say I have rarely ever found a nurse—and we have some 350 doing child-hygiene work in New York—who upon her entrance into the department knew what preventive health work was. We have to begin at the beginning and give them the entirely new point of view of which Dr. Levy spoke, the point of view of initiative, of the prevention of disease, of keeping the child well, of looking at the work as a unit.

When we talk about specialization as confined to children I am agreed that in certain places we are overspecialized, and it is possible that when our work is a little better developed we can have nurses who will take care of the child during the entire period of childhood. That is most essential in rural communities now. In large cities with large staffs we seemed to get better results if we kept to specialization and did not have the school nurse do infant-welfare work. However, we are open to argument upon that point. It may be that in time we shall feel that it is better to consider the child as a unit, for I firmly believe that it is time for us to stop thinking of activities and turn our thoughts to the child. We have talked entirely too much about child school life, child recreation, child physical training, and a hundred other things that affect the child. We have worked from the activity inward, and it is time for us to work from the child outward.

Sir Arthur Newsholme, M. D. (Late Principal Medical Officer, Local Government Board, England): On this vexed question of the public-health nurse, it appears to me that the description given of this official as a "nurse" rather begs the point at issue. We call her a health visitor, which indicates her hygienic functions as contradistinguished from nursing functions. And in England her functions are almost entirely, if not solely, hygienic. It is true that during epidemics, especially of measles, she is sometimes diverted to actual nursing, but that is the exception.
and not the rule. We have heard a great deal, as Dr. Baker has, of the overlapping of different visitors, but the overlapping is not so considerable as is commonly supposed. But we personally prefer that health visitors should be confined at the present, at any rate, in the main to hygienic work.

We have adopted in the cities the specialized plan. As a rule the health visitors visits only mothers and babies. But in country districts we have adopted the more generalized plan for the sake of convenience of travel. Indeed, in some places the health visitor is also tuberculosis nurse and school nurse; and sometimes, in scattered rural districts where difficulties of travel are great, the health visitor is the district nurse of the district, doing actual nursing, and sometimes is also the village midwife. But those cases are exceptional.

I think the best solution of the problem is not to solve it but to let each case be decided on its local merits—in scattered areas combining different functions, and in crowded areas specializing or not, according to circumstances.

As regards the kind of training which is wanted I am quite clear that the usual nurse's training is not the chief or the only qualification needed. Much more hygienic instruction is required, as well as some of the knowledge of a sanitary inspector; and a great deal of social knowledge is required if the health visitor is to bring back to the child-welfare center information which the physician needs in regard to the cases under his treatment. Personally, I regard the sympathy of the health visitor as quite as important as special knowledge. The health visitor who does the best work is the one who manages to instil the mother with confidence and to make her feel that she is a friend. That is a principle which is impressed on all of us in England. A technical knowledge of any kind will not suffice.

I entirely agree with what Dr. Winslow has said, that health visiting is the major part of the child-welfare work. The centers in England never have attracted more than about a third of the mothers, a third of the babies. More than half of the mothers must be visited at home if they are to receive the proper instruction.

Now with regard to the question as to whether ignorance is the chief enemy which we have to fight, I gather from Professor Winslow's paper that he rather leans to that view. Unless a very wide view is taken of what ignorance means, I cannot agree with that. I am quite certain that to suggest, as many high authorities have done, that all we have to do is to instruct these poor ignorant mothers, is to take an erroneous view of the matter. We have to think of these people living in the homes in which they have to live, of the bad housing conditions; we have to think of the bad sanitation which still exists in many of our municipalities. Infant mortality is largely determined by the degree and the quality of municipal sanitation and by the quality of the housing. We have to think of the fact that a large proportion of these mothers are overworked; they have no nurses when their children are sick; that they have no domestic servants, must attend to the family without any of the helps with which all of us are familiar. And unless we provide help as well as advice I am quite certain that we are not going to get the results which are necessary. I personally attach very great importance to that, and the Local Government Board, as representing the Central Government in this matter, also attaches great importance to it.

We have gone so far as to subsidize to the extent of half the total cost the provision of nurses when required, both during the lying-in period and afterward, the provision of nurses for sick children, and the provision of hospital beds for children and their mothers. If the mother can not go to a lying-in home, we arrange for the children to be taken away from the home in order that the mother may be
quiet and not be disturbed by the little children whom she is not able to attend to. Furthermore, we have begun to subsidize the provision of home helps during the confinement of the mother, superior domestic helpers who have been partially trained for the purpose and who will give not skilled nursing attention but help in the domestic circle, so that the mother may feel she can lie quietly in bed until she has completely recuperated. I am confident that mere skilled, enlightened nursing does not cover the ground, and that when we can combine health and instruction we will obtain the best results.

Miss Elizabeth Fox (Director, Bureau of Public Health Nursing, American Red Cross): It may be interesting for you to know that at a recent conference of about 75 State supervising nurses, directors of the Red Cross, and other nurses engaged in executive work, we almost all swung around to Dr. Winslow's point of view. A number of these nurses had had Dr. Levy's and Dr. Baker's point of view and had been working at it for some little time. They have concluded that general nursing including nursing care is more practical, especially in smaller cities and in the country.

It seems that Dr. Baker and Dr. Levy have both uncovered the failure of administration and not the fallacy of a principle. If it is not possible, as Dr. Baker and Dr. Levy seem to think, to combine nursing and instruction, if the nurse is not at the place she is needed at the time she is needed, that is because the management of the work is not properly done; it is because there is not a sufficiently large staff of nurses, or because there is no arrangement for floating nurses who can take care of the emergencies when they arise. It is quite possible to arrange staff and work in such a way that instruction and teaching will not be neglected or poorly done.

About the poorest way to teach people is by the printed word—by dispensing pamphlets and circulars. If we tell them a thing by word of mouth, a considerably greater impression is made, and if we actually do it for them we are employing the most valuable teaching method of all. There is no better way of teaching hygiene than by the actual repeated giving of nursing care. We seem to think that our American people are most anxious for advice. I do not think public-health nurses would agree with that point of view. American people think they know how to run their own affairs pretty well, and are not anxious to be told by some one else how to do it. But when the nurse who comes into the home and nurses them when they are sick, and does something for them when there is suffering, tells them what they ought to do, they are going to take her advice, because it is not advice, but friendly counsel from a person who has helped them out in time of need.

We have all gone into homes and tried to tell mothers about the care of the family, and when we have gone back we have found that we had not made much impression. They have said politely, "Yes," but they did not do what we told them to do. It is the person who has been there repeatedly, who has done something for them, and who has dropped these little kernels of advice as she went along in casual remarks, who really gets the thing over to the family. This may not seem to be preventive medicine, but in this way the nurse may work a revolution in the home which she could not possibly bring about in any other way.

I should like to say also that if there is no overlapping there ought to be; the nurses have not done their work if they have not found in the homes occasion for bringing in all the other nurses in the city.

Dr. H. J. Garstenberger (Babies' Dispensary and Hospital, Cleveland, Ohio): In Cleveland we made an investigation of overlapping, and we found that it
occurred in not more than one per cent of the homes. This investigation included the visits of social workers as well as nurses.

Personally I take a middle stand between the two groups. I believe that in the future we shall have a general practitioner nurse, but I do not think that the older cities are ripe for that development at the present time. I have advocated in my own city the use of one district for a period of ten years for the gaining of experience in this field.

I think it is absolutely essential to develop first properly trained heads. We have not the institutions where we can train them at the present time, and therefore we have not enough men and women to take the positions that would necessarily have to be filled. Secondly, we have not the funds to pay the salaries that would be necessary to hold such workers permanently.

Dr. Baker: Public-health nurses do not by any means merely talk to the people in the house. They teach by doing, quite as much as the nurses who care for the sick. They go in and bathe the baby, and clothe the baby, and instruct the mother. In fact, the nurse who goes to the home simply to make a social call very soon finds herself out; we do not keep such nurses. I do not think that point should go unchallenged because I am sure that any one who has anything to do with public-health nursing knows the work is practical, instructive, and educational.
To obtain a clear understanding of what has been done in France in connection with children's welfare, it is well to record the main lines of the situation created in that country by the state of war.

Two very different periods are to be considered. During the first period, general unemployment was caused by a real economic panic. Three days after the beginning of the mobilization, there were in Paris alone 100,000 women out of work. This occurred to a greater or less extent all over France; all our industries suddenly and completely collapsed. But as soon as the end of 1914 people began to realize that the war was not to last for a few months, as was thought in the beginning. Ammunition was running low on account of the great loss during the Marne battle. A rapid industrial reawakening took place, but only for the manufacturing of ammunition. A Ministry of Armaments was established, which, with M. Albert Thomas at its head, succeeded in creating a great number of new works. The increase was constant, and even at the time of the armistice factories were being built. A tremendous amount of manual labor was of course needed for all these establishments, and the number of trained mechanics and workmen that could be called back from the army was much too small to meet this emergency. Ninety per cent of this labor had therefore to be done by women.

City women were the first to enter upon this work—unemployed workers of all kinds, especially those whose livelihood depended more or less on luxury, as well as servants, teachers, governesses, and housewives. But this was not sufficient, and train loads of women coming from the rural districts poured into the factories. Most of these women were cantoned near big towns, under scarcely better conditions than soldiers at the front; they had to live in huge provisional wooden huts, without any physical comforts, and—far worse for creatures thus suddenly deprived of their homes and families—without any moral support or protection. This very hard life was nevertheless borne by these girls, not only by reason of the high salaries, but also on patriotic grounds.

Now, what about maternity in these conditions? We find here, also, two very different periods. Up to the beginning of the industrial
mobilization, not only did infant mortality remain within its normal limits, but it underwent a marked decrease. Although this may seem paradoxical, it has been observed, more or less, in several allied countries, and even in invaded Belgium. The explanation lies in the fact that, being out of work, the women remained at home. As a consequence, breast feeding became much more common. Bottle feeding became at the same time very difficult owing to the scarcity of milk. Now, although the absence of the husband, the hard moral and material conditions, and the great anxieties of these first months had injured the health of many mothers and severely strained their nerves, and although in consequence the infants did not receive as good milk as formerly, they did not, nevertheless, die in such large numbers as usual. This, by the way, constitutes a most interesting physiological experiment, and goes far to prove the crushing superiority of breast feeding. During this first period, the most important thing was therefore, as far as child welfare was concerned, to support the mother herself. For that purpose, all existing charities increased their work, and new ones were started.

Let us now consider the second period, which corresponds to the industrial mobilization. Its characteristics were, first, the great decrease in the birth rate, and at the same time, the increase in the infant death rate.

The first condition is readily accounted for: All our young men were rushed to the border, and no leaves were granted before the middle of 1915. That “strike of the newborn children,” if I may venture to call it so, reached such an extent that, in Paris, several of the lying-in hospitals were closed. This is all the more to be noted because, most of the obstetricians being mobilized, even the women of the well-to-do classes had to be delivered in hospitals. The granting of leaves as well as the return of some workmen after a while slightly increased the natality; but, as already stated, the infant mortality increased too. The reasons for this we shall now examine.

First, it can not be denied that abnormal conditions of life during the war have in too many cases resulted in the lowering of the standard of morality. Not only did the practice of criminal abortion become more common, but the proportion of illegitimate births reached much higher figures than formerly. Worse still, desertions of children became more numerous, and it must be borne in mind that children thus deprived of their mothers and taken care of by the “Assistance Publique,” died at the appalling rate of 50 per cent. Second, as another consequence of the state of war, all those working women were very soon overworked, especially in the beginning, when nothing had yet been done, as it was later on, to adapt the machinery to feminine labor. So overworked were they that there is practically no case on record of one of them being able to bear it for more than eight or ten months, without breaking

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down so completely that she had to be admitted into a hospital. A great number of premature births ensued, these children being naturally weak. Even among those who were neither abandoned nor prematurely born, a heavy mortality was caused by the impossibility of breast feeding by the mothers at work.

When we realized the full danger of the frightful fall in the birth rate, and women’s mobilization, a great emotion was felt in all medical and social circles. Three main opinions were put forward on the subject. The first one was that every power must be used to repulse the invaders. Therefore no women should be taken from the ammunition works, whatever the consequences might be for the children and for the race.

The second opinion was defended by Professor Pinard, at the Medical Academy, who said that expectant mothers ought to be replaced in the works by other women (chiefly, in his mind, of the well-to-do classes), and be compelled to rest for 5 months before their confinement, and 8 months after, during which time, of course, they were to receive an allowance from the State, the figure of 5 francs (one dollar) per day being proposed.

A third opinion was: “It is true that we must resist till the end, and true also that any shortage of ammunition may be responsible for the death of some of our soldiers; but, while they are sacrificing their lives in order that France may survive, how can we bear the thought that even one of our children shall die if we can prevent it? Let us make the women work, but at the same time let us do it in such a way that they may be able to bear children and to nurse them. The nation needs both labor and children.”

This last opinion, I firmly believe, was the best under the circumstances and will probably prevail in the future. I quite agree that it would be better if mothers could stay at home; but their work will become more and more a necessity both to enable them to earn their livelihood and for the prosperity of the nation.

Pardon me for expressing an opinion which is not yet very widespread in France and might seem a trifle revolutionary: There is some injustice in attempting to forbid a woman to work for the reason that she expects a baby or that she just had one. Experience shows that six weeks of rest before the confinement, and six weeks after, is generally quite sufficient to safeguard the woman’s health and prevent premature births. Moreover, if the husband does not earn enough, or if he has escaped his duty, the State must support her. This it never does very generously, less than the husband’s salary being granted, and the woman is compelled to live in a restricted way, because she is about to make the gift of a new citizen to the community. Most women hate the idea of living at the expense of the community, and I
think they are quite right. Work carries with it the joy of action and independence. Has the community the moral right to deprive a woman of it? Has it not struck you that these regulations always apply to the poor woman? Nobody ever thought of making a law to keep at home a rich woman who wishes to travel, to ride, to dance, or forbidding a lady doctor to visit patients with contagious diseases. This, however, is as dangerous for the baby as industrial work.

I hope that future laws will be based on the principle that the health of the poor or the rich woman alike must be protected, not only because she has a right to it, but because she represents all the future of the race. Let us struggle against all sorts of evils that threaten the child through his mother’s ignorance, exhaustion, or overworking, whether its cause be the care of the home or work outside. Let us adapt woman’s labor to her physiological characteristics; let us reserve for her those professions which need less physical effort. Let us ask for short days of work; not only do they exhaust the workers less, but they leave to the mother, to the father, too, more time to spend at home. Let us protect her in a special way when she is pregnant or feeding her child.

Medical inspection is indispensable, but is not sufficient. These women ought never to work unless sitting. They ought never to work during the night or carry heavy loads. They ought to rest six weeks before and six weeks after confinement. But we should not be satisfied with giving that piece of advice. We should endeavor to enable her to follow it. Every woman working at a gainful occupation ought to receive the whole of her salary during those days of forced unemployment. It is not at the time when the expenses are increasing that the salary ought to decrease. And furthermore, if because of her pregnancy the mother becomes ill or is compelled to give up her work as too hard, let us give her a decent indemnity.

And when at last the child is born I am convinced that it must not be deprived of its mother. The mother’s milk belongs to the child, as Dr. Pinard says, and I add that the child needs its mother’s care as much as it needs her milk. The new-born is not a finished being; the mother must finish her work with all her love. Whenever the mother is obliged or even prefers to work out of her home, let us allow her to do so, and let us manage things so that she can feed her baby while she is working.

But let us return to the situation in France. The maternity benefit law of 1913 compels every working mother to rest 4 weeks before and 4 weeks after her confinement if she wishes to be paid an allowance; this allowance varies from 0.90 to 1.75 francs per day (16 cents to 31 cents) according to the towns; 10 cents per day is added if she nurses her child. During the war it was seen that this was too little to
prevent the expectant mothers from working as late as they could; therefore, the aim of this law, which was to prevent premature births, was not attained.

The allowance could not possibly be raised for all the mothers, but the Government decided to raise it at least in all the factories which were directly under its control. One month of rest with a full salary was granted before the confinement and one month after with half of the salary, plus a fixed sum of 50 francs (10 dollars). Moreover, if the mother could prove that her health needed it and that she was nursing her baby, she could have three months more rest, being paid one-quarter of her salary.

A great number of women asked for this extension, which gave very good results, but many others preferred to go back to work because they needed all their salary. So it was necessary to make some provision to enable the mothers to continue breast feeding in order not to compel them to have their babies boarded out, which so often meant the baby’s death. As the employers did not realize the situation quickly enough, the law of 1917 was passed, in accordance with the wishes at the meeting of Bordeaux for the protection of infancy of the Committee of Women Labor and of eight very important women’s associations. That law gave the right to all nursing mothers to leave their work twice a day for thirty minutes. All employers of more than 100 women had to provide nursing rooms in their factories. A similar law exists in Italy and in several countries of Europe.

What have been the results of the establishment of these nursing rooms?

Before the war 52 of them existed in France in textile factories. A very charming one was established on the roof of the biggest trade shop in Paris. They all have been entirely beneficial for the child, and the mothers bore well the double burden, work and maternity. In a factory near Lille the same young woman bore and nursed two children in three years without any harm to her health. During the war many more nursing rooms have been created. Even before the law of 1917 I myself was asked by the Surgeon General of the French Army to organize one in a military factory where twelve hundred women were doing camouflage work.

It is, of course, very difficult in such a troubled period to account quite scientifically for the influence on mothers of breast feeding carried along with industrial work, so numerous have been the other factors of their material and moral life. Here, however, are some of the results.

Three of the 53 mothers in my nursing room have been ill. One of these had lost a good deal of weight since her husband was killed but ultimately regained her former weight without ceasing breast feeding.
Two others had tuberculosis; the first, aged 17, had lost both parents and several relatives from tuberculosis. The second's husband, a soldier, died by her side of the same disease. She was depriving herself of her food in order to feed on her little salary her husband and two other children. All the other 50 mothers were in good health in spite of the difficulties of their life. I therefore think that in normal times well-supported mothers properly examined by doctors could fulfill both duties without harm. Of the 53 babies of these mothers none died, and there was no case of transmission of contagious disease.

But I also believe that my duty is to show you the dangers of these nursing rooms. According to our experience a very careful inspection of the babies is absolutely necessary every morning on their arrival from home to prevent the spreading of contagious diseases. All the babies that do not look quite well must be put into the isolation room until the doctor has visited them. This inspection only serves its purpose if it is done by a nurse who has been specially trained in a hospital for that work. All the day nurseries or nursing rooms which did not comply with that rule have had epidemics. In my nursing room, where it was strictly enforced, although in several cases children were brought from home with contagious diseases such as scarlatina and bronchial pneumonia, there was no case of transmission.

Perhaps it might interest you to know some French definitions. We call nursing rooms, those which are reserved for breast-fed children in the factories. We call day nurseries the ones which only keep children up to 3 years. The maternal schools are those which take children up to seven years of age. We have 300 public maternal schools in Paris.

I must say that, as regards day nurseries, most of our pediatricians call them a necessary evil and ask for important improvements. The nurses receive only 6 francs per day for fourteen hours' work with the result that their technical knowledge is too little and the babies suffer. We felt the need of creating a special course of instruction for them, and in 1916 I was asked to organize it. The American Red Cross organized others in 1917 in several towns. The same year a central school for the teaching of child welfare was established in Paris. The teachers are the best pediatricians in Paris. The courses are supplemented by practical training in day nurseries.

During the war, too, we adopted a long-sought-for measure in order to raise the standards of the midwives. They all have two years' training, but from 1916 on the schools of midwifery have accepted only girls having completed the high school course.

I will show you how the war has benefited France in other ways, although in the main it has affected her so terribly.

First, the unemployment which became quite general after the
mobilization, and impoverished hundreds of thousands of workers, led to the excellent result that the principle of the unemployment compensation was applied for the first time and has come to stay with us. The allowances are paid by the State Labor Exchanges when there is no work, in order to avoid voluntary unemployment.

Another happy result of the war is the downfall of the barriers which used to keep people of different classes apart from each other. Since August, 1914, a national committee for relief has centralized the gifts and distributed them among the different relief agencies. It was organized by the dean of the Science College in Paris. French union leaders sat in the committee together with the Archbishop of Paris. That may be quite usual with you, but such a thing was not very often to be seen in prewar days in our country.

The children have become better protected. I must of course except those refugee children who had to flee, pursued by the enemy. I shall never forget those poor little ones who were brought to the hospital only to die there without any definite symptoms of illness. They really seemed to have been killed by the terror that still widened their eyes. Their mothers, standing by their death beds, looked hardly less overcome by fright. But if war has been responsible for the death of many children, it has, on the other hand, shown the necessity of cooperation. The Bureau for the Assistance of Mothers and Children gathered together all the experienced workers. The number of maternal and prenatal centers grew considerably. Social service was introduced into the lying-in hospitals, even though so many doctors and nurses had to leave for the front. I hope this will not only survive the war, but also develop considerably, thanks to the efforts of the many women who have become experienced in the war hospitals. The women now can no more lead the useless lives which satisfied them formerly. The American Red Cross has helped considerably in this movement, in Paris as well as elsewhere.

The bombardment of Paris began in March, 1918; I would not go as far as to say that it was agreeable to the Parisians. It came together with the German drive and the air-raids, so that it was especially disastrous for the children, who caught many diseases in the cellars. The consequence was that, for the second time, we sent as many children as possible to safer places, 75,000 in less than six weeks. The municipality paid two-thirds of the boarding expenses; the relief agencies made up the rest, and the American Red Cross gave $20,000 for clothing. The children stayed four months away from their homes. This cooperation between the open air agencies and the municipality will survive the war. Paris will send more children than ever to the country. War has also helped to create a favorable atmosphere for the establishment of a health ministry. Many efforts are made to cen-
entralize study and action in the lines of medico-social questions, and at this very moment an international conference is meeting to consider the hygiene work related to reconstruction of the devastated areas. The American Red Cross has organized in Cannes a meeting of the committees of the Allied Red Cross. Out of this meeting a lasting benefit will accrue to mankind.

I do not want you to think that because of these benefits I like war; yet one of the great benefits that war has brought to France is the brotherly love of America, which is more evident to me from day to day as I become familiar with your country. I ardently hope that our countries will understand and help each other better every day, that more and more French people will come to this country, where they will find again the love of life and learn much. I hope that we shall more and more exchange the children of our schools and the students of our universities. I hope, indeed, that all the citizens of the future will spend several years far away from their own homes. By that means only will they learn to know other civilizations, to respect other ways of thinking. By that means only will they become more conscious of human solidarity.
DAY NURSERY STANDARDS

By DR. S. JOSEPHINE BAKER

Director, Division of Child Hygiene
Department of Health, New York City

Day nurseries as conducted in the United States generally furnish day care for babies and children from a few weeks to five or even six years of age. The day nursery not only is a day home for infants, but, because it also cares for the child of preschool age, frequently includes a kindergarten as a prominent feature. As a rule, these nurseries are under the auspices of private organizations, or are endowed by individuals. They exist almost entirely as separate units and they may be located in buildings erected for the purpose or they may occupy rooms in a family dwelling or tenement house. Because of their diversity of location and control and the broad age group of the children under supervision, it has seemed of distinct importance to establish some method whereby their administration and maintenance might be standardized and definite and responsible supervision maintained.

The purpose of this paper is not to trace the history of day nurseries, nor, indeed, to discuss the extent to which they have been organized. It is proper, however, to speak of their importance with relation to the preschool age. It is well known that this age—from two to six years—is the neglected period of child life. Comprehensive public-health programs have been formulated and carried out for the benefit of infants and children of school age, but the child of preschool age has had no such advantage. The possibilities of this age group in preventive health work are of vast importance, but they have attracted little attention from public-health authorities. Even superficial investigations and surveys, however, will show that not only does this age period offer the best opportunity for constructive work in child health, but it is also in itself the time of life where many of our common preventable diseases are most likely to occur.

It has been estimated that in the United States 81 per cent of the deaths from contagious diseases and 85 per cent of the illnesses from contagious diseases occur under five years of age. Physical examinations of children of this age group reveal a prevalence of physical defects from 10 to 15 per cent in excess of those found in children of school age. Undernourishment has been found to be at least one-third more prevalent in children between two and six than in children from
six to fifteen years of age. These statements are a mere indication of the necessity of competent health supervision at this time.

It cannot be claimed that the day nursery as at present constituted is a predominant factor in the care of the preschool age child, but its possibilities are almost unlimited. This has been recognized in England, particularly, where provision was made in 1918 for the establishment of nursery schools under Section 19 of the Education Act, which went into operation August 8 of that year. Carefully drawn and most comprehensive standards are established by this act.

In the United States there are no universal standards at the present time. In fact, very few of our States or cities have established any standards at all and the day nursery, in a number of instances, has come to be looked upon as a commercial proposition, maintained for gain, and sometimes to the actual detriment of the children who are cared for.

Public-health authorities should not lose this opportunity to reach children of the preschool-age group. Day nurseries should be maintained under proper and competent supervision, which can best be carried out by governmental authorities. For this reason all communities should include in their public-health laws provision that no nursery shall be conducted without a permit therefor, issued by the local board of health, or otherwise than in accordance with the terms of this permit and with such regulations as the said board of health may issue from time to time. This permit should specify the number of children that may be received by the day nursery, and this number must not be exceeded in any instance.

Such supervision has been tried. In New York City the enforcement of such an order has resulted in standardizing the conduct of day nurseries in that city, and they are at present an active and potent force in the public-health program for child welfare.

Standards for day nurseries must take cognizance of the construction and equipment of the building in which the day nursery is to be located; the provision of the necessary rooms and their proper furnishing; general hygiene and maintenance of nursery routine; medical supervision of the children for the purpose of controlling epidemic diseases, as well as the prevention of disease in general and the correction of existing physical defects; and general physical care, including rest, exercise, and proper diet. In addition, the day nursery must offer to children of the two-to-six age group some mental and social training.

Construction and Equipment

Wherever it is possible the day nursery should occupy a separate building constructed for the purpose. It may be assumed that the location of these nurseries will always be where the need is greatest, which
generally means in the more crowded parts of communities. For this reason separate buildings are rarely feasible or available and changes in construction must be made in already existing tenements or dwellings. Frequently, day nurseries can be made part of community health centers or social settlements. As parents have become accustomed to these neighborhood houses, they are particularly desirable for this purpose, giving the mothers a sense of security when leaving their babies or very young children.

Adequate space, fresh air, and sunshine are the main requisites to be considered in the selection of day-nursery premises. If possible, outdoor space should be provided and outdoor life encouraged through the greater part of the year. If yards are not available, roofs can often be utilized.

Necessary Rooms

The minimum requirements for rooms are: (a) kindergarten or playroom for children from two to six years of age; (b) nursery with cribs for children under two years of age; (c) dining room; (d) kitchen; (e) lavatory and bathroom; (f) cloakroom; and (g) isolation room.

Kindergarten.—The kindergarten or playroom for the children from two to six years of age should provide at least fifteen square feet of floor space for each child. Adequate ventilation, lighting, and heating should be provided. Except in extremely cold weather, the ventilation should be maintained by means of open windows. The rooms should have the necessary kindergarten furniture, and, in addition, wooden or iron bed frames or bunks, so arranged that they may be let down from the wall and form low, easy day beds for the children.

Nursery for Children Under Two Years.—Separate iron beds or cribs must be provided for each child. They should be so placed that there will be a space of two feet on all sides except where the head or sides of a bed or crib touch the wall. Woven iron springs should be provided over which a folded blanket, protected by a rubber or oil-cloth sheeting, must be placed. Mattresses should never be allowed. A minimum of two hundred cubic feet of air space for each child should be provided.

Dining Room.—The air and floor space requirements heretofore mentioned must be maintained in the dining room, and adequate light and ventilation are essential.

Kitchen.—The standards in kitchen equipment relate to simplicity, accessibility, cleanliness, and ease with which both utensils and equipment may be kept clean. The exact type of equipment does not need to be standardized, but should be adapted to individual requirements. Order and cleanliness, however, must be insisted upon at all times.

Lavatory and Bathroom.—Washbasins should be sufficiently low to
be easily used by the children. Running water should be provided, and each child should have for his exclusive use a towel, toothbrush, drinking-cup, and comb. The toilets should be of a child size so that they may be used by the children without assistance. They should be of modern type, easily flushed, and in the ratio of one toilet to each twenty children. The use of common washcloths, towels, combs, and hair brushes should be prohibited.

Cloakroom.—A well-ventilated room for children’s outer garments must be provided. In this room the clothing removed from the children in the morning must be placed, and unless all clothing worn by the child on admission is clean, it should be changed for clothing belonging to the day nursery, or a suitable overapron, the property of the day nursery, should be worn through the day and each individual apron marked for identification unless a clean apron is provided daily.

Isolation Room.—An isolation room for cases of suspected contagious disease should be provided in each day nursery.

General Hygiene and Maintenance of Nursery Routine

The purpose of the day nursery is not merely to provide a shelter for children during the daytime. Its ideal must be further, to afford them complete protection from disease and to establish necessary health habits. The health control, therefore, resolves itself into several parts:

1. The control of contagious diseases. Such procedure should be:

   (a) The department of health and the nursery physician should be notified immediately by telephone of any suspicious rash or illness occurring among the children at any time, and children so affected should be placed at once in the isolation room.

   (b) The matron must make daily inquiry of each mother or other person bringing a child as to whether or not any sickness exists in the child’s home, and if suspicion is aroused as to the possibility of such home sickness being of an infectious nature, the child should be excluded and the department of health notified.

   (c) Each child as it enters the nursery must be inspected by a competent person, either the matron or the nurse.

   (d) The physician of the day nursery must make a systematic examination of every regularly attending child at least twice a month, such examinations to be made at least two weeks apart.

   (e) When any child who has not previously attended the day nursery applies for admission the physician should examine such child at once and exclude it from attendance at the nursery if any suspicious signs of infectious disease are present. If no infectious disease is found to exist, the matron in charge of the nursery should be given a certificate to that effect and the child admitted.
(f) Whenever, in the case of female children, there is evidence of any vaginal discharge on the clothing, a smear for bacteriological diagnosis should be made and examined to determine the presence of gonorrheal vaginitis.

2. Medical inspection and health supervision:
   (a) There should be on file in the office of the nursery an original certificate of health, signed by the nursery physician, for each child who is a regular attendant.
   (b) There should be on file in the office of the nursery a record for each child regularly attending, showing that it has been examined by the nursery physician at least twice a month, such examinations being at least two weeks apart.
   (c) Whenever, upon examination, a child is found to be suffering from any physical defect or abnormality or from any condition which requires health supervision or instruction, the case should be referred to the nurse, whose duty it should be to supervise the health care of the child until proper treatment has been obtained.

3. A nurse should be attached to each such nursery whose duty it should be:
   (a) To assist the doctor in the physical examinations;
   (b) To make daily visits to the nursery to treat minor ailments, make regular health inspection of the children, and give health advice or aid when indicated;
   (c) To be responsible for the cleanliness of the children and the maintenance of the health regulations of the board of health with regard to sanitation, hygiene, and health care;
   (d) To visit the homes of the children at regular intervals, instructing the families as to the individual needs of the children, with reference to home hygiene, feeding, and physical care.

4. Care of infants:
   (a) Adequate care must be taken of the milk, bottles, and nipples used in infant feeding.
   (b) Individual formulae should be prescribed for each child after examination by the nursery physician.
   (c) Proper infant care and hygiene must be maintained at all times.
   (d) Each infant on admission must have its clothing removed, be given a bath, redressed in fresh clothing belonging to the nursery, and kept in such clothing during the day.
   (e) All diapers that may become soiled during the day must be immediately placed in water and thereafter thoroughly washed and boiled. No diapers in an unclean condition should be removed from the premises.
5. Care of children from two to six years of age:

(a) Each child from two to six years of age should receive one hot meal in the middle of the day. This meal should include one hot meat or vegetable dish, with soup, and cocoa or milk. Bread, fruit, and eggs should be included in the dietary.

(b) Each child should have a morning lunch at eleven o’clock and an afternoon lunch at four o’clock, consisting of a glass of milk and bread and butter.

(c) The total amount of milk supplied to children between two and six years of age should not be less than three pints per capita per day. Part of this may be given to the child in the form of soups, custards, or other types of food.

(d) Each child should have a suitable rest period at a regular time each day. Experience in the open-air classes has seemed to prove that the morning rest hour is the most desirable. Children may be given their morning lunch at eleven o’clock and then required to lie on the cot beds which, when not in use, fold up against the wall. They should be encouraged to sleep during this period, and sitting up or talking should not be allowed.

(e) Regular and systematic exercise is essential. Group games, simple setting-up exercises, or unrestricted play may be allowed. Biologically, children of this age need much activity and opportunity for free action. Lesson periods, therefore, should be short, and children should not be required to sit still for more than a few minutes at a time. Chairs should be movable, and the child’s interest should be kept up through the type of educational games which allow free movement and free interpretation. Whenever exercises such as deep-breathing drills, setting-up exercises, or other vigorous forms of physical exertion are practiced, the windows of the playroom should be open, except in severely cold or stormy weather. Whenever possible, the exercises mentioned should be taken out of doors, either in the yard or on the roof. In warm weather, practically all the classroom work should be done in the open air.

(f) Children must be kept clean at all times and particular attention should be paid to the condition of the hair.

During the past few years it has become evident in some of our large cities that the work of the day nursery must be extended to provide a certain amount of night care in emergency cases or for short periods of time. Health visitors have long felt the need of some place where little children might be temporarily cared for, day and night, while the mother was temporarily incapacitated by illness or necessary absence from home. In New York City appeal was made to the day
nurseries to meet this problem, with the result that several of them set aside one room for a night nursery. A nurse was placed in charge and children were kept at the nursery, day and night, for periods not to exceed one month.

The possibility of thus utilizing the nursery plant is a valuable addition to our program for child health. Such use, however, needs careful supervision. If unrestricted, it may easily lead to making the day nursery an institution taking entire care of children for long periods of time. It would thus, in great measure, defeat its own purpose by detaching the child wholly from its home environment. Properly restricted and supervised, however, the need for temporary night care of children can be met by utilizing the day nursery plant at a time when it is generally idle. No such work, however, should be carried on without a special permit which indicates the purpose and the extent to which such care may be given.

The development of properly supervised day nurseries or nursery schools for children under six years of age may well be considered as an important contribution to the solution of our present problem as to how to care for the child of preschool age.

DISCUSSION

Dr. Mulon (War Department, France): I should like to say that the day nursery will be a simple failure, and worse than any bad conditions in the families, if it is not placed under the supervision of a physician. And not only that, but it must be under the supervision of a nurse, and a sufficiently paid nurse. We had a long experience with those things in France; and if we had not changed conditions in our day nurseries we would still have, as we formerly had, a very high mortality in those institutions.

Miss Myrn Brockett (Mary Crane Nursery, Chicago): The standards outlined by Dr. Baker present a basis for care of children, which, if adopted and practiced in day nurseries and other institutions caring for children, would mean much in the lives of the children under such care.

The entrance physical examination should result not only in the exclusion from the nursery of children with communicable affections, but also in the formulation of a health program for each child, the nursery assuming the responsibility for carrying out the plans. This involves intimate and more or less individual attention to the diet of the children, which, in day nurseries, makes necessary also a knowledge of the home diets. If surgical or hospital care is advisable, the nursery should see that it is provided. There should be also, as the test of effective treatment, the monthly weighing and measuring of each child, with careful note of gains or losses and provision for corrective treatment when needed. The children whose physical examinations result in their exclusion from the nursery should be referred to the proper agencies for treatment. When an infant-welfare station is available, it is an excellent plan to register the nursery children of suitable age and to cooperate with the infant-welfare nurses in carrying out the health plan.

Dr. Baker's recommendation of home visiting is a recognition of the fact that effective service to the child must be based upon a knowledge of his home environ-
ment and that the family rather than the individual child must be made the unit of effort. Such a plan, in my opinion, involves the assumption by the nursery of the care of the older children of the family. If the nursery accepts the young children of a family, thus releasing the mother from the home, and does not accept the responsibility of the care of the older children, its social contribution is likely to result in more harm than good to the general family situation, because it deprives the older children of the mother's care and also of their interest and responsibility in the care of their younger brothers and sisters and leaves them to the dangerous influences of the streets and alleys. In a nursery which has been planned for the care of young children only, this work presents a difficult problem but one which the nursery can and should accept.

The contact with the home and family, besides furnishing a basis for nursery effort, should also make clear the financial situation of the family, so that if the income of the working mother is cut off by illness of herself or of a child, the relief-giving agency will be prepared with data at hand to formulate a definite plan for relief, if necessary, during the period of distress.

The object of day-nursery effort is fundamentally to raise the standard of home and family life, and follow-up visits to the home will readily reveal whether or not the nursery service is helping to accomplish this result.

Any adequate service to a normal child must include a plan for his mental development through suitable occupations and play. Most of the day nurseries of good standing provide a brief kindergarten period for children of preschool age, either at the nursery or at a near-by school or settlement. The day nursery, however, offers a most excellent opportunity for the enlargement of the kindergarten plan to include the activities of the child for the entire day. The program for the day should be carefully planned under the advice of experts in the various lines of nursery service. The kindergarten teacher, the food economist, the nurse, and the physician should all be consulted in determining the plans for the hours of sleep, the mealtimes, diets, playtimes, and the character of the occupational work and of the play.

The participation of the child in the work involved in his care is of great interest to him and is valuable educational material. The enlargement of the day-nursery ideal to include that of the all-day kindergarten, giving the children opportunity to express themselves in pleasurable and helpful activities, should be accomplished under the direction of the trained child teacher and with definite educational intent. The technique of the child's activities—the setting, serving, and clearing of the tables; the washing, drying, and setting-away of the dishes; the toilets and baths—should be as carefully worked out as is the rhythm, circle, and table work of the short-time kindergarten session. Such a plan requires the all-day services of a kindergarten teacher of a high type. Further, if this work can be conducted under the inspiration and supervision of a good kindergarten college, it is of great value to the nursery and offers to the kindergarten students an opportunity for the most advanced type of kindergarten experience in their work as cadets. For the past two years the National Kindergarten and Elementary College and the Mary Crane Nursery of Chicago have been working out such a plan with most gratifying results for both the college and the nursery.

The organization of day nurseries has usually been the result of the efforts of a group of philanthropic women who have sought, by providing daytime care for children, to enable mothers who must work outside the home to keep their children with them rather than place them in institutions. The initial efforts have been conducted as a rule on a small scale, an old house or apartment being adapted, to the purpose, with equipment partaking of the same makeshift character. The
gratifying returns in child welfare and happiness have had a tendency to make
these makeshifts acceptable, and the need of a better type of housing and furnish-
ing has often been lost sight of. A careful study of ideal housing and equipment
for day nurseries would be most helpful in making a differentiation between expediencies and ideals and would be a great help in the work of standardization.

A similar condition has existed in regard to the nursery staff. The oppor-
tunity for intimate and effective service to the families under nursery care is quite
worth the efforts of the best-trained women. There should be a capable graduate
nurse to supervise the carrying out of the health programs and other matters per-
taining to nursing and hygiene; a child educator with ability for creative work
to develop and standardize an all-day program for the nursery child; a trained
household economist to direct the selection and preparation of food, the buying
of furnishings and equipment, and the general household plans; and, further, a
trained social worker to bring about effective cooperation between the nursery
and home life. To secure such expert service a cooperative plan might be worked
out by a group of nurseries. With the exception of the kindergarten teacher,
part-time work would seem to be sufficient for the other services. This group
work would also have a tendency toward consonancy of day-nursery effort, the
supervision of the educational work of the group by the kindergarten college
accomplishing a similar result along that line. These expert workers might be
affiliated with a central organization of day nurseries, acting under the direction
of a general supervisor or secretary, who would coordinate their work and inter-
pret it to the members of the governing boards of the various nurseries and to
the central organization.

There has been in day-nursery work the whole-hearted purpose of bringing
happiness to the child in kindly, loving service. At the same time there has been
a proneness to isolation and a too great reliance upon sentiment for guidance in
methods. The past few years, however, have marked a distinct progress along
this line and have resulted in a more cooperative and intelligent effort to bring
real happiness to the child through a broad interpretation of his needs in terms
of the highest standards of child welfare.

Mrs. Eleanor Barton (Women's Cooperative Guild, England): I am going to
take an entirely opposite point of view from that which has been given you this
evening. I am absolutely opposed to day nurseries. I think that day nurseries
are part of the great industrial problem. I wonder, if we asked each person
in this room what is the greatest need of a child, how many varieties of answers
we should have. I think we could all agree upon one thing, that the child
needs most of all its mother; and that is the position I take. Dr. Baker did
mention that the day nurseries in New York had been especially helpful dur-
ing the influenza epidemic. I will bow to that statement; I think that is right.
I think there ought to be some provision for those women in the working-
class homes, where the mother is everything—work-mate, washerwoman, cook,
and everything combined; when she is stricken down, there should be some
provision for the care of her children.

But if that means that we are to take care of children whose mothers go into
industry for someone else to make a profit out of them, then I am totally opposed
to it. With all the troubles we had in England during the war, with all the women
in industry, I consistently took this stand. I took this stand, not because
I am afraid of women going out to work. I am a suffragist. I believe a woman
should do the work she is best fitted for. But Dr. Mulon has told us of the dif-
ference between the industrial mother and the other mother. I want to see
the industrial mother more like the other mother, and in regard to the welfare of
her child, it seems to me that she is not becoming so through the setting up of
day nurseries.

We had during the war rather an interesting experiment in the town that I
came from. We have a very progressive medical officer of health, with his
staff, and a very good welfare center for the children, where the babies are
weighed, where they are inspected, where their mothers are advised as to the
feeding of the children, and so on. The children are weighed each week, and their
progress watched. This town is a large munition-manufacturing center, where
many of the women worked. A day nursery was established there, in a good
house, with an adequate number of attendants for the number of children, and
so on.

They carried on the same experiments that we do in our child-welfare centers;
they weighed the children, and advised with us as to the food, and so on. But
those children, in spite of being well cared for in this well-equipped day nursery,
did not make the same progress as did the children of the mothers from our poorest
quarters who brought their children to our welfare center. So we were forced
to the conclusion that, even though the child was being cared for in the day nurs-
ery, with fresh air and baths and all the proper care, there was something that
was lacking; it did not come up to the same standard as the child in its own
home and under the child-welfare direction of our medical officer of health. It
is not only the fresh air and the cleanliness that the child needs; there is some-
thing else, and that something else the mother alone can give.

I wonder if we have considered these things? When we consider them we
ought to go down as deep as we can, because there is no doubt that the work of
this conference will carry great weight in the States. We have all sorts of opinion
here. We have really intellectual opinion, and people are going to watch what
we do. I do not want to make a false step, if it is possible for us to do other-
wise. It seems to me that we must consider keeping the mother and the child to-
gether. To separate them during the war might have been allowed, from the
fact that our women were wanted in industry—though I never was convinced of
that, because I found many women, who had no children, that might have been out
in industry. They could have helped the mothers to stay at home and attend to
their children. But now we have no longer war conditions. We are setting up
new standards, and we are having new ideals—and ideals precede practice. So let
us get our ideals right, and the practice will be right; let us not separate mothers
and children.

Some people will say, "It will help industry." They told us that in the early
days, when very young children were going to work in the cotton mills; and
when we tried to raise the age of the children, the cotton manufacturers opposed
us. They said: "We must have these children in the cotton manufactories, be-
cause their fingers are more supple than those of adults." Well, we succeeded
in taking our children out of the mills: we did not listen to what the cotton manu-
ufacturers had to say; we took the children out, and the cotton mills are now flour-
ishing. The very same people who made that complaint have made their fortunes,
and others have made their fortunes, out of cotton mills. The same will apply
very largely if we take women out of industry. I am very certain, at least, that
we have no reason to force mothers into industry.

Now, if you are going to have day nurseries, what sort are you going to have?
If you are going to have them, you must have the very best. None of us, even
if we were convinced that day nurseries are necessary, would approve of anything
not the very best possible. You must have them under public-health authority:
you must have gardens, and baths, and everything that will make them thoroughly
equipped. In addition to that, the people who attend the children must be well
tained. And with regard to the health visitors, it is not only training that is
important; it is their sympathy and their way of approaching the family. Now
that all means money; you must have money to set up your day nurseries, and
you must have money to train the people who take care of the children. Well,
why not spend your money on the mother? Why not give it to the mother, and
let her stay in her own home? We in England at the present time are discussing
some of these problems. We are discussing family endowment, which, it seems to
me, will solve the problem of these children:

And it seems to me that if we have found during the war that it was good to
give the mother an allowance for herself and an allowance for each child, and if
we are able to prove, as we are able to prove, that during the war children
have been better kept and better fed, and more healthily nourished, and have
had more working ability, and that people have been able to send their children
from the elementary schools to the secondary schools through this allowance, why
not continue this allowance in peace times?

I am against day nurseries, because I do not think we should send our women
out of their homes to go into industry. I am not against day nurseries when
they are necessary. But I do agree with Dr. Mulon as to the great difference be-
tween the industrial mother and the other mother. The other mother may go
out to work if she is a doctor or a teacher; but she has her own time each day.
The working-class mother has not. And I know that all the country will benefit,
and the children will benefit also, if the women do not go out into industry. Do
not let us advocate things that will be detrimental to the children of the future.

Dr. Mulon (War Department, France): Perhaps we are too timid in France, but
we never put in the same room a nursing baby and an older child, because
we are very anxious to prevent contagious disease; and if we put the two classes of
children together contagious diseases would spread. For the same reason we
keep apart the baby that is bottle-fed and the baby of the same age that is breast-
fed, because we very often find that they are not of the same standard; a baby
that is bottle-fed gets contagious diseases more easily. In the day nursery that
I should like to have, we should have many rooms—rooms for bottle-fed babies,
nursing babies, babies between two and three years, and so on. Every room
should be different—the personnel, the food, and the education, if we can talk of
education for such young babies. And education has to begin from the first.

I perfectly agree with Mrs. Barton that mother and child must not be parted.
And it is for that reason that we have nursing rooms. But if the mother is obliged
to work, what can we do? You say: "Do not spend the money on the day nursery;
give it to the mother." Well, the day nursery may cost a great deal, but the
money would not be enough for the mother; it would be only enough to keep her
from starvation. So if a mother is not supported by her husband, she must
choose between the best for herself and the best for her child. There is only
one other thing that she may do. She may send the child away to a peasant
home; and in 50 per cent of the times she will have no chance to see it again.

We have nursing rooms not only for our factory workers, but for the shop
girls. We have a charming nursing room now in one of our biggest shops, on
the roof, and the babies there are beautiful. Before it was established, those girls
were obliged to send away their babies and the babies died. A large portion of
the babies sent away to boarding homes died. But all these children are very
beautiful; and their nursing at those rooms means not to separate the mother from
her children.
Mrs. Barton: I have just one other point. This relates to our big industrial centers, where our women are going out to work. In the cotton mills they go out at six o'clock in the morning. It is notorious that in those northern towns of ours, where married women go out to work, there is a heavier infantile death rate than in any other part of England. And it is not only that the death rate is very high, but a number of the children are weakened. And I remember that a gentleman living in the South of England said to me, "Do you know what impressed me most when I first went to the North?" I said, "No, what was it?" He said, "The small stature of your people." "How do you account for it?" I asked; and he said, "It is their mill life"; and I said, "Yes, because their mothers were not able to give them what they needed in their child life."

By putting day nurseries in the munition centers, what is going to happen? The hours are even worse than in the cotton mills. In the cotton mills, it was from six in the morning to five-thirty in the evening; but in the munition factories there are three shifts; and the woman would be taking the child to the day nursery at five in the morning, and taking it home at two; or taking it to the nursery at two and taking it home at ten; or taking it to the nursery at six in the evening, and getting it back the next morning. A suggestion was made by Dr. Baker that the day nurseries take children for the night, as well as for the day. Of course, Dr. Baker said that should be limited to one month. But our women have been working that way for nearly five years.

You will have to remember this also: I think Dr. Mulon said that the French women could not work more than seven or eight months on war work without a breakdown. Think of women working under those arduous conditions! If a woman works those eight hours, she does not go home and rest; she goes first to the day nursery and gets her baby, and then she has to go home and provide a meal and take care of the baby until the next day, and so on.

If you will look into the matter, it is very pleasant to talk about the bath for the children, and the kindergarten, and all those things. I agree with our friend from Chicago; I think taking the older children off the streets is a good thing. But it seems to me that the people who are studying this question are too timid. Let us not be nervous. If we think a thing is right, let us not consider present manufacturing and industrial conditions; let us have an ideal. If you do not get your ideal, you will at least have the satisfaction of knowing that you yourself have worked the thing out in what you think is the right way; and if people do not carry out your ideal, theirs is the blame, and not yours.

Dr. Mulon: I should be glad to answer that. When we speak of the ideal, I agree with Mrs. Barton; but I cannot foresee the future. I live in this time, and I speak only of our actual present conditions. I know that it would be better to have a very nice home, and that the mother should stay at home; but I speak only for the mother that can not stay at home. However, the working of mothers at night must be absolutely prohibited. No woman must work at night, under any conditions. In our country the mortality among the children of working mothers is very high, just as in Mrs. Barton's. In all industries it is the same. About 80 years ago, around 1830, a man that had a factory in France, who was very generous, installed a day-nursery room in his factory. That made conditions better than they had been.

It is not my own opinion merely, it is the opinion of many doctors who have the supervision of factories, that the death rate among children in the industrial cities where the mother is obliged to work, is appalling. One year the police board's figure was 86 per cent among the babies whose mothers had to go out to work and leave their children to be taken care of by some old woman. But when those
children went into nursing rooms, there was practically no mortality among them. I have had no child that died except one who died two months after having left the nursing room.

Dr. Jessica B. Peixotto (University of California): I venture to speak because I come from the State of California, which is, I think, one of the few States that license day nurseries; and I am a member of the State board of charities and correction, which has the power to do this licensing. California is not an industrial State in the strict sense of the word; and yet we have our industrial centers, and in those centers day nurseries have tended to grow. I take emphatically the position of Mrs. Barton, and when I went on the State board of charities I resolved to see that something was done so that day nurseries should not grow in our State. If the board of management of the nursery really investigates the family it finds often that the situation that seems to require the mother to add to the income can be worked out in some other way than by separating her from her home and her family. Perhaps I am speaking for a more prosperous State, and for a less crowded part of the country; California is not what the Atlantic coast is, I know. But ordinarily it has been found that the people who send their children to the nurseries are following the traditional notion that if the income is at all weak they must not fight to force up the man’s income, but must see that the mother ekes out the family income and that every child who can be pushed into industry also ekes out the income.

As an entering wedge between the practice of kindly, friendly, cordial care of other people’s children, which is the ideal of the day nursery, and the idea which I share with Mrs. Barton of abolishing the day nursery as fast as possible, it seems to me that it would be of great benefit to require every case in a day nursery to be treated exactly as a case in any other type of relief. That is, a definite inquiry into home conditions should be made, and a plan devised for improving the family conditions so that an adequate living wage is received. The responsibility is put upon a board of managers, and, if they are the kind of people that are running nurseries in our part of the world, they will face it. And facing it, they will reduce the population of nurseries wonderfully. It may be that in other parts of the world more crowded conditions will not permit early adoption of this plan. In that case it seems to me that every worker for children ought to join the fight for a living wage for men, and to see that the women do not go into industry. Thus the children of this country may at least have a potential home through an income which is reasonable.

Our children’s agencies fight the nurseries, because they say that they definitely bring about increased infant mortality. The little children coming together touch each other, play with each other; the children cannot be examined every day. The theory of nurseries is good, but the practice does not work out. So the best agencies think that the nurseries are a mistake, and do not place their children in them.

In San Francisco we have a widow’s pension system, which gives $12 for each child, $12 for overhead, and $12 for the mother. Even if there are four or five children, the family is taken care of out of county and State funds; there are county funds for deserted women.

Dr. Mulon: We have been told about contagious diseases, and that it is not possible to prevent them, because when the child goes home he is in contact with his brother or his sister, or the rest of his family, and so gets contagious diseases which he may bring to the day nursery. That is perfectly true. That is the greatest danger of the nursing homes and the day nurseries. But it is a
standards of child welfare

point on which I ask permission to insist, that if you have the proper personnel you will not have that condition. Every morning the child must be inspected before entering the nursery. In the interval when he is undressed, when the nurses see him completely, they can examine him. We have never had a case of transmission of contagion in my little home. And because my nurses were very well trained, they have been able to discover diseases in the children coming to the home which a mother would never have seen or asked for medical advice about. And some of them were diseases that could have compromised all the future of the child. So that the children need supervision. I am very sorry that I cannot show you my children; I think that would be the best argument.

Miss Julia C. Corcoran (Factory Inspection Department, Connecticut): My experience has been very similar to that of Dr. Baker, because I work with working women. And I would like to ask when you would consider a day nursery not a day nursery? I would consider it not a day nursery when it is a room in a factory set apart for the care of the children of the working mothers. And I think that public sentiment should get back of the movement for mothers' pensions. I have investigated a great many cases of what were supposed to be worthy widows, and just as Mrs. Barton said, they have their housework to do, and of course their housework is neglected. During the war I pleaded with many men and women who wanted to put money into day nurseries, to put the money into these different families and keep the mothers at home. In looking up the family budgets, we found in many cases the income was ample to keep the mothers at home. But the pressure for these war workers was so great, and is still so great, that now we have our industrial day nurseries supported by our manufacturers; and I am afraid they have come to stay. And I am afraid that is what the manufacturers want—just as Mrs. Barton said as to the textile industries.

If there is still a need for the married mothers to enter industry, a visiting housekeeper should be employed to cook their food and keep their homes in order; the mothers must not be obliged to go home and do their housework. I am very much opposed to the industrial nursery, although I am afraid it has come to stay, unless you work to secure mothers' pensions or State aid for widows; and even then there may be day nurseries, because there may be women who will not accept the pension, but will go out to work. In Connecticut provision for such State aid for widowed mothers who can give good care to their children became a law at the last session of the legislature.

Miss Lydia Burcklin (Friendship House, Washington, D. C.): I think the fact that we have had practically no standards for our day-nursery work in this country is giving some worth-while work a bad name. I have been connected with a day nursery for ten years. We have never taken a child from its home when there was any other possible plan. We cooperate with every agency that we have, and we believe that the best place for the child is in the home. We have no mothers' pensions; but in a case where a mother can give good care to the child, we take that child away only temporarily, or while we are working out some plans so that the mother can remain in the home.

I feel that it is too bad that there should be nurseries connected with industries. That is all wrong. I have visited nurseries in many cities, and I have been heartsick over the conditions I have found in some of them. Their one idea seems to be how many children they can take care of. They have no idea of proper supervision, physical or moral. Now, that is not the kind of nurseries we should have. The best possible examination should be made, and the thing should
be done that seems to be best for the child and for the family. I am sorry to say that day nurseries are a necessary evil in our present state of social development.

Miss Brockett: I wonder whether the conditions cited by previous speakers would hold true in a nursery operated on the plan which Dr. Baker gave us? I should like to ask Mrs. Barton whether the statement which she made in regard to the health of the day-nursery children as compared with children in their homes referred to children over nine months of age, which is accepted as the minimum age of nursery children in this country?

Mrs. Barton: I could not say what the ages were, but at any rate, the ages of both classes compared were alike. Children visiting the child-welfare center were compared with children of the same age who went to the day nursery. Everything was done in an impartial way; and, although I was against day nurseries, I was surprised at the result.

I am against day nurseries, because I think they are at the center of everything that is wrong. It seems to me that it is not the socialists who are going to break up the homes, but it is industry which is going to break up the homes. It was with that point of view that I was watching the result of the comparison, and I was very much surprised to find what it was. The people who conducted the test were very impartial; they took children of the same ages in each case.

Miss Brockett: I thoroughly agree with you about children under nine months old; and I do not know but that I would put the age at a year. But I cannot believe, from my own experience at least, that it is true of older children, or of children over one year old, who receive nursery care; I believe the nursery children over a year old are better children than the average children cared for in the home—at least, that is true in our city.

Mrs. Barton: That may be true as to children receiving the best of care in a well-equipped nursery.

Dr. Mulon: We can compare only the child that is boarding out and the child in the factory nursing room. I think everybody is of the same opinion, that the home is superior to any other solution. But we must bow to the necessity for the mother to work; and decide whether it is better for her to have the child boarding out, or to have the child in the day nursery. If you can give the mother a sufficient allowance, that is very well—so that the baby will be in a beautiful house, with a bath, and under hygienic conditions; then I am sure that the baby will be better off than in the nursing room.
DENTAL CLINICS

By MAJOR LEWIS TERMAN
Leland Stanford Junior University

I was especially impressed by one of Dr. Winslow's remarks, that America has progressed not nearly as far along certain lines of socialized medicine and hygiene as some other countries in the world. I am afraid that is true. In regard to dental clinics, before the war the promise was that before very long we would be among the leading nations in the world. I understand that the tremendous expenses along other lines, the large amount of energy that had to go to other things, have, for the time being, prevented further developments in dental clinics, and in some cases even lost us some of the clinics which had been established. I hope that everyone here will make it a point to use his influence to restore that kind of work and to bring about its increase.

Perhaps many of you remember from your childhood reading of Don Quixote, that the author in telling about one of the hero's unfortunate adventures, in which he lost a number of teeth, put into his mouth these words, "Alas, a tooth is more precious than a diamond." I suppose Cervantes meant that as a humorous exaggeration, and doubtless we so took it when we read it, but after all these years of development along lines of preventive medicine, we can now hardly take it as exaggeration. I am sure that no one here would exchange his thirty-two teeth for an equal number of precious diamonds.

You may remember, too, that a few years ago Dr. Osler stated that in his opinion the evils which came from neglect of dental hygiene were more serious in the long run than the evils produced by alcohol. That, too, we probably took as a pleasant exaggeration by that prince of all jokers, Dr. Osler, and I am not sure whether Dr. Osler himself meant it literally. When we think of it, however, it does not seem so unreasonable, because the affections of the teeth concern practically ninety per cent of the population, while the evils of alcohol affect immediately perhaps only a fourth, or a fifth, or a tenth of that number. Dental caries at any rate is said to be, by the best authorities, the most widespread of human diseases, one from which probably ninety per cent of the people suffer. At least, extensive investigations in our schools have shown that ninety per cent of school children have one or more decay.
ing teeth. More than that, these investigations have shown that something like twenty per cent of all the teeth of school children are in a more or less serious state of decay. That is a very serious, humiliating admission that we have to make, considering the progress which scientific medicine has made; especially humiliating since dental caries is a disease the cause of which is perfectly well known.

We know that it is theoretically a preventable disease. We know that a clean tooth, a tooth that is kept clean, cannot decay. We know that probably something like forty or fifty millions of dollars would put all the teeth of all the children in order as nearly as dental science is able to do it. We know that something like twenty-five or thirty millions per year—it might run a little higher—would be sufficient to keep them in order. And yet the conditions which I mention still exist, although of course cities here and there have done and are doing a good deal to better the conditions.

I shall not spend time in enlarging or in emphasizing the evils which are produced by decaying teeth. You know the facts as well as I. But I would like to emphasize the fact that dental caries is a disease which affects predominantly children and youths. Teeth which are kept clean and sound until the individual is 25 years old are likely to remain sound until a good old age. Teeth which are neglected until the age of 20 or 25 are very often past salvage. I think there is nowhere else another case in which an ounce of prevention will come as near literally being worth a ton of cure.

Besides dental caries I want to emphasize ulcerated teeth because we are likely to overlook the seriousness of that disease, and especially its frequency. Of course we know how serious it is in a way. We know that it is the cause of a very great deal of rheumatism, heart disease, and many other ailments. We know that by this condition children are frequently kept in a chronic state of ill health, and their very lives even jeopardized. We do not as a rule know so well how common it is. In two or three school surveys I found (many others have found the same thing) that approximately one child in a hundred at any one time in an ordinary school has an ulcerated tooth. It may not be an acute ulceration at the time but it is one which involves a condition present that is productive of injury.

The only way I know to get the teeth of all the children put in order is to do it in connection with the schools. If there were any other way I should not in the least hesitate to champion it. I am not one to urge the schools to take up duties which could just as well be performed by some other institution or means. The plain fact is that in the very best communities as a rule something like 60 to 75 per cent of the school children have never gone to a dentist. This, in addition to the fact that approximately 20 per cent of all the teeth of our school children are at
least in initial decay, is sufficient argument for the extension of dental clinics.

Then how different is the problem of getting the work done in a dental clinic from that of persuading parents to hunt up a dentist, and have the work done at their own expense. Probably 20 to 40 per cent of the families in the United States really cannot afford the services of a good dentist. Having school nurses go over and over again to the home to persuade the parents to take appropriate action, involves an almost inconceivable amount of lost motion. It can all be done in the schools with a fraction of the expenditure of energy and at no very great expenditure of money. The time will unquestionably come when the school dentist will be considered just as necessary a part of the school system as the school principal himself. The work can be carried on in the schools wholesale and therefore very cheaply compared to the price that must be paid the private practitioner.

I want to protest, too, against the custom which is common in a good many cities of putting the matter on a charity basis; having the associated charities, for example, investigate a family before the children are allowed to go to the school dentist, and thereby branding the parents as paupers if they cannot afford to secure the services of a private practitioner. There is absolutely no justification for this, and in a good many cities an entirely different method is adopted. The dentists are employed, and all children who want to go to them are encouraged to go.

Of course there are people who will say even yet—it was very common for it to be said ten years ago—that this is an undue interference with the rights of a great profession, the profession of dentistry; that dentists have spent a great deal of money in their education and deserve an opportunity to make a living from the profession for which they have prepared. Of course the same argument once was brought against free schools. There were many private teachers who had invested a good deal of money in private schools, and education at public expense was in a way a transgression on their chosen profession. Of course we no longer consider that argument for a moment. We will not consider it for a moment in connection with dentistry or even medicine, when we have once put the question in some such form as this. And I would like you to put it this way in your thinking, namely, Is disease a resource to be conserved for the benefit of a profession, or is it an evil to be gotten rid of?

There is one other point I want to make, namely, that in our school dental work we ought, wherever we are unable to take care of all the teeth of all the children, to emphasize especially the work with the younger children. It is too bad that we have to neglect any, but if the schools in the city cannot afford to take care of all, they ought first
to take care of the teeth of the children in the first two or three grades. Thus after a while the task will have been pretty well accomplished for all children.

**DISCUSSION**

**Sir Arthur Newsholme** (Late Principal Medical Officer, Local Government Board, England): I should like to express my hearty endorsement of what Major Terman has said as to the extreme importance of the public dental services. I am sure those would be best established in most instances in connection with our dental school service.

I happen to have been a member of a departmental committee dealing with the question of dentistry in the United Kingdom, and I would like to read to you two sentences from the report made by it. The first sentence runs as follows:

"The evidence before the committee as to the condition of the teeth of most of the people presents a picture of almost hopeless neglect, except in so far as it is relieved by dental work established by grants from the Board of Education and the Local Government Board."

In regard to those grants I should say the Board of Education have been doing a large amount of work in the treatment of teeth in the school child. It is only a small fraction of what needs to be done, but rapid progress has been made. In addition, there are grants to public-health authorities of half the total expenditure for the dental treatment of expectant mothers who attend prenatal clinics and for the dental treatment of the young child in the preschool period; and these three services are being linked up together so as to provide something towards a public dental service.

In that connection I will read you another recommendation of this committee which is far-reaching and which I think will show to you how far we are advancing towards the socialization of medical service in Great Britain. The recommendation is as follows:

"The provision of adequate dental service to meet the existing needs is impossible at present, owing to the shortage of dentists, but your committee are strongly of opinion that simultaneously with the enforcement of prohibition of the practice of dentistry by unqualified persons, the nucleus of a public dental service should be set up, and dental treatment for such service should be available free of charge for persons needing it. We think that service should be established as a definite branch of public-health work and should be entrusted to the public-health authorities."

**Dr. H. J. Gerstenberger** (Babies' Dispensary and Hospital, Cleveland, Ohio): Major Terman, in his address, emphasized the importance of cleanliness in preventing caries in teeth. I should like to call attention to the very great importance of the state of nutrition of the child. I believe that the dental work, that is the curative work, is going to be reduced more by the protection of the proper nutrition in the child than by the cleaning of the teeth. I think that if we will prevent rickets, we shall reduce dental caries to a minimum.
THE SCHOOL CHILD

NUTRITION CLINICS

By DR. WILLIAM R. P. EMERSON
Boston, Massachusetts

All children of preschool and school age may be divided for the sake of discussion into three groups: the sick, the well, and the malnourished. The sick are cared for at home and in the hospitals. The well are inspected and receive a certain amount of preventive care from school physicians. The malnourished, about a third of all, receive no treatment for their malnutrition as such because they are considered well by both private and school physicians. These underpar children make it impossible for the schools to reach reasonable standards of achievement. At the same time the system of school organization compels the teacher to attempt to crowd the pupils through the various grades at high pressure, thus adding to the burden of the under-developed and delicate child. As a result 20 to 40 per cent of those graduating from elementary schools are physically unfit.

It is remarkable that this group of children has received so little medical attention. They pass through hospital clinics unnoticed because malnutrition among older children is not considered a pathological condition.

Weighing and Measuring

The simple procedure of weighing and measuring each child will identify all but the border-line cases. All children habitually 7 per cent or more underweight for their height are not only undernourished but malnourished, retarded in both weight and height from one to four years.

Nutrition Clinics

The object of the nutrition clinic is to identify this group of children, and then on the basis of physical, mental, and social examinations to make a diagnosis of the cause of the malnutrition, thus leading to its proper treatment. It is of as much importance to make this accurate diagnosis in malnutrition as it is in other illnesses. It would be absurd for a physician to ask a group of nurses to care for a ward filled with patients affected with various diseases without informing them of the
HEALTH—THE SCHOOL CHILD

diagnosis in each case. Yet we are asking school nurses, health workers, and parents to carry out general directions with practically no attempt at diagnosis, resulting in an enormous waste of time, energy, and expense. The nutrition clinic corrects all this by determining the cause of the malnutrition in each instance and then indicating measures for its treatment.

Physical and Mental Examinations.—The physical examination reveals an average of more than five defects in each child. When defects interfering with nutrition, especially obstructions to breathing, are corrected, the child is considered free to gain. The mental examination is made in most instances during the course of the physical examination, when it is determined whether there is any question of mental deficiency or retardation. An essential part of the mental examination is to learn the child’s disposition and reaction to his environment.

Social Examination.—The home life of the child is investigated by a 48-hour record of his program, which includes a list of food taken during that time, his hours of sleep, of work, of play, time in the open air, and in fact all his various activities.

Simple causes, such as the following, are found adequate to explain malnutrition of the most severe type: fast eating, insufficient food, the use of tea and coffee, late hours, closed windows at night, too little time in the open air, poor hygiene, over-pressure and long hours in school. Such definite diagnoses are essential to successful treatment.

Nutrition Classes

Having then found the causes of the malnutrition by means of these physical, mental, and social examinations, it requires the cooperation of the child, physician, teacher, and parent to remove them and at the same time to secure for the child the essentials of health. These essentials are the removing of physical and mental causes of poor nutrition, getting the children to take sufficient and proper food at frequent intervals, securing fresh air by day and night, preventing overfatigue, and establishing sufficient home control to insure good food and health habits. If these results are accomplished, the child should rapidly gain weight and become well and strong, because of a powerful force in nature that makes for health.

Preparation for the Class.—Cooperation for the essentials of health is best obtained by means of nutrition classes of not more than twenty children in each. The nutrition worker prepares for the class by the weekly weighing of each child and the recording of this weight on a chart. The chart shows the average weight line, corresponding to the child’s height, and also his actual weight line as he gains or loses. The worker also checks up the diet lists which are carefully kept by
pupil or parent in a small record book for two consecutive days of each week. On these days each article of food taken is recorded; the amounts are indicated in tablespoonfuls or ounces. At this time errors in diet should be corrected and helpful suggestions made, especially in regard to taking milk and cereals. The 24-hour amount should be large enough for gain, usually 2,000 or more units (calories). A blue star is given for rest periods and a red star for lunches, if each has been taken every day of the preceding week. In case of failure to gain, personal conferences are held with each pupil in order to discover an adequate cause, which always exists, and therefore should be found by either the nutrition worker or the physician.

Class Conduct.—The charts having thus been prepared, the children are assembled by the nutrition worker in a room by themselves where two rows of seats are arranged, ten seats to each row. The child gaining most is given a gold star and is placed at the head of the class. The other children are arranged in order of their gain. The weight chart of each child is hung opposite his place in the class. The nutrition worker keeps a history and record card of each child which contains the doctor's directions and her own follow-up notes. These cards are used by him in considering each child.

When the class is in order the doctor conducts the exercise in such manner as to leave a clear idea in the mind of each child as to what he is to do the following week that he may gain. The room should be quiet and free from interruptions. Parents should occupy the back seats, but the teacher and nutrition worker should be seated in front where they may show by their attention lively interest in each child's progress. The physician praises the children who have gained, but it is his special duty to discover the causes for loss in those who have not gained. These causes are usually failure to take regular lunches or rest periods, overtime, late hours, etc. This gives an opportunity to show the importance of these factors in the gain or loss of the particular child. A half hour is sufficient time for the physician to take for this exercise. The nutrition worker makes notes and explains the recommendations to each child or parent. Usually the child losing one week is at the head of the class the following week. Where there is complete cooperation and the essentials of health can be wholly obtained, the child should reach his own normal standard of weight in ten or twelve weeks. From 5 to 10 per cent of the children present serious medical problems requiring most careful study by the physician. Even in these cases, however, the class method provides the most satisfactory method of treatment.

Cooperation with the Home.—The nutrition worker should visit the child in his home in order to gain the cooperation of his parents and to learn his health habits, especially with reference to eating and
sleeping. Plans should be made for open windows at night and for plenty of time in the fresh air by day.

Prevention of Over-fatigue.—During the period of treatment the children should be placed in open-air or at least open-window classes and school pressure should be reduced. Some children will need only sufficient additional time for rest and lunch periods; many will work to best advantage on a half-day schedule; a few will need to be reduced to two hours a day, while certain cases cannot profitably attend school at all for a time. One rest period of at least half an hour should be taken before the midday meal. The child should lie flat on his back, thus correcting his usual fatigue position of stooping shoulders, retracted chest, and prominent abdomen. In the mid-afternoon a similar rest period should be taken but for a longer time.

Food.—Mid-morning and afternoon lunches should contain about 250 units of such food as will not destroy the appetite for the following meal. Sweets should be avoided at this time. Children gain faster on less food taken in small amounts five times a day than when a larger amount of food is taken in three meals.

Authority of the Class Method.—The class method appeals to the imagination of the child and makes him do for himself what no one else can do for him. It teaches and inspires him to "train for health" in the same way he trains to be a boy scout or a good athlete. Therefore ask him what you will and he will do it cheerfully if he is convinced it is good "dope." The boy of seven or eight years steals off by himself, wraps up in his blanket, and takes his rest periods, or teaches himself to take and to like foods to which previously he had an aversion. He stops drinking tea and coffee, goes to bed early, prepares his bed with hot water jug and papers between blankets, that he may sleep with his window open on the coldest night. All this he does that he may see his weight line go up each week and the stars registered on his chart.

Successful treatment in the majority of cases is both easy and sure, provided either the physician, nutrition worker, or teacher has sufficient vision to paint true pictures in the child's imagination, thus securing his complete cooperation.

THESES ON NUTRITION CLINICS AND CLASSES

1. In the present organization of hospital clinics, school medical inspection and child-helping agencies there is little provision made for the care of a large group of malnourished children—fully one-third of all—who are not sufficiently sick to require hospital care nor are they "well," although they are reported as such because their true condition is so little understood.
2. The work of these nutrition clinics and classes, although fundamentally medical, is for the most part educational. They furnish a medium for the inspection, examination, and treatment of children in the schools, and should be an integral part of school organization.

3. These clinics and classes are especially adapted to make better use of the resources of the family and afford a means of giving training to mothers by teaching them how the child may become well.

4. All children found to be seven per cent underweight for their height require special consideration and treatment. This rule does not identify all cases of malnutrition, but it furnishes the best single standard of selection which we have been able to formulate.

5. The first step is the identification of the members of this group. This can best be done in the schools where all children should be weighed and measured periodically.

6. Those children, who are found to be seven per cent underweight for their height should be given special treatment and relieved for the time from a part of the usual school pressure.

7. To each of these children should be given an intensive examination. This examination should be made in so far as possible in the presence of the child's parents. All clothing should be removed at least to the waist in order that no defects may be overlooked.

8. The data coming from this examination should be put in form so that they can be used by the specialists to whom the child may be sent for further examination and study. For the same reasons all data accumulated by the specialists should be available in duplicate form for the physician in charge of the nutrition clinic. The amount of time required for these records will be found to be less rather than more than that now used in reports and records which, on account of their lack of standardization and definiteness, are often of very little value.

9. The same plan should be followed with reference to the records growing out of the mental and social examinations and the agencies which these have brought into the case. No defect of any kind should be considered in isolation.

10. An organization similar to that used for open-air classes will be found most serviceable in caring for the malnutrition group. Even from the standpoint of the child's studies it will be found to be economical to reduce the pressure of school responsibilities and work on a program which without delay will make it possible for him to be brought up to his own normal standard.

\footnote{In England as well as in our clinics it has been found possible to secure the attendance of mothers at the greater number of examinations conducted in the schools. It is the testimony of medical officers in that country that the results of the presence of the mothers are the most important of the many valuable outcomes of the work.}
11. It will be found that some children in this group will be able to attend school both morning and afternoon, provided adequate arrangements are made for rest periods. In other cases an alternation can be arranged placing one group in school mornings and another afternoons. Those who are excessively underweight cannot afford to attend school for more than two hours a day. Of course individuals may need to be removed from all school pressure for a time.

12. Children should be made free to gain by having all necessary medical and surgical attention given to them promptly. This should include the removal of diseased tonsils and adenoids, the proper care of the teeth, et cetera.

13. From 20 to 40 per cent of the children of school and pre-school age will be found to be in the seven per cent underweight for their height group.

14. It will be found that a reasonable program such as we have outlined will make it possible for the greater part of this group to return to their regular work in from three months to half a year, and that practically all will come up to their own normal standards by the end of the school year.

15. The open-air class organization will serve best as a clearing house for the various types of health-need cases. It will accomplish more as a station in which these special needs can be met than as a more or less permanent retreat for chronic cases.

16. A certain number of problem cases will require a special station for diagnosis in which they can be under constant observation.

17. Special consideration should be given to children who are convalescing from any attack of severe illness so that it may become a custom in the school to help such children reach a state of complete recovery before they are allowed to return to the heavy pressure of the regular classroom work.

18. Relations should be established with summer camps to avoid children being sent to them without diagnosis.

19. It is desirable to keep the responsibility for improving the growth conditions of the child upon the parents. Permanent results require control by the forces nearest to the situation.

20. Under conditions of sympathetic cooperation between the members of the clinic staff, the school corps, and the other agencies involved, it should be possible to do some valuable experimental work with reference to the most favorable hours for school work, the length of school sessions, the conditions of recess periods, the value of school lunches, training in hygiene, et cetera.

21. Many of the conditions of the nutrition clinic are especially favorable for the work to be accomplished in the examinations given for working certificates. The most serious problems met at this stage
of a child’s life are those of growth. The more the results secured at this period are interpreted in terms of school life, the better will the school be able to work out an economical and efficient program.

22. There are many reasons why the work to be done with children of the preschool age should be in the hands of those agencies which have had charge of the period of infancy. Much of the waste met in the school years could be eliminated during these earlier years by means of more adequate provision for this most neglected period of growth. It is not infrequent to find serious cases at the school age who have excellent records with reference to nourishment and growth when they were infants. It is important that there should be close cooperation between those who are working with members of the school and pre-school groups. It is especially desirable that the latter group should not have a third set of agencies built up to compete in its demands upon the time of the mother with those already caring for the needs of the school children and the infants.

23. The nutrition clinic is especially well adapted to care for dependent, delinquent, and defective children. Nutrition classes for State wards having foster mothers have proved to be remarkably effective.

DISCUSSION

Dr. David Mitchell (Bureau of Educational Experiments, New York City): I do not like to be pessimistic about nutrition classes in public schools, but, having been connected with the bureau which has been responsible for the New York nutrition classes, I should like to present several facts which I think it is well for us to think about. During this past year we have had approximately ninety children in four nutrition classes; two of them were open-air classes, the other two, regular grade classes.

One of the open-air classes is composed almost entirely of children who were included in our nutrition classes last year. They had the instruction and the care which was given to all those children during approximately nineteen weeks. Of twenty-three children who were in last year’s nutrition classes, eleven have failed to increase as much as the average child in the ordinary school groups. Taking the results for all the children of the class, we find that they have increased about seventeen per cent faster than was expected. For the children who made gains in excess of the normal or expected gain, the average increase in excess of normal was about thirty-two per cent. These children have few of the so-called physical handicaps. All for whom it was recommended, have had operations for the removal of enlarged tonsils or adenoids. But they are still a problem for us; they are still almost as much underweight as they were when the classes were first organized.

Here is another fact: During the last week of September, 1918, we weighed and measured approximately one hundred and twenty-five fifth grade children. At that time we found that thirty-nine or approximately thirty per cent were seven per cent or more underweight for their height. Owing to the conditions in the school system and to the epidemic of influenza, it was impossible to organize nutrition classes.
HEALTH—THE SCHOOL CHILD

for a period of seven weeks. At the time of the first session of the class, these thirty-nine children were again weighed and measured and we found that twenty-two had come up to within seven per cent of the average weight for their height. Some of these children had come up to within one and two per cent of the average weight for their height. This result came about without any training, without any attention to removal of physical defects, and without any instruction in health habits and hygiene. In other words, we did not need to do anything with these children to make them what we call fairly well nourished children.

This led us to the question as to what we should do in order to find out which of our school children are undernourished. It seems to me extremely important that groups of children should be weighed and measured frequently, weekly if possible, monthly if weekly weighings are not feasible, and the amount of variation which these children undergo in weight should be determined. It is now about twenty-three weeks since the classes were organized and in that time those children have not increased more rapidly, in fact have increased less rapidly, than they did during the seven weeks between the original weighing and the first meeting of the nutrition classes.

There are exceptions to this general rule. One child, who was considerably underweight in the beginning, has made almost a continuous and rapid increase in weight. He is now as much overweight as he was underweight at the beginning of the class. This result has come about despite the fact that he has consistently ignored practically all the recommendations made. He has refused to give up the use of tea and coffee, he has refused to go to bed early enough to get what we consider a requisite amount of sleep, he has refused to have defective teeth removed or treated, and in general disregarded all the questions of slow eating, of not using water to wash down the unmasticated food, and remaining seated during the meal hour. The one thing which he has done is to increase the caloric intake. It is one of the cases where more food seemed to be the essential requirement; and having that greater amount of nourishment he was able to overcome all the handicaps of physical defects, bad habits, and bad environment.

The general condition cannot, however, be dealt with in this superficial manner. Too many children are underweight, and constantly so, for us to be satisfied with any special cases such as this. We must seek a reason for the failure of these children to increase in weight. The first condition which we may consider as an explanation for this failure is that of a possible biological variation which has not yet been completely understood. We have assumed that the maximum variation possible for a normal child is seven per cent. Certain individual cases lead us to suspect, however, that a normal variation of considerably more than this is possible. It may be that some children are biologically much lighter in weight for their height than other children.

Other considerations are those of emotional disturbances and the unusual stress of certain periods of the school life. We have information which leads us to believe that emotional disturbances influence the processes of nutrition. Cannon has shown that the emotions of fear and anger are attended by a cessation of the churning movement of the stomach and the cessation of flow of the gastric juice. In our classes we had children whose failure to gain in weight we thought might be due to the operation of these factors. We may also consider the stress of the promotion period. At the time when promotions were being considered in this group, the failure to gain was very marked. While the majority of the children had gained in the early weeks, during the week previous to promotion and the week of promotion, very few of the children showed any increase in weight.
Finally, we must consider the influence of physical defect or failure in physiological functioning. Concerning certain of the defects, we are fairly well convinced that they are important detrimental factors. The removal of diseased tonsils and adenoids has frequently been followed by marked increase in weight. The defect in physiological functioning may be the more important. We have cases where the ordinary physical defects have been removed and where the instruction in health habits seems to be followed but in which little progress is noted. These may be cases of biological variation. On the other hand, information as to the metabolism of nutrition is still meager and, in order to decide whether some of these children are functioning normally, prolonged and intense experimentation will be necessary.

Despite all these facts, I would strongly recommend the inauguration and the continuance of nutrition classes for health education. It may be that we are not able to solve the problem in this generation by this particular method, but certain results indicate the far-reaching effect of the procedure. The children who are thus being taught the desirability of regularity of habits and the necessity of eating proper food and the necessity of eliminating harmful stimulants, such as tea and coffee, will undoubtedly influence the nutrition of the next generation. How well they will do this may be indicated by the following illustration: One of the boys in the class came to the teacher with the remark that he had been trying to persuade his mother that "an ounce of prevention is worth a pound of cure." The teacher did not get the significance of the comment at first and asked the boy what he had been trying to do. His reply was that he had been interested in the class work. He had been reading about nutrition and had come across this statement. He concluded, "I tried for two hours to show my mother what that meant, and at the end of the time she did not know a thing about it." If attempts at the education of parents are made in this way, what may we not hope for in the education of children? We may not cure malnutrition by education, but we can develop habits and methods of living which will have a decided influence for good with our next generation.

Mrs. Andrew Wilson (State Chairman, West Virginia Child Welfare Committee): Dr. Lusk tells us that milk is essential. Dr. Emerson also had tea in his dietary lists, but Dr. Lusk, with some of the rest of us, thinks that tea and coffee are better left out. If we could correlate those facts I should like to hear the explanation.

Dr. Emerson: In the first breakfast was the list of food as brought by the child, in which he was having tea. My correction was to substitute cocoa. Tea and coffee are, I think, perhaps the most important single cause of malnutrition. In our group to which Dr. Mitchell has just referred, in New York, over 80 per cent were taking tea and coffee. It raises havoc with growth. That is the first thing to stop. And the children stop it when they see that it interferes with their gain.

The question of diet in the family, in the home, is a very difficult one. My idea is to work along lines of least resistance. If the father likes certain things and you upset him he resents it. So I do not make changes except when necessary. These children will usually gain if we bring the 24-hour amount of food above 2,000 calories. So that about the only suggestion I make is that they use cereal and milk, and make sure that they have the proper amount of milk. If we get their two-day list and make these changes, that seems to be enough to cover the question of diet so that we can go on with other things which are often of greater value.
I want to say in regard to Dr. Mitchell's problems—we have been working together—that in Public School 64 we have a group of children coming in without their mothers, whose presence is very essential. They are over 90 per cent Hebrew, and many of the mothers are at work in stores. The problem is most complicated when we have not the necessary control day and night. You can work your heart out during the day with the children, but when they are away from you, you can not tell what happens. On the question of going to bed, for instance, a little fellow said, "I have been better since I came to the class about going to bed." I said, "What time do you go?" He said, "I go at 10 o'clock." "What time did you go before?" "I used to go at 12." When neither parent is present at our classes to learn and then to carry out instructions at home, the element of overfatigue may upset all our calculations.

A Member: Is it safe to take cocoa each day? Is it not too stimulating?

Dr. Emerson: Cocoa is likely to be too sweet, especially if taken without other food. I try to limit cocoa to once or twice a day, and be careful to have them make their cocoa weak, simply using it as a flavoring for milk.
HEALTH EXAMINATIONS AND THE SCHOOL NURSE

By DR. THOMAS D. WOOD
Chairman, Committee on Health-Problems in Education
National Council of Education

The conservation and the cultivation of the child’s health are recognized today as fundamental and essential factors in the program of public education. Practice, however, lags far behind accepted principles in this as in other phases of education and of life. Enough experimentation and demonstration have been accomplished in the field of child health to convince sensitive, tender, and socially-minded citizens of the health needs of children and the responsibility of community, state, and nation regarding these crying needs.

The war has shown us with dramatic illumination the weakness of the nation’s young manhood, dependent in vital measure upon the neglect of childhood and youth. A stunning indictment of our democracy is involved in the fact that the tragedy of a world war was needed to reveal such a vital source of national peril and weakness. The statistics of the draft showed that one-third of the young men at the age of the flower of manhood were unfit for first-class service in the defense of the country in time of war. But it has been known by some, for years, that three-fourths of the 22,000,000 school children in the United States have health defects which are actually or potentially injurious to them as prospective citizens of the republic. Efforts in this health program for school children have so far been desultory, spasmodic, and uncoordinated. National standards are needed today for genuine constructive progress in this branch of the great program of child welfare.

The health examination of school children involves two distinct phases of inspection and administration:

(a) The daily health inspection.
(b) The annual (or if required in individuals, more frequent) health examination.

The daily inspection and supervision are necessary to determine the child’s fitness for attendance upon school, which fitness is dependent upon the absence of signs of health disturbance. Such signs may denote the pupil’s personal unfitness for school that day, and such signs may also represent the preliminary symptoms of definite communicable disease. The possession of these signs may render the child a
source and center of infection for his fellow pupils. For the best interests of himself and of his school companions he should be kept at home under such circumstances, and thus excluded from school before these indications of health disorders have developed into the recognizable and distinctive symptoms of disease. The school is by its very nature perfectly adapted to serve as an agency for assembling and distributing children's diseases throughout the community, and all too frequently this is just what occurs.

The best knowledge and skill of parents, teachers, nurses, physicians, and even of the children themselves are requisite for a satisfactory minimizing of these diseases of child life. If there is reasonably intelligent and conscientious cooperation of the individuals and agencies involved, there need be no epidemics in schools, and the school will be made in this vital respect a real health center.

No child should ever knowingly be exposed to contagious disease. The older the child is before being exposed by accident to contagious disease the less apt he is to catch it. The older a child is before having a contagious disease of childhood, the less severe, on the average, it is likely to be.

The following are indications of health disorders in children for which parents should keep children at home and notify the school:

Nausea or vomiting; chill; convulsions (fits); dizziness, faintness, or unusual pallor; eruption (rash) of any kind; fever; running nose; red or running eyes; sore or inflamed throat; acutely swollen glands; cough; failure to eat the usual breakfast; any distinct or disturbing change from usual appearance or conduct of the child.

The foregoing signs should be used also by teachers as a basis for excluding pupils from school for the day, or until the signs have disappeared, or until the proper health officer has authorized the return of the pupil to school. Children may be taught—without developing disturbing fears, or attempts to deceive—to notice the above-mentioned signs in themselves or in their companions, and thus help to protect the school from contagious disease. The detection of these first signs of health disturbance at home, by the parent or the child, before the child starts for school, is of especial importance in the country, where the longer trip to school with greater physical exertion, sometimes in bad weather, would be particularly injurious to a child at the beginning of an illness. In cases of contagious disease among school children, the length of time of exclusion from school must be determined by the health and the school authorities.

The second phase of the health examination of school children includes the investigation to ascertain the health status of the child, and the presence of the more permanent health defects and tendencies.
At least one per cent, or 200,000 of the 22,000,000 school children in the United States, are mentally defective.

Over one per cent, or 250,000, at least, are handicapped by organic heart disease.

At least five per cent, or 1,000,000, have now, or have had, tuberculosis, a danger often to others as well as to themselves.

Five per cent, or 1,000,000, have defective hearing which, unrecognized, gives many the undeserved reputation of being mentally defective.

Twenty-five per cent, or 5,000,000, have defective eyes. All but a small percentage of these can be corrected, and yet a majority of them have received no attention.

Twenty per cent at least, or 4,500,000, are suffering from malnutrition. Every child who is 10 per cent or more below weight for his height and age is suffering from malnutrition, and persistent efforts by cooperation of school, home, and community should be made to correct this. Poverty is not the most important cause of this serious barrier to health development.

From fifteen to twenty-five per cent, 3,000,000 to 5,000,000, have adenoids, diseased tonsils, or other glandular defects.

From ten to twenty per cent, or from 2,000,000 to 4,000,000, have weak foot arches, weak spines, or other joint defects.

From fifty to seventy-five per cent, or from 11,000,000 to 16,000,000, of our school children (and in many communities as high as 98 per cent) have defective teeth, and all defective teeth are more or less injurious to health. Some of these defective teeth are deadly menaces to their owners. This is the greatest problem, from the standpoint of its seriousness and from the standpoint of its enforcement, that we have. The teeth of the children of America can never be brought into proper shape without a social program to provide for the payment of tremendous bills. May I ask you to remember that Sir William Osler, our greatest living English-speaking medical authority, said ten years ago that more national physical deficiency in Great Britain was due to defective teeth than to alcohol.

Every school child should have a health examination once a year. More frequent examination should be provided for individual pupils who need special attention. All health examinations and health care in rural and in city schools should be under the supervision of regularly appointed school physicians thoroughly trained for their work. Every State should have a State health inspector of schools who should give special attention to the health work of the rural schools.

The routine tests of vision and hearing can best be made by the teachers, as these tests involve, to an unusual extent, mental and educational as well as health factors and require knowledge of the pupils,
possessed by the teacher, as well as simple methods of examination which all capable teachers can easily learn. I am referring of course only to the routine tests of vision of all the children, not the examination of those found to be defective. In the rural schools the general health examinations can often be done most advantageously by the school nurse with the help of the teacher.

There should be for every child a health as well as a scholarship record which accompanies him through his school career. And this, let me say, should be a continuation of the record started when the child was born, which is handed down to the school when the child enters school. What has been said about the care of children during the preschool age will of course apply here. This should be a part of the record of the school which the child is attending. The following form or blank has been tested sufficiently in rural as well as city schools to prove its practical value:

HEALTH RECORD

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<th>Name</th>
<th>Born in</th>
<th>Father</th>
<th>Mother</th>
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<tbody>
<tr>
<td>Number in family</td>
<td>Adults</td>
<td>Children</td>
<td>Number</td>
</tr>
<tr>
<td>of birth</td>
<td>History of Measles</td>
<td>Scarlet fever</td>
<td>Diphtheria</td>
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<tr>
<td>Pneumonia</td>
<td>Influenza</td>
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Date of first examination in school

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**YEAR**

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<th>1: Age and year</th>
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<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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<tbody>
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<td>Grade</td>
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<td>Class</td>
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<td>Defect of hearing</td>
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<td>Defect of palate</td>
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Provided by the Maternal and Child Health Library, Georgetown University
The eyes of children who wear glasses should be tested with the glasses, and if found normal should be so recorded. The following method should be used:

Hang the Snellen test letters in a good, clear light (side light preferred) on a level with the head, and so placed that the child does not face a strong light. Place the child 20 feet from the letters. Cover one eye with a card held firmly against the nose, without pressing on the covered eye, and have him read aloud, from left to right, the smallest letters he can see on the card. Make a record of the result.

Children who have not learned their letters, obviously, cannot be given this eyesight test until after they have learned them. Pupils who cannot read may, however, be tested by a chart with pictures of familiar objects designed for this purpose.

There is a number over each line of the test letters which shows the distance in feet at which these letters should be read by a normal eye. From top to bottom the lines on the card are numbered, respectively, 50, 40, 30, and 20. At a distance of 20 feet, the average normal eye should read the letters on the 20 foot line, and if this is done correctly, or with a mistake of one or two letters, the vision may be noted as 20/20 or normal. In this fraction the numerator is the distance in feet at which the letters are read, and the denominator is the number over the smallest line of letters read. If the smallest letters which can be read are on the 30 foot line, the vision will be noted as 20/30; if the letters on the 40 foot line are the smallest that can be read, the record will be 20/40. If the letters on the 50 foot line are the smallest that can be read, the record will be 20/50.

If the child can not see the largest letters (those on the 50 foot line), have him approach slowly until the distance is found from which they can be seen. If 5 is the nearest distance from which the 50 foot letters can be read, the record will be 5/50 (1/10 of normal).

Test the second eye, the first being covered with the card, and note the result as before. With the second eye, have the child read the letters from right to left to avoid memorizing. To prevent reading from memory, a hole 1 1/2 inches square may be cut in a piece of cardboard, which may be held against the test letters so as to show only one letter at a time, and which may be moved about so as to show the letters in
irregular order. A mistake of two letters on the 20 or 30 foot line and of one letter on the 40 or 50 foot line may be allowed.

Parents should be notified if:
(a) Vision in either eye is 20/40 or less;
(b) Child habitually holds head too near book (less than 12 inches);
(c) Child frequently complains of headache, especially in the latter portion of school hours;
(d) Either eye deviates even temporarily from normal position.

In testing hearing, if it is possible, one person should make the examination for an entire school in order to insure an even method. The person selected should be one possessed of normal hearing.

The examination should be made with the whispered voice; the child should repeat what he hears, and the distance at which words can be heard distinctly should be noted. The two ears should be tested separately. The test should consist of numbers, 1 to 100, and short sentences. To avoid imitation, it is best that but one pupil at a time be allowed in the room. For very young children a fair idea of the hearing may be obtained by picking out the backward or inattentive pupils and those that seem to watch the teacher’s lips, placing them with their backs to the examiner and asking them to perform some unusual movement of the hand or other act.

Physical defects should be reported to the homes, and all possible efforts should be made by teachers, superintendents, school nurses and school doctors to persuade the parents to obtain for the child the care necessary for correction of all defects that it is possible to remedy. Facilities should be made available for the health reconstruction of all the school children.

It is vitally necessary that the best available efforts of official agencies, national, state, and local, shall be supplemented and reinforced by the cooperation of voluntary service of individuals and organizations enlisted for this essential form of social service, expressing results in the conservation and improvement of the nation’s most vital and most neglected assets, the health and welfare of the children.

I would like to pay tribute to such organizations as the Child Health Organization, with headquarters in New York, which has given very striking support and cooperation to this movement for the correction of malnutrition, as a part of the general program for the health of the school children of America; to the Elizabeth McCormick Memorial Fund of Chicago, and to the Bureau of Educational Experiments in New York, as types of volunteer organizations necessary to insure these standards of health examination and health care.

Magnificent provisions have been made for the health care of our soldiers in war. Shall not the children, drafted by compulsory educa-
tion into our schools, be assured of as skillful and satisfactory care as the soldiers in camp and trench? If health and physical efficiency are so important for the country as a whole, all of the necessary forces, both governmental and voluntary, must be marshaled for the task of protecting and developing the physical fitness of the young. The principle of universal training must, in a manner consonant with the spirit and methods of democracy, be interpreted and applied in the universal, compulsory health and physical care and training of all the children of the nation.

Physicians, surgeons, nurses, hospitals, dental and general clinics, and health centers of requisite type must be available to meet the needs of the defective children in the schools.

Health officers who supervise this program must have special and thorough training in modern educational principles and practice, in addition to medical education and experience, to qualify them for their work. Teachers and other school officials require adequate training in health principles and methods to enable them to cooperate most successfully. The curricula of training in all normal schools and in other institutions for the preparation of teachers must be broadened and modified to include the essential instruction in school health work before the structure of national education can be recognized as giving evidence of rational wholeness or soundness. Special teachers and supervisors of health and physical education, if properly trained, may render invaluable service in the health examinations, supervision, and health education of pupils.

Registered nurses employed as district and school nurses, or giving their time when necessary exclusively to the schools, have already demonstrated the extraordinary value of their professional services in this program of health examination and care of the school children. It is essential, however, that they should be firmly grounded in educational ideas and in special teaching methods, and possess the skill requisite for their highest usefulness.

It is apparent to careful students of this school health work that the teacher should have the benefit of the social and community methods of the best hospitals, clinics, and social workers; while it is equally necessary that school physicians and nurses should have the benefit of the best special training made available for teachers in universities, colleges, and normal schools.

There should be a school nurse for every 1,000 to 3,000 school children, according to geographical distribution and the presence or absence of cooperating agents for the health work.

The work of the school nurse may be briefly outlined as follows:

Routine class inspections to detect cases to be excluded from school and referred to physicians.
First aid in emergency cases.
Assisting in health examinations and keeping records.
Instructing pupils in various details of hygiene.
Advising parents of children found in health examinations to require remedial treatment.
Convincing parents of necessity of treatment.
Making adjustments for needed treatment.
Instructing children and parents in personal and home health.
Making arrangements for treatment of needy children.
Securing medicines, eye-glasses, etc., through philanthropic agencies.
Taking children to clinics and persuading them to accept the treatment advised; obtaining necessary data for the clinics.

The duties of the school nurse vary with the needs and resources of the community and may include in addition to the general activities here indicated special work with truants and with classes of physically handicapped children, such as the cripples, tuberculous, anemic, etc. Without the nurse, the statistics show that corrective work is done in 15 to 25 per cent of the cases reported and recommended. With the nurse, it is shown that from 75 to 90 per cent of the children receive the follow-up work and attention which has been urged.

The possibilities of vital accomplishment with a standardized national program of health examination and care of school children seem not only fundamental for national safety but limitless for national progress. The significance and necessity of the work to be done make the demand for constructive advancement imperative. No factor relating to essentials in public education or promotion of national welfare seems more important or more promising.
An adequate food supply is the requisite of national existence. If too little food is available the first to suffer are the old people, and then the children, though these are often fed with the food designed for the mother, who sacrifices herself for the well-being of her offspring.

Before the war great numbers of people were habitually in a state of undernutrition. This reduces the working capacity and diminishes the resistance to diseases, especially to tuberculosis. Such a condition gradually undermining the welfare of a nation, may be exemplified by a description of the food conditions in Germany, a knowledge of which has lately become available.

It is stated by Rubner\(^1\) that food difficulties first arose in the middle of 1916. One important article of food after another disappeared from the market or could be obtained only in homeopathic doses. Thus, the available amounts of meat, eggs, milk, and butter became less and less. During the winter of 1916-17, the failure of the potato crop of 1916 led to the substitution of turnips in the diet, both in the cities and in the industrial centers. From the effects of this diet the people never recovered. There was insufficient milk for the children. The censorship of the press prevented the true condition from being generally known, and people were taught to congratulate themselves upon their loss in weight.

A secret inquiry, made at the end of 1917, led Rubner to report to the Imperial Ministry of Health how widespread the evil effect of the war diet had been upon the welfare of the people. The psychology of the nation had changed. The only thought was to obtain a sufficient quantity of food, albeit devoid of flavor; there was no initiative, only unproductive depression. Children forgot how to laugh, to cry, or to play.

Information reached London early in 1918 that the insurance companies of Germany had secretly warned the government as to the failing health of the people, which was reported to be more disastrous in loss of life than were the military operations. This now appears as an undoubted reflection from the meeting described by Rubner.

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\(^1\) Rubner, M., Berliner klinische Wochenschrift (1919), LVII, 2.

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The latter states that certain high-placed individuals forbade a further prosecution of the inquiry.

Kraus describes how hunger forms an excellent background for disease, and that anti-bodies are not produced as when adequate nutrition is possible. Hence, the tuberculosis death rate doubled during the war and is now at the height prevailing twenty-five years ago. He relates that the food conditions affected women in such a way as to produce cessation of the menses, sterility, and a reduction in the quantity of milk of the nursing mothers, which milk was also poor in fat. The average weight of children at birth fell off. Cows' milk of inferior quality was given to children, for there was no longer any hygienic control. The evil effects of the one-sided diet on the older children became more pronounced the longer it was continued. A diet made up essentially of bread and potatoes proved injurious to children. There was a deficiency in protein, fat, and in vitamins, which led to scurvy, tuberculosis, rickets, and anemia. Nervous diseases were aggravated and constitutional anomalies intensified.

Reports have also come out of Germany showing how an absence of butter fat led to stunted growth and the affliction of xerophthalmia, a disease of the eye, both of which symptoms can be experimentally produced in young rats in the absence of the fat soluble vitamin contained in butter fat. These stories are not German propaganda. An American medical commission conducted an investigation into the condition of the children of Treves after its occupation by the American army and found a retardation in growth of two years' children of fourteen having the physical development of those of twelve.

In the Bohemian city of Prague a widespread presence of infantile scurvy as existing in the early summer of 1918 is bitterly described by Epstein. Almost every preparation for the welfare of the sick child had disappeared from the market, the rich buying at high prices the "last bottle" of such material from the apothecary. Milk was very scarce at a time when the farmers were freely using half their milk, a food so necessary for sick children, in the preparation of butter. It is well known that this kind of profiteering had long been prevented in England.

These details are cited in order to emphasize the necessity of such an organization of agriculture or of food supply that the national welfare of a country be maintained. That such an organization is incompatible with industrial disorder is a self-evident proposition.

Both the quality and the quantity of food should be considered. Children should receive a diet containing a sufficient quantity of vitamins. Of fundamental importance for growth and good health

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1 Kraus, Berliner klinische Wochenschrift (1919), LVII, 3; Czerny, Ibid., p. 4.
2 Epstein, Jahrbuch für Kinderheilkunde (1918), LXXXVIII, 237.
is the butter fat contained in milk or taken separately in the form of cream or butter. This has been set forth above. Stunted rats which have been long deprived of this substance grow to normal size when it is added to an otherwise adequate diet, so that it may be presumed that with the administration of butter fat to children whose growth has been retarded normal growth will be obtained. Vegetable oils, like olive oil, and pork fat do not contain the fat soluble vitamine and cannot take the place of milk. Beef fat, eggs, liver, and kidneys are, however, quite rich in this material, and it is present in spinach, lettuce, beet tops, and the like. Olive oil taken with lettuce or beet tops may take the place of milk in the diet of adults. Through eating the green substances of the field the cow gains for her milk this growth-promoting, life-preserving vitamine. It follows from this that the milk of a cow nourished on clover from the fields will be of higher nutritive value than that of one fed with corn ensilage. The cows in Great Britain have more vitamines in their milk than cows in America because pasturage is better there.

If a food be given which consists mainly of highly polished rice, or highly milled grains, beri-beri, a profound nervous disorder, results. Beri-beri can be cured by administering the aqueous extract of peas or of rice polishings or of the evaporated salts of milk. This disease has not appeared in war time in the European nations because wheat has been milled at about 85 per cent or more, so that a large proportion of the bran, which contains the water-soluble vitamine, has remained in the bread. When a child can receive an ordinary mixed diet there is no danger in partaking of white bread.

Scurvy appears when the diet contains no anti-scorbutic vitamines, such as are found in fruits, fresh vegetables, and tubers such as potatoes. The cure is found in lemon juice, orange juice, fresh vegetables, potatoes, germinated peas, beans, and lentils, and in canned tomatoes. Hess finds that the younger and more tender the green vegetable, the greater its vitamine content, hence an instinctive dietetic preference.

The question of vitamines for the welfare of the children is bound up in the development of dairy farming, fruit culture, and the production of fresh vegetables.

Furthermore, milk contains salts for the growth and repair of the bones, protein for the growth and repair of the muscles and other organs of the body, together with fat and sugar which give fuel for the maintenance of the human machine. Very few people realize that the cost of milk per 1,000 calories is usually only one-half the cost of beef. Thus, in Paris on September 1, 1918, 1,000 calories cost as milk 98 centimes (equal to 17 cents), as beef 175 centimes (equal to 31 cents); and in New York on January 1, 1919, as milk 24 cents and as beef 45 cents. In Paris beef was 82 per cent more costly than milk
and in New York it was 87 per cent more costly. The controlled London market does not lend itself for comparison. On account of the great value and lesser cost of milk the writer has urged that a family of five should not buy meat until it has purchased three quarts of milk daily.

Milk is wanting in iron and hence children should be given green substances which contain this element, especially spinach, which contains a considerable quantity. The yolks of eggs also contain it, as do, of course, beef and beef juice.

The curse of the ignorant and poorer classes is the giving of tea and coffee to their children instead of milk. This is done in families in which meat is regularly purchased. There is not sufficient education for the parents to realize that milk is a cheap and well-nigh indispensable body-building food. It is not desirable to give to children or to adults the minimal quantity of protein compatible with existence, but it is safer to allow protein in a certain excess of the actual needs in order that the tissue cells be filled with it. Rubner has called such material an "improvement quota" of protein, and there is evidence that this descriptive terminology is justified. This, however, does not warrant the eating by any man of a pound or more of beef a day, meat which costs five times as much fodder to produce as does a similar food value in milk.

With regard to a sufficiency in the quantity of a diet the question becomes involved in the number of calories necessary for the maintenance of the living organism at various ages. Below are presented the relative physiological needs of food, in the first column as estimated by Atwater, and in the second column as adopted by the Inter-Allied Scientific Food Commission of 1918.

<table>
<thead>
<tr>
<th>Age in years</th>
<th>Atwater</th>
<th>Inter-Allied Scientific Food Commission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child</td>
<td>0 to 2</td>
<td>0.3</td>
</tr>
<tr>
<td>Child</td>
<td>2 to 6</td>
<td>0.4</td>
</tr>
<tr>
<td>Child</td>
<td>6 to 10</td>
<td>0.5</td>
</tr>
<tr>
<td>Boy</td>
<td>10 to 12</td>
<td>0.6</td>
</tr>
<tr>
<td>Girl</td>
<td>10 to 14</td>
<td>0.6</td>
</tr>
<tr>
<td>Boy</td>
<td>12 to 14</td>
<td>0.8</td>
</tr>
<tr>
<td>Boy</td>
<td>14 to 16</td>
<td>0.9</td>
</tr>
<tr>
<td>Girl</td>
<td>14 to 16</td>
<td>0.7</td>
</tr>
<tr>
<td>Men</td>
<td></td>
<td>1.0</td>
</tr>
<tr>
<td>Women</td>
<td></td>
<td>0.8</td>
</tr>
</tbody>
</table>

The British Food Committee of the Royal Society had computed that an average man doing an average day's work required 3,000 calories, as ingested, or 3,300 when the supply was considered from the national standpoint and allowed for waste. When later it computed the quantity of food available for their whole population in the five year prewar period, 1909-13, dividing it among the population in accordance with the relative values adopted by the Inter-Allied Scien-
tific Food Commission, it was found that 3,410 calories had been available per man per day. With increased care in the use of food a national stock of 3,300 calories per “man” per day appears ample. The earlier statement that a nation could live on what it wasted before the war has been abundantly refuted.

The study of standards of metabolism has occupied much time during recent years. At the time of the establishment of the Russell Sage Institute respiration calorimeter in Bellevue Hospital satisfactory standards for the determination of what constituted normal metabolism were non-existent. From the work of Du Bois and his associates it has been firmly established that the well nourished, normal adult man, when resting in bed before breakfast, produces 40 calories per hour per square meter of surface within an error limit of about ±10 per cent. This is known as the basal metabolism. Du Bois found that the metabolism of boys between 12 and 13 years old was 50 calories per square meter of surface, or 25 per cent higher than in adult men. At this time, before the onset of puberty, the intensification of the growth impulse is accompanied by a greatly increased metabolism when height and weight are regarded. Furthermore, Du Bois investigated the metabolism of these same boys two years later under identical experimental conditions. The metabolism per square meter of surface had fallen so that it was only 11 per cent above the average for adult men. In the three youngest boys the metabolism was actually greater in calories produced during the twelfth year than during the fourteenth year, although the boys showed gains in weight of between 35 and 50 per cent. It is well known that a normal boy is extremely active at this period of his life. Investigations by Gephart have shown that American boys in St. Paul’s School partook of as much as 5,000 calories daily. Sir Henry Thompson, prior to his death on an Irish passenger steamer sunk by a German submarine in the summer of 1918, collected data which showed an average consumption of 3,500 calories daily by English school boys, even in the difficult days of the winter of 1918. At Eton and Harrow the spirit of patriotism at one time certainly caused too great a voluntary restriction upon the quantity of food taken and many boys lost in weight, often to the detriment of their health.

It has been reported from Berlin that, in an asylum for foundlings in the third year of the war an attempt was made to nourish three boys between six and eight years old with food containing 1,000 calories, and four other boys between eleven and fourteen with 1,334 calories. This may be calculated as being less than the basal metabolism of the children and the result was what was to have been anticipated, a

\[1\] Fuhge, Jahrbuch fur Kinderheilkunde, (1918), LXXXVIII, 43.
of Physiological Needs for Food
In Calories

School Boys (U. S. A.)

School Boys (British)

School Girls (British)

Very Quiet

Boys

Atwater

G. F. Tigerstedt.

Inter-allied Scientific Food Commission

G. F. Soderstrom

7 8 9 10 11 12 13 14 15 Yr

Provided by the Maternal and Child Health Library, Georgetown University
loss in weight and in body protein of all these children, who were not only under height for their age but under weight for their height.

Five thousand calories daily certainly appears to be an extravagant quantity of food to furnish a boy. It is 20 per cent more than the amount consumed by a soldier at hard drill. It would be very interesting to investigate the economic efficiency of the muscles of the growing boy. Since his basal metabolism is higher than that of a man, it is not at all unlikely that his muscular efficiency is on a lower plane, that is to say, that he may require more energy to walk or to move a bicycle a given distance than would an adult of similar height and weight. This point has never been investigated.

The accompanying chart shows the food requirements of boys from birth to sixteen years of age, as calculated from all the material available a year ago.¹ To this have been added:

(1) The requirements prescribed by the Inter-Allied Scientific Food Commission (blue line).

(2) The requirements calculated by Atwater (green line).

(3) The actual consumption of food by rather inactive school boys, investigated by Carl Tigerstedt in 1912, reports of which have just reached this country (red dotted line).

(4) The reported food intake of American and English school boys and of English school girls (red solid lines).

In addition to this it may be noted that Pfaundler's² suggested corrections of the erratic, official dietary for the children of Munich, as of January 1, 1918, are in full accord with the recommendations of the Inter-Allied Scientific Food Commission from the end of the first year to the tenth year of age.

On reading the evidence it appears that much knowledge is lacking, much is needed to fill in the picture. There is now ample food in the country. Twelve thousand million dollars per annum, or one-quarter of the income of the working population, is paid for it by our people. Housewives are not organized politically, but the time is coming when the importance of a more thorough understanding of the science of nutrition will be realized in the land.

¹ Lusk, G., Journal of the American Medical Association, (1918), LXX, 821.
² Pfaundler, Münchener Medizinische Wochenschrift (1918), LXV, 173.
THE NEED FOR SEX EDUCATION

By ROBERT D. LEIGH

United States Public Health Service

The inclusion of the subject of sex education in a conference addressing itself to the task of fixing minimum standards for child welfare is something of a novelty. It may be an indication that to some extent this very important phase of child welfare is passing over from the period of unregulated, unorganized experimentation into that of partial standardization.

In dealing with either children or adults it is difficult to get away from the problems of sex education. The official agencies dealing with the health and morale of the soldiers and sailors during the war started out with the aim of reducing the incidence of venereal diseases. Before going far they arrived at sex education among civilians also, as one of the most important means to the attainment of the original, single-minded military aim. In organizing a comprehensive program for prevention and control of the venereal diseases among the civilian population of the United States the public health agencies of nation, state, and city have come to place emphasis on this same fundamental means of prevention.

We know that venereal diseases are spread largely through promiscuous sex intercourse. If these contacts could be eliminated syphilis and gonorrhea would rapidly diminish as a communicable disease problem. We know, too, that these contacts through irregular sex intercourse are not outside the control of the individual or personally unavoidable as are the contacts with germs of some other communicable diseases. We know that the individual exposes himself by a conscious act which serves no social purpose. It is, therefore, theoretically possible to eliminate these contacts by the proper education of the individual. Every rational anti-venereal-disease program must include the promotion of all kinds and types of training which will educate men and women to refrain from promiscuous sexual intercourse.

Let it be made clear that the term sex education as a preventive of venereal diseases is meant here in its broadest sense. It includes all influences, all types of training and habit forming, all kinds of instruction and activities which lead the individual to set up for himself a socially valuable sex life.

Much talk has been wasted at conferences in arguing that sex in-
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struction—the imparting of facts concerning sex physiology, venereal diseases, etc.—cannot itself prevent venereal diseases or lead the individual into the right sort of sex life. This is setting up a straw man to knock it down. Those who are today advocating sex instruction are extremely humble in their claims. Their work is only an item of the large social program of sex education and prevention. There is practical agreement among them that sex instruction is only a small part of the set of influences which go to make up the education of the individual on matters of sex.

All of them would agree that moral training or character building in the home, by personal example, by religion, or by other agencies is of great importance in the individual prevention of venereal diseases and of sexual irregularity. All would agree that a rich recreational life with wholesome, out-door exercise and abundant motor activity is of the greatest importance in long-circuiting the sex impulse in adolescence and in promoting a normal sex life. All would agree that social intercourse between the young people of both sexes under favorable circumstances is a valuable means of sublimating the sex impulse and directing it into right channels. All would agree that the personal acquisition of absorbing interests or hobbies, compelling enthusiasms, and ambitions are of great value in directing those same impulses along socially useful channels.

All would agree that the reduction by all means possible of the stimuli leading to abnormal sex thoughts, and the elimination of direct temptations to commercialized vice are of value in promoting a sound sex life. Everything advocated at this conference, for instance, which will develop the recreational life of childhood and youth, or which will furnish better home life, is helping to meet the need for sex education. There is, however, a need for the giving of facts, for proper instruction in matters of sex. And its value is not inconsiderable.

One of the most extensive campaigns for sex instruction ever carried on anywhere was adopted in the army and navy during the war through the agency of the Surgeon Generals’ offices, the Commissions on Training Camp Activities, the Y. M. C. A., and other cooperating agencies. This work was only part of a large scheme of prevention by various means and it was emergency work under the handicaps of limited time and rapidly changing locations of troops. But it was surprisingly successful. Although it is impossible to gauge statistically the results of army social hygiene education on the sex habits of the men, it is demonstrated statistically that the effects of law enforcement, instruction, and recreation employed simultaneously with specific groups of men materially reduced the prophylaxis rate. And the prophylaxis rate is quite an accurate gauge of the rate of irregular sexual relations.
But although statistics are not available for the effect of sex instruction alone, case histories obtained informally by the many social hygiene sergeants who had charge of the instruction work in the army camps gave unmistakable evidence of the value of this method of prevention of venereal diseases. In case after case the simple, scientific statements concerning sex hygiene or venereal diseases removed a load of worry which had been weighing a young man down for years and gave him ambition to lead a better sex life.

These personal testimonies reveal strikingly that sex education once undertaken has effects much more inclusive than the prevention of venereal disease. It has a direct bearing on the problem of illegitimacy and on the happiness rate of marriage relations. It also has a distinct and easily traceable relation to the happiness and mental normality of childhood and adolescence. From no other cause so much as ignorance of simple facts concerning sex do the fears, the worries, the broodings, the misunderstandings, so common in adolescence arise. Nothing, on the other hand, can make the period of youth so much a golden age of happiness and pleasure in life as accurate knowledge and normal attitude in matters of sex.

If there were no other matters involved, if it were possible to keep the child from proper instruction at the school ages and re-educate him or her later in college or adult life to normal habits and points of view, the worries and doubts and broodings imposed on boys and girls of the adolescent period as a result of lack of simple knowledge is a cruelty on the part of any society that is able to furnish that instruction. For the immediate happiness of the adolescent boy and girl, sex instruction is a clear duty. Modern psychological research, moreover, is revealing the destructive mental and physical consequences in adult life of the neglect to give the proper direction to the adolescent impulse.

Studies made of childhood and adolescent sex experiences bring out clearly this need of early and adequate sex instruction. A number of years ago Dr. M. J. Exner of the Y. M. C. A. obtained answers to questions concerning sex experience from 948 college men in the East, Central West, and Far West. These answers were obtained under circumstances favorable to accuracy and tending to understatement rather than to overstatement. The summary of the information obtained has been in print for some time. The only criticism made of its conclusions by those familiar with American boys at first hand is that they are too conservative. The conclusions are, in short, that the age at which most boys receive their first permanent sex impressions is 9½ years and that these impressions, received from improper and unreliable sources, usually have a bad effect; that the age at which most boys are likely to begin some form of sexual practice is before
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puberty; that the age at which most boys receive sex instruction from well meaning sources is 15½ years; and that the effects of this instruction, however crude, are in almost every case good.

These answers show vividly that the recent generations of school boys coming from homes well above the average have been getting the wrong sort of sex education, that its effect is bad, and that the right sort of instruction comes six years too late.

No such extensive studies of the sex life of girls have been published. It is probable that within a short time similar studies of girls will be made available. More limited investigations, however, point to a situation fully as serious as among boys. Dr. Richards, of Philadelphia, questioning the 36 girls of one of her high school classes, found that most of them received their first sex information at the age of 11½ years from unreliable sources and that they received their first reliable information at the age of 15.

A study of 50 young women, 25 of whom were college graduates, reported in Social Hygiene, indicates that many girls of the more protected life received no adequate instruction regarding sex matters and venereal diseases until late adolescence and that the effect on those receiving at a late date information regarding the abnormal manifestations of sex was decidedly harmful. On the other hand, it indicates that those who received information on normal sex matters early in adolescence from mothers or teachers seemed not to have ill effects from hearing about prostitution and venereal diseases when it was given them at a later date.

From these studies as well as from the day-to-day experience of lecturers, teachers, and workers with boys and girls, it seems definitely established that sex instruction for boys and girls at the school ages is a crying need and that proper sex instruction has highly beneficial effects.

Various methods of meeting this need for sex instruction of the young are already developed and more are developing.

The methods and matter for the education of the child before puberty are fairly well established. The child at this period is interested in reproduction as in anything else going on about him and questions his parents for the satisfaction of his general curiosity. Sex instruction during these years consists mainly in giving truthful answers to these questions and in establishing confidence between parent and child. Aside from these questions and answers certain elementary instruction with regard to cleanliness of the sex organs is needed. These questions and this advice on hygiene belong to the home. No school method could be devised for taking over the task from the parents. There is practical agreement that all efforts should be directed toward encouraging the proper education of parents for this instruction.
The chief problem is just at this point. Mothers are not so easy to reach as school children. It is necessary to devise many ways of getting their attention and interest and of giving them the preparation for imparting proper instruction. Several private agencies in the past have done good work along this line. Recently the task has been taken up by the health officials of the States and by the Public Health Service. Pamphlets containing standard information for parents, issued in large quantities by these health agencies, are being widely advertised. Lectures, motion pictures, exhibits, newspaper notices, placards, all carry the publicity to parents. This year the Public Health Service has distributed hundreds of thousands of copies of its pamphlet entitled "The Parents' Part" in response to individual requests from parents.

The libraries have been enlisted in the work by the distribution of an official selected book list for the use of parents. The so-called Library Plan of the Public Health Service adopted by several libraries provides for the issuance of this book list to the addresses of all mothers available on school and library lists on the seventh and fourteenth birthday of their children. This is accompanied with a statement of the need for the instruction of their children, and the fact that the books can be obtained from the public library. It is possible that later, advisers on this subject will be supplied and teaching clinics developed in connection with libraries.

It is important that all groups and organizations dealing with mothers carry this information to them along with their other work. The cooperation of all health centers, and of all persons in personal contact with parents, is needed to extend this simple, valuable instruction through mothers to children.

Although the home can do much in the later education of the adolescent boy or girl on sex matters, there comes at this period a new method and shift of emphasis. The life of the youth is centered more in the school. Its many activities take most of his time. He turns to his teachers for the answers to his questions about life. At this period also the sex impulse appears to confuse and bewilder him. The problem of instruction becomes more properly a part of the task of the school.

The necessary sex instruction during these years belongs in the curriculum. It is only by running away from the facts concerning human reproduction, sex hygiene, and venereal diseases normally rising in connection with physiology, hygiene, biology, domestic science, and physical education that teachers fail to give the proper information. The problem of putting sex instruction into the high-school curriculum
Realizing the need for reorganization of the high-school course to include the sex facts in their proper places, the Bureau of Education and the Public Health Service have for the last year been cooperating in work among high-school teachers. A series of ten conferences of high-school teachers has been held in various eastern states. They will be extended in the course of another year to all parts of the country. In these conferences it has become evident that there is general agreement among teachers and experts that sex instruction should be given and given in connection with the courses mentioned above. It has also become known that such instruction is being given successfully in several high schools.

There are many variations of method and arrangement of such courses. But always the facts with regard to reproduction, the hygiene of sex organs, the venereal diseases, and prostitution are given in their proper and natural setting as a part of all life, of general hygiene, and of communicable diseases. It is not so important to have these matters presented in any one of the three or four suitable courses as it is to have the course giving the instruction compulsory.

The training of teachers is also being taken up by these cooperating governmental agencies. Through the Interdepartmental Social Hygiene Board colleges are being encouraged to train teachers in physical education and other subjects who will have the background and personality for giving the necessary instruction. The Bureau of Education and the Public Health Service, through their joint organization, are trying to centralize information covering experiments in teaching these subjects and are now issuing a series of monographs to thousands of high school teachers, presenting reports of successful experiments. Teachers themselves do not need to be convinced of the need of this sex instruction; they are too close to individual boys and girls. They do need training, however, and they ask for guidance and methods.

The fact that many students are graduating from high schools without this necessary instruction, together with the ignorance of many more who are not in school, constitutes an educational emergency. Fortunately sex instruction can be brought to boys concisely and attractively as a part of a personal physical-fitness program. The Public Health Service, in cooperation with the Bureau of Education, has prepared exhibits, lantern slides, and pamphlets presenting the material arranged in this form. This year in more than thirty States the high school boys of the two upper years are being reached systematically with this material. Several groups are presenting the same material to out-of-school boys. Much work is yet to be done in bringing these facts to the boy who cannot be reached through the normal groupings.
of school, club, or industry. This instruction to out-of-school adolescents, therefore, as well as to parents, needs for its success the full cooperation of all public and private agencies touching such groups.

The education of a draft army reaching all groups and kinds of young men has given us a new conception for the extension of sex instruction. We have come to see such instruction as the right of every young man and every young woman in America. We have come to set standards. We have come to insist that every parent shall answer his child's questions truthfully and that every growing boy and girl be prepared with the necessary facts, at least, to help in meeting the problems that arise from the existence of the sex impulse in its many manifestations.
In the following pages an attempt is made to summarize the history and present extent of official and organized voluntary work directed to secure the welfare of mothers and their infants. For fuller particulars it will be necessary to consult the reports of medical officers of health of our chief towns during the last thirty years, and the official reports issued by the Medical Departments of the Local Government Board and of the Board of Education.

The subject of child welfare, in its chief developments, cannot be separated from that of public health, of which it forms a constituent part. I do not ignore the fact that child welfare is largely dependent also on the extent to which child labor is exploited, and to which expectant and nursing mothers—as also other mothers—obtain extra-domestic employment, or employment for gain within the home itself, which involves neglect of young children.

Improvement in child welfare has occurred as the sanitary progress of the country has advanced. This is not the time for writing the history of sanitation in England, but its effect—and the effect of the concurrent improvement in social conditions generally—is shown in the fact that whereas in the decade 1871-80, when money began to be spent more freely on elementary sanitary reform, the expectation of life or mean after-lifetime at birth of males was 41.4 years and of females was 44.6 years; in the years 1910-12 these had increased to 51.5 and 55.4 years respectively. The greater part of the saving of life implied in this addition of ten years to the average duration of life was the result of reduced mortality in children under 5 years of age.

The special influence of sanitation may be further illustrated by the statement that in 1871, 12,709 deaths from enteric fever were registered in a population of 22 4/5 millions, while in 1916, in a population of 34½ millions, the deaths from this disease only numbered 1,137.

The first direct steps towards the reduction of infant mortality were probably directed against epidemic or summer diarrhea. Medical officers of health have always been required in their annual reports to summarize the vital statistics of their districts; and since 1905 a more detailed statement of infant mortality during each part of infancy has
been required. Annually, therefore, as well as when they received the weekly returns of deaths from the local registrars, there was forced upon their attention the fact that deaths of infants under one year of age formed a high proportion of total deaths at all ages (12.9 per cent in 1917), and that of these infantile deaths a large proportion were caused by diarrhea, the number varying with the temperature and the deficiency of rainfall in the summer months. In 1912, a year of relatively small mortality from diarrhea, it caused 8.1 per cent of all deaths under one year of age.

For many years past it has been customary for medical officers of health to issue warnings as to summer diarrhea, to arrange for the distribution of leaflets of advice concerning this disease, and to urge the necessity of more thorough cleanliness, both municipal and domestic, during the summer months. Even before the early notification of births became obligatory, in many areas the addresses of infants were obtained from the registrars of births and special visits were made to the mothers of infants during the months of June and July and especially to the mothers of those infants known to be artificially fed.

The reports of medical officers of health of many of the large towns from 1890 onward show that much valuable work was being accomplished, and the way was being prepared for more general measures against infant mortality.

The importance of municipal sanitation in the elimination of diarrheal mortality is shown in the experience of many towns, and strikingly by the comparative experience of Leicester and Nottingham. The chief difference between the sanitary condition of the two towns was that in Nottingham in 1909 pail closets still served more than half the houses, while Leicester had abandoned this system entirely, substituting water-closets. Between 1889-93 and 1909 the diarrheal mortality in Leicester had declined 52 per cent; in Nottingham it had declined only 4 per cent.

Diarrhea is not the only disease of infancy which can be greatly diminished by improved public health administration. Tuberculosis and whooping cough and measles figure largely in the infantile death returns. Over 21 per cent of the total deaths in infancy are due to these three diseases and to diarrhea. The amount of syphilis appearing in the death-returns is small; but its actual amount is much greater than this. If pneumonia and bronchitis, which account for 19 per cent of the deaths in infancy be regarded—as they should be—as infective diseases, then it may be said that the problem of saving child life and of securing the correlative improvement in the standard of health of survivors to higher ages, consists very largely in the prevention of infectious, including diarrheal, diseases and acute respiratory diseases.
It follows from this that even if the limited and erroneous view be
taken that sanitary authorities are concerned only with the prevention
of infectious disease, the reduction of infant mortality is a duty de-
volving on these authorities, and cannot be effectively carried out
failing their cooperation. Voluntary effort must therefore always, in
large measure, be directed towards stimulating local authorities to
perform their duties.

The influence of diarrheal summer mortality on the progress of
child-welfare work is further shown by the fact that among the earliest
efforts were those to provide pure cows' milk to infants. In England,
official milk depots for this purpose never were numerous; and but
little voluntary effort went in this direction. There now remain very
few such milk depots; but many local authorities provide milk, more
particularly dried milk, to infants for whom it is specially prescribed at
infant consultations. Early investigations at Brighton and elsewhere
showed that the mortality of infants fed on condensed milk—chiefly
of the sweetened variety—was even greater than that of infants fed
on fresh cows' milk; and directed attention to the supreme importance
of domestic cleanliness in the prevention of summer diarrhea. The
milk depots and the concurrent agitation for purer cows' milk served
a useful purpose; though it cannot yet be said that the cows' milk ordi-

narily supplied in England is satisfactorily clean.

It became evident ere long that the broadcast distribution of in-
structutions as to how cows' milk might safely be stored and prepared
for infants was liable to be misinterpreted by mothers, as an encourage-
ment to abandon breast-feeding; and there is reason to believe that
these instructions did sometimes have this effect. Hence the importance
of the work initiated by the late Dr. Sykes at the St. Pancras School
for Mothers, which brought into relief the importance of encouraging
breast-feeding by every possible means. In towns in which the aided
supply of milk was continued, advice as to its use was also initiated;
and thus gradually infant consultations—in which the main element was
the giving of individual advice and treatment as required—superseded
milk depots, and were established in very large numbers where milk
depots had never been started. These had educational value as well as
medical and hygienic activities; and there need be no dispute as to
the relative value of these two aspects of the work of infant consulta-
tions (also known as schools for mothers, child-welfare centres, baby
weighings, mothers' welcomes, etc.); for whether advice and instruc-
tion are given to the individual mother or to mothers collectively—
or as is advisable, in both ways—it should be exactly the advice which
a physician skilled in the hygiene of infancy as well as in the treatment
of infantile complaints would give to his individual patient. In this
sense it remains true, as Professor Budin, the distinguished founder of
infant consultations, said: "An infant consultation is worth precisely as much as the presiding physician." This is true whether it is possible to arrange for a physician to be present at each meeting of a child-welfare centre; or whether, as has happened during the Great War in England, nurses or health visitors trained under such a physician have given hygienic advice in his absence.

**Notification of Births**

For many years before the Notification of Births Act was passed, it had been customary, especially in towns, to arrange for inquiry by a sanitary inspector or female visitor into deaths occurring under one year of age, and in many instances for the giving of systematic advice to mothers concerning their infants. More than 20 years ago the Manchester and Salford Sanitary Association had initiated a system of home visitation by volunteer ladies and by women workers paid by the association, who went from house to house, gave elementary sanitary advice, and reported serious defects to the sanitary authority. The city council, at an early stage, showed its appreciation of the importance of this work by giving grants towards the expenditure incurred.

In order to enable early visits to be made, the town council of Salford had begun as early as 1899 a system of voluntary notification of births by midwives.

It should be mentioned at this stage that prior to the period when early notifications of births were obtained, the medical officer of health was dependent for his information on the registration of births, for which an interval of six weeks after birth was permitted before it became compulsory. During this interval a large proportion of the total mortality of infancy had occurred—approximately one-fifth of the total deaths in the first year after birth occur in the first week, and one-third in the first month after birth—and the possibility of successfully influencing the mother to continue breast-feeding had gone. The action of the town of Huddersfield in 1906 in obtaining Parliamentary power to secure the compulsory notification of births within 36 hours of birth, represented a rapid growth of opinion based on experience in that and other towns to the effect that, in the absence of early information of birth, the necessary sanitary precautions and counsel as to personal hygiene could not be given with the greatest prospect of success. This local pioneer work doubtless facilitated the passing of the Notification of Births Act in 1907.

This act was "adoptive," each local authority deciding whether it wished to obtain early information as to births or not. At the middle of 1914, the act had been adopted or put into operation in each metropolitan borough; in 75 out of 80 county boroughs, representing 97.0
per cent of their total population; in 104 out of 243 other boroughs, representing 67.0 per cent of their population; and for 35.7 per cent of the rest of the population of England and Wales.

Much important work followed the notification of births. Home visits to the mother were regarded and continue to be regarded as the most important part of this work; but there also grew up rapidly the present system of Infant Consultations and similar organizations.

As the Notification of Births Acts form the basis of child-welfare work, it is convenient to give here the purport of the Notification of Births (Extension) Act, 1915, which made the enforcement of this act universal, and empowered each local authority administering the act to exercise any powers which a sanitary authority possesses under the Public Health Acts "for the purpose of the care of expectant mothers, nursing mothers, and young children." In drawing the attention of local authorities to the terms of the act the Local Government Board, as earlier in the war, deprecated false economy. They said:

"At a time like the present the urgent need for taking all possible steps to secure the health of mothers and children and to diminish ante-natal and post-natal infant mortality is obvious, and the Board are confident that they can rely upon local authorities making the fullest use of the powers conferred on them."

The Board in the same circular laid stress on "the importance of linking up this work with the other medical and sanitary services provided by local authorities under the Public Health and other Acts."

The act enjoined that the powers of the act should be exercised by a committee which shall include women and may comprise, if it is thought fit, persons who are not members of the authority. The passing of this act has been followed, as will be shown shortly, by an increasingly rapid development of maternity and child-welfare work. For England the Notification of Births Act had only empowered local authorities to undertake such work as is authorized by the Public Health Acts; whereas, in Scotland, more general power had been given to carry out any work necessary for the welfare of young children. The technical doubt as to their legal powers had been an excuse for inaction on the part of some local authorities; and to remove this doubt the Maternity and Child Welfare Act was passed in August, 1918. This act made it obligatory on each council exercising powers under the act to appoint a maternity and child welfare committee, which must include at least two women, and may include persons specially qualified by training or experience in subjects relating to health and maternity who are not members of the council. In the circular letter sent out to local authorities explaining the new act, the Local Government Board reemphasized its previously stated views that child welfare work was second only in importance to direct war work, and was really a "measure of war emergency," and added:
"Although we have enjoined upon local authorities the necessity of the strictest economy in public expenditure, we have urged increased activity in work which has for its object the preservation of infant life and health. We are glad to note that the great majority of local authorities have realized the value of continuing and extending their efforts for child welfare at the present time."

**The Course of Child Mortality**

It is convenient at this point to give a brief outline of the course of infant mortality in England and Wales and to discuss how far the experienced reduction in this mortality is ascribable to the special work undertaken by voluntary agencies and by official authorities.

The general course of mortality in the first five years of life during a series of years is shown in the following figures: Comparing the period 1911-15 with the period 1871-75, the death rate in infants under one year declined 39 per cent; in the second year of life the death rate declined 41 per cent; in the third year, 50 per cent; in the fourth year, 53 per cent; and in the fifth year, 50 per cent.

No consistent and continuous decline had taken place in infant mortality prior to 1900, although there had already been marked reduction of mortality in each of the next four years of life. This difference corresponds in the main with the fact that greater success had been achieved in the general measures of sanitation and in the reduction of the prevalence of and mortality from such infectious diseases as scarlet fever, diphtheria, and enteric fever, than in respect of the special causes of mortality in infancy. These causes may be placed under three headings: First, infections—acute respiratory diseases, measles, whooping cough, syphilis, tuberculosis, and diarrhea; second, errors of nutrition, due largely to poverty, to mismanagement, and to imperfect provision of facilities for healthy family life; and third, developmental conditions present at the birth of the infant. Under none of these headings had marked success been achieved prior to 1900, though the steady work devoted to the subject of diarrhea had already begun to bear fruit.

The statistics of infant mortality may be stated as follows:

<table>
<thead>
<tr>
<th>Period</th>
<th>Deaths of Infants Under 1 Year Per 1,000 Births</th>
</tr>
</thead>
<tbody>
<tr>
<td>1896-1900</td>
<td>156</td>
</tr>
<tr>
<td>1901-1905</td>
<td>138</td>
</tr>
<tr>
<td>1906-1910</td>
<td>117</td>
</tr>
<tr>
<td>1911</td>
<td>130</td>
</tr>
<tr>
<td>1912</td>
<td>95</td>
</tr>
<tr>
<td>1913</td>
<td>108</td>
</tr>
<tr>
<td>1914</td>
<td>105</td>
</tr>
<tr>
<td>1915</td>
<td>110</td>
</tr>
<tr>
<td>1916</td>
<td>91</td>
</tr>
<tr>
<td>1917</td>
<td>96</td>
</tr>
<tr>
<td>1918</td>
<td>97</td>
</tr>
</tbody>
</table>

Provided by the Maternal and Child Health Library, Georgetown University
The foregoing are the crude rates, when the infantile death rate is stated by the usual method per 1,000 births during the same year. Owing to the great decline of births during the war, this method overstates the infant mortality in recent years. In a table given in the Registrar General’s annual report for 1917, this unusual source of error is corrected. When this is done, and the infantile deaths are stated “per 1,000 of population aged 0-1,” the rates for the years 1912-17, inclusive, in successive years become respectively 104, 117, 113, 111, 98, and 94. In other words, there has been a steady and uninterrupted decline in the death rate of infants during the war.

This decline has followed similar declines in preceding years, and it is to be noted that these declines occurred in part during the period when the hygienic work affecting child welfare was confined to general public-health measures, and that the declines anticipated the more direct and active measures adopted by voluntary societies and by local authorities for the prevention of infant mortality. Comparing the five-year periods 1896-1900 and 1901-05, a decrease in the infantile death rate of 12 per cent is seen; comparing 1901-05 with 1906-10 a decline of 15 per cent occurred; comparing 1906-10 with the average experience of the three years 1911-13 infantile mortality declined 5 per cent; comparing these three years with the average experience of the five years 1914-18, during which war conditions prevailed more or less, a reduction of 9 per cent was experienced. The actual reduction during war time is greater than is indicated by these percentages, when allowance is made for the statistical error indicated above. The experience of the year 1911 illustrates one of the chief sources of error in forming conclusions on the experience of a single year. In this year the summer was excessively hot, and summer diarrhea prevailed to an exceptional extent. The illustration is important, as serving to remind us of the limitations of the value of statistical tests and of the fact that increase of good work tending to improve child life may be associated temporarily with increase of total infant mortality.

School Medical Inspection

In the development of child-welfare work in England important place must be given to the system of medical inspection of school children initiated in 1907. The numerous physical defects found in school children have led to the beginning of measures for remedial action, confined in some areas (in addition to advice given to consult private doctors or to resort to hospitals) to measures for securing greater cleanliness and the treatment of minor skin diseases; but extending in other areas to such measures as the remedial treatment of adenoids,
the cure of ringworm, the correction of errors of refraction, and the provision of dental treatment. Perhaps the chief value of the system of medical inspection of school children has been the fact that it has demonstrated the extent to which children, when they first come to school, are already suffering from physical disease which might have been prevented or minimized by attention in the preschool period. The information thus accumulated has had much influence in encouraging the institution of infant consultations, with a view to the early discovery of disease or of tendency to disease.

Statistical Studies

The intensive study of our national and of local vital statistics has also had a most important bearing on the further development of maternity and child-welfare work. In successive official reports it has been shown that infant mortality varies greatly in different parts of the country, irrespective of climatic conditions; that it varies greatly in different parts of the same town, in accordance with variations in respect of industrial and housing conditions, of local sanitation, of poverty, and of alcoholism; that the variations extend to different portions of infant life, the death-rate in infants under a week, or under a month in age, for instance, being two or three times as high in some areas as in others; and that the distribution of special diseases in infancy similarly varies greatly. Intensive studies of infant mortality on these and other lines have pointed plainly the direction in which preventive work is especially called for, and have incidentally demonstrated the fundamental value of accurate statistics of births and of deaths in the child welfare campaign. Surveys of local conditions, both statistical and based on actual local observations form an indispensable preliminary to and concomitant of good child-welfare work, and it is such work which has rendered possible the improvement of recent years. To act helpfully we must know thoroughly the summation of conditions which form the evil to be attacked.

One important result of investigations such as those already mentioned has been to bring more clearly into relief the fact—in the past partially neglected—that child-welfare work can only succeed in so far as the welfare of the mother is also maintained. This may imply extensions of work in which serious economic considerations are involved; but apart from such possibilities and apart from questions of housing, and of provision of additional domestic facilities for assisting the overworked mother, there is ample evidence that medical and hygienic measures by themselves can do much to relieve the excessive strain on the mother which childbearing under present conditions often involves.
HEALTH—EUROPEAN EXPERIENCE

The Course of Mortality from Childbearing

The general course of mortality from childbearing (including deaths ascribable to pregnancy) in England and Wales is shown in the following table:

<table>
<thead>
<tr>
<th>Period</th>
<th>Puerperal Septic Diseases (Per 100,000 births)</th>
<th>Other Diseases of Pregnancy and Childbirth</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 years, 1902-06</td>
<td>185</td>
<td>228</td>
</tr>
<tr>
<td>5 years, 1907-11</td>
<td>152</td>
<td>215</td>
</tr>
<tr>
<td>3 years, 1912-14</td>
<td>148</td>
<td>233</td>
</tr>
<tr>
<td>2 years, 1915-16</td>
<td>151</td>
<td>239</td>
</tr>
</tbody>
</table>

It will be noted that although there has been a marked decline of deaths from puerperal sepsis, the death rate from other complications of childbearing has not declined. The decline in puerperal sepsis is general throughout the country, and evidences of greater care in midwifery both on the part of doctors and of midwives. The administration of the Midwives Act, 1902, has doubtless done much to secure this. The death rate from conditions other than puerperal fever continues to differ greatly throughout the country. It is highest in Welsh counties, Westmoreland, Lancashire, and Cheshire coming next in order of unfavorable portion; in many industrial, including textile, towns it is also excessive. The general conclusion reached by the writer in an elaborate official report on the subject is that "the quality and availability of skilled assistance before, during, and after childbirth are probably the most important factors in determining the remarkable and serious differences in respect of mortality from childbearing shown in the report. The differences are caused in the main by differences in availability of skilled assistance when needed in pregnancy, and at and after childbirth."

The Midwives Act, 1902

This act forbade any woman after April 1st, 1905, who was not certified under the act, from using the title of midwife or any similar description of herself. It forbade after April 1st, 1910, any such woman from "habitually and for gain attending women in childbirth, except under the direction of a qualified medical practitioner"; and it forbade any certified midwife to use an uncertified person as her substitute. The act defined the limits of function of the midwife by stating that it did not confer upon her any title to give certificates of death or of stillbirth, or to take charge of any abnormality or disease in connection with parturition.

The act set up the Central Midwives Board, giving it special disciplinary powers over midwives. It also imposed on county councils and the councils of county boroughs the duty of supervising the work of
midwives. For further details the act itself and the rules of the 
Central Midwives Board made under the act should be consulted.

The Midwives Act, 1918, gave further powers to the Central Mid-
wives Board and to local supervising authorities, and made it the duty 
of the latter to pay the fee of a doctor called in by a midwife in any 
of the emergencies for which rules are made by the Central Midwives 
Board. The fee paid is to be in accordance with a scale prescribed by 
the Local Government Board.

As at least three-fourths of the total births in England and Wales 
are attended by midwives with or without the assistance of doctors, 
their work is of great importance in relation to the reduction of ma-
ternal disablement and mortality and to the prevention of early infant 
mortality, and it is of happy augury that they are being enlisted more 
and more in official work for safeguarding the health of the mother 
and of her unborn or recently delivered infant. An important recent 
addition has been made to the rules of the Central Midwives Board, 
which makes it obligatory on the midwife to notify the medical officer 
of health of any instance, while the patient is under her charge, in which 
for any reason breast feeding has been discontinued.

Largely through the machinery provided by the Midwives Act and 
the Notification of Births Act a system of supervision of maternity and 
child welfare has been organized in every county and county borough, 
which has been responsible for a large share of the improvement ex-
perienced in recent years. The character and extent of development 
of the work varies greatly in different centres; and as a rule the work 
is more fully developed in county boroughs than in counties. In county 
districts it has been found possible and often desirable to unite the 
ofices of assistant inspector of midwives, infant visitor, and tuberculosis 
visitor in one adequately trained health visitor, thus saving time in 
travelling, by enabling the visitor to have a smaller district allotted to 
her than if she undertook only one branch of work. In some counties 
the school nurse's work is also undertaken by the health visitor. In 
some country areas arrangements have been made for infant visiting 
to be carried out by district nurses who are also midwives.

Much of the success so far achieved in improving the health con-
ditions of infancy and childhood has been secured by cooperation 
between voluntary and official health visitors. Excellent work has 
been done by local and other societies, particularly during the last ten 
years, in educating public opinion and in direct assistance to mothers 
and their infants. It is essential that such voluntary work should have a 
nucleus of highly trained and well-paid workers; but given this con-
dition, a large amount of good work can be accomplished by vol-
untary aid.

The main work has been that of health visiting. The details of this
work, the conditions of qualification of workers, the number of visits which it is desirable to make, and the character of the advice intended to be given at these visits, are set out in an official memorandum of the Medical Officer of the Local Government Board, and it is unnecessary to repeat this information in these pages.

A similar remark applies to the next most important development of work, the institution of maternity and child-welfare centres. The conditions of work of these institutions are set out in the same document.

The following additional facts are taken from my annual report to the Local Government Board for 1917-18 and will serve to supplement the information already given.

Up to the end of 1917, 542 centres for maternity and infant welfare work had been established by local authorities, and 551 by voluntary societies. At the end of June, 1918, the numbers were 700 and 578, respectively.

On June 1st, 1918, there were 751 whole-time health visitors, 760 part-time health visitors, and 1,044 district nurses, engaged by local authorities in maternal and child welfare work, in addition to 320 health visitors in the employment of voluntary societies. The district nurses employed as health visitors are almost entirely engaged under county schemes. An increasing number of voluntary societies suffer from deficiency of funds, and in many instances help has been given to them by local authorities, either financial or in the form of staff. The Board repay half the approved expenditure for assistance granted in this way.

It is important that the same persons should act as health visitors and as inspectors under the Children Act, 1908, and advice to this effect has been given to boards of guardians and sanitary authorities.

In many areas the work of inspection of midwives continues to be relatively unsatisfactory. This is the more regrettable as in some of the most populous counties and urban districts half or more than half of the midwives are bona fide practitioners, having been placed on the roll because they were practising before 1901. The best inspector of midwives is a medical practitioner, but under present circumstances this is seldom practicable. The appointment of the superintendent of the county nursing association to act under the control of the county medical officer has proved satisfactory when she is qualified and experienced. This arrangement is economical of traveling expenses and time, as she can also supervise district nurse midwives, the number of which, who are also acting as health visitors, is 1,044 at present.

Very satisfactory progress has been made during the year in the provision of midwives in districts in which there were none or the number was insufficient. The urgency of this provision has increased, owing to the demands on the time of medical practitioners, many of whom cannot afford time to attend normal confinements. This provision has usually been made by county councils working through the medium of county nursing associations.

The provision of additional trained midwives is a pressing problem. The increased cost of living, longer training required, and the rapid development of less laborious and more lucrative occupations, have made it difficult to secure women to train as midwives, or to continue to practise in this capacity after qualification. In many industrial areas the older bona fide midwife is preferred, although it is the almost universal experience that the trained midwife more quickly detects conditions endangering the life of the mother or infant, and sends
for medical help. In order to encourage further the supply of practising midwives, the Board are allowing to rank for grant increased remuneration given to midwives newly appointed by local authorities, sufficient to recoup them in the course of a few years' service for the cost of their training. The Board have also allowed the cost of providing outfits for midwives subsidized by local authorities to rank for grant.

It remains the fact that at a recent date, of some 30,543 trained midwives on the Roll, only 6,754 were returned as being in actual practice as such.

In order to make midwives available for all women needing them, the Board repay to local authorities and voluntary associations half the cost of the provision of a midwife for necessitous women. In various forms a woman may receive considerable assistance in her confinement; for in addition to the above—

1. If she is the wife of an insured person, or if she herself is insured, she received under the conditions of the National (Health) Insurance Act 30s. in cash, or if she is insured and the wife of an insured person, 60s. in cash.

2. If she is the wife of a soldier or sailor and not entitled to maternity benefit she receives from 10s. per week up to £2 from the Local Pensions Committee.

3. If she is a munition worker she may be aided under a scheme provided under the Ministry of Munitions.

4. She also may obtain priority for the supply of milk, or obtain free milk, or milk at cost price under the Board's Food Control Order, No. 1, 1918, empowering local authorities to supply milk and food and an extra ration under the Food Controller's Order. In addition, after confinement she has available the ration apportioned to the infant and its allowance of milk under the priority scheme.

There is evidently need for simplification and unification of effort in the above cases.

In many instances maternity nursing is required. The midwife may have too many patients to be able to give this during the ten days in which she is in charge of the patient; and even when she carries out her duty in this respect in accordance with the rules of the Central Midwives Board, additional help is required in the feeding and care of the mother and infant and in the care of the household. Often nursing is also required for both mother and infant for a considerable period beyond the ten days. For these reasons the Board are now prepared to give grants for maternity nursing and for "home helps."

Even when all the above requirements are or can be fulfilled, there remain a large number of cases of pregnant and parturient women, and especially of unmarried women, who cannot be satisfactorily confined at home, either because of social or sanitary circumstances, or because abnormal or complicated childbirth is expected. For such cases hospital provision is needed. This is one of the most urgent requirements of the present time. Most local authorities have not yet appreciated the great need for institutional provision for complicated midwifery and for a certain number of normal cases, though some are already taking steps to meet it. Other local authorities have been deterred by the doubtful position of the law as to their powers to provide institutions for normal midwifery. This doubt is now removed.

Present provision, as I pointed out in my last annual report, is much more adequate in the metropolis than in the rest of the country; and I connected with this fact the exceptionally low mortality in childbearing in London due to causes other than puerperal sepsis.
Under present conditions, institutional lying-in provision is chiefly voluntary in character; and the Board are advising local authorities to contract for its use, rather than wait for the erection of special hospitals. In other instances houses are being taken and adapted as maternity homes.

For some years hospital provision for complicated midwifery has been made by the local sanitary authority in Birmingham, St. Helens, and Bradford; and at the present time similar provision is being arranged at Batley, Bournemouth, Burnley, Blackpool, Croydon, Dudley, Hull, Leeds, Nottingham, Rochdale, Smethwick, Southend-on-Sea, Stockton-on-Tees, Swindon, York, and other towns. In nearly all these instances it is proposed to utilize existing hospitals or to convert existing premises into hospitals.

Official assistance for the provision of medical assistance has been greatly developed during 1917, many county councils and county and metropolitan boroughs having made arrangements for this purpose. The Board have expressed their willingness to approve a scale of fees recommended by the British Medical Association in 1915. It is hoped that ere long the payment of such fees to medical practitioners called in by midwives will be made obligatory on local authorities.

The progress made in the organization of antenatal work is slow for reasons which are fairly obvious. There is difficulty in securing assistance from doctors and midwives, and medical practitioners have no time for the work at the centres. There is the well-known difficulty as to notification of pregnancy, which the Board have not encouraged, except when the definite consent of the mother has been previously obtained. The facilities for help provided at the centre have in some areas succeeded in attracting patients; and health visitors and midwives have done much in other areas to persuade mothers of the advisability of safeguarding themselves against possible complications, as well as of securing adequate preparation for the lying-in period.

This subject is closely associated with that of abortions, stillbirths, and deaths in the first two weeks after birth. One of the most promising methods for securing the sound development of antenatal work consists in the investigation of stillbirths and early infant mortality. At these inquiries mothers can be induced to obtain medical advice not only at the time, but also in the event of a subsequent pregnancy. The investigation at the patient's home of all such cases and assistance in prevention of recurrence of unnecessary antenatal, natal, and early postnatal deaths have as great an importance as the building up of a successful antenatal clinic. The anti-syphilis work now being carried on will help greatly in this direction.

There has been a large extension of dental assistance at centres, for expectant and for nursing mothers, and for children, especially in the metropolis and its vicinity. The Board has lately extended its grant to cover dentures for mothers who are nursing or pregnant, if the medical officer of the centre is satisfied that the woman's health will be materially improved by the denture, and that she is unable to provide it for herself.

The increased calling up of doctors for the Army and Navy has caused increasing difficulty in obtaining medical advice at maternity and infant welfare centres, and without this the utility and popularity of the centre must necessarily suffer. The assistance of judicious voluntary workers, the promotion of social clubs, the development of self-constituted and self-regulated clubs or guilds, with a social propaganda for the improvement of themselves and their fellow workers, friends, and neighbors, in some instances are having marked effect. It is noteworthy that at many centres the poorest women and those for whom
help is most needed are those least often in attendance, and these women are also
the most skilled in avoiding visits of health visitors. The formation of guilds
and institutes will do much to increase the scope of present work.

Creches and day nurseries may be expected to exercise influence in educating
mothers in the care of their children. For this purpose it is very desirable to
have the creche attached to or near an infant welfare centre. The Local Gov-
ernment Board, as well as the Ministry of Munitions, are empowered to assist
creches by grants.

These creches, unless managed with the most rigid standard of medical and
general cleanliness, are very apt to spread infectious diseases; not merely such
diseases as whooping cough, measles, and chicken pox, but also catarrhal and
diarrheal diseases. In the prevention of all of these the enforcement of the
strictest cleanliness is essential, especially during the summer months for the
last named diseases. For the prevention of catarrhal infections, it is essential
that the creche should be conducted, so far as practicable, on strict open-air
lines. Open-air creches give admirable occasional relief to mothers, even when
these do not go out to work. The "toddler's playground" is a blessing to all
concerned, but the indoor creche may be, and often is, mischievous. The risks
are greatly reduced by insisting on open-air conditions and by not allowing
large groups of children to come together. Smaller groups mean greatly de-
creased possibility of cross-infection.

At infant welfare centres infants are not infrequently seen who fail to make
progress while living at home, and who yet are not ill enough to be sent to a
hospital. This especially applies to cases of defective nutrition. For these cases
beds in connection with centres have been found to be necessary for observation
purposes and to initiate further treatment. In some instances, especially for
failure of breast feeding, it is advisable to admit the mother with the infant.
During the year, representatives of the chief children's hospitals in London, of
general hospitals having children's departments, and of infant welfare centres,
conferred with the officers of the Board, and it was generally agreed that there
was need for further accommodation in hospital beds as indicated above. There
is no doubt that after the war such accommodation will be provided to a greater
extent in the larger hospitals; meanwhile, both in London and the provinces,
such beds are now being provided almost entirely at voluntary centres. The
Board have drawn up the following rules for the guidance of those providing
such beds:

1. Acute cases of illness, such as would ordinarily be admitted to existing
hospitals, and cases of infectious disease should not be treated in cots at
a centre. The centre should, if practicable, be associated with a general
hospital or a children's hospital, with a view to prompt admission of acute
or serious cases of illness.

2. The experiment of providing cots at centres should be on a small
scale, with not more than two wards with four cots in each, and the fittings
and furniture should be as simple and inexpensive as possible.

3. A whole-time nurse should be in charge by day and one by night,
and the nursing staff should, as a rule, be distinct from the staff engaged in
the ordinary work of the centre.

4. If a medical officer is not resident on the premises, there should be
arrangements for securing his prompt attendance when required. The
Board would welcome arrangements of the treatment of mothers, with their
infants, when breast feeding fails.
An increasing number of local authorities are now providing or arranging to provide nurses at the patient's home for cases of measles, whooping cough, ophthalmia neonatorum, and acute diarrhea in children under five years of age; also for women after confinement, and for cases of puerperal fever, especially where hospital accommodation is unavailable.

New Work

The Board have recently been authorized to assist by grants new work comprised under the following headings:

- Hospital treatment for children up to five years of age;
- Lying-in homes;
- Home helps;
- Creches and day nurseries.

Also,

- For the provision of food for expectant and nursing mothers and for children under five years of age;
- For convalescent homes for nursing mothers and for children under five years of age;
- For homes for children of widowed and deserted mothers and for illegitimate children; and
- For experimental work for the health of expectant and nursing mothers and for children under five years of age.

Government Aid for Child Welfare Work

A beginning in grants for child welfare work was made by the Board of Education for the establishment of schools for mothers and similar institutions in which collective instruction to mothers was given and some degree of regularity of attendance of the mothers was secured.

On July 30th, 1914, the Local Government Board sent a circular letter and covering memorandum by their Medical Officer which may be claimed to have initiated maternity and child welfare work on a larger scale, more generally distributed throughout the country, and more completely covering the whole sphere of medical and hygienic work for this purpose than had previously been envisaged. Although the country at that time might be said to be already under the shadow of war, these documents had been previously prepared, and their appearance four days before the declaration of war was a coincidence. The chief burden of the additional work to which local authorities were urged was that there should be continuity in dealing with the whole period from before birth until the time when the child is entered upon a school register; and the memorandum contemplated that "medical advice and, where necessary, treatment should be continuously and systematically available for expectant mothers and for children till they are entered on a school register, and that arrangements should be made for home visitation throughout this period."
It was added that "the work of home visitation is one to which the Board attach very great importance and in promoting schemes laid down in the accompanying memorandum the first step should be the appointment of an adequate staff of health visitors."

The memorandum was as follows:

Maternity and Child Welfare

A complete scheme would comprise the following elements, each of which will, in this connection, be organized in its direct bearing on infantile health.

1. Arrangements for the local supervision of midwives.

2. Arrangements for:
   (1) An antenatal clinic for expectant mothers.
   (2) The home visiting of expectant mothers.
   (3) A maternity hospital or beds at a hospital, in which complicated cases of pregnancy can receive treatment.

3. Arrangements for:
   (1) Such assistance as may be needed to ensure the mother having skilled and prompt attendance during confinement at home.
   (2) The confinement of sick women, including women having contracted pelvis or suffering from any other condition involving danger to the mother or infant, at a hospital.

4. Arrangements for:
   (1) The treatment in a hospital of complications arising after parturition, whether in the mother or in the infant.
   (2) The provision of systematic advice and treatment for infants at a baby clinic or infant dispensary.
   (3) The continuance of these clinics and dispensaries, so as to be available for children up to the age when they are entered on a school register, i.e., the register of a public elementary school, nursery school, creche, day nursery, school for mothers, or other school.
   (4) The systematic home visitation of infants and of children not on a school register as above defined.

Grants were promised to local authorities or to voluntary agencies for work done under the scheme set out amounting to one-half of the total approved expenditure. About the same time a circular was sent out by the Board of Education promising similar grants for schools for mothers. The grants to voluntary agencies were made conditional on the work being coordinated so far as practicable with the public health work of the local sanitary authority and the school medical service of the local education authority.

The increased work since that date may be gathered from the following table, which shows the increase each year in the grants given on the 50 per cent basis by the Local Government Board and the Board of Education.
AMOUNT OF GRANTS IN EACH FINANCIAL YEAR TO LOCAL AUTHORITIES AND VOLUNTARY AGENCIES, ON THE BASIS OF 50 PERCENT OF TOTAL APPROVED LOCAL EXPENDITURE

<table>
<thead>
<tr>
<th>Financial Year</th>
<th>Grants of Local Government Board (Pounds Sterling)</th>
<th>Grants of Board of Education (Pounds Sterling)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1914-15</td>
<td>11,488</td>
<td>10,830</td>
</tr>
<tr>
<td>1915-16</td>
<td>41,466</td>
<td>15,334</td>
</tr>
<tr>
<td>1916-17</td>
<td>67,961</td>
<td>19,023</td>
</tr>
<tr>
<td>1917-18</td>
<td>122,285</td>
<td>24,110</td>
</tr>
<tr>
<td>1918-19 (estimated)</td>
<td>209,000</td>
<td>44,000</td>
</tr>
</tbody>
</table>

These grants do not cover the entire scope of child-welfare work carried out throughout the country, and their amount must not be taken as a complete indication of the extent of this work.

The increase during the war period has been very great, and this can be attributed to the desire to do everything practicable for mothers and children, especially for those belonging to soldiers and sailors who were risking their lives for the country; and to the increased realization of the importance of preserving and improving our chief national asset, which consists in a healthy population. During this period there was a great increase in the industrial employment of women, including married women, in factories, including munitions and other works. This increase it is believed amounted to a million and a half workers. The Ministry of Munitions took an active part in arranging for welfare work in the establishments for which it was responsible; and this work included, in some instances, special care for pregnant women and for nursing mothers.

Notwithstanding the many adverse influences, to which must be added great overcrowding in many industrial areas, especially those in which new industries were hurriedly started, and the increasing cost of food and especially of milk with a scarcity of supply, it has been seen that infant mortality remained low and on the whole declined during the entire period of the war.

To what circumstances can this be ascribed?

It is unnecessary to assume that this result was entirely due to the active measures favorable to maternity and child welfare which were taken, on an unexampled scale, though these measures can claim an important share in the result.

A number of contributory factors were at work:

1. In none of the years in question did the summer weather favor an excess of diarrheal mortality. When this factor, however, is eliminated the infant mortality was lower each year than in previous years.

2. Although so many husbands were away from home, in a large proportion of cases the wife, in virtue of her separation
allowance, was financially in a more favorable position than when she was dependent on her husband's wage or such portion of it as he allowed her for the support of the household.

(3) In addition, every soldier became an insured person, and his wife was therefore entitled to the maternity benefit of 30 shillings on the birth of a child, and an additional 30 shillings if she was herself an employed person.

(4) There can be no reasonable doubt that the restrictions on the consumption of alcoholic drinks and the limitations of hours for opening public houses constituted a factor in improving domestic welfare.

But, attaching full value to these and other similar factors which undoubtedly were at work, chief place must, I think, be given to the awakening of the public conscience on the subject, and to the concentration on the mother and her child which had been urged in season and out of season, and which now became a fact. An indication of the public mind is given by the advice issued by the Local Government Board in August, 1918, which is quoted on page 274.

The special measures carried out during the war for which the grants are payable to local authorities or local voluntary agencies to the extent of half the total approved expenditure are enumerated in the following extract from the regulations issued by the Local Government Board in August, 1918.

Regulations under which grants not exceeding one-half of approved net expenditure will be payable by the Local Government Board to local authorities and to voluntary agencies in respect of arrangements for attending to the health of expectant mothers and nursing mothers and of children under five years of age.

1. The Local Government Board will pay grants during each financial year, commencing on April 1st, in respect to the following services:

   (1) The salaries and expenses of inspectors of midwives.

   (2) The salaries and expenses of health visitors and nurses engaged in maternity and child welfare work.

   (3) The provision of a midwife for necessitous women in confinement and for areas which are insufficiently supplied with this service.

   (4) The provision, for necessitous women, of a doctor for illness connected with pregnancy and for aid during the period of confinement for mother and child.

   (5) The expenses of a centre, i.e., an institution providing any or all of the following activities: Medical supervision and advice for expectant and nursing mothers, and for children under five years of age, and medical treatment at the centre for cases needing it.

   (6) Arrangements for instruction in the general hygiene of maternity and childhood.

   (7) Hospital treatment provided or contracted for by local authorities for complicated cases of confinement or complications arising after parturition, or for cases in which a woman to be confined suffers from illness.
or deformity, or for cases of women who, in the opinion of the medical officer
of health, cannot with safety be confined in their homes, or such other
provision for securing proper conditions for the confinement of necessitous
women as may be approved by the medical officer of health.
(8) Hospital treatment provided or contracted for by local authorities
for children under five years of age found to need in-patient treatment.
(9) The cost of food provided for expectant mothers and nursing
mothers and for children under five years of age, where such provision is
certified by the medical officer of the centre or by the medical officer of
health to be necessary and where the case is necessitous.
(10) Expenses of creches and day nurseries and of other arrangements
for attending to the health of children under five years of age whose mothers
go out to work.
(11) The provision of accommodation in convalescent homes for nursing
mothers and for children under five years of age.
(12) The provision of homes and other arrangements for attending to
the health of children of widowed, deserted, and unmarried mothers, under
five years of age.
(13) Experimental work for the health of expectant and nursing
mothers and of infants and children under five years of age carried out
by local authorities or voluntary agencies with the approval of the Board.
(14) Contributions by the local authority to voluntary institutions
and agencies approved under the scheme.

2. Grants will be paid to voluntary agencies aided by the Board on condition:
(1) That the work of the agency is approved by the Board and coordi-
nated as far as practicable with the public health work of the local
authority and the school medical service of the local education authority.
(2) That the premises and work of the institution are subject to in-
spection by any of the Board's officers of inspection.
(3) That records of the work done by the agency are kept to the
satisfaction of the Board.

3. An application for a grant must be made on a form supplied by the Board.

4. The Board may exclude any items of expenditure which in their opinion
should be deducted for the purpose of assessing the grant, and if any question
arises as to the interpretation of these regulations the decision of the Board
shall be final.

5. The grant paid in each financial year will be assessed on the basis
of the expenditure incurred on the service referred to in Article I in the pre-
ceding financial year, and will be, as a rule, at the rate of one-half of that ex-
penditure where the services have been provided with the Board's approval and
are carried on to their satisfaction. The Board may, at their discretion, reduce
or withhold the grant.

These regulations widen the provisions made for the giving of grants
for maternity and child-welfare work which have been in operation
since July, 1914, the chief additional services for which the grant was
made available being:

Hospital treatment for children up to five years of age.
Lying-in homes.
Home helps.
The provision of food for expectant and nursing mothers and for children under five years of age.

Creches and day nurseries.

Convalescent homes.

Homes for children of widowed and deserted mothers and for illegitimate children.

Experimental work for the health of expectant and nursing mothers and of infants and children under five years of age.

The circular published by the Local Government Board on August 9th, 1918 (M. & C. W. 4), should be consulted for fuller details.

The Board of Education has during the war encouraged the further teaching of mothercraft to girls over twelve years of age in elementary schools, as well as the establishment of day nurseries or creches for which grants were payable as for institutions subsidized by the Local Government Board.

The provision of milk for infants and young children became more difficult during the war, and a priority scheme was eventually put forward which gave priority to expectant and nursing mothers and to children under five. The order made in February, 1918, under the Defence of the Realm Act, enabled any local authority to arrange for the supply of food and milk for expectant mothers and nursing mothers and of milk for children under five years of age, and required them to provide such a supply when instructed to do so by the Local Government Board. In necessitous cases on the certificate of a medical officer the provision of food or milk free or below cost price was authorized. These provisions were utilized to a considerable extent; but there was no evidence of widespread suffering of infants or of their mothers through lack of milk or other food. In a large number of instances dried milk was utilized to supplement local deficiencies of supply, and the Ministry of Food made itself responsible for the distribution of a large quantity of full cream dried milk. A considerable number of authorities supplied free dinners for expectant and nursing mothers; but as the war progressed the additional earnings of the main mass of the population diminished the need for these. The need was still further diminished by the separation allowances for each soldier's or sailor's wife. Thus a wife with four children drew in October, 1914, 22 shillings a week; in March, 1915, this was raised to 25 shillings; in January, 1917, to 31 shillings, and in October, 1918, to 35 shillings a week.
BELGIAN ORGANIZATION

By DR. RENE SAND

University of Brussels, Belgium

You may be a little puzzled to see a medical man who a few months ago was at a hospital in the front, stand before you and attempt to speak upon child welfare, but it is perhaps not as preposterous as it seems at first sight.

It is quite true that I was in a big hospital at the Belgian front a few months ago, but near that hospital was a civilian population of about 10,000 people. The military authorities had wanted them to go because we were only eight miles from the German trenches, but they refused to go. The civilian authorities had also wanted them to go, and probably the Germans wanted them to go also—at least they bombarded them, which was equal to manifesting their desire—but the people did not want to go. And so as there were mothers among them, and as babies were born, the military hospital started a maternity and babies' clinic. We considered it quite an unusual thing to do, but war has done away with many prejudices.

Well, then, it has been shown what a good teacher is adversity. When the Belgian government had to leave the country the need for some unofficial organization was felt. So a few business men and political men of high standing came together and formed a national committee. This committee had no judges, no police, and no army to enforce its decisions. Nevertheless they were obeyed as the decisions of any regular government had never been. This committee had to care for every need which could be helped, and had of course at first to distribute the food and supplies which you so generously sent to us. But it started a benefit relief organization, and in doing so it developed a plan of which every government could have been proud. It included many things.

First of all there were so many unemployed in Belgium. Almost everyone was unemployed because to have worked would have been to work for the Germans. So the national committee decided that courses would be open not only for general education but also for vocational training of all unemployed, but that they could not enforce because the Germans flatly opposed it. The Germans did not want us to emerge from the war more or less prepared.

So they started another scheme, a medical scheme. Of course a
The majority of the population was more or less ruined—it is now almost completely; and they could no more pay for their doctors or for their medicines. So the national committee decided that every citizen with a limited income would be entitled to free medical service. Specialists and maternity and hospital care were provided in the same way, and for the first time a national medical service was instituted. Everyone had a right to choose his own doctor, and the doctor was paid at the per capita rate by the national commission.

The national committee started also a war-orphan scheme and a crippled-soldier scheme, and finally a child-welfare scheme.

We had before the war a child-welfare league in Belgium. It was under the presidency of our Queen whom you are always sure to find wherever there is a need to placate or a sufferer to help. But the activity of that league was like a drop in the cup of infantile mortality. Now, war breaks out. The future of the race is imperilled. The necessity of caring for the children becomes evident, and there springs up a child-welfare organization which almost at once reaches the tiniest villages in the country. Before the war we had only 60 babies' clinics in Belgium. There are now more than 700, and they have distributed over one billion gallons of milk—mostly your milk.

In 1914 two cities only had dinners for mothers; there are now 600 municipalities which have followed this example. The result came very quickly. Infantile mortality, instead of increasing, decreased in Belgium during the war.

We have not been and we could not be as happy in our results with the older children. Very precise figures have been communicated to the Belgian Academy of Medicine, and they show that the average Belgian child is, on account of the war, one full year behind his normal development. The average Brussels schoolboy has lost three pounds in four years, and the average Brussels school girl seven pounds, and this applies to almost all classes of the population.

However, many means were employed in order that this evil should not be greater. Every day two ounces of special bread made with the best available wheat was distributed to every school child, and this bread which was baked in individual lumps was such a treat compared to war bread that it became very soon known as school cakes. One million two hundred thousand of such cakes were distributed daily in the whole of Belgium, together with cocoa or milk. Those lunches had to be taken in the schools under the supervision of the teachers, because experience showed that many children were so self-sacrificing that they took the cakes home in order to share them with older brothers and sisters who were not entitled to receive them. Special dinners were provided for anemic children, and day camps and colonies were started for them. The children remained there for three weeks,
and under the influence of fresh air and good diet they generally gained
four pounds and sometimes as much as ten or twelve pounds in that
very short time.

Besides this official work, girls and women organized through the
whole of Belgium dinners and luncheons for the children between the
ages of 3 and 18. Those girls and mothers were quickly known under
the charming name of "Little Bees."

Now, all those activities, which are really due to the war, will be
maintained and developed. A bill has been passed through the Belgian
Parliament in order to create a national children's bureau, which will
take care of the whole work of child welfare in Belgium. It will be
a semi-official organization. It will work under the patronage and su-
 pervision of the State, but it will be free from too much red tape and
from political intervention. It will have to see to it that in every city,
in every village, there will be organized at least one babies' clinic under
the care of a local committee, to which will also be entrusted the care
of the babies and of the children boarded out by their parents and
guardians. Besides this compulsory work the national children's bu-
reau will have also to provide for every kind of volunteer work.

This organization cannot stand quite alone. We cannot in the
hygiene, or in any social work, maintain a policy of enclosed fields.
Child welfare has to go hand in hand with mothers' welfare and
fathers' welfare and everybody's welfare. This we must yet plan and
develop. We have yet no program for that work, but we have a
slogan, and the slogan has been given to us this afternoon by Miss
Lathrop. She said "cooperation and education." It sounds quite
American, does it not? It is given under your guidance, and I feel
certain it will lead us to success.
A PHYSICAL CLASSIFICATION OF CHILDREN

By PROFESSOR FABIO FRASSETTO, D. S., M. D.
Director, Anthropological Institute, University of Bologna, Italy

The preservation of the child in perfect health and in equilibrium with the natural and social environment during its growth is the supreme purpose toward which should be directed all the efforts of child-welfare workers.

The essential requirement for perfect health is perfect balance of functions (whether direct or primary balance depending on perfect proportion among the organs and the parts of the body, or secondary or indirect balance, depending on the mutual reaction by which those functions may be compensated for a longer or shorter period for modifications in related functions). But this ideal condition of equilibrium is rarely found in the human body. Most of the individuals present an unstable lack of proportion in the development of their organs, resulting in disturbances of functions, permanent, continuous, or temporary, which disturbances are the first step toward disease.

The lack of proportion among the organs which is called in medical language predisposition has its natural origin in that combination of organic and functional characteristics termed in medical language constitution. The less the functions, in their anomalies, are susceptible to disturbances, the smaller is the predisposition and the greater the resistance of the body to disease; and, vice versa, the more the functions are susceptible to disturbances, the greater is the predisposition and the lower the resistance of the body. In the first case it is said that the constitution is strong; in the second case that it is weak; and these adjectives strong and weak do not refer to muscular force, as it is generally thought, but to the harmony among the organs and to equilibrium among the functions. It is necessary to clarify these conceptions of predisposition and constitution because of the uncertainty in regard to this matter prevailing even among medical men. To this should also be added that a good or bad constitution of an organ or of a body is the main foundation for its health or its illness.

Our next step will be the discussion of the methods to follow in the study of the constitution. According to the brilliant anatomical investigations by Morgagni in Italy, continued by Theophile Borden and Bishât in France, the conception of constitution was based on anatomy, while at present its bases are considered anatomy and physiology combined; that is, morphology. The study of constitutions...
on the basis of morphology was first introduced by De Giovanni in Italy, whose writings on the subject were first published about 1880, and who founded the School of Italian Clinical Morphology. This school has shown very clearly on the basis of the biological law of correlations of development that the exterior constitution of the body reflects its inner constitution; and that any defect in the morphology of the body, whether external or internal, will result in a functional defect; the school has also shown that the degree of this defect represents the degree of the predisposition to disease.¹

Let us see now what kinds of constitutions there are in existence. Even a very superficial and hasty examination allows us to distinguish in the apparent kaleidoscope of varieties of size and form two types of constitutions, well defined, with distinct contrasting characteristics, the heavy physique and the slender constitution present in all times and among all races, as illustrated by the accompanying plates.²

If we examine carefully these two extreme types shown in figures 1 and 2, Plate I, we can easily see that they are in complete contrast to each other, not only anthropometrically, but also functionally and pathologically, since, as we stated previously, there usually exists a constant relation between the external morphology of the individual and his internal visceral organs and between the condition of these latter and disease.

The principal anthropological, physiological, and pathological characteristics of these two types are listed below:

I. HEAVY PHYSIQUE (with predisposition to apoplexy)³

Habitus apoplecticus (macroplanchia)

A. Principal Anthropological Characteristics

2. Morphological type. Brevilinear (brachymorphous) with the proportion of the parts of the body like those of an infant.

¹Achille De Giovanni, for instance, has shown that when the handle of the breast-bone is considerably too long in proportion to the body, it is accompanied by congenital atrophy of the left ventricle and of the aorta. Giacinto Viola has shown by clinical experiments and anatomical observations that a considerably insufficient development of the whole medullary system and a very great shortening of that system after its removal from the vertebral canal are always accompanied by considerable nervous sufferings in the spinal region, and the stretch of the arms is in such cases shorter than the length of the body. Dr. Messedaglia has shown a direct relation between the external size of the abdomen and the development of the liver, the stomach, and the intestine. The localization of Pott's disease is confined to those places where there is a lack of proportion among the parts of the vertebral column; and similarly many other diseases are caused by the lack of proportion between the abdominal cavity and that of the thorax, between the heart and the vascular system, between the extent of the surface of the arteries and that of the veins, between the size of the trunk and that of the limbs. (Cf. A. De Giovanni, Lavori dell' Istituto di Clinica medica di Padova, Milano, Hoepli, 1907-1914.)
²See pp. 299-302.
³See figure 1, Plate I, p. 299.
3. Height. Less or equal to the stretch of arms.
4. Trunk. Larger with sagittal diameters exceeding the transverse diameters; abdomen larger and rounder than the thorax; thorax relatively deficient, having the shape of the inspiratory thorax, as in children, with slight inclination of the ribs in relation to the vertebral column, and the shoulder line horizontal.
6. Skull. Short antero-posterior diameter, with tendency to the brachycephalia (large skull).
7. Neck. Short, with circumference, both absolute and relative, exceeding the normal.
8. Thyroid cartilage (pomum Adami) slightly prominent.

B. Principal Physiological and Pathological Characteristics

The system of vegetative life, represented by the organs of the trunk, prevails over the system of life of relation, represented by the limbs; which fact is expressed by less agility and action (velocity) of the organism; hence the tendency to sedentary life.

The heart is in a very oblique position, almost horizontal. Generally there is an excess of development of the right heart and a deficient development of the left heart, which is frequently accompanied by a greater development of veins and a relatively deficient development of arteries. As a result there is a permanent state of slow circulation, and a tendency to venous stasis, and generally to diseases of the circulatory system and especially to apoplexy.

The excessive development of the abdominal organs requires abundant nutrition, but, because of relative deficiency of the thorax and relatively small size of the lungs and heart, there is less power of oxidation and less heart action. Because of these characteristics, and of the tendency to sedentary life, there is a reduction of the metabolism of carbohydrates, and hence the predisposition of the organism to polysermia (corpulency) when there is a deficient burning up of fats, and to glycosuria in case of deficient metabolism, or combustion of sugar. Moreover, such disproportion between the storing up of the energy and its expenditure explains morphologically the constitutional abnormalities of metabolism and the pathology of arthritism (gout, diabetes, urinary calculi).

Because of the excessive development of the lymphatic system and of the lessened heart action due to the underdevelopment of the left heart, there is a lack of equilibrium which produces stagnation of lymphatic secretions followed by glandular tumors, the formation of which is also aided by the tendency to venous stasis.

The skin is oily, that is, rich in sebaceous secretions with tendency to seborrhea, and such condition causes premature baldness. The subcutaneous fat is abundant.

The nervous system is inactive, with torpor of physical and psychic life.

II. SLIM CONSTITUTION (with predisposition to tuberculosis)¹

Habitus phthisicus (microsplanchnia)

A. Principal Anthropological Characteristics

2. Morphological type. Longilinear (dolichomorphous) with the proportion of the parts of the body far different from those of an infant.

¹See figure 2, Plate 1, p. 299.
HEALTH—EUROPEAN EXPERIENCE

3. Height. Greater in length than the stretch of arms.

4. Trunk. Small with transverse diameters exceeding the sagittal diameters; abdomen poor and flat; thorax relatively larger, having the shape of the expiratory thorax, with marked inclination of the ribs in relation to the vertebral column, and the shoulder line drooping.

5. Limbs. Long in relation to the trunk (macroscelia). Lower limb longer than the upper one.

6. Skull. Long antero-posterior diameter, with tendency to the dolichocephalism (narrow skull).

7. Neck. Long, with circumference, both absolute and relative, less than normal.

8. Larynx (pomum Adami) very prominent.

B. Principal Physiological and Pathological Characteristics

The system of life of relation, represented by the limbs, prevails over the system of vegetative life, represented by the organs of the trunk, which fact is expressed by great agility and action (velocity) of the organism, hence the tendency to active life.

The heart is in a more vertical position and altogether small.

The lungs are relatively large.

The stomach has a tendency to a vertical position.

Because of the deficient development of the abdominal organs, which causes a poor general nutrition, and of relatively large metabolic forces, these characteristics, with a tendency to an active life, produce a lack of equilibrium between the ingestion and elimination, with prevalence of the latter. As a result there is a tendency of the organism to be of a delicate build, often very extreme organic poverty, with very poor disease resistance.

The lymphatic system is chronically undernourished, therefore, for this reason also there is an insufficient nutrition of tissues, with inflammation and marked vulnerability toward pathogenic agents of whatever nature, such as chlorosis, neurasthenia, derangement of female genitals. Generally there is a marked predisposition to diseases of lymphatic type, or to diseases which very easily develop owing to such lymphatic substratum, for instance, scrofulosis, pulmonary tuberculosis, lupus, cold abscesses, tumor albus of the joints, etc.

The skin is thin, transparent, and dry, with poor subcutaneous fat.

The nervous system shows morbid excitability, physical and psychic, and is easily exhaustible.

In order to avoid incorrect ideas about these two types I must state that not all the characteristics specified belong to the two types exclusively and constantly, as none of the diseases specified are limited to one or the other constitution. We are merely speaking of the majority of cases. In reality factors of heredity and crossbreeding often modify these two types in such a way that the number of the kinds of constitutions is considerably increased, but not indefinitely, because the laws of interorganic correlations produce a limiting effect on that number. After having combined among themselves the three kinds, small, medium, and large size of head, trunk, and limbs, I was able to
ascertain through mathematical calculations the possibility of twenty-seven morphological types distinctly different from each other. 1

To return now to our two fundamental types, we must add that they can be recognized not only among men as shown on Plate II, but also among women (Plate III), and not only among adults, but in all ages; for instance, according to Viola, they have been recognized among children eight and five years old (Plate IV); and I maintain that they can be recognized also among the newly born. It would be of the highest scientific interest and the greatest practical use to follow the course of the various developments which may take place in the cases of the individuals of the two types during the period of growth, and which are connected with the particular phases of growth. For example, it is not infrequent to find individuals of the slender type who in their early childhood had slow dentition combined with symptoms of rickets; in their second period of childhood symptoms of scrofula combined with irritability of the respiratory passages (bronchial catarrh); during puberty hemorrhages from the nose, blood expectoration, and palpitation of the heart, and finally later pulmonary tuberculosis.

Having then established the possibility of classifying morphologically the child and of tracing through the period of its growth various kinds of predisposition to definite morbid conditions, the Italian School of Clinical Morphology proposes through appropriate artificial means to restore the proper balance of functions in the body. Modifying more or less, through food and exercise prescribed in accordance with individual preventive hygiene—and not general, as is now commonly done—those functions which are in close relation with the organs and parts threatened by disturbances in their development, we will be able to check, or at least to retard the beginning disturbance, which if left to itself, would inevitably lead to disease. This program applied to a growing body tends to re-establish the proportion among the parts so that they may regain their balance in the course of time. When the efforts exerted on an individual, first in his childhood and then in his adolescence, do not succeed in removing the danger and do not restore the morphologic equilibrium of the body, and the tendencies toward disease increase with maturity, preventive individual hygiene should be advised to the person; he should be warned to take good care of those organs of his body which are especially vulnerable.

CONCLUSIONS AND PROPOSITION

But in order to obtain these results, the organizations available, although very useful, are not sufficient. The work now done by them must be combined and coordinated in one harmonic whole by a new

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1 See Appendix, p. 297.
office, which I would name the International Child Survey, because of the presence in America of many children belonging to different nationalities and because of the scientific and practical necessity of adopting an international plan of work, which would facilitate the collection, coordination, and comparison of data collected in the various countries of America, Europe, and Asia. These data would allow us to determine the general laws governing the normal and pathological growth. This new office must have as its main purposes to study the child morphologically, to distinguish the normal children from those that are defective or delinquent, to watch their health during the principal phases of their growth, and to order their physical and mental work in such a way as to enable them in their maturity to use their powers in the best way for their own benefit and that of society. This office must contain a staff able to compute with the greatest accuracy those measurements of the body which, as we believe we have demonstrated, are indispensable for a good morphological classification of individuals.

APPENDIX

Achille De Giovanni, on the basis of relative proportion among the principal parts of the body, distinguishes three types of constitutions which he calls "morphologic combinations."

Giacinto Viola, besides the data furnished by relative proportions, considers, as does De Giovanni, his teacher, in addition also the total bodily size of the individual; he has established a relation between the volume of the trunk and the length of the extremities and on the basis of this distinguishes five types.

In the following table we give the two classifications:

<table>
<thead>
<tr>
<th>DE GIOVANNI</th>
<th>VIOLA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Normal type.</td>
<td>2. Normosplanchnic individuals (well proportioned).</td>
</tr>
<tr>
<td>5. Not given in De Giovanni's classification.</td>
<td>5. Megalosplanchnic individuals (well proportioned).</td>
</tr>
</tbody>
</table>

But in this classification we notice the absence of an element of primary anthropological importance—the head. Considering the sizes of the head, small, medium, and large, and the corresponding sizes of the trunk and limbs, we succeed by means of mathematical calculations in establishing twenty-seven morphological types, as given in the

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1Prof. F. Frassetto, "Di una nuova classificazione antropometrica delle individualità." Der anatomische Anzeiger, XXXV Band, 1910, p. 468.
The Greek letters in the table indicate small sizes: \( \alpha \) for a microcephalous head; \( \beta \) for a microsplanchnic trunk; \( \mu \) for micromelic limbs.

The small letters designate medium sizes: \( a \) for a normocephalous head; \( b \) for a normosplanchnic trunk; \( m \) for normomelic limbs.

Large letters indicate large sizes: \( A \) for a macrocephalous head; \( B \) for a macrosplanchnic trunk; \( M \) for micromelous limbs.

<table>
<thead>
<tr>
<th>Alphabet</th>
<th>Condition</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \alpha )</td>
<td>Microcephalous</td>
<td>Micro</td>
</tr>
<tr>
<td>( \beta )</td>
<td>Microsplanchnic</td>
<td>Normo</td>
</tr>
<tr>
<td>( m )</td>
<td>Normosplanchnic</td>
<td>Macro</td>
</tr>
<tr>
<td>( \mu )</td>
<td>Normocephalous</td>
<td>Micro</td>
</tr>
<tr>
<td>( M )</td>
<td>Macrosplanchnic</td>
<td>Macro</td>
</tr>
</tbody>
</table>

PLATE I

FIGURE 1
Heavy physique, with
disposition to apoplexy
(Macrosplanchnia)

FIGURE 2
Slender physique, with
disposition to tuberculosis
(Microsplanchnia)

Figure imitate da Viola e Fici (cf. A. De Giovanni, Lavori dell' Istituto

Provided by the Maternal and Child Health Library, Georgetown University
PLATE II

Figure 1
Slender physique
(Longilinear type)

Figure 2
Normal ordinary
type

Figure 3
Heavy physique
(Brevilinear type)

Figure imitate da Viola (cf. A. De Giovanni, Lavori dell' Istituto di Clinica Medica di Padova, Milano, Hoepli, 1914).
PLATE IV

GIRLS EIGHT YEARS OLD

Figure 1: Slender physique (Longilinear type)
Figure 2: Normal type (Normal proportions)
Figure 3: Heavy physique (Brevilinear type)

Figure imitate da Viola (cf. A. De Giovanni, Lavori dell' Istituto di Clinica Medica di Padova, Milano, Hoepli, 1914).
One thing particularly impressed me at the conference at Cannes, where medical experts from the five great allied nations were brought together to formulate the broad principles upon which an international organization of the Red Cross might be based and to advise the Red Cross organizations of the world as to what particular fields of preventive medicine and public health such an organization might advantageously undertake. This was the fact that after the tuberculosis experts and the malaria experts and the venereal disease experts and the general public health experts and the infant mortality experts had held their conferences and had reached unanimity upon certain general principles, and had begun to unite upon general recommendations to make as to the International Red Cross, they all agreed that the first and most important field to be attacked and the one which offered the greatest promise of immediately successful results, was the field of the child and child welfare; that we could well afford to postpone if necessary action in the other fields in order to attack promptly this great problem of infant mortality and to increase the welfare of childhood throughout the world. Now that is exactly the history of every public health movement in the world. Those of us who have had years of experience in this field, who have been interested personally in this or that particular phase, always come back to the child as the essential feature.

Another conclusion which all those of us who have worked in public health have reached very soon is that the responsibility for public health, the responsibility for the welfare of mankind, is an official responsibility. It is not a matter for private philanthropy. Private philanthropy only takes it up because it has to. It must sometimes take the first step and make the first demonstration. It must educate the people. It must create a public sentiment. But the responsibility after all is a public and an official responsibility. And consequently we are demanding that State and municipal health departments shall concern themselves not only with certain obvious things, but shall accept the entire responsibility for the protection of the public health. In order that they may accept it and carry it through we must provide for them the support of a public sentiment. Here, as I conceive it, is
one of the chief functions of a great organization like the Red Cross.

We are faced in the Red Cross today with a very grave responsibility. We have to effect the transition from a time of war to a time of peace. We have to make certain very far-reaching decisions. So far as I am concerned some of those decisions were not difficult to make. I am certain that the Red Cross is to be an active organization in time of peace. It seems obvious to me that this great sentiment which has been built up in time of war for the welfare of mankind, for the relief of suffering and distress, for the improvement of conditions generally, should be preserved so far as possible to solve the great problems of peace, which after all are much more serious than the problems of war. How much of it can be preserved depends, of course, upon the wisdom and effectiveness of the peace program adopted and carried out.

The beginnings of that transition have already taken place. The international movement that I have spoken of has given the stamp of approval to such activity not only for America but for the entire world, and the plan is now included among the covenants of the League of Nations and will have the force which that League will have, whatever that may be.

There is no difference of opinion as to the fact that the great factor in the peace program of the Red Cross is going to be public health. But I do not see the American Red Cross as a great operating concern to take the responsibility for carrying through the child welfare program of the United States, or the tuberculosis program, or the venereal disease program, or any other. I do see it as the great cooperating body in the United States that will enable you, the child welfare workers, to get the results which you know are legitimate, and which can be obtained if you have the proper audience and the proper aid.

We will give you that audience, but we will not attempt to absorb you and attempt to operate your different activities. And what is true in the field of child welfare will be true in the field of tuberculosis and in the field of the other public health questions. We shall demand that the responsibility for all of these problems shall be assumed by the public authorities; we shall endeavor to cooperate with the public authorities and with all other legitimate agencies in furthering their particular aims. And thus we shall be able in various ways to bring about certain very necessary coordinations, and to give an impetus toward this great end of the prevention of disease and the protection of public health, in which field nothing rivals the problem of the child in importance.
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COMMITTEES

The following committees were appointed by the Washington conference to formulate minimum standards of child welfare:

1. Committee to submit standards in regard to children entering employment:
   Owen R. Lovejoy, Secretary, National Child Labor Committee, New York City.
   Dr. Jessica B. Peixotto, Professor of Social Economics, University of California, Berkeley, California.
   Miss Tracy Copp, Wisconsin Industrial Commission, Milwaukee, Wisconsin.
   Dean S. P. Breckinridge, University of Chicago.
   Miss Agnes Nestor, President, Women’s Trade Union League, Chicago.
   Miss Grace Abbott, Children’s Bureau.

2. Committees to submit standards for the protection of the health of children and mothers:

   (a) Committee on maternity—
   Dr. Mary Sherwood, Chairman, Baltimore, Maryland.
   Dr. S. Josephine Baker, Director, Division of Child Hygiene, Department of Health, New York City.
   Dr. Henry J. Gerstenberger, Babies’ Dispensary and Hospital, Cleveland, Ohio.
   Dr. Alan Brown, Toronto, Canada.
   Dr. Anna E. Rude, Children’s Bureau.

   (b) Committee on infancy and the preschool child—
   Dr. H. L. K. Shaw, Chairman, Division of Child Hygiene, State Board of Health, New York.
   Dr. Henry F. Helmholz, Attending Physician, Children’s Memorial Hospital, Chicago.
   Dr. Louis I. Dublin, Metropolitan Life Insurance Company, New York City.
   Dr. William R. P. Emerson, Boston, Massachusetts.
   Dr. Dorothy Reed Mendenhall, Children’s Bureau.
committee on the school child and the adolescent child—
Dr. Charles V. Chapin, Chairman, Superintendent of Health, Providence, Rhode Island.
Dr. Ellen Stone, Superintendent of Child Hygiene, Health Department, Providence, Rhode Island.
Dr. George P. Barth, Director, School Hygiene Bureau, Milwaukee, Wisconsin.
Dr. H. L. K. Shaw, Division of Child Hygiene, State Board of Health, New York.
Dr. William R. P. Emerson, Boston, Massachusetts.
Dr. Dorothy Reed Mendenhall, Children’s Bureau.

3. Committee to submit standards for the protection of children in need of special care:
   Edmond J. Butler, Executive Secretary, Catholic Home Bureau for Dependent Children, New York City.
   Dr. C. Macfie Campbell, Associate Professor of Psychiatry, Phipps Psychiatric Clinic, Johns Hopkins Hospital, Baltimore, Maryland.
   C. C. Carstens, Secretary, Massachusetts Society for the Prevention of Cruelty to Children, Boston, Massachusetts.
   Judge Victor P. Arnold, Cook County Juvenile Court, Chicago.
   J. Prentice Murphy, General Secretary, Children’s Aid Society, Boston, Massachusetts.
   C. V. Williams, Director, Children’s Welfare Department, Ohio Board of State Charities, Columbus, Ohio.
   Judge Kathryn Sellers, Juvenile Court of the District of Columbia.
   Miss Emma O. Lundberg, Children’s Bureau, Secretary.

At the close of the sessions, these committees submitted reports which, after discussion and amendment, were accepted by the Washington conference for reference to the consideration of the regional conferences to be held in Boston, New York, Cleveland, Chicago, Minneapolis, Denver, San Francisco, and Seattle, and to the consideration of interested groups and citizens generally. An advisory committee to incorporate the suggestions for amendment thus offered and further to develop standards was appointed. On the following pages will be found the standards as submitted by the Washington conference.
MINIMUM STANDARDS FOR CHILDREN ENTERING EMPLOYMENT

AGE MINIMUM

An age minimum of 16 for employment in any occupation, except that children between 14 and 16 may be employed in agriculture and domestic service during vacation periods.

An age minimum of 18 for employment in and about mines and quarries.

An age minimum of 21 for night messenger service.

An age minimum of 21 for girls employed as messengers for telegraph and messenger companies.

Prohibition of the employment of minors in dangerous or hazardous occupations or at any work which will retard their proper physical development.

EDUCATIONAL MINIMUM

All children shall be required to attend school for at least nine months each year, either full time or part time, between the ages of 7 and 18.

Children between 16 and 18 years of age who have completed the eighth grade and are legally and regularly employed shall be required to attend day continuation schools eight hours a week.

Children between 16 and 18 who have not completed the eighth grade or who are not regularly employed shall attend full-time school.

Vacation schools placing special emphasis on healthful play and leisure time activities, shall be provided for all children.

PHYSICAL MINIMUM

A child shall not be allowed to go to work until he has had a physical examination by a public-health physician or school physician and has been found to be of normal development for a child of his age and physically fit for the work at which he is to be employed.

There shall be periodical medical examination of all working children who are under 18 years of age.

HOURS OF EMPLOYMENT

No minor shall be employed more than 8 hours a day. The maximum working day for children between 16 and 18 shall be shorter than the legal working day for adults.
The hours spent at continuation schools by children under 18 years of age shall be counted as part of the working day.

Night work for minors shall be prohibited between 6 p.m. and 7 a.m.

MINIMUM WAGE

Minors at work shall be paid at a rate of wages which for full-time work shall yield not less than the minimum essential for the "necessary cost of proper living." During a period of learning they may be rated as learners and paid accordingly. The length of the learning period should be fixed on educational principles only.

PLACEMENT AND EMPLOYMENT SUPERVISION

There shall be a central agency which shall deal with all juvenile employment problems. Adequate provision shall be made for advising children when they leave school of the employment opportunities open to them, for assisting them in finding suitable work, and providing for them such supervision as may be needed during the first few years of their employment. All agencies working towards these ends shall be coordinated through the central agency.

ADMINISTRATION

EMPLOYMENT CERTIFICATES

Provision shall be made for issuing employment certificates to all children entering employment who are under 18 years of age.

An employment certificate shall not be issued to the child until the issuing officer has received, approved, and filed the following:

1. Reliable documentary proof of the child's age.
2. Satisfactory evidence that the child has completed the eighth grade.
3. A certificate of physical fitness signed by a public-health physician or school physician. This certificate shall state that the minor has been thoroughly examined by the physician and that he is physically qualified for the employment contemplated.
4. Promise of employment.

The certificate shall be issued to the employer and shall be returned by the employer to the issuing officer when the child leaves his employment.

The school last attended, the compulsory education department, and the continuation schools shall be kept informed by the issuing officers of certificates issued or refused and of unemployed children for whom certificates have been issued.
MINIMUM STANDARDS

Minors over 18 years of age shall be required to present evidence of age before being permitted to work in occupations having an age prohibition.

Record forms shall be standardized and the issuing of employment certificates shall be under State supervision.

Reports shall be made to the factory inspection department of all certificates issued and refused.

COMPULSORY SCHOOL ATTENDANCE LAWS

Full-time attendance officers adequately proportioned to the school population shall be provided in cities, towns, and counties to enforce the school attendance law.

The enforcement of school attendance laws by city, town, or county school authorities shall be under State supervision.

FACTORY INSPECTION AND PHYSICAL EXAMINATION OF EMPLOYED MINORS

Inspection for the enforcement of all child-labor laws, including those regulating the employment of children in mines or quarries, shall be under one and the same department. The number of inspectors shall be sufficient to insure the regular observance of the laws.

Provision should be made for a staff of physicians adequate to examine periodically all employed children under 18 years of age.
MINIMUM STANDARDS FOR THE PUBLIC PROTECTION OF THE HEALTH OF CHILDREN AND MOTHERS

MATERNITY

1. Maternity or prenatal centers, sufficient to provide for all cases not receiving prenatal supervision from private physicians. The work of such a center should include:

   (a) Complete physical examination by physician as early in pregnancy as possible, including examination of heart, lungs, abdomen and urine, and the taking of blood pressure; internal examination and pelvic measurements before seventh month in primipara; examination of urine every four weeks during early months, at least every two weeks after sixth month, and more frequently if indicated; Wassermann test, when indicated.

   (b) Instruction in hygiene of maternity and supervision throughout pregnancy, through at least monthly visits to a maternity center until end of sixth month, and every two weeks thereafter. Literature to be given mother to acquaint her with the principles of infant hygiene.

   (c) Employment of sufficient number of public-health nurses to do home visiting and to give instructions to expectant mothers in hygiene of pregnancy and early infancy; to make visits and to care for patient in puerperium; and to see that every infant is referred to an infant-welfare center.

   (d) Confinement at home by a physician or a properly trained and qualified attendant, or in a hospital.

   (e) Nursing service at home at the time of confinement and during the lying-in period, or hospital care.

   (f) Daily visits through fifth day, and at least two other visits during second week by physician or nurse from maternity center.

   (g) At least ten days' rest in bed after a normal delivery, with sufficient household service to allow mother to recuperate.

   (h) Examination by physician before discharging patient, not later than six weeks after delivery.

2. Clinics, such as dental clinics and venereal clinics, for needed treatment during pregnancy.

3. Maternity hospitals, or maternity wards in general hospitals, sufficient to provide care in all complicated cases and for all women

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wishing hospital care; free or part-payment obstetrical care to be provided in every necessitous case at home or in a hospital.

4. All midwives to be required by law to show adequate training, and to be licensed and supervised.

5. Training and registration of household attendants to care, under the supervision of physician or public-health nurse, for sicknesses in the home and for the home during sickness.

6. Education of general public as to problems presented by maternal and infant mortality and their solution.

INFANTS AND PRESCHOOL CHILDREN

1. Complete birth registration by adequate legislation requiring reporting within three days after birth.

2. Prevention of infantile blindness by making and enforcing adequate laws for treatment of eyes of every infant at birth and supervision of all positive cases.

3. Sufficient number of children's health centers to give health instruction under medical supervision for all infants and children not under care of private physician, and to give instruction in care and feeding of children to mothers, at least once a month throughout first year, and at regular intervals throughout preschool age. This center to include a nutrition clinic.

4. Children's health center to provide or to cooperate with sufficient number of public-health nurses to make home visits to all infants and children of preschool age needing care—one public-health nurse for average population of 2,000.

Visits to the home are for the purpose of instructing the mother in:

(a) Value of breast feeding.
(b) Technique of nursing.
(c) Technique of bath, sleep, clothing, ventilation, and general care of the baby, with demonstrations.
(d) Preparation and technique of artificial feeding.
(e) Dietary essentials and selection of food for the infant and for older children.
(f) Prevention of disease in children.

5. Dental clinics; eye, ear, nose, and throat clinics; venereal and other clinics for the treatment of defects and disease.

6. Children's hospitals, or beds in general hospitals, or provision for medical and nursing care at home, sufficient to care for all sick infants and young children.

7. State licensing and supervision of all child-caring institutions or homes in which infants or young children are cared for.

8. General educational work in prevention of communicable dis-
ease and in hygiene and feeding of infants and young children, including compulsory course in child hygiene in the public schools.

SCHOOL CHILDREN

1. Proper location, construction, hygiene and sanitation of schoolhouse; adequate room-space—no overcrowding.

2. Adequate playground and recreational facilities, physical training, and supervised recreation.

3. Open-air classes and rest periods for pretubercular and certain tuberculous children, and children with grave malnutrition. Special classes for children needing some form of special instruction due to physical or mental defect.

4. Full-time school nurse for not more than 1,000 children to give instruction in personal hygiene and diet, to make home visits to advise and instruct mothers in principles of hygiene, nutrition, and selection of family diet, and to take children to clinics with permission of parents.

5. Adequate space and equipment for school medical work and available laboratory service.

6. Part-time physician with one full-time nurse for not more than 2,000 children, or full-time physician with two full-time nurses for 4,000 children for:

   (a) Complete standardized basic physical examinations once a year, with determination of weight and height at beginning and end of each school year; monthly weighing wherever possible.

   (b) Continuous health record for each child to be kept on file with other records of the pupil. This should be a continuation of the preschool health record which should accompany the child to school.

   (c) Special examinations to be made of children referred by teacher or nurse.

   (d) Supervision to control communicable disease.

   (e) Recommendation of treatment for all remediable defects, diseases, deformities, and cases of malnutrition.

   (f) Follow-up work by nurse to see that physician's recommendations are carried out.

7. Available clinics for dentistry, nose, throat, eye, ear, skin, and orthopedic work; and for free vaccination for smallpox and typhoid.

8. Nutrition classes for physically subnormal children, and the maintenance of midmorning lunch or hot noonday meal when necessary.

9. Examination by psychiatrist of all atypical or retarded children.

10. Education of school child in health essentials.

11. General educational work in health and hygiene, including education of parent and teacher, to secure full cooperation in health program.
A DOLESCENT CHILDREN

1. Complete standardized basic physical examinations by physician, including weight and height, at least once a year, and recommendation for necessary treatment to be given at children's health center or school.


3. Supervision and instruction to insure:
   (a) Ample diet, with special attention to growth-producing foods.
   (b) Sufficient sleep and rest and fresh air.
   (c) Adequate and suitable clothing.
   (d) Proper exercise for physical development.
   (e) Knowledge of sex hygiene and reproduction.

4. Full-time education compulsory to at least 16 years of age, adapted to meet the needs and interest of the adolescent mind, with vocational guidance and training.

5. Clean, ample recreational opportunities to meet social needs.

6. Legal protection from exploitation, vice, drug habits, etc.
MINIMUM STANDARDS FOR THE PROTECTION OF CHILDREN IN NEED OF SPECIAL CARE

1. GENERAL STATEMENT

Every child should have normal home life, an opportunity for education, recreation, vocational preparation for life, and for moral and spiritual development in harmony with American ideals and the educational and spiritual agencies by which these rights of the child are normally safeguarded. The Conference recognizes the fundamental rôle of home, religion, and education in the development of childhood.

Aside from the general fundamental duty of the State toward children in normal social conditions, ultimate responsibility for children who, on account of improper home conditions, physical handicap, or delinquency, are in need of special care devolves upon the State. Particular legislation is required for children in need of such care, the aim of which should be the nearest approach to normal development. Laws enacted by the several States for these purposes should be coordinated as far as practicable in view of conditions in the several States, and in line with national ideals.

2. HOME CARE

The aim of all provision for children in need of special care necessitating removals from their own homes, should be to secure for each child home life as nearly normal as possible, to safeguard his health, and provide opportunities for education, recreation, vocational preparation, and moral and spiritual development. To a much larger degree than at present, family homes may be used to advantage in the care of special classes of children.

3. ADEQUATE INCOME

Home life, which is, in the words of the Conclusions of the White House Conference, "the highest and finest product of civilization," cannot be provided except upon the basis of an adequate income for each family, and hence private and governmental agencies charged with the responsibility for the welfare of children in need of special care should be urged to supplement the resources of the family wherever the income is insufficient, in such measure that the family budget conforms to the average standard of the community.
4. INCORPORATION, LICENSING, AND SUPERVISION

A State board of charities, or a similar supervisory body, should be held responsible for the regular inspection and licensing of every institution, agency, or association, public or private, incorporated or otherwise, that receives or cares for children who suffer from physical handicaps, or who are delinquent, dependent, or without suitable parental care.

This supervision should be conceived and exercised in harmony with democratic ideals which invite and encourage the service of efficient, altruistic forces of society in the common welfare. The incorporation of such institutions, agencies, and associations should be required, and should be subject to the approval of the State board of charities or similar body.

5. REMOVAL OF CHILDREN FROM THEIR HOMES

Unless unusual conditions exist, the child’s welfare is best promoted by keeping him in his own home. No child should be removed from his home unless it is impossible so to reconstruct family conditions or build and supplement family resources as to make the home safe for the child, or so to supervise the child as to make his continued presence safe for the community.

6. PRINCIPLES GOVERNING CHILD PLACING

This Conference reaffirms in all essentials the resolutions of the White House Conference of 1909 on the Care of Dependent Children. We believe they have been guides for communities and States that have sought to reshape their plans for children in need of special care. We commend them for consideration to all communities whose standards do not as yet conform to them, so that such standards may be translated into practice in the various States.

Before a child is placed in other than a temporary foster home adequate consideration should be given to his health, mentality, character, and family history and circumstances. Remediable physical defects should be corrected.

Complete records of every child under care are necessary to a proper understanding of the child’s heredity, development, and progress while under the care of the agency.

Careful and wise investigation of foster homes is prerequisite to the placing of children. Adequate standards should be required of the foster families as to character, intelligence, experience, training, ability, income, and environment.

A complete record should be kept of each foster home, giving the information on which approval was based. The records should also show the agency’s contacts with the family from time to time for the
purpose of indicating the care it gave to the child entrusted to it. In this way special abilities in the families will be developed and conserved for children.

Supervision of children placed in foster homes should include adequate visits by properly qualified and well-trained visitors and constant watchfulness over the child's health, education, and moral and spiritual development. Supervision of children in boarding homes should also involve the careful training of the foster parents in their task. Supervision is not a substitute for the responsibilities which properly rest with the foster family.

7. CARE OF CHILDREN OF ILLEGITIMATE BIRTH

The child of illegitimate birth represents a very serious condition of neglect, and for this reason special safeguards should be provided for these children.

Save for unusual reasons both parents should be responsible for the child during its minority, and especially should the responsibility of the father be emphasized. Care of the child by its mother during the first nursing months is highly desirable, and no parents of a child of illegitimate birth should be permitted to surrender the child outside of its own family, save with the consent of a properly designated State department or a court of proper jurisdiction. More adequate and humane treatment of such cases in court procedure and otherwise will result in greater willingness to have them considered, which is in line with the protection needed. The whole treatment and care of the unmarried mother and her child should include the best medical supervision and the widest opportunity for education under wholesome, normal conditions in the community.

8. RURAL SOCIAL WORK

Social work for children in rural parts of the country has been neglected. The essential principles of child-welfare work should be applied to rural needs, and agencies for rural service encouraged.

9. RECREATION

The desire for recreation and amusement is a normal expression of every child and an important avenue for moral education and for the prevention of delinquency. It should be the concern of the State that wholesome play, recreation, and amusement be provided by cities and towns and that commercialized recreation be supervised and safeguarded.

10. JUVENILE COURT

Every locality should have available a court organization providing for separate hearings of children's cases, a special method of detention for children, adequate investigation for every case, provision for super-
vision or probation by trained officers, and a system for recording and filing social as well as legal information. In dealing with children the procedure should be under chancery jurisdiction, and juvenile records should not stand as criminal records against the children. Whenever possible such administrative duties as child-placing and relief should not be required of the juvenile court, but should be administered by existing agencies provided for that purpose, or in the absence of such agencies, special provision should be made therefor; nor should cases of dependency or destitution in which no questions of improper guardianship or final and conclusive surrender of guardianship are involved, be instituted in juvenile courts.

The juvenile victims of sex offenses are without adequate protection against unnecessary publicity and further corruption in our courts. To safeguard them, the jurisdiction of the juvenile court should be extended to deal with adult sex offenders against children, and all safeguards of that court be accorded to their victims.

In all cases of adoption of children, the court should make a full inquiry into all the facts through its own visitor or through some other unbiased agency, before awarding the child's custody.

11. MENTAL HYGIENE AND CARE OF MENTALLY DEFECTIVE CHILDREN

The value of the first seven years of childhood from the point of health, education and morals, and formative habits cannot be over-estimated. Throughout childhood attention should be given to the mental hygiene of the child—the care of the instincts, emotions, and general personality of the child, and of environmental conditions. Special attention should be given to the need for training teachers and social workers in mental hygiene principles.

Each State should assume the responsibility for thorough study of the school and general population for the purpose of securing data concerning the extent of feeble-mindedness and subnormality, and should make adequate provision for such mentally defective children as require institutional care, and provide special schools or classes with qualified teachers and adequate equipment for such defective children as may be properly cared for outside of institutions. Custodial care in institutions for feeble-minded children should not be resorted to until after due consideration of the possibility of adjustment within the community.

12. SCIENTIFIC INFORMATION

There is urgent need of a more adequate body of scientific literature dealing with principles and practice in the children's field of social work, and the meeting of this need is a responsibility resting on those so engaged. Careful interpretation and analysis of methods and results
of care and the publishing of these findings must precede the correcting of many present evils in practice. Boards of directors, trustees, and managers should particularly consider participation in the preparation of such a body of facts and experience as being a vital part of the work of their staff members.

13. CHILD WELFARE LEGISLATION

The child-welfare legislation of every State requires careful reconsideration as a whole at reasonable intervals in order that necessary revision and coordination may be made, and that new provisions may be incorporated in harmony with the best experience of the day. This Conference recommends that in States where children's laws have not had careful revision as a whole within recent years, the governor be requested to take the necessary steps for the creation of a child-welfare committee or commission. It is also urged that the President of the United States be asked to call a conference during the next year in conjunction with the governors of the various States, to consider the whole question of the child-welfare legislation.