

U. S. DEPARTMENT OF LABOR
JAMES J. DAVIS, Secretary
CHILDREN'S BUREAU
GRACE ABBOTT, Chief

PROCEEDINGS OF THE
FOURTH ANNUAL CONFERENCE OF
STATE DIRECTORS IN CHARGE OF THE LOCAL
ADMINISTRATION OF THE MATERNITY
AND INFANCY ACT

(ACT OF CONGRESS OF NOVEMBER 23, 1921)

HELD IN WASHINGTON, D. C.
JANUARY 11-13, 1927

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LETTER OF TRANSMITTAL

UNITED STATES DEPARTMENT OF LABOR,
CHILDREN'S BUREAU,
Washington, September 1, 1927.

SIR: There is transmitted herewith a report of the fourth conference of State directors in immediate charge of the local administration of the maternity and infancy act, held at the Children's Bureau, January 11 to 13, 1927.

Respectfully submitted.

GRACE ABBOTT, *Chief.*

HON. JAMES J. DAVIS,
Secretary of Labor.

v

PROCEEDINGS OF THE FOURTH ANNUAL CONFERENCE OF STATE DIRECTORS IN CHARGE OF LOCAL ADMINISTRATION OF THE MATERNITY AND INFANCY ACT (ACT OF CONGRESS OF NOVEMBER 23, 1921), HELD IN WASHINGTON, D. C., JANUARY 11-13, 1927¹

TUESDAY, JANUARY 11—MORNING SESSION

GRACE ABBOTT, CHIEF, CHILDREN'S BUREAU, UNITED STATES DEPARTMENT OF LABOR,
PRESIDING

The CHAIRMAN. It is certainly a great pleasure to have so many of you here to-day. I am going to say just a word or two about the status of the bill extending the maternity and infancy act, because I know it is a subject in which you are all interested. The bill is at present "unfinished business" in the Senate and has been for a week, which means that every afternoon at 2 o'clock the Vice President calls up the bill and lays it before the Senate. It has had four or five test votes, on which there was a favorable majority of about 2 to 1.²

I am going to turn the meeting of this morning over to Dr. Robert L. De Normandie, whom you all know. He was here last year, and I am especially glad we have him here for this particular program. It is a great pleasure to introduce Doctor De Normandie.

[Dr. Robert L. De Normandie took the chair]

The CHAIRMAN. First, before we proceed with the reading of the papers, I want to tell you how glad we of the consulting obstetrical committee are to be able to do anything we can for you, either as a group or individually.

The first paper Doctor Haines has put on the schedule is a rather short one that I am going to read on maternal-mortality studies.

¹ The views expressed in the following papers and discussions are those of the individual speakers, for which the Children's Bureau disclaims responsibility.

² The resolution extending the maternity and infancy act for two years was passed by the Senate on January 13, with an amendment providing that after June 30, 1929, the maternity and infancy act should be of no further force and effect; it was signed by the President on Jan. 22, 1927.

MATERNAL-MORTALITY STUDIES

BY ROBERT L. DE NORMANDIE, M. D., INSTRUCTOR IN OBSTETRICS,
HARVARD MEDICAL SCHOOL

You will remember that last year I read a paper before you on "How to make a study of maternal mortality," and went over certain points which I felt were important to have record of if the study of maternal deaths was to amount to anything. As the result of this paper the Children's Bureau has had made up the schedule which you now have. Let me go over it with you.

The first page, as you readily see, is taken up with the information that is derived from the death certificate and the birth certificate. These two certificates are a matter of record and are obtained from the boards of health. The second page tabulates the care that the patient had during her pregnancy, her past obstetrical history, whether it was a hospital case, and the method of delivery. The third and fourth pages are taken up with the analysis of the cause of death as found in the death certificate. These various headings, which are numbered according to the International Classification of the Causes of Death, need no elaboration. They are points that seemed necessary for a careful and complete analysis of the causes of death.

After this schedule was drafted, it was sent to each member of the consulting obstetrical committee of the Children's Bureau for his criticism. The question was raised whether the schedule was too detailed; and one physician remarked that he doubted if he could tell all the things that were asked for, even though his records were unusually complete. My feeling is that all the points which are suggested for investigation can be readily found out if the investigator sees the physician who signed the death certificate, within a short time of the death. Unquestionably, if it is a year or more after the death the facts sought for may not be obtained. None of us have so many deaths in obstetrics that we do not remember all too vividly the ones that we do have, and the facts, if sought early, can readily be obtained. The schedule has the unanimous approval of the committee.

The obvious advantage of having available such a schedule as this is that maternal-mortality studies can now be made in various parts of the country with this standard schedule. The statistics thus obtained will be more nearly comparable than any we have ever had before and will be unassailable.

Now that the schedule has been prepared the question arises, how and where shall we make the studies? You will remember that last year it was stated that similar studies had been suggested, but the medical profession in certain communities would not cooperate. There may be opposition to such a study. My feeling is that it should be done through the State boards of health and the State

medical societies by physicians well trained in investigative work and having a full knowledge of obstetrics. I feel strongly that the State boards can do a study of this sort much better if they have the cooperation of the State medical societies. I can see no reason why such cooperation will not be given if it is first explained to a small group of the outstanding men in the State exactly what the study means, how it is to be made, and by whom. Such a study is not a criticism. It must be made clear that it is educational. The physicians first called in consultation should not necessarily be obstetrical men, but men of the community interested in the broad subject of public welfare. This movement has grown rapidly in the last few years, and has the support not only of the best physicians but of many of the most intelligent laymen throughout the country. Get the support of this group, and I believe there will be no opposition to these studies.

Because some of the directors felt that this study could not be made, I have shown the schedule to many physicians—general practitioners, specialists, and men who are interested in the improvement of the obstetrical situation purely as a public-health movement—and they all agreed that it could be done.

We must make it clear that such a study is not a criticism of the medical profession, but is an investigation to find out how we can better our results. It is possible that from an intensive study such as this we can show that some of the deaths which are charged to obstetrical conditions are not in any way due to obstetrics, for the registrars of vital statistics, who many times are not medical men, classify them according to the best information they have, as maternal deaths, although they should not be regarded as puerperal. I am confident that an intensive study carried out over a period of years in various States, or better, in all the States, with this same schedule, will yield most interesting results, and will show us where we must attack this problem to improve the results.

The first studies, I believe, should be done in the States that ask for them, and then I should hope that the value of these studies will be so apparent to the other States that they too will plan for them.

You all know how the statistics that the Census Bureau publishes have been questioned, and how easy it is to draw unfair conclusions from any set of statistics. But if these deaths are intensively studied the facts will be there and will be unassailable, and until we have unassailable facts we shall not be able to show whether the obstetrical situation is good, bad, or indifferent, or whether it is in any way improving. Such a study as this will show at once whether the fundamental difficulty is with the prenatal care or with the natal care. We have had in the last few years an intensive campaign on prenatal care, but prenatal care alone will not save women and babies. Good prenatal care is thrown to the winds unless we have good natal care; and if this study shows that the prenatal care is satisfactory but that the natal care is bad, then we can see at once where we must try to improve our work. It will show, I think, whether the medical schools are turning out men who are satisfactorily trained. It will show whether the deaths are due to the physicians' lack of care or to the patients' environment, or whether they are due to the midwife

situation, which is so great a problem in many parts of the country. Certain groups believe that the midwife is the only economic solution of the obstetric situation and that we must have her. These groups feel strongly that if we have the midwife she must be well trained and well supervised.

It is only within the last few years that we have been getting any real statistics on the subject, so that we can talk intelligently and put our finger on the various weak links of the chain in the care and delivery of the pregnant woman. We have all had our ideas, and many of them have been at great variance. Now, however, we are getting on a firm foundation, and by studies such as this schedule will bring out, the facts will be more firmly established and we can speak with authority, showing wherein improvement must come.

Each one of you directors knows the situation in your State. You know your physicians and you know how best to gain their confidence in order to make a study such as this schedule calls for. Such studies are worth while, I am sure, and of the greatest value if carried over a series of years in many States. I ask that your discussion be free and frank so that it will bring out the difficulties in making these studies.

DISCUSSION

The CHAIRMAN. Doctor Haines has an outline of the instructions which will go with these schedules to the physicians that make the studies. Doctor Haines, will you read them?

Doctor HAINES. Doctor De Normandie has covered part of the instructions. I will just bring out one or two additional points. Some of you have had the "Scope and purpose of the study," and Doctor De Normandie has outlined it; I will not take that up. These are instructions to investigators in the use of the schedule. The standard death certificate should be copied just as it is found in the statistician's office, and also the birth certificate that we find on the first page of the schedule. If the heart has been examined, the word heart will be checked, so that if heart is checked, it means "Yes." If the heart has not been examined "N" should be checked. I will read the section of the instructions pertaining to prenatal care.

Inquiries 23-26 refer to prenatal care given by a physician. When the interviewer is receiving information from a physician who was attendant at death but who gave no previous supervision during pregnancy, caution must be taken as to whether the answer to this inquiry will be "None" or "Not reported." Do not answer "None" merely because the attendant at death states that he gave no prenatal care. Before answering "None," ascertain whether prenatal care was given by some other physician, and if this can not be found out enter "N. R." for inquiry 23, covering the entire section on prenatal care. To determine the proper answer for "Summary" of prenatal care (inquiry 24) the interviewer should read the following excerpts from Standards of Prenatal Care (Children's Bureau Publication No. 153):

"Patient should be examined by a physician at least once a month during the first six months, then every two weeks or oftener as indicated, preferably every week in the last four weeks. At each visit to the physician the patient's general condition must be investigated, blood pressure taken and recorded, urinalysis done, pulse and temperature recorded, and the weight of the patient taken if possible. Abdominal examination should be made at each visit and the height of the fundus determined at this examination. Abdominal palpation in the eighth and ninth months will show whether or not there is any obvious disproportion between the head and the pelvis.

"In a primigravida, if the presenting part two weeks before the estimated date of delivery is not well in the pelvis, the physician in charge should determine, so far as is possible, whether any disproportion between the pelvis and the baby exists. If a disproportion is diagnosed in any case special care should be taken to avoid vaginal examinations immediately prior to or after the onset of labor. This precaution is wise because of the danger of serious infection should operative procedures later become necessary."

If these standards have been followed, check prenatal care as "Adequate."

If some prenatal care was given, but it was not up to the above standards, check *inquiry 24* as "Inadequate." When "None" is checked, there will be no further entries under *inquiries 23 to 26 (d)*.

Inquiry 25 (a).—If the heart has been examined, check "heart," and also check "normal" or "abnormal" to show results of examination; if abnormal, specify the abnormality. (*b*) If the lungs have been examined follow the same procedure in checking.

Inquiry 25 (c).—If "measurements" is checked, check also "external," or "internal," or both. If any abnormality was discovered, check "abnormal," and specify the abnormality; otherwise check "normal."

Inquiry 25 (d).—If a Wassermann test was made, check "Wassermann" and then denote the results by putting a check on "neg." for negative or on "pos." for positive. If there has been no Wassermann, check "N."

Inquiry 26 refers to prenatal visits and does not include the attendant's visit at time of delivery. Under *inquiry 26 (a)*, if the physician had not seen the patient for the purpose of giving prenatal care prior to visit at which birth occurred, check "N." If he did see the patient, put a check under each month of visit. For instance, if he saw the patient for the first time in the fifth month and for each month thereafter, checks will be placed in columns 5, 6, 7, and 8. For the ninth month information should be obtained as to weekly visits; and if the physician saw the patient during each week of the ninth month, checks will be placed under column 9—in columns 1, 2, 3, and 4. Similarly, for *26 (b)* and *26 (c)* check the months in which the urine and abdomen were examined and for *26 (d)* the months in which the blood pressure was taken.

The CHAIRMAN. When any one of you gets up to discuss any of the questions, will you kindly give your name? Now I ask you to bring up any points which are not entirely clear to you.

Doctor HAINES. An important question in my mind is what should be considered the standards in the hospital.

Doctor BRYDON. May we accept the standing of hospitals according to our State's rating? We have State inspection of hospitals. I also want to ask if this information should not be gotten at the hospital itself. We could not get it anywhere else, I imagine.

The CHAIRMAN. I should imagine that it would be gotten at the hospital. Of course if the State has hospital ratings I think it would work out satisfactorily to accept them. We do not have hospital ratings in Massachusetts. Certain hospitals are given the right to do obstetrics, but they are not rated as good and bad; the good and the bad have the same kind of license. Have you a different system in your State?

Doctor BRYDON. Yes. The nurses' examining board of the medical society has an inspector of hospitals, and the rating is very carefully looked after, I understand.

The CHAIRMAN. That would be especially for training schools?

Doctor BRYDON. Yes.

Doctor LEVY. I would like to suggest that you indicate whether the patient is delivered by the interne or by the attending physician. We often send a patient from a general practitioner to a youngster in a hospital, and we think we are sending her to expert hospital care. I think the person who actually delivers the patient should be entered.

The CHAIRMAN. Doctor Levy, will that not come out in a hospital case when an investigator goes to look up the records? He can see there who delivered her.

Doctor LEVY. Possibly; not always. It depends upon how the records are kept.

The CHAIRMAN. If the records are accurate, they will show it.

Doctor LEVY. Yes. But I think that is one of the important things to get.

Dr. G. M. ANDERSON. Are not many women delivered by internes, and yet the signature on the birth certificate is always that of the doctor in charge of the department, or attending on the staff? In the West I know that is the case; probably hundreds of women are delivered by internes, yet the signature on the birth certificate will be that of the doctor.

The CHAIRMAN. I should like to ask the group here whether that is generally so? I think in Massachusetts the doctor makes out all the birth certificates.

Dr. G. M. ANDERSON. Whoever makes it out, that has nothing to do with who attended the woman. The clerk at the office can make them out. Our State requires every hospital report to be made by the vital statistician. In that way we get two checks; someone in the office will make out birth certificates for the cases of that month, and as she catches the doctors coming and going she gets them to sign them.

Doctor LEVY. That is not our practice.

The CHAIRMAN. I am informed that in the West and Middle West that is the practice. The chief's signature goes on the certificate, and not the interne's.

Dr. G. M. ANDERSON. Yes; but you wish to investigate the kind of service that the woman gets, which depends on who delivered her—whether it is an interne or an obstetrician.

The CHAIRMAN. Yes; we shall have to make a point of that, Doctor Haines.

Doctor BAKER. I think it is true in New England hospitals that the superintendent signs all the certificates.

The CHAIRMAN. I am perfectly sure in our hospitals we do not sign them; the individuals who actually deliver the patients are students at Harvard, who sign their own birth certificates. How is it in Illinois, Doctor Holmes?

Doctor HOLMES. In Illinois the law now requires that the prospective graduate in medicine shall have a fifth year as an interne in an accredited hospital before his diploma is issued. He is given, on certification of the dean of the college, a temporary, limited license to practice medicine in the hospital during this fifth year. At the completion of his internship he is eligible to take the State board examination for full licensure. During this year of internship he is not permitted to sign birth or death certificates.

It has been aptly stated, I believe by Doctor Cabot, of Boston, that people rarely die from the disease with which they are afflicted. That is, the diseases which afflict individuals lower the vitality so that there is a bacterial invasion—and the concurrent infection terminates the life. For example, tuberculosis in its pure form is a sputumless malady; bodily vitality is lowered, and immunity against

bacteria is reduced to the lowest point; the lungs become infected with many other types of bacteria, which are highly destructive to pulmonary tissue and cause secretions that are expectorated. Perhaps it is more correct to state that the symptom complex of tuberculosis comprises the first stage of tubercle formation in the lungs or elsewhere; and the second stage, the breaking down of these tubercles from a development of a "mixed" infection; and third, a gradual disintegration of all bodily functions. Yet, after all is said and done, if the first stage may be arrested, death need rarely be due to tuberculosis; the mixed infection is the ultimate cause of death.

In Illinois, largely owing to the activities of the Institute of Medicine, there is a strong movement to further a high percentage of post-mortem examination in hospitals. Often a true diagnosis as to cause of death may be made only by such post-mortem examination, through which the primary as well as secondary causes are ascertained.

I have always believed there is a strong difference between a death "of" pregnancy, labor, and the puerperium, and a death "in" those obstetric periods. In the former the death is due to an obstetric complication of the prospective or new-made mother; the latter is an accidental, extraneous malady. In the former, an obstetric cause of death would be such as a toxemia, placenta previa, or puerperal infection. Typhoid, pneumonia, influenza, etc., would be causes of death "in" relation to prospective motherhood. It would be eminently desirable to have vital statistics tabulated under the two headings.

From about 1899 to 1905 I was chairman of a committee to investigate the problem of criminal abortion in Chicago. When we began our investigation about 10 or 12 deaths due to criminal abortion came to the attention of the coroner annually. The activity of the committee aroused public interest so that in the next year the incidence of deaths which became public was double to treble the figures that we first found. The committee felt that not 1 per cent of all the deaths due to criminal abortion ever came to the attention of the coroner. In other words, the midwives, with the connivance of corrupt physicians, or the corrupt physicians themselves buried their victims under false certificates of death. Further, we felt that perhaps only 1 or 2 per cent of criminal abortions resulted in death. In other words, probably there were as many criminally interrupted pregnancies in our large communities as there were full-time infants born.

You may recall the notorious "dress-suit case" of Boston where the dismembered body of a young woman, dying as the result of a criminal abortion, was placed in suit cases and thrown into Boston Bay—but the authorities recovered the body. I have been credibly informed that the coterie of physicians responsible for the crime had boasted that they performed 2,000 operations annually. A physician in Chicago whom we had had apprehended for an illegal operation told me confidentially that he had performed 20,000 operations in his medical career, covering a period of about 55 years. Constantly deaths from criminal operations are certified as due to pneumonia or typhoid—in fact, any cause which will pass muster. Who can ascertain the toll? The only way would be for every child-bearing woman

(from 12 or 14 to 45 years) who dies to have a post-mortem examination performed by an expert pathologist. A law for this purpose would be so abhorrent that it could be neither passed, nor if passed, enforced—public sentiment would be against it. And yet, should not all these deaths be recorded as accidents of the puerperal state? And certainly the matter should be viewed with concern as a cause of infant mortality.

I would like to make a statement which has no specific relationship to any paper that will be presented during the conference; but my remarks are germane to the whole subject of maternal and infant welfare as conducted by the bureau under whose auspices the conference is functioning.

During the year or more that the Sheppard-Towner bill was discussed I was strongly opposed to it; on a number of occasions I was permitted to express my views publicly, as I was known to be antagonistic to the bill and the manner of its operation if it became law. Unfortunately, on one occasion—a meeting of a medical society—I had strongly arraigned the bill, when Miss Abbott arose to defend its purpose. Later, when the bill became law I was surprised to receive an invitation from Miss Abbott to serve on the consulting obstetric committee of the Children's Bureau—and this at a time when I still was bitterly antagonistic to the law's operation. I had one reason for accepting this invitation. So long as the bill had become law I felt that the best possible use of the appropriation should be made and that I, in my small way, might contribute something through my obstetric training toward improving the lamentable obstetric conditions in this country. And has this much defamed maternity and infancy act accomplished anything? I believe the act has advanced obstetric practice and knowledge in rural and small communities 25 years ahead of the time it would normally have come. In times past I have lent my voice publicly in opposition to the Sheppard-Towner Act. I now wish to announce publicly that I have had a change of heart and opinion. And I wish Miss Abbott to know that my appointment to the obstetrical committee has been one of the great honors of my life.

Whatever good is being done by educating the women of this country in prenatal care will be nothing in comparison to what will accrue when the rank and file of general practitioners have been made to realize the need of better obstetrics, and will give what the women—the patients—have been taught to demand. The fact that committees have been organized in every State of this country, with four exceptions, which will bring home to the dwellers in small communities and rural districts that prenatal care is an essential part of bearing children, is going to be one of the greatest educational factors in this country and to spell conservation of maternal and infant life to an extent now hardly appreciated.

The Commissioner of Health of Chicago, Dr. Bundeson, has just issued a most excellent brochure on the subject of prenatal care—500,000 copies in the first edition. A colossal good will come from the dissemination of the information contained therein. At the present time more than 50 per cent of the labors in Chicago are conducted in hospitals, while hardly 10 years ago—at least before the World War—not far from 60 per cent of women in labor were

attended by midwives. Education has accomplished this, and education will increase this proportion until the midwife is entirely eliminated—and the mortality rate will diminish with her going.

The CHAIRMAN. I am sure that many physicians who feel just as Doctor Holmes felt against the Sheppard-Towner bill will come over to it too, as they learn more about the work.

Doctor HAINES. Will you ask Miss Rood to speak on the hospital standards?

Miss ROOD. I made a statement to Dr. Viola Anderson that I believe the American Hospital Association has a committee working to develop hospital standards. I can not tell you anything more about it.

The CHAIRMAN. Does anybody know about that?

Miss MORRIS. I do not know of the work of the American Hospital Association, but in the spring the American College of Surgeons, with the assistance of the State board of health, made a survey of the hospitals of Louisiana. The records were informational and interesting. The President of the Louisiana State Board of Health, Doctor Dowling, expects us to use that—provided the hospitals are advised of their grades.

The CHAIRMAN. May I ask whether all the hospitals were graded or just those having 35 beds or more?

Miss MORRIS. I think the grading was done for all.

Doctor GARDINER. I think you did bring out the point that the investigations into maternal deaths should be made as soon after the birth as possible. In some of the work we tried to do, where a period of a year had elapsed, the interne had left the hospital, the attending physician did not remember the case, and it was almost impossible to get accurate information.

The CHAIRMAN. That is the most important part—to investigate as soon as possible after the death of the individual is reported.

Doctor PICKETT. In the Louisville City Hospital all death certificates and birth certificates, too, are signed by the medical superintendent of the hospital; but in any hospital where they have an interne to deliver the woman there is also a record, and the interne who delivers the woman signs that—"delivered by so and so." There never was an obstetrical record that did not have on it "delivered by," and the man who delivers the case signs it. In standardized hospitals I think it would be an easy matter to find out who made deliveries, because you have not only birth and death certificates but hospital records; and if there is anything on that delivery record, certainly there would be the name of the man who made the delivery.

Miss ABBOTT. We have not allowed in the schedule for the name of the person who made the delivery, but I think we can provide for it.

Doctor LEVY. May I ask a question in regard to who should make the investigation? I am not suggesting that it should be made by the State medical society; I should like to have someone discuss whether it should be made by the State society or by the State department in cooperation with the State society. I believe if you can get the medical society whole-heartedly to make the investigation, then they will use the facts they have learned in dealing with

the doctors themselves. The State department will not be able to use the findings very actively if it is done the other way around.

Doctor NOBLE. I feel the same way about Pennsylvania.

The CHAIRMAN. Would it not be better to do it in one way in some States and in the other way in other States? But the stimulus must come from the State board of health.

Doctor LEVY. It is all right for the State board of health to supply the stimulus as long as the medical society is willing to assume the responsibility.

The CHAIRMAN. Doctor Haines, will you read what the outline says on this subject?

Doctor HAINES (reading):

The schedule and plan for such a study have been worked out by the consulting obstetrical committee for the Children's Bureau, of which Doctor De Normandie is chairman. The printed schedules that have been returned from the Government Printing Office are available to any State undertaking the study in sufficient quantities for the study without cost to the State.

The method of procedure agreed upon by the consulting obstetrical committee is to make the study in States in which the State medical society undertakes to sponsor the study. The plan is to secure the information asked for on the schedule for every maternal death. The information would be sought from the physician or midwife attending the woman, the investigator to be a competent and tactful physician. The investigation will be limited to maternal deaths. The facts secured will indicate the deviation from generally accepted standards in the cases in which death occurred but will not give any information about those who do not die but suffer unnecessary invalidism. The study should be carried over a period of two or three years. The information should be collected on the schedules soon after the death of the mother, while the details are still fresh in the memories of attendants.

The Children's Bureau will give assistance in the preparation of the material for publication.

Doctor LEVY. I should like to ask too whether you are insisting that a doctor should make the investigation?

The CHAIRMAN. I do not think we are insisting, but many of us feel we should get more if a doctor questioned a doctor than if a nurse or a public-health worker questioned a doctor.

Doctor LEVY. I think that is true.

Dr. G. M. ANDERSON. In the three mountain States—the only ones I know—I am wondering how the State medical societies can carry on such an investigation because I am sure they have no available funds.

Miss ABBOTT. We have some money that could be used in that way. We hope to get someone who is a member of the State medical society and who is interested in a study of this sort to bring it up. Someone should sponsor it in the State society, other than those in the State health department. I think Doctor Veech could tell us how the State department in Kentucky is going about it.

Doctor VEECH. Our State board of health of Kentucky is simply part of the medical profession; the members of the State board of health are recommended to the Governor by the State medical society.

The CHAIRMAN. I believe with Doctor Levy that it would be well to have the State medical societies sponsor this investigation.

Doctor UNDERWOOD. I am of the opinion that the directors here should go back to their States and if it is not already sold, sell this proposition to the State health officer. Then let him get in touch with a few of the leaders of the State medical association, who will

readily understand the need for this work and who will bring it up at the next State medical association meeting, when the association can go on record as approving and requesting the State department to make the study in cooperation with the Children's Bureau.

Doctor CRUMBINE. On behalf of the American Child Health Association I would like to say that within the limits of our personnel and budget we should be very happy to assist any State in the study of maternal mortality upon the request of the State or of the Children's Bureau.

Doctor BREEDING. I think the suggestions made by Doctor Underwood are excellent. I believe this investigation, if undertaken, should be brought about, if possible, through the State medical organizations. An excellent move, after it is initiated in this way, would be to follow it up in the county organizations. In Tennessee we have a policy of meeting county medical associations, or local societies, from time to time to discuss with them our problems. The reason for some opposition from the medical profession to activities of health departments is a lack of understanding between the health departments and the local medical societies. It is our observation that where we meet these societies, discuss our problems with them, and bring about an understanding of what we are trying to do we have little trouble in securing cooperation. Now whatever program we undertake through the State medical societies must be taken home and executed through the physicians in the county societies.

The CHAIRMAN. Doctor Veech, of Kentucky, has done a most interesting piece of work, and she is going to tell us about graduate courses in pediatrics and obstetrics for physicians.

OBSTETRICAL AND PEDIATRIC POSTGRADUATE COURSES IN KENTUCKY

BY ANNIE S. VEECH, M. D., DIRECTOR, BUREAU OF MATERNAL AND
CHILD HEALTH, STATE BOARD OF HEALTH, KENTUCKY

Kentucky's bureau of maternal and child health from its beginning has recognized that the activities carried on under the Federal maternity and infancy act, for the promotion of maternal and infant health, should be educational. Several groups interested in the necessary program presented themselves, the most important one being the medical profession. The part which they were to play in the program had to do almost entirely with pediatrics and obstetrics, somewhat in their therapeutic but more in their hygienic and public-health aspects. We realized that some members of the profession had not had in their medical training the opportunity for modern teaching along these lines and that the burden of urgent care of the acutely sick had kept them tied to their local responsibilities. Others, like our surgeons and other specialists, were compelled by the press of work to confine their study to the types of work in which they were actually engaged. Therefore, for the past four and a half years we have made an unceasing effort to bring to the profession in our State in every possible way the best information available concerning modern obstetrics and pediatrics and the newer knowledge of mother and child care. The specialists in the profession in our State have given most generous assistance to us in carrying out this program.

The Kentucky Medical Journal, the organ of the State medical association, carried for two years an obstetrical article each month, written by Dr. Alice Pickett, director of the prenatal clinic at the Louisville City Hospital. In these articles the need and the results of prenatal care were stressed in relation to eclampsia, miscarriage, and the general hygiene of pregnancy, and the reports and results of the management of all difficult cases of delivery in the obstetrical department of the Louisville City Hospital were briefly given. To idealize maternity and also to draw especial attention to this obstetrical column, the medical journal permitted us to head the column each month with a reprint of the Sistine Madonna and the Christ Child. Without doubt this series of obstetrical articles running over so long a period of time did much to focus the attention of the profession throughout the State on prenatal care. We have co-operated from the beginning with the medical department of the University of Louisville in its obstetrical department and its prenatal clinic in the Louisville City Hospital by paying the salary of a trained nurse, who is the registrar for the clinic and the obstetrical department. This clinic is a teaching center not only for the medical students but for doctors and nurses from all over the

State. The director of one of our successful prenatal clinics in a full-time county health unit of the International Health Board in Kentucky, which also is partly financed by Sheppard-Towner funds, was trained in this clinic.

The State medical association has for the past four years made it possible for our bureau to have a large part in its annual program. At such times we have had speakers on the program on prenatal care and obstetrics, on infant care and all phases of pediatrics, especially in its preventive aspect, or we have had part in the discussion of these subjects. One of our best-received essays before them was by our nutritionist. The county medical societies of the State are always eager to have our speakers on maternal and child health, and much educational work has been done in this way by physicians from our department. For four years we have had not only local but national speakers, such as Dr. Richard Bolt, of California, Dr. Mary Riggs Noble, of Pennsylvania, and others as lecturers on maternal and child health for the annual health officers' school.

We have always considered our demonstration health centers throughout the State educational centers for parents. They also furnish additional training for the local doctors who help us. In these health clinics the local doctors have the opportunity to make physical examinations of 20 to 60 or more children, and are then put in touch with the simplest and most up-to-date literature on maternal and child health. We also put into their hands the latest and best reprints on immunization, infant feeding, and all phases of maternal and child care from authorities on these subjects. We have had the voluntary help of more than 1,200 doctors in our work, many of them cooperating year after year. Without them we could not accomplish so much. All of them are general practitioners, having great responsibilities and a large area to cover in their work. They welcome cooperation with us, give generously of their time and services, and some write into our office for advice in some of their infant and maternal problems. We find the sincere confidence and generous cooperation of the laity and the medical profession in Kentucky most heartening and a great stimulus to us for greater service.

The latest and most intensive piece of educational work accomplished through our department was a course given by Dr. Alice Weld Tallant. Doctor Tallant spent six weeks in Kentucky, during which period she gave a series of lectures before 12 county medical societies and two district medical societies. Postgraduate work for the rural doctors, presented through local medical societies, affords an excellent opportunity for review and the presentation of modern phases of both child-health and obstetrical work. Four lectures were arranged with a luncheon or dinner meeting between. This was done for the convenience of physicians living at a distance, in order that they might be able to hear the entire series. The lectures covered prenatal care, the complications of pregnancy, and the management of difficult deliveries. In the second lecture prenatal care was reviewed, so that any doctor missing one lecture would still get an understanding of the value of prenatal care.

Doctor Tallant was accompanied by a physician and a nurse from our department. The nurse was in charge of local arrangements and the set-up of the equipment, which consisted of manikin, fetal doll,

bony pelvis, stethoscope, blood-pressure apparatus, Wassermann outfit, and everything necessary in linens and sterilization for setting up a clinic.

The social meeting between the lectures gave Doctor Tallant an opportunity to discuss private cases brought to her by the doctors. The total attendance was 500. Before going out in the field Doctor Tallant was the dinner guest of the Louisville Obstetrical Society, at which meeting she discussed her proposed work and had the suggestions and approval of the group. Her work in Kentucky was sponsored not only by the State board of health but by the State medical association. She was invited to discuss several obstetrical papers at the annual meeting of the association, and there was a demand for her lectures and demonstration by many more medical societies than she was able to meet in the time allotted to her.

DISCUSSION

The CHAIRMAN. It is a most interesting experiment that Kentucky has tried. Dr. Alice Weld Tallant, consultant for the Children's Bureau, will tell us about her point of view.

Doctor TALLANT. After hearing Doctor Veech's paper on the work she has carried out in Kentucky, you will easily understand how the way had been prepared for me so that my sojourn in the State was begun under favorable auspices. I was also fortunate in starting my work in the same month that the State medical society meetings were being held. Through the courtesy of Doctor McCormack, secretary of the State board of health, I was allotted a place on the program in the discussion of the obstetrical papers, and thus had an opportunity to meet a number of physicians from different parts of the State, so that I did not feel like an entire stranger in my later travels.

The kindness of Dr. Alice Pickett still further smoothed my pathway. Through her invitation I was privileged to attend a meeting of the Louisville Obstetrical Society, at which I received the benefit of free discussion of my plan of procedure and many helpful suggestions as to obstetrical conditions and needs. It may interest you to know the points which the Louisville obstetricians all urged me to stress particularly—asepsis, of course, and also the dangers of the improper use of pituitary extract.

The object of the Children's Bureau in sending me out into the field was to arouse interest in prenatal care, to spread information as to the details of prenatal examinations, and to urge the importance of prenatal clinics. The idea of my holding clinics had been considered, but the difficulties in the way of gathering together the patients were too great, and it was therefore judged wiser for me simply to give talks and demonstrations before county medical societies. As these societies in Kentucky are for the most part rather small groups, it was possible to keep the discussions informal, and I believe that this served to make the meetings more helpful.

Everything was planned beforehand for me in a wonderful way, and no detail was omitted which could make my trip easier. My itinerary was made out for me, and I was piloted through my journeyings by Doctor Jennings, the assistant director under Doctor Veech, whose knowledge of the devious ways of travel in Kentucky

never failed, even when it was a question of discovering a bus at 4 a. m. or a train connection in Virginia, when Kentucky railroads left us in the lurch. One of Doctor Veech's nurses also accompanied us, to get the room and equipment in readiness for my talks, or sometimes went in advance of us, to herald abroad my coming. Another companion of our travels really deserves a chapter to herself, if time allowed. After we decided that a demonstration would be a valuable part of the meetings, Doctor Veech secured a manikin for us through the courtesy of the medical department of the University of Louisville. When I tell you that this member of the party never failed to arrive in time for my use, I think you will share my respect for the abilities of the directors of my tour, for the intricacies of traveling with an obstetrical manikin are better imagined than described before this assembly. Try doing it yourselves some day, if you do not believe me.

With everything so carefully and completely arranged for me, nothing remained for me to do but wait until I had been escorted to the meeting place and then begin to talk. Since it is self-evident that no one, however well-equipped with knowledge and eloquence, could be expected to cover the whole subject of obstetrics in an hour and a half, the question naturally arises, What points did I take up in my talks?

Our first idea was to hold two meetings, one on prenatal care and the other on obstetrical complications, but in many places we had only one, into which both subjects were compressed. Moreover, we discovered almost at the outset that a discussion of prenatal care alone did not create much interest. This did not surprise me, for as I noted in the paper which I read before this conference last year, my impression was that most doctors are pretty well "fed up" on this topic, whether or not they put into practice all its teachings. More than this, I had seen enough of the experiences of general practitioners to understand that with the best will in the world they could not carry out the principles of prenatal care, even in a large city like Philadelphia, if their patients did not see the importance of frequent consultations and did not present themselves for examination. It did not take long to find out that this condition of things was even more marked in the rural districts of Kentucky (and doubtless in other States as well). As soon as I asked the physicians at the meetings the result of their observations, the almost unanimous reply was that their patients rarely consulted them during the prenatal period and often did not even engage a doctor in advance but sent in a call after labor had begun. Some noted that there had been an improvement in the last few years and thus bore testimony to the campaign of education which Doctor Veech's bureau of maternal and child health has been carrying on.

Although a detailed exposition of prenatal care by itself was proved unpractical I managed to introduce one phase or another at every turn. The pelvimeters on the table of equipment which the nurse had set up gave me a chance, while showing them to the audience, to lay stress on the value of pelvimetry. The blood-pressure apparatus served its purpose in like manner. I then attacked the matter from another angle by making "obstetrical complications" the topic under discussion and bringing in prenatal care indirectly

but emphatically as the preventive side of their treatment. As far as time allowed I touched on the complications of pregnancy and their treatment by prenatal care as well as by other measures, including the so-called "accidental" complications, such as tuberculosis, heart lesions, and venereal disease, besides those directly connected with pregnancy, such as pernicious vomiting, pyelitis, and abortion. In the same way I went over the complications of labor, indicating how far they could have been prevented by prenatal care. I took the stand that these matters were familiar to physicians but that we must look to the physicians to help in the education of patients by pointing a moral whenever possible.

In this connection I always made it clear that the State bureau of maternal and child health stood ready to aid the doctors by sending out leaflets of instruction to the patients of those who wished them and by arranging for the examination of urine and blood specimens. I tried in every way to bring out the fact that the bureau wished to cooperate with the physicians and not to work against them, and often referred to the recommendation in the prenatal leaflet that the patient should begin early to save money for the confinement fee, in order to pay her bill promptly.

I always took pains to explain that the Children's Bureau had arranged for my work as a part of its program for combatting maternal and infant mortality. But I was equally careful to emphasize the fact that the States are pretty much alike in maternal-mortality statistics, and that Kentucky had been chosen first not because of its bad record but because Doctor Veech was an old friend of mine who had been kind enough to want me first.

Statistical tables I avoided, simply stating the proved fact that there are three main causes of maternal mortality: Toxemia and eclampsia, puerperal infection, and hemorrhage, and that the first two groups are responsible for one-half to two-thirds or even a larger proportion of all maternal deaths. Here came another opportunity to discuss prenatal care and how far it was effective in preventing these conditions. I also went over the subject of postpartum hemorrhage from the point of view of prevention and tried to show how important a part was played by the proper management of the third stage of labor.

As to puerperal infection, I repeated at every meeting that it was preventable and could be almost wiped out by careful asepsis; but I also did my best to explain that I fully understood how difficult and even impossible it is to carry out the details of perfect technique in many homes. I recalled cases of my own in which I had had to work unaided, such as a home where I had used one hand to stir the fire and put on the water to boil, while keeping the other sterile for the necessary obstetrical manipulations. Still I maintained that clean obstetrics could be done in the most unfavorable surroundings and instanced the low mortality and morbidity of many outpatient clinics in large cities, quoting the figures from my own service when I was at the Woman's Medical College—11 deaths from infection in 10,000 confinements, including Cesarean sections and many other emergency cases. Again the State bureau was introduced as a possible help to the doctor through its pamphlet of directions to the patient how to prepare sheets, towels, and other supplies so that there

would be material for at least a clean obstetrical field, even if not for an absolutely aseptic one.

The next thing was to outline the treatment of these three conditions. Here the point was to choose methods that could be used in homes where equipment and trained assistance are at a minimum. It is fortunate that the trend of obstetrical treatment at the present time is toward simple and conservative measures, for one can confidently assert that they can be carried out by almost anyone in almost any home and that they are in the long run as successful as more elaborate procedures.

The manikin demonstration I held in readiness to put in when interest seemed to wane, knowing full well that any gathering of busy people is bound to tire of too much talking and that it is always easier to watch than to listen. After showing as best I could how the perineum could be protected, even though the doctor was alone, I went on to the delivery of breech presentations, forceps and version, using a leather-doll fetus. The question of anesthesia for these operations often came up, as the physicians described cases which they had to carry through without assistance; but I claimed that it was possible to start the anesthetic and let some member of the family continue it during the operation, as I had had such experience myself.

Time was always allowed for free and informal discussion, which was to me the most interesting part of the meetings. I never tired of hearing about the emergencies which had to be met in remote spots and isolated homes, and the unusual complications which tried judgment and initiative. These doctors had faced operations with no hospital to fall back on, like one man who had performed a successful Cesarean section in his office. Some of them had come many miles to hear me, because they were eager to find something new and helpful, and I felt continually on my mettle to give them my best.

One point I wish to make very clear in closing. My talks were not undertaken in any spirit of preaching at the so-called "country doctor," or blaming him for obstetrical conditions in this country. I have the greatest respect for the general practitioner in his dealings with problems that would tax the most highly trained specialist. He works under the handicaps of long distances, poor roads, unco-operative patients, lack of equipment, assistance, and hospital facilities, and it is a wonder that he can carry on as he does. I welcomed the opportunity to hear the experiences of the Kentucky physicians and discuss their cases with them, as a benefit to myself.

What I tried to do was to give in a simple and practical form the most important points in the principles and practice of modern obstetrics and to encourage these doctors to continue to work for high standards. I also made it my endeavor to assure them of the desire of the State and Federal bureaus to stand behind them, to work with them, and to help them in their needs. Although I shall be abidingly grateful for all that Doctor Veech and the members of her bureau did for me in Kentucky, I can not say enough in appreciation of the reception accorded me everywhere by the physicians of the State.

Doctor HAINES. I think you all understand that Doctor Tallant is a consultant of the Children's Bureau and may be available for such work again, if it could be arranged at her convenience.

Doctor VEECH. I should like to say again in connection with Doctor Tallant's work that she worked under great difficulties, making trains, as she said, at 4 o'clock in the morning and traveling in busses over bad roads. We tried really to get into the most isolated areas. We felt that in our larger and more prosperous towns the physicians have a better chance. They are the ones who go to State medical meetings, and it was at the State medical meeting that Doctor Tallant had an opportunity to meet them. But most of her work was done with the physicians who had the least chance to get away from the places where they live.

The CHAIRMAN. It is a wonderful piece of work, and I should think some of the other States would want to have it carried on.

If there is no further discussion of these very interesting talks we shall go on to the next paper. As I said earlier, Doctor Lobenstine is detained in New York. He has asked Dr. M. Luise Diez, associate director of the New York division of maternity, infancy, and child hygiene to read his paper on "The Tioga County demonstration in prenatal care."

THE TIOGA COUNTY DEMONSTRATION IN PRENATAL CARE

BY RALPH W. LOBENSTINE, M. D., CHAIRMAN, MEDICAL ADVISORY BOARD, MATERNITY CENTER ASSOCIATION OF THE CITY OF NEW YORK

[Read by Dr. M. Luise Diez]

The problem of providing expectant mothers in small towns and in rural communities with reasonable safeguards during pregnancy and labor is one that is surrounded, on the whole, with more difficulties than are met with in the average urban community. This is due, I think, to the varying conditions to be found in the different sections of this large country; to the fact that ignorance and ultra-conservatism in country life are rather harder to cope with than in the city; to the fact that distances are great, that good medical and nursing care are much harder to secure; and finally, to the scarcity of good hospital facilities.

The general problem of how to meet the great need in the cities has been faced with intelligence, zeal, and in at least a few cities with definite success. Perhaps the most useful of city demonstrations has been the work and education of the Maternity Center Association of New York. This organization has endeavored to face the many questions that arise in the development of a maternal-welfare program amidst city life. There has been definite standardization and progressive education as well, of doctors, nurses, and mothers.

About two years ago a number of conferences were held regarding the possibility of adapting some of the methods of this organization to rural communities. When the Sheppard-Towner funds made it possible for the New York State Health Department to undertake in the State of New York an increased amount of maternity-welfare work, State Health Commissioner Dr. Matthias Nicoll, jr., and Dr. Florence L. McKay, then director of the division of maternity, infancy, and child hygiene, decided to undertake a demonstration in Tioga County in conjunction with the Maternity Center Association. The State health department agreed to furnish the funds necessary to make available to Tioga County a maternity nursing service, such service to be carried on by nurses chosen from the maternity-center staff and to be under the immediate direction of this association. The undertaking was approached with great enthusiasm and with earnestness; the nurses were chosen because of their ability as well as for their tact. The plan was followed in this study, which should certainly be followed in any similar enterprise elsewhere; namely, an attempt was made before the actual beginning of the work to enlist the sympathy and interest of the county medical profession.

In December, 1924, the Tioga County Medical Society was called together to discuss the proposed demonstration. Of the 24 physicians belonging to this society 13 were present at the meeting, and these voted unanimously to give the demonstration their full cooperation.

An advisory committee was formed consisting of Dr. Eugene Bauer of Owego, Dr. W. M. Hilton of Waverly, and Dr. Max Fisher of Spenser. Two of these gentlemen were sent to New York City to observe for several days the methods of the Maternity Center Association as well as those of several of the more progressive obstetric clinics.

During the last week of January, 1925, the first prenatal clinics were begun in Tioga County. The work was started by two nurses, and a third nurse was added to the staff by the following June. Office hours were held by these nurses three afternoons a week in Waverly and three in Owego. In February, 1926, in accordance with the request of the district State health officer, a fourth nurse was added. In addition to these nurses' consultations, demonstrations of the work and numerous talks were given at the county fair, to the home bureaus, to the women's clubs, and to other groups throughout the county. Furthermore, every physician was notified that these nurses were both ready and glad to give their services to each and every case of confinement in which their help might be desired. I can imagine nothing that could bring more cheer and helpfulness than a thoroughly qualified nurse to help the physician at the time of delivery.

Each clinic is thoroughly equipped with a teaching exhibit of the Maternity Center Association. The patients are instructed both in the care of themselves and in that of their young babies. They are carefully taught the danger signals of pregnancy; the essentials in the hygiene of this period; the signs of approaching or of actual labor. Each patient is further advised regarding the necessary equipment for labor as well as the layette for the baby. From the outset the mothers have appreciated this service, and the doctors have more and more realized the value of both the prenatal follow-up work of the nurses and the marked assistance at the time of labor. Even during the first year of the experiment patients came under the care of the nurses from every community in the county except Smithboro. In the group seeking education and assistance there were a number of college graduates.

Tioga County was chosen in part because its population is on the whole intelligent; in part because its size is not too great to allow easy access to the centers except during the worst weeks of the year; and in a considerable part because of the open-mindedness of the physicians. The population is around 25,000. The births reported range between 375 and 485 a year.

By the end of the first year more than half the pregnant women of the county had been under the care of the nurses; that is, 247 patients, of whom 63 per cent were referred by physicians. Among the 151 deliveries there were 2 sets of twins, 4 stillbirths, 4 miscarriages, and 7 deaths of babies (these deaths occurring before the mother was dismissed). The nurses made 3,020 visits to patients in their homes and the patients made 226 visits to the centers. Some of these patients traveled more than 24 miles for a prenatal visit to the center. The nurses were actually in attendance on 58 deliveries during the first complete year of 1925.

In 1926 the number of patients carried by the nurses was 356. The number of new patients was 253. Of this number, 133 were

reported by physicians, 116 by laymen, and 4 by social workers. There were 238 mothers delivered and 225 babies born alive. In the total number there were 5 stillbirths, 8 miscarriages, 2 sets of twins, and 4 deaths of babies after delivery. During the year 263 mothers were dismissed—19 during the antepartum period and 244 in the postpartum period. There were no maternal deaths in either 1925 or 1926.

In this last year there was a definite gain in the number of deliveries attended by the nurses, which increased from 58 in 1925 to 111 in 1926. Home visits were made in every town in the county. The total home visits made by the nurses numbered 3,293, while the visits made by the patients to the centers amounted to 902.

This shows, then, briefly, the salient features accomplished by three to four nurses in a widespread, rural community in which the physicians have almost uniformly offered their full cooperation. No marked results from a statistical standpoint perhaps can rightly be deduced from the small numbers with which we are dealing. It is of interest, however, to note the lack of deaths in either year of those mothers who had been under the care of these public-health nurses during pregnancy.

We can not but believe that this movement has aroused widespread interest in the county, that it has educated the women to the needs of expectant mothers and the desirability of good medical attendance at delivery; and that the mere presence of these enthusiastic, highly trained nurses has stimulated even the physicians to render the very best possible service to those under their charge.

This undertaking has been a small one, but the methods followed should, if more or less widely adopted, produce in the long run very tangible results in lowering maternal mortality and morbidity as well as in lessening a very considerable and oftentimes unnecessary loss in infant life.

DISCUSSION

The CHAIRMAN. Doctor Diez, will you give us the benefit of your own views on the work?

Doctor DIEZ. At this time it might be interesting to speak of the background of the Tioga County demonstration.

In January, 1924, a nursing demonstration with Sheppard-Towner funds was asked for Tioga County by the home demonstration agent of the home bureau. She was advised that the matter should be taken before the board of supervisors so that they might vote the necessary matching funds.

In March a meeting was held with the tuberculosis and public-health committee of the State charities aid association to enlist cooperation in this demonstration. The board of supervisors did not feel that they could accept the proposition at this time. Then the services of a child-hygiene nurse for a four to six months demonstration was offered. A joint committee of local people was formed to raise the funds necessary to finance a car for the nurse. This demonstration was to be carried on with Sheppard-Towner funds and the Christmas-seal money of the tuberculosis committee of the State charities aid association. Then at the end of the demonstration it was to be taken over by the board of supervisors; and as Sheppard-Towner funds could not be matched by private funds, the State chari-

ties aid association was asked to put its funds into the public treasury. In addition they could have State-aid-to-counties funds, meaning that one-half of all money paid by the county for public-health work could be reimbursed by the State. It was ruled by the State charities aid association that Christmas-seal money could not be paid into the county treasury.

In September of this year Dr. Florence L. McKay had a meeting with the directors of the Maternity Center Association asking their cooperation for a rural maternity demonstration in some county in the State. At this meeting it was decided that the center would furnish three or four nurses who had been trained by the Maternity Center Association and that their salaries be paid by Sheppard-Towner funds. There were to be three maternity-center nurses to be used for group work and a fourth nurse, a floating nurse, to do the follow-up work wherever the press of work demanded. Tioga County, a rural county with no large cities and with a population of 24,000, an area of 520 square miles, and an average of 400 births per year, was selected.

In December Doctor McKay met with the Tioga County Medical Society, which consisted of 24 members, 13 being present at this meeting. This project was presented to them, and they unanimously voted to indorse the work and give their cooperation. The advisory committee was formed of which Doctor Lobenstine speaks. It was proposed that there would be three nurses appointed the first of the year. They were to be members of the staff of the division of maternity, infancy, and child hygiene and directed by it with assistance from the Maternity Center Association. The promise was made at this time that this demonstration would not interfere with the general public health nursing service which the tuberculosis and public-health committee of the State charities aid association was desirous of obtaining for this county. Miss Corbin and Miss Zabriskie (nurses from the Maternity Center Association) went to Tioga County and were taken over the county by the district State supervising nurse. After the survey they agreed as to the county's suitability. The program was to be under the joint direction of the State department of health and the Maternity Center Association, both having equal credit in any publication concerning the work which may be forthcoming from time to time. There were to be three nurses specially trained at the Maternity Center Association and employed by the State department of health on its nursing staff and paid by Sheppard-Towner funds for their work; there was to be no change in the nursing personnel for at least a year if it could be avoided. The State department of health would pay such traveling expenses of the directors of the Maternity Center Association as might be necessary for the supervision of the work. The State department of health would assist in the working out of general policies, such as mapping out districts, introducing nurses to physicians, interesting the local people and appropriate groups, helping to arrange group meetings in the interest and organization of mothers' health clubs. The district State supervising nurse for that district was to be general advisory nurse for the general public-health nursing problems.

A medical advisory committee was formed consisting of Dr. Ralph W. Lobenstine and Dr. Harold C. Bailey, regional consultants to the

division of maternity, infancy, and child hygiene and members of the Maternity Center Association, Dr. John A. Conway, district State health officer, and the three local physicians previously mentioned.

The demonstration was begun January 26 with two nurses available. The nurses were to report on the daily time sheets to the Maternity Center Association, as was done in New York City, and the monthly report was to be sent to the State department of health.

Beginning January 26 the child-health consultations of the division of maternity, infancy, and child hygiene were held in Tioga County for one week, and the maternity-center nurses were present. It was thought that this might prove of value to the nurses in becoming acquainted with people interested in public-health work and might be a means of contact for home visiting. Demonstrations at county fairs, home-bureau meetings, and women's clubs were planned. Headquarters was established in Owego, and a second room was secured in Waverly for the occasional use of the nurses when they had to remain overnight. At this time it was decided that the center would not be used for observation purposes for some time, and no prenatal clinics were to be held unless there proved to be a special need. By March, 22 patients were under observation, and 38 babies visited. The physicians were very enthusiastic, referring practically all the cases. It was now decided that no cases outside the county could be taken under care, and the people who could afford to pay could provide their own nursing service. In September the second station was opened in Waverly. Office hours are held in each station three times a week.

In the fall of this year there was a change in the reporting system. Each nurse was to send in weekly reports to the division of maternity, infancy, and child hygiene as other staff nurses do, Miss Zabriskie to send for use in the annual report of the division of maternity, infancy, and child hygiene a copy of the narrative report which she submits to the board of the Maternity Center Association.

At the end of 1925 there had been patients under care from every community in the county except Smithboro. At the end of the year there were under care 64 antepartum cases, 39 postpartum cases, and 35 babies. The cost of the first six months of this demonstration was approximately \$6,000.

On the 1st of February, 1926, a fourth nurse was assigned to duty, so that two were working out of Owego and two out of Waverly, full time at both stations. During May tuberculosis clinics and child-health consultations were held in the county, and a general public-health nursing service was asked for so that the patients attending these consultations might have adequate follow-up care. In order that the maternity demonstration should not be lost sight of when the board of supervisors was asked for an appropriation for this nursing service, a conference was held with the members of the local tuberculosis and public-health committee of the State charities aid association, with the county medical society committee, Doctor Conway, Doctor Gardiner, Miss Kuhlman, and Miss Thompson. The services of a public-health nurse for the remainder of the year were offered by the division of maternity, infancy, and child hygiene, the local tuberculosis committee to provide a car and the

maintenance thereof, then at the end of the demonstration the local tuberculosis committee to approach the board of supervisors to secure an appropriation of county funds plus State-aid-to-counties funds for the support of a county public-health nurse. During this demonstration the nurse's salary was to be paid by the department of health, the nurse to be under the direction of Doctor Conway, Doctor Gardiner, and Miss Kuhlman. She was to render reports both to the local tuberculosis committee and the division of maternity, infancy, and child hygiene over Doctor Conway's desk. She was to give half time to infant and preschool work, and do the follow-up work for the tuberculosis clinics and any other general public-health work needed in the county.

It was decided that after September 1 there would be only two maternity nurses with the one public-health nurse as a permanent staff, the demonstration nurse to enter upon her duties November 9. The lessening of the maternity staff was done in order to prevent the board of supervisors from feeling the burden of a large nursing staff.

In October Doctor Bauer reported that two nurses were not enough to cover the county and take care of the number of cases referred. Therefore the services of a nurse were made available for part time whenever stress of work demanded.

The following statistics for the county cover the two years previous to the demonstration and the two years of the demonstration:

Year	Births	Still-births	Deaths under 1 year	Maternal deaths
1923	400	18	46	1
1924	389	12	27	1
1925 ¹	381	9	27	1
1926 (January-November) ¹	291	5	17	1

¹ Provisional figures.

Mrs. DILLON. Do the nurses have any other duties? Do they do anything besides this work?

Doctor DIEZ. They do nothing but this maternity work. They have office hours in the afternoon, but devote the morning to the routine calls. Of course one substitutes for another; if the people in the one center are away on emergency work, then the people from the other center take care of any emergency work in the county.

Mrs. DILLON. How have they been able to maintain their hours? As I understand it, you have certain hours at which your centers are open, when the people in that territory know that they will find the nurses at the centers. How are they able to do that and still take care of the delivery service?

Doctor DIEZ. They are able to do that because we do not have a complete delivery service. They have two or three hours in the center three afternoons a week, and with the full personnel of four nurses they were able to take care of this service without any interruption. With two, of course, there may be some difficulty in covering the work.

Doctor GARDINER. I might add that the local society has an office in the city hall, and they take any emergency calls and see to it that the

nurses get them as soon as they come in. This service is limited to maternity and early-infancy cases.

Doctor DIEZ. If the nurses have been on delivery work, they have office hours on the next day, and the outside work is taken care of by some other nurse.

The CHAIRMAN. They go alone?

Doctor DIEZ. The two go together; they go only if the doctor calls them.

The CHAIRMAN. How early in the labor do they go?

Doctor DIEZ. I think that depends on when the doctor calls and when he wants them to go. I do not believe they ever go in before that; they are there just long enough to give all possible assistance.

The CHAIRMAN. Is that as it is in other maternity service—that the nurse does not go until after the doctor goes?

Doctor GARDINER. They are not supposed to be there except when the doctor is present.

The CHAIRMAN. I understood you to say there were no hospitals in that county?

Doctor DIEZ. No; there are no hospitals.

The CHAIRMAN. What do you do in case of emergency? Where do you send your patients?

Doctor DIEZ. We are very near Binghamton, so that a hospital is accessible, though it is not in Tioga County. Binghamton is within 20 or 30 miles, I think.

Doctor NOBLE. I should like to ask Doctor Diez how she gets her prenatal cases. Is it always by reference from a doctor?

Doctor DIEZ. Of course the large majority of them were referred by physicians, because the physicians were anxious to cooperate and have the demonstration prove successful. Some were referred by social workers, and some through the home bureau. I can tell you of one case that came to us direct. The traffic officer stopped one of the nurses in her car; she thought he wanted to tell her of some violation of the traffic rules, but he said, "You go to my house; my wife is going to have a baby."

Doctor NOBLE. Are there any midwives in that county?

Doctor DIEZ. No.

The CHAIRMAN. Doctor Diez, what happens if the patients come to the nurses without having any medical supervision?

Doctor DIEZ. They are asked to engage a physician.

Miss De LASKY. Is the nursing care given just at the time of delivery or afterwards?

Doctor DIEZ. For six weeks afterwards.

Doctor LEVY. I think you said the doctors give adequate and competent prenatal care. Then what is left for the nurses at the centers? I take it that the patient's doctor examines her. You have no doctor at the center?

Doctor DIEZ. No.

Doctor LEVY. Then the doctor examines, and I would take it he also advises in the necessary personal hygiene. I should like to have it made clear just what the nurses do.

Doctor DIEZ. The doctors are very willing to leave some of the prenatal care to the nurses. The nurses at the centers give instruc-

tions as to hygiene, especially if the first contact was made with the nurse. They minister to the patient, arrange the layette, and assist the mother in the preparation for labor and the care of the baby. Also if the patient has urinalysis done at the center she is instructed how to do urinalysis herself, in case it should not be possible for her to go to her physician or to the center for it. Such cases report to the nurses over the telephone. The nurse also gets in touch with the physician and carries out any instructions that he may give her to pass on to the patient.

The CHAIRMAN. Do I understand that the patients are instructed in urinalysis?

Doctor DIEZ. They are taught how to boil the urine for possible albumin. At certain periods of the year it is not possible for the patients to get to the center nor for the nurses to go to the homes. Or the patient may be too far along to come into the center. Those are the only times that they attend to this themselves.

The CHAIRMAN. Do they interpret fairly satisfactorily?

Doctor DIEZ. Yes. Sometimes, if the patient can not come to the center, the husband comes and reports as to his wife's condition.

Doctor NOBLE. I should like to ask whether the entire service is free and whether two nurses attend one delivery.

Doctor DIEZ. There is no charge to the family. When the nurses feel a family can afford to pay for service they are instructed and are asked to provide their own nursing service. You see, under the State administration no money can be accepted.

Doctor BREEDING. In the extremely rural counties is there an adequate supply of physicians?

Doctor DIEZ. There are rural districts in New York State that have no physicians for a radius of 10 to 25 miles, and the people just suffer from lack of medical care.

The CHAIRMAN. You have no trained public-health nurses or women trained in the school of midwives in New York that carry out that work?

Doctor DIEZ. One of our supervising nurses has taken training as a midwife, and she does the work in connection with licensing of midwives.

The CHAIRMAN. Is she licensed herself?

Doctor DIEZ. She is licensed to practice midwifery, but we have never tried to have her practice in the State of New York.

Doctor KNOX. I think we have had this year two demonstrations in the obstetrical side of our work that are exceedingly important for all of us—the one concerning which we have just heard, in which I am extremely interested, and the other in Kentucky, where the nurses with obstetrical training are doing midwifery in places where there are no doctors. Many of us from the South are acquainted with this problem; we have not a sufficient number of doctors to do this work, and a large part of it is done by midwives. I think certain phases of this work in Tioga County would be applicable to the South. Many doctors would welcome the services of nurses in extending their prenatal care, because during certain times of the year the transportation facilities are inadequate to enable them to carry out prenatal work satisfactorily. Many of the women prefer midwives, or even their neighbors. In Maryland we are just beginning now to elimi-

nate the unlicensed midwife; that is the group of cases in which we have our high mortality. That is not the group of cases which have been accessible to doctors. I am anxious to know how to help the ignorant mothers, the really indigent cases who can not pay the doctor anything. If we could employ some obstetrically trained nurses I believe we could help this group of cases tremendously and do still more toward eliminating the ignorant, untrained midwives.

Doctor DIEZ. I should like to leave with you the impression that there is a very close relationship and cooperation between the nurses and the doctors. A report is given by the patient to the nurse, and the nurse passes it on to the doctor with her report of her visit to the patient, so that the nurse never does anything on her own responsibility; she always reports to the attending physician.

The CHAIRMAN. Miss Patterson, will you tell us something about the public-health work in Massachusetts?

MISS PATTERSON. We did have some difficulty in getting the doctors to cooperate with us, but they are now cooperating in the work for the expectant mother. Just this last year we have come to realize that if a doctor did not want the nurse's help it was because the nurse had not made him understand how she could help. We have therefore spent more time calling on the local doctors, and we have had much better cooperation.

Doctor LEVY. I should like to know the total cost in a year of a demonstration of this kind.

Doctor DIEZ. I can give it to you for six months: Approximately \$6,000.

Dr. G. M. ANDERSON. I should like to ask Doctor Holmes a question; he has been training doctors for 25 or 30 years. I wonder why more doctors are not prepared to deal with the obstetrical problem.

Doctor HOLMES. I have been a teacher of obstetrics for 30 years; in all this time I have tried to impress upon students, physicians, and others the fundamentally important subject of the proper care of women during their child bearing. Many others have lent their earnest powers toward the same purpose. Yet only lately (the last 10 years or so) have the public and the profession been brought to the near realization of the vital necessity of "good obstetrics."

Many factors come into the question of what proper teaching is. First, obstetricians believe that obstetrics and gynecology comprise one teaching chair; in the hospital the two subjects should be conjoined in practice. A physician may be a good gynecologist with a rudimentary knowledge of obstetrics, but he is a poor obstetrician who is not also a gynecologist. In most colleges and good hospitals the two are united; in a few there is a divorce. Johns Hopkins Hospital represents one modern institution with the two separated, and if this becomes more prevalent it will be a distinctly retrogressive movement. They must be taught and practiced together.

Secondly, with extremely few exceptions the trustees and faculties of our medical schools have not been brought to realize the fundamental importance of obstetrics. As a result the medical and surgical departments have a disproportionately large number of hours allotted to them for didactic and clinic instruction. Obstetrics, on

the other hand, has a limited number of hours for two years, only too often at the closing period of the day when teachers and students are tired. There is hardly a malady affecting adults with which obstetrics may not be related; yet all the maladies taught in medicine and surgery may not encroach upon obstetrics. I trust you may grasp the significance of the great difference. Many hours a week for two years are spent by students in the clinic courses of general medicine, yet in obstetrics the clinic course comprises the seeing and attending of 10 or 12 cases. Possibly the students may see 10 or more additional cases conducted by internes or assistants. But 10, 20, 100, even 1,000 cases of normal labor do not give a physician an obstetric experience; his true experience comes from contact with all the complications and accidents of obstetrics. The great trouble is that the physician who may have had numerous normal labors believes he is skilled, but this experience will not teach him how to cope with serious complications. I would say that our hours in medical schools should be increased 50, if not 100, per cent for the teaching of didactic and clinical obstetrics. I know that Harvard gives one of the best obstetric courses in the United States, yet I am certain it does not give the students more than 50 cases. In my college we do not in the remotest degree approximate this.

The CHAIRMAN. Twelve cases are required, but they get about 50.

Doctor HOLMES. As a result of all this the physician is graduated with a rudimentary knowledge of normal labor, and with very rudimentary information on prenatal care. The training which most students get is in routine, elementary instruction; they are not trained to the care of complicated cases—in surgical obstetrics. We must have postgraduate instruction to equip young men to be efficient obstetricians.

One of the things the advisory committee to the Commissioner of Health of Chicago, Doctor Bundeson, recommended was that trustees and faculties should be urged to appropriate more money and allot more time to the obstetric departments of their medical schools; further, to emphasize to the physicians the importance of matters obstetric by having an obstetrical paper at least every three months in each of the 13 branches of the Chicago Medical Society; and further, to undertake a campaign of education of the public. What does this educational campaign mean? Every young woman who applies to the county clerk for a marriage license is going to receive the next day a pamphlet on prenatal care. This surely will bring results.

This maternal-welfare work, combined with some infant-welfare work, which now is before you is of transcendent importance in that you are educating the women and the general public to demand better things. And this educational campaign is going to accomplish far-reaching results because it is being carried on through the county units throughout the United States under Federal auspices.

TUESDAY, JANUARY 11—AFTERNOON SESSION

DR. ROBERT L. DE NORMANDIE, INSTRUCTOR IN OBSTETRICS, HARVARD MEDICAL SCHOOL,
PRESIDING

The CHAIRMAN. Miss Hanna has an announcement to make before we begin this afternoon's program.

Miss HANNA. I wish to take a moment of your time to explain the mimeographed sheets in your chairs. We are very anxious to have you think over a few of the questions on these sheets before you come to the meeting to-morrow. This is a questionnaire to stimulate discussion.

The CHAIRMAN. We have to finish this meeting this afternoon at about 3.50 p. m., so that we can go over to the Interior Building auditorium to see the new Children's Bureau film. Doctor Mosher is sick and could not come to the conference; but Doctor Holmes is going to read his paper for him.

THE PROBLEM OF COMPULSORY NOTIFICATION OF PUERPERAL SEPTICEMIA

BY GEORGE CLARK MOSHER, M. D., COMMITTEE ON MATERNAL WELFARE,
AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

[Read by Dr. Rudolph W. Holmes]

When Doctor De Normandie telegraphed his request for a discussion of the subject of the compulsory notification of puerperal septicemia, such notification at first glance seemed a self-evident proposition for maternal welfare. But when, after careful consultation, the current American medical literature was found practically blank in its expressions on the subject, it was decided that the only alternative was an original investigation to discover the attitude of the profession and the public concerning this method proposed as one means of solving a problem so tragic as the loss of women in childbirth in the United States.

A letter was immediately formulated and sent to the national organizations which, it was hoped, could aid in furnishing information; also, to a number of State boards of health in those States where compulsory notification is the law, as to the observance of the law and its results. A questionnaire asking the views of a number of leading obstetricians, teachers in the medical schools, followed. While the responses from the obstetricians have been prompt and are incisive in their opinions, it is a great disappointment that no more nearly conclusive report has been received from officials and governing bodies as to the actual working of the law where it is on the statute books. The subject is still sub judice, and your earnest attention is called to these opinions as they have come to me. It is hoped that by a discussion we can thresh out the essentials and conclude a program to be presented to the profession in the various States as the views of the directors meeting in this conference.

The information sought was upon the following points:

1. Does any system of education promise to aid in reduction of puerperal septicemia in the United States?
2. Have you noticed any difference in frequency in puerperal sepsis —
 - (a) In rural and urban communities?
 - (b) In home and hospital confinements?
3. Is the attitude of the profession as to compulsory notification of contagious diseases in general an indication of what would result if puerperal septicemia became reportable?
4. Would a penalty attached to the requirement for compulsory notification of puerperal septicemia add to the efficacy of such a law?

Of course we take it for granted that any condition which is responsible for 40 per cent of the deaths of women in childbirth and which by general consensus is largely preventable is a tangible object of attack in public-health work. All those who are included in the discussion being of one mind as to these two facts, there remains only the expression of individual views as to whether the greatest benefit is to be derived from compulsory notification and we should therefore undertake a campaign for its adoption in the States, or whether other remedies will avail.

A letter from Surg. Gen. Hugh Cumming, of the United States Public Health Service, dated December 15, 1926, says:

Education as a means of preventing puerperal sepsis would be a part of a general health-education program. This bureau believes it is better to combine all phases of health work in one program, rather than to have special effort devoted by groups of specialists to a separate phase of public-health work.

He pointed out that the death rate from puerperal sepsis per 1,000 live births averaged, for 1920 to 1923, inclusive, 3.1 for urban and 2.025 for rural births.

The replies to the question with regard to the attitude of the medical profession toward compulsory notification of infectious diseases in general showed that it is variable throughout the United States. In communities where the local health authorities take an interest in the matter very satisfactory cooperation is secured. There are other areas, however, where the reporting of communicable diseases has not been given careful consideration. It would therefore be impossible to formulate a brief statement setting forth the attitude of the medical profession.

It is difficult to get complete reports of puerperal sepsis, and so far as is known no special measures are being taken to secure reporting in the 16 States where it is a law or a State regulation.

Dr. W. C. Woodward, secretary of the bureau of legal medicine of the American Medical Association, writes under date of December 21, 1926:

The wisdom of compulsory notification of puerperal fever seems to me questionable. Probably no disease should be made reportable unless the reports are made the basis of a thorough investigation of the disease with a view of preventive or curative measures. Unless we can write into the law requiring cases to be reported adequate provision for investigation or preventive or curative measures, we are not ready for the law.

Might it not be well to test our readiness for compulsory notification of puerperal septicemia, to try to state just what the health department is to do on receipt of notice of such a case? How is the health department to learn if such a case is not reported? It is difficult to get information necessary to enforce the law against smallpox and scarlet fever; but when it comes to finding evidence that a given woman has had puerperal septicemia, that her physician knew the fact, and that he failed to report it, the difficulty increases greatly. A physician can not be compelled to testify against himself. Is the patient or nurse to be brought in as witness?

"One fact complicates the whole question and makes it impossible to say that the disease is in all cases absolutely preventable; namely, that a very small number of cases develops * * * when every method for avoiding infection has been used. * * * In general obstetricians of the greatest experience believe that a small number of cases of infection after childbirth may develop from bacteria which were already in the body of the patient before confinement; but that in the main such cases are of mild severity and that only a few fatal cases are due to this cause. Another point which must be borne in mind is that, in a certain number of cases, women may infect themselves through

improper hygiene during pregnancy or just before or at confinement. Therefore, the teaching of proper hygiene is an essential part of the work of prevention of infection."¹

It is held that this teaching of hygiene to be effective must reach the entire female population, and possibly also the male population, before a reporting law would be of any use in a particular case.

Our chairman this morning, Doctor De Normandie, made some very pertinent statements on this subject at the directors' conference a year ago:

When a death is recorded as occurring from septicemia there is no question that this is the true cause of death, for no man will sign a certificate "puerperal septicemia" if there is any possible opportunity for him to assign the death to any other cause. * * *

There are, I am glad to say, no such terrible epidemics of puerperal fever now as there were years ago, but the fact remains that hundreds of women die each year from sepsis. Therefore when a patient is found to have died from sepsis it devolves upon the physician in charge of the case to prove conclusively that he delivered the patient according to good surgical technique. * * * The burden of proving that he carried out a proper technique rests upon the physician. * * * Any physician practicing obstetrics who has a death from sepsis every once in a while is a danger to the community, and I feel that we have a full right to question minutely his technique and his methods of procedure. * * * It is true that any one of us may at any time have a case of sepsis. Occasionally we may lose a patient from sepsis, but only very rarely. The kind of man to whom I refer is the physician who is having more or less sepsis all the time, who is losing one or two or more patients a year from sepsis. * * * I would not give you the impression that for every death from sepsis the physician is to be blamed, for that is not so; but I do say that in the large majority of cases of sepsis the fault is with the physician. It is in regard to these cases that we must study the cause carefully, investigating the attendant most thoroughly, whether a physician or a midwife was present. A step in improving this condition unquestionably is making sepsis reportable.²

The Rockefeller Institute for Medical Research, according to a letter from Mr. T. Stanley Howe, dated December 14, 1926, has never done any maternity work, and accordingly it would be impossible to give any opinions on the points raised by the questionnaire.

Dr. Samuel J. Crumbine, general secretary of the American Child Health Association, on December 14, 1926, in a very general reply to the questions asked, stated that his impression is that in the States where compulsory notification is the law "the reporting is poorly done and thus far it probably has not registered any reduction in the incidence of the disease. Any law that does not have a penalty attached for violation is a dead letter before it becomes operative. In Kansas our rule was to keep a list of physicians who failed to send in their reportable cases, not invoking the penalty at once. After the third offense physicians were certified to the county attorney for prosecution."³

The States which make puerperal septicemia reportable, according to replies received to a questionnaire sent out by the Children's Bureau in 1923 to the State boards of health, are: Pennsylvania, Vermont, Ohio, Nevada, South Dakota, Illinois, Colorado, Delaware,

¹ Maternal Mortality from All Conditions Connected with Childbirth, by Grace L. Meigs, M. D., p. 11. U. S. Children's Bureau Publication No. 19. Washington, 1917.

² De Normandie, Robert L., M. D.: "How to make a study of maternal mortality." Proceedings of the Third Annual Conference of State Directors in Charge of Local Administration of the Maternity and Infancy Act (act of Congress of Nov. 23, 1921) held in Washington, D. C., Jan. 11-13, 1926, pp. 47-48. U. S. Children's Bureau Publication No. 157. Washington, 1926.

New York, Kentucky, New Mexico, Oregon, Wyoming, Washington, Mississippi, and Oklahoma. In only one State, Mississippi, did the number of cases reported to the department of health of the State exceed the number of deaths.³

The responses to my questionnaire to the State boards of health were not general.

The director of the division of maternity, infancy, and child hygiene in the New York State Department of Health, Dr. Elizabeth Gardiner, writing under date of December 17, 1926, expresses a doubt whether education will actually help to lessen puerperal septicemia. The greatest good in any community, she says, is effected by a group of physicians interested in the problem of reducing maternal mortality. She raises the question as to the general attitude of the profession toward compulsory notification, and brings out the point that even with 100 per cent reporting, the action of the State health department could hardly save life. She is not in favor of penalizing the physician, suggesting that he is pretty well penalized when he loses a case from puerperal sepsis.

The director of the bureau of child hygiene and public-health nursing of the Michigan Department of Health, Dr. Lillian Smith, indorses the plan to emphasize the gravity of puerperal sepsis by studies in maternal mortality. She is in favor of reporting puerperal sepsis and believes no law could be enforced without a penalty for its violation.

The director of the Detroit Department of Health, Dr. Walter E. Welz, recommends education of the public as to adequate prenatal care, the advantage of hospitalization, and the danger of delivery at the hands of doctor or midwife fresh from contact with sepsis. The medical profession in Detroit in general is opposed to notification of puerperal septicemia, but Doctor Welz is of the opinion that reporting would be beneficial on account of the publicity. He is not in favor of a penalty.

The director of the bureau of maternal and child health of the Kentucky State Board of Health, Dr. Annie S. Veech, writes that there is great reluctance on the part of physicians to report puerperal septicemia as such. The State law says that the physician who treats or examines a sick person or makes a diagnosis of puerperal septicemia or has reasonable grounds for suspecting the existence of the disease, shall report the same to the county or city health official within whose jurisdiction the case occurs. Where a physician is not called the head of the family shall make such report, and any physician or head of a family who shall fail or refuse to make such report shall be fined not less than \$10 nor more than \$100 for each day he neglects or refuses to report. Repeated failure to report shall be sufficient cause for revocation of a physician's license to practice medicine in the commonwealth. Doctor Veech states that the records are inadequate. It is evident that the wording of the law must be altered if it is to have any effect as a health measure.

³ Maternal Mortality; the risk of death in childbirth and from all diseases caused by pregnancy and confinement, by Robert Morse Woodbury, Ph. D., p. 78. U. S. Children's Bureau Publication No. 158. Washington, 1926. Replies to a similar questionnaire sent out by the Children's Bureau in April, 1927, indicate that Georgia, Missouri, and Tennessee should be added to those mentioned above and that Oklahoma should be omitted.

The secretary of the Kansas State Board of Health, Dr. Earle G. Brown, writes under date of December 29, 1926, that he believes that the greater education of the expectant mother would assist, to a certain extent, in decreasing the number of cases of puerperal sepsis. He does not believe that compulsory notification of septic infection would make any appreciable difference in the number of cases, but it would be valuable for study. Numerous provisions are made for violation of contagious-disease laws, yet prosecution is rare. He does not believe the enactment of a penalty clause would make any difference.

From the Colorado State Board of Health, the secretary, Dr. S. R. McKelvey, writes under date of December 21, 1926:

Replying to your letter, I will say we have a statute here worded as follows: "Whenever it shall appear that in the practice of a physician or midwife there occur an unusual number of cases of puerperal fever the board of health may require such physician or midwife to suspend his or her vocation for such a time as may seem necessary."

This is an old act of 1893. We have no recent publication containing laws and regulations in health matters in Colorado. We are hoping in the near future to promulgate a revised publication bringing everything up to date as nearly as possible.

I notice in our last publication covering these matters puerperal fever was placed in the list of diseases declared communicable and reportable, but I observe that no regulation was printed separately covering puerperal septicemia or puerperal fever.

We have no law or regulation defining just what the disease is.

A brief synopsis of the replies of the obstetricians interrogated will be of sufficient breadth to give a cross section of the opinion of the profession in this country.

Dr. J. Whitridge Williams, of Johns Hopkins, says that in his estimation the only means of lessening the mortality from puerperal septicemia is proper training of doctors and teaching of medical students that infection is in great part preventable. In Baltimore they see more infection relatively in the hospital than among other patients, and he is inclined to believe that the reason is that the latter are composed exclusively of patients who promise to have normal delivery. In his hospital the incidence of infection varies with the status of the patient, being least in private cases, more common in white-ward patients, and most common in black-ward patients. He does not explain this except by the suggestion that it is associated with the relative intelligence of the patient and her habits of personal hygiene. He opposes compulsory notification for two reasons: First, because he believes we have too much governmental interference in all our actions; second, because in his experience, where notification is required it has been woefully ineffective, as the tendency is to report only the serious cases. Finally, he opposes any penalty, as he thinks cooperation of physicians can be obtained better by education than by punishment.

Dr. John Osborn Polak, Brooklyn, president of the American Association of Obstetricians and Gynecologists, says that in New York every case of sepsis occurring after an abortion or a delivery at term must be reported. If it is not so reported and a certificate is made out for infection, the physician is fined. All hospitals are scrupulous about this law. Doctor Polak finds much less mortality in rural than in urban communities, and a lower death rate in supervised cases in the homes than in hospital cases.

Dr. Rudolph Holmes, of Chicago, a member of the consulting obstetric committee of the Children's Bureau, writing December 27, 1926, says:

First, we must put an obstetric conscience into the souls of men doing obstetrics. I am convinced that heterogeneous infection has been essentially eliminated from the causes of puerperal sepsis in good obstetric practice. I firmly believe we have much further to go before we eliminate the danger from autogenous infection. When immunity is placed on a sound clinical basis, then autogenous infection likewise will be entirely preventable.

I am convinced that rural practice has a far lessened incidence of infection than urban work.

Indirectly I believe that compulsory notification of sepsis will bring a diminution of incidence. If a man who has an undue proportion of septic cases were denied the right to practice—this may be Utopian—it might reduce the morbidity and mortality. I suppose a penalty attached to a violation, especially a repeated violation, would have a salutary effect. However, a physician has just about enough gratuitous burdens imposed by the State. If more are imposed they should not be onerous.

Dr. Joseph B. De Lee, of Northwestern University Medical School, says that the question of compulsory notification has been on trial in England for a great many years without success. He is opposed to the reporting of puerperal sepsis because of the difficulty of making a diagnosis. A mild fever or a serious fever can so easily be ascribed to other causes; and since the public is still under the impression that the doctor is to blame when a woman sickens after delivery, the inclination to hide cases is very strong; in most communities it is irresistible. Doctor De Lee's observation is that, of women confined in maternity wards of general hospitals a much larger percentage develop sepsis than of mothers who do not leave home. The general consensus is, however, favorable to hospital deliveries. He can see no direct way to improve conditions affecting maternal mortality in the United States. The indirect method, through the education of oncoming doctors, will ultimately bring relief.

Dr. Hugo Ehrenfest, associate editor of the American Journal of Obstetrics, admits that the inquiry raises an interesting problem. He says the essential basic question is, "What is puerperal fever?" A law must state exactly what is reportable, and it must contain a punitive clause to be worth the paper on which it is printed. He feels that no more laws should be passed that can not be enforced. He thinks that we can not possibly define in terms which are unmistakable what conditions should be made reportable. Fever and other symptoms may have subsided before a diagnosis has been made, so that the law would have to set a definite limit within which a report must be made.

Dr. Arthur H. Bill, of Western Reserve Medical School, Cleveland, believes in education rather than legislation as a means of improving conditions in puerperal sepsis. He brings up the question of distinguishing between slight pyrexia and a definite infection. In Ohio all discharge from the eyes of the newborn must be reported. One hundred cases of secretion are reported to one of gonorrhoeal infection. He says there is in his mind no question but that compulsory notification of cases of secreting eyes makes physicians more careful about prophylaxis. It is just as likely that compulsory notification of puerperal infection would make physicians more careful about their aseptic technique in maternity cases. He

adds that unless a penalty were exacted for violation of the law, he does not believe it would be obeyed.

Dr. Arthur H. Curtis, president of the American Gynecological Society, says it strikes him that postabortal and puerperal infections are decreasing very rapidly. He feels that compulsory notification and penalty attached thereto are scarcely necessary. We have already so many laws that it is difficult to comply with them under present conditions.

Dr. Edward Speidel, professor of obstetrics, University of Louisville, observes that there is a great difference in the mortality of hospital and home deliveries. In those institutions to which a great many cases are transferred after trouble is encountered outside, the reports are misleading because the mortality is loaded. Their own hospital has practically no sepsis, except in emergency cases brought in after labor has begun. He believes that making septic infection reportable would undoubtedly lead to greater care in the conduct of labor by physicians; and he suggests that a law without teeth is ineffective, that there should be a penalty for failure to report sepsis just as there is for failure to report birth.

Dean Rowland, of the University of Maryland School of Medicine, calls attention to the fact that notification in puerperal infection raises quite a different question from compulsory notification of contagious diseases and of gonorrhoea, both of which are compulsory in Maryland. In puerperal infection the question of culpability and liability of the attending physician comes up. While we know that the majority of puerperal infections are due to introduction of organisms at the time of labor, there are certainly cases in which it does not seem possible to place the blame on the attending obstetrician. In Maryland a wave of damage suits against physicians has rolled up recently. Doctor Rowland says he should hesitate to open another door to introduction of the damage suits which compulsory notification of puerperal sepsis, by accentuating its seriousness, would certainly do. Purely from a medical standpoint the matter is not in the category with acute infectious diseases and gonorrhoea, as but one person is usually involved. He feels he has become a little conservative in the matter of State regulation.

Dr. G. Van Amber Brown, Detroit, assistant secretary of the American Association of Obstetricians and Gynecologists, believes that compulsory notification would put physicians on their mettle. However, he says, we have too many laws now. He does not believe that a law requiring notification could be made effective without a penalty.

Dr. Arthur J. Skeel, of the faculty of Western Reserve Medical School, Cleveland, says puerperal septicemia is reportable according to the law of the State of Ohio and according to ordinance in Cleveland, but very little effort has ever been made to put the requirement into effect.

Dr. John T. Altman, Nashville, Tenn., feels that general practitioners and midwives, in whose hands the great majority of all deliveries will remain for years to come, should be aroused to their responsibility in handling cases of labor. A law requiring that all cases of sepsis be reported would, in his opinion, go far to arouse them. He believes that recent graduates are well taught and are far more careful to avoid infection than the older practitioners. He

thinks that the instruction of mothers to demand better obstetric care by prenatal work and by social service will be of great aid, because, when the laity learn that sepsis is preventable, they are aware when infection occurs that somebody is to blame. The publicity of notification would help the people to realize the great danger of the fever. He is not ready to say that a fine should be imposed, for like most such provisions it would be difficult to enforce. Only serious cases would be reported, since, because of the stigma, the milder type would be styled influenza, typhoid, or malarial fever.

Dr. William Gordon Dice, obstetrician of the Toledo Hospital, Toledo, writes that in Ohio puerperal sepsis is a reportable disease, with a penalty attached for failure to comply with the law; but the bureau of vital statistics says puerperal sepsis has never been reported, and he questions whether a penalty can ever be imposed. He does not believe that making sepsis reportable, even if a penalty could be enforced, would diminish puerperal sepsis. It seems to him that education of the doctors doing obstetrics, together with instruction of the laity on the importance of proper advice and proper care, offers the greatest hope of reduction of septicemia in childbirth.

Dr. Carl Henry Davis, Milwaukee, secretary of the American Gynecological Society, writes under date of December 18, 1926: "There has always been a tendency on the part of physicians to attribute puerperal sepsis, whenever possible, to some other cause than the real one. Whether compulsory notification will help to reduce the number of cases is problematical, and I question if one can get very far with trying to put through such a measure, unless all cases of infection are made reportable." Doctor Davis's conviction is becoming stronger that a demand for better service on the part of the laity and a changed attitude on the part of both the medical profession and the medical college are essential. The present methods of teaching obstetrics, he says, are for the most part inadequate, and no improvement in morbidity and mortality is probable until students are taught that an obstetrical case must be handled with the same precautions as an abdominal operation.

Dr. Adam P. Leighton, of Portland, Me., sees but little good resulting from compulsory notification. He believes it would react tremendously upon the medical profession if every obstetrician reported generally every case he thought was a true sepsis, postpartum. The average practitioner can not differentiate sapremia from septicemia. From a medico-legal standpoint few men will care to admit the possibility of puerperal sepsis.

Dr. N. Sproat Heaney, Rush Medical College, Chicago, writes that while in Scandinavia last summer, he learned that the maternal mortality is 9 per 10,000 births, while during the similar period in the birth-registration area in the United States the maternal mortality rate was 70 per 10,000 births. This he believes is directly attributable to the insufficient education of our medical students in practical obstetrics. Most of their training is contained in attendance on 6, 8, or 12 deliveries in the out-patient department under tutelage of an inexperienced interne; whereas residence for a considerable time is demanded of all medical students in Scandinavia. Most of the deliveries in Norway and Sweden are performed by midwives, and their training requires two years' residence in an obstetrical hospital

of a high degree of excellence. Doctor Heaney feels that we shall never lower our maternal mortality until we are able to produce properly trained, sufficiently educated physicians in America. All other means will fail, including legislation. He doubts the efficiency of compulsory notification, as he feels that the fault is not carelessness or neglect, but pure ignorance on the part of the physician. A study of puerperal-mortality statistics in different countries shows that the death rate runs parallel with the amount of practical education of the candidates in well-established institutions before graduation. He believes that the abolition of puerperal sepsis is an economic problem. So long as the general practitioner has a score of visits a day and 200 maternity cases a year, the solution of the problem of keeping clear of puerperal sepsis while constantly attending septic surgical cases is impossible. When the Utopian age arrives the specialization of obstetric practice must be absolute. Until then we must maintain eternal vigilance to avoid contamination of our clean maternity cases.

Reporting of infectious diseases has been developed in varying degrees in the different States, as the laws requiring such reporting have come to be more or less faithfully observed. Every abridgment of the personal privilege of the individual, even though its purpose is to serve the general good, tends to arouse opposition, which may extend to all forms of legislative restriction. In none is it more apparent than in the ordinance or statute which asks us to do something for nothing.

It is doubtful whether one-half of the cases of diphtheria and scarlet fever, pneumonia and typhoid, or chicken pox and measles are reported to the local board of health in any municipality in the United States. Children from certain infected homes go to school during the desquamative stage of eruptive disease, and pressure is brought to bear on physicians by neighbors who feel that there is discrimination against them if their children also are not given the privilege of disseminating disease. Consequently the spread of infection is left unchecked, although we might in time be free from such scourges if we were all intelligent and conscientious in protecting our families from the menace of the immediate mortality, or the sequelae which mark those whose lives happen to be spared after the attack.

In his invaluable report on Maternal Mortality, issued by the Children's Bureau in 1926, Dr. Robert Morse Woodbury says:

For the prevention of puerperal septicemia the importance of making it a reportable disease is clear, since the health authorities are able to enforce necessary precautions only if they have prompt information that such cases have occurred.⁴

The certification required since 1911 by the United States Bureau of the Census of the cause of death where an obscure or unsatisfactory report has been received is as follows:

A letter is mailed to the physician in regard to the true cause of death. This resulted in 50,000 inquiries in 1916, 43,876 in 1917, and 35,145 in 1921. Sad to relate, 37.9 per cent of those letters in 1921 were ignored. Still, though it has not been possible to secure 100 per cent accuracy, the continued mailing of pamphlets to those who fail to respond has had the remarkable result of reducing the proportion of ill-defined and unknown causes from 3.8 per cent

⁴ U. S. Children's Bureau Publication No. 158, p. 78.

in 1900 to 0.2 per cent in the same States in 1920. The list of causes of death which were especially confused included convulsions, peritonitis, septicemia, hemorrhage, Bright's disease, uremia, and salpingitis.⁵

The wide discrepancy in point of view makes it seem only fair to consider all the elements that must enter into the consideration of a proposal to make compulsory the notification of puerperal sepsis. Before we can expect such an enactment to be of any value in the lowering of mortality we must decide (1) what is to be a fairly comprehensive definition of the condition; (2) how it is to be determined that the case under consideration comes within the bounds of the classification; (3) who is to determine the diagnosis; and (4) what penalty is to be exacted for violation of the law. We do not want to injure the conscientious practitioner who is so unfortunate as to have a woman in his care develop chills, fever, and pyemia resulting in death. But it should be our aim to invoke the law before such a tragedy leads to further grief and economic loss to the community.

The Royal Society of Medicine of England defines puerperal sepsis as follows: "An infection arising within 21 days following delivery, from laceration of the genital canal or from absorption at the placental site. * * * Blood infection should be indicated by (1) isolation of the organism by blood culture, (2) prolonged pyrexia, (3) repeated rigors, (4) pyemia, including septic pneumonia, (5) death from puerperal fever irrespective of the antemortem symptoms."

Since no two States or nations have uniform standards for reports of puerperal causes of death it is essential in considering the accuracy of such reports, as Doctor Woodbury points out,⁶ to consider the questions of (1) accuracy of rates, (2) completeness of death registration, (3) accuracy of certification, (4) rules for classification of causes of death, and (5) completeness of birth registration.

An essential element in the data upon which is to be based the differentiation of puerperal mortality is the time between the birth of the child and the death of the mother. In Saxony, one of the countries which have accumulated such figures, one-fourth of the puerperal deaths occur within the first 24 hours, and one-half within the first week. Death from puerperal septicemia occurred after the end of the second week in one-third of the cases. Of other deaths consequent on childbirth three-fourths were within one week following confinement.⁷

The Minister of Health of England and Wales issued amended regulations to come into force October 1, 1926, relating to the notification of puerperal fever and puerperal pyrexia. In a circular to the local authorities the minister states that experience (since the public health act of 1891) has shown the incompleteness of notification of puerperal septicemia and this has resulted not only in inaccurate and misleading statistics but also in the hampering of effective prevention and treatment. The term puerperal fever is not precisely defined, frequently a genuine doubt exists as to correct diagnosis, and, of course, some slur on the attendant or the patient may act to deter reporting in doubtful cases.

⁵ *Ibid.*, p. 12.

⁶ *Ibid.*, p. 118.

⁷ *Ibid.*, p. 31.

According to this circular, it is intended ultimately to replace the term puerperal fever with the term puerperal pyrexia, but this can not be done in England without new legislation. Consequently two forms must be used, one for puerperal fever, the other for puerperal pyrexia. The latter is defined as "any febrile condition (other than one which is required to be notified as puerperal fever) occurring in a woman within 21 days after childbirth or miscarriage, in which a temperature of 100.4° or over has been sustained during a period of 24 hours or has recurred during that period."

It is admitted that this will lead to a great increase in the number of notifications and that many cases will be comparatively trivial, since all pyrexia during puerperium must be reported, but it is held that the importance of securing adequate treatment in the early stage of infection outweighs these objections.

The Minister of Health believes on the basis of reports from many maternity institutions that pyrexia during the puerperium is frequently looked upon as a comparatively unimportant incident and that proper precautions to prevent spread of infection are at times neglected with disastrous results. The new report form states the opinion of the notifier that the patient has puerperal pyrexia or puerperal fever and includes a number of suggestions as to aid obtainable for diagnosis and treatment. Practitioners requesting such aid may be required to supply information as to any conditions prior to labor that might have been conducive to the fever, the names of all persons who made internal examinations, the history of delivery and the postpartum period and any cases of specific fever, erysipelas, or puerperal pyrexia visited recently by the doctor or attendant who reports the case.⁸

Commenting in the *British Medical Journal* on the new notification regulation, two physicians say that while in the past many cases of uterine sepsis have not been reported, if pyrexia only is to be reported a large number of patients with uterine sepsis will be overlooked and not reported. They hold that after long experience they find the cases of raised temperature in sepsis are in the minority, and maintain that a long persistence of red lochia is often a more important sign of sepsis.⁹

It may be of interest to mention in passing that the Royal Society of Great Britain offers the second Nichols prize of £250, to be awarded October 8, 1927, and again every three years, for the most valuable contribution by a British subject to the subject of the discovery of causes and prevention of death in childbirth from septicaemia. A special discussion of this subject took place at the meeting of the British Medical Association in 1924, and the valedictory address of the president of the Edinburgh Obstetrical Society was also concerned with this problem.

Gibbon Fitz-Gibbon and Joseph Bigger, in an elaborate investigation in Rotunda Hospital, Dublin, in 1923, found streptococci in the vaginas of 54 per cent of 50 patients serially examined and in only 28 per cent of a series of controls. These were usually non-hemolytic; only 2 cases out of 108 swabs showed hemolytic strepto-

⁸ *British Medical Journal*, Aug. 21, 1926, p. 356.

⁹ Hobbs, Remington, and Mary R. Levack: "Notification of puerperal fever or pyrexia." *British Medical Journal*, Sept. 11, 1926, p. 506.

cocci; nonhemolytic streptococci occurred in 20 per cent of the cases that were examined postpartum. The investigators concluded that since in 68 per cent of all cases streptococci were found in the vagina before and after delivery, they are an element of the natural flora of the part. However, since the common form of puerperal sepsis is caused by hemolytic streptococcus and this was found in only 2 cases of their series, they argue that these were doubtless due to exogenous infection. While nonhemolytic streptococci do occasionally cause puerperal fever, this is because they, being normal body saprophytes, are to be considered as opportunists as regards pathogenicity. They are present in the vaginas of the majority of parturient women and occur fairly frequently postpartum. The investigators infer that puerperal sepsis may occasionally be due to non-hemolytic streptococci, an endogenous infection; but some unknown factor, such as a lowering, local or general, of the patient's resistance, or a rapidly enhanced virulence of the organism, must also be considered as involved in the process.¹⁰

It has been thought expedient to go into the difficulties which have beset our English friends in their endeavor to frame a law which will be found satisfactory, because of the varied conditions which may cause pyrexia. If the States are to put upon the statute books compulsory notification, we should learn the lesson which evidently has been forced upon the attention of the authorities in England, as set forth by the Minister of Health.

At present we have two main weapons effective in the battle against mortality due to puerperal sepsis. The one more readily available is the instillation into the minds of the coming generation of obstetricians who are now in the schools and hospitals, of the fundamental truths of asepsis. On this education and that of the mothers to demand good care, we must depend for the better statistics which we demand for the future. When women realize, as through education they are now beginning to realize, that childbearing can be made a safe procedure, a powerful public sentiment will be aroused which will be utilized in reducing puerperal mortality.

The other factor which must be brought into the struggle is publicity. This affects the generation of general practitioners now engaged in obstetric work along with the treatment of all sorts of suppurating wounds, erysipelas, and other virulent infections; rushing in the day's work from the case with temperature to the clean maternity patient. Usually they take no time to change clothing, nor do they protect her by the use of sterile gloves in the delivery. Publicity is the only means of impressing upon such a physician the fact that a woman dying of puerperal septicemia after such needless exposure is doubtless a victim of his carelessness or ignorance.

It is not to be argued that compulsory notification will in itself produce any marvelous achievement. We are not so sure as to the value of a punitive clause in producing results. But it is certain, with due respect for the views of those who have no faith in the benefit of notification, that the publicity coming from notification must rouse the physician who now scorns the extra precautions

¹⁰ Fitz-Gibbon, Gibbon, and J. W. Bigger: "Clinical and bacteriological investigation of puerperal fever in Rotunda Hospital, Dublin." *Journal of Obstetrics and Gynecology of the British Empire*, vol. 32 (1925), pp. 298-317.

urged in behalf of the lying-in patient, to a realization of the fact that he must change his tactics to continue in his work in his community, even if no legal penalty follow.

It is hoped that each delegate and visitor will go home resolved to use every available means to reduce puerperal sepsis, whether or not we resolve to make it an object of compulsory notification. We must urge upon the medical schools the importance of giving to prenatal care, to management of normal labor, and especially to asepsis, the place they are entitled to have in the curriculum. Now, in the average course, 4 hours a week in the third and fourth years, are given for all obstetric teaching, as against 18 hours for surgery, the greater part of which will be the least element in the average general practitioner's work. We should further institute a campaign of education through the State boards of health, the State and county medical societies, the health centers, and other lay organizations having for their aim better maternity conditions. These will add great impetus to our efforts.

If it seems that the profession is not yet ready for universal compulsory notification, the educational feature surely must be the one to which we pin our faith and upon which we unite—not in 1930, as we hope to do with the birth registration—but in 1927 and every year until the final goal is reached.

DISCUSSION

The CHAIRMAN. I will call on Dr. Elizabeth M. Gardiner, director of the division of maternity, infancy, and child hygiene of New York State, to open the discussion.

Doctor GARDINER. On this blackboard I have put some figures showing how the cases of puerperal sepsis have been reported from the time when such reporting was required under the sanitary code. Puerperal sepsis was made reportable in 1913. I looked up the minutes to see if there were any especial reasons which brought forth that provision, and the only thing I could find in the records were remarks by Doctor Biggs which seemed to indicate that the sanitary code was being reorganized and that he wanted puerperal sepsis included because of the large number of midwives in New York City at that time. You will find from those figures that there is only one year (1921) between 1914 and 1926 in which the cases of sepsis have exceeded the number of deaths.

Of course, we could make great use of the information if there was perfect reporting of puerperal-sepsis cases. We do not know anything about the prevalence of puerperal sepsis or the degree of fatality from it. If we did know I think that would help us a great deal in developing a campaign. On the other hand, I think, as was pointed out in Doctor Mosher's paper, we need a short definition of puerperal sepsis so that the doctor would know when he should report a given case.

I do not think that penalizing for failure to report has ever done much good. If we are to accomplish anything it rests with us, as educators, to put forth a good educational campaign; and I believe we could eventually interest the organized medical groups themselves to undertake a campaign to reduce the incidence of puerperal sepsis.

The CHAIRMAN. I hope some other directors will tell us their experiences in reporting sepsis.

Doctor BAKER. I quite agree with Doctor Gardiner as to the difficulty in getting these cases reported. In New York City there have been sporadic drives which traced back each death from puerperal sepsis to determine whether or not a midwife ever had the case at any time, and in that way we managed to form a certain body of public opinion among the medical profession who themselves were taking an interest in it, but I believe that there has never been anywhere in the country any determined effort to enforce a report of puerperal septicemia as one of the definite parts of any sanitary code. There might be, of course, but I do not know of it.

I have been particularly impressed in the last 20 years of public-health work by the fact that the impossible always becomes the possible if we keep at it long enough. It has not been so long ago that we considered it absolutely impossible to maintain prenatal clinics, even in a city like New York; it was felt that no pregnant woman would ever come to a prenatal clinic. In many parts of the United States to-day our prenatal clinics are far below the demand for them. I feel the same way about the reporting of puerperal septicemia. I do not have any figures before me, but I am willing to challenge Doctor Mosher's statement that not more than half of any communicable disease is reported. I am quite convinced from intensive studies made on this subject that in our larger cities as high as 80 or 90 per cent of most communicable diseases are reported.

Some years ago Doctor Biggs first brought out the idea of reporting tuberculosis; he was faced with the most tremendous opposition, and it seemed as if it would be impossible to have tuberculosis made reportable. In general, to-day, tuberculosis is reported as commonly as other communicable diseases. I do not believe we should be pessimistic. We certainly are agreed, I think, that the death rate from puerperal septicemia is one part of the problem that concerns us as public-health officials. Some of the highly differentiated obstetrical problems that lie within the scope of the other classifications as causes of death are distinctly up to the obstetricians or the general medical group, but the question of puerperal septicemia is a public-health problem to a great extent; and I think that, first, by following Doctor Mosher's idea of first creating a considerable body of public opinion; second, by making the mothers demand better obstetrical care; and, third, by hammering at the idea of more comprehensive and better teaching in our medical schools, we can finally establish the idea that puerperal septicemia should be reported in the same way as diphtheria or typhoid. I do not believe it is impossible, and I should hate to leave with the idea that the difficulties are so great that we are not going to do anything more about it. We are not doing a single thing to-day in child hygiene that has not been accomplished against strenuous opposition. Yet when the acceptance comes it comes so promptly, freely, and completely that we forget there has been any struggle. I believe puerperal septicemia can be made a reportable disease, I believe that the law making it reportable can be enforced, and I believe those who are in this room to-day will see that very thing come to pass.

The CHAIRMAN. In the list of States in which puerperal septi-cemia is made reportable Pennsylvania was the first. Will you tell us about it, Doctor Noble?

Doctor NOBLE. I had a talk with Doctor Hillsboro the other day. Septicemia is not being reported; and with the number of deaths always exceeding the number of cases reported, I should like also to say I could not quite agree with Doctor Mosher about the percentage of cases of communicable diseases that are reported. I am sure we have communities in Pennsylvania where public-health work has been done and where there are nurses on the ground, and communicable diseases are reported to a very high percentage.

Doctor LEVY. I believe with Doctor Baker that it is perfectly possible to make this thing reportable; I only raise the question whether it is worth while. I think Doctor Mosher's attitude is an important one; we should be very careful about passing laws and regulations that are not necessary in the sense of serving a very definite and particular purpose. A great responsibility rests on public-health officials not to ask medical men to do anything that they can not say is absolutely necessary for a definite and practical purpose. When a particular city or a particular State is ready to study puerperal sepsis, perhaps to aid the doctor in the handling of puerperal sepsis, I think it is desirable to get those cases reported. There are, however, some questions which should be straightened out before we take that step. One is a proper definition; unless you carefully define sepsis you may be making a regulation that will not gain the confidence of the doctor.

Doctor GARDINER. Suppose puerperal sepsis is reported to us; as public-health officials, what action can we take?

The CHAIRMAN. In England when a case is reported does not the official go to see about it?

Doctor GARDINER. Does he know of it at once?

The CHAIRMAN. In England I think it is reported more quickly than here. They call anything sepsis where the bidaily reading is 100.4 on two occasions. It is a pretty definite ruling; more definite than some of our rulings. As I see it, sepsis is a very difficult thing to report. There are no two physicians who will agree what sepsis is until it has reached a final stage. I have seen cases again and again that I diagnosed as sepsis, but I could not prove it. Have you not had the same experience, Doctor Holmes?

Doctor HOLMES. Yes; and you do not see the type to-day you saw 20 or 30 years ago.

The CHAIRMAN. The next paper is "Training the obstetrical nurse," by Miss Carrie M. Hall. Miss Hall and I were at the Massachusetts General Hospital together and had our training together. We had not seen each other for some years until we came down on the train yesterday. It is a great pleasure to greet Miss Hall and to hear her read a paper on the training of the obstetrical nurse.

TRAINING THE OBSTETRICAL NURSE

BY CARRIE M. HALL, R. N., PRESIDENT, NATIONAL LEAGUE OF NURSING EDUCATION

[Abstract]

For 20 years obstetrical nursing has been one of the required subjects for examination for State registration in States that had nurse-practice acts. Every State now has such a law, many also having set a minimum standard of instruction and practice. The minimum required in New York, which State is fairly typical, consists of eight hours of instruction by a physician and eight by a nurse; three months of segregated service (including observation of at least 12 labor and delivery cases and active assistance in at least 10); four weeks of postpartum care; and two weeks in a nursery having an average of eight babies. Attendance under supervision at prenatal clinics is recommended.

Obstetrical nursing can not be taught as a thing apart but should rest upon a knowledge of general nursing. Surgical and medical technique and skilled obstetrical care are not all that the prenatal case, the puerperal case, and the newborn infant require. General nursing is equally requisite. The nurse of course must prepare for and assist the physician at delivery, operation, dressing, and examination; carry out his orders accurately and understandingly; and report intelligently to him results of treatment and any signs or symptoms. She also must possess a volume of knowledge of nursing care and procedure with which the physician does not concern himself, such as bed-making, bathing, care of body, hair, mouth, hands, and feet, changing the patient's position, and many others. Hence it is difficult to draw a clear line of demarcation between the physician's responsibilities and the nurse's duties.

A committee on the grading of nursing schools consisting of nurses representing nursing organizations, of physicians representing medical associations, of educators, and of a lay woman has issued a preliminary study entitled "Plans and budget for a five-year program," in which the statement is made that grading the schools implies the adoption of certain minimum standards for their graduates; that the standards to be set depend upon what graduates will be required to do; and that this can be ascertained only through careful inquiry into the underlying facts of nursing employment. Consequently the committee has adopted as one of its projects an analysis of nursing and nurse teaching.

Many nursing schools give more instruction in regard to delivery and the puerperium than the minimum amount of teaching in obstetrics required by State boards of registration of nurses. Not infrequently the schedule consists of about 50 hours (exclusive of examination) as follows: Instruction by physician, 12 hours; by

nurse, 12 hours; by social workers, 2 hours; bedside clinic by resident staff, 2 to 4 hours; demonstrations by nurse supervisors in wards, nurseries, and delivery rooms, 16 hours. The physician's lectures deal with the anatomy and physiology of the reproductive system, accessory and associate organs and their functions, pregnancy and prenatal care, complications and accidents of pregnancy, preparation for labor, stages of labor, mechanism of delivery, complications of labor and obstetrical operations, involution and care during puerperium, the normal and the premature child. The nurse instructor discusses the nurse's duties and responsibilities and nursing procedure. The student nurse is presupposed to have some foundation in anatomy and physiology, a year's ward experience in medical and surgical nursing, and a good understanding of technique in medical and surgical asepsis. As theory and practice generally are better correlated in obstetrics than in other branches of nursing the student nurses as a rule comprehend the material taught and make high averages in their examinations.

Obstetrical nursing practice for student nurses is easily obtainable in hospitals, especially in towns and small cities, where the hospitals having 50 to 100 beds usually have more surgical and obstetrical than medical and pediatric work. In large cities many general hospitals have no maternity service; and affiliation then must be arranged with the nearest lying-in hospital, if this is possible. These institutions are becoming more willing to accept the general-hospital nurse for a short period—usually three months. Such hospitals have abundant clinical material and a high grade of teaching; however, as the work of the hospital necessarily devolves upon the student nurses each student must sacrifice some of her time and strength to the exigencies of the hospital instead of devoting the three months solely to an intensive course in obstetrical nursing.

I believe that we have gone as far as we can under the present system of nursing education. Many hospitals provide generously for the teaching of nurses. My own, for instance, during 10 months in the year has only half of its enrolled nurses actually caring for the sick in the hospital. The others are receiving instruction in the preliminary course, rounding out their basic training, and having experience in such elective subjects as nursing in mental diseases, public-health nursing, and eye and ear work. Yet the curriculum and experience of the student nurses are limited by what the individual hospital offers, not by any predetermined content of a course in nursing.

Under this three-month system the student nurses receive fairly satisfactory teaching and experience in regard to labor and puerperium, but their experience in regard to prenatal care is inadequate. Most of the maternity cases in small general hospitals and private or semiprivate hospitals maintaining training schools are private patients. They have received in their own homes or in the physician's office whatever prenatal instruction was imparted. Consequently the student nurse seldom sees a case until the woman arrives at the hospital, usually after the onset of labor.

Most hospitals in large cities have prenatal clinics, and for years student nurses have been assigned to assist the physicians at these. But the nurse's part seems to consist of helping the patient to undress

and draping her for examination by the physician, taking her temperature and pulse, recording on a blank form the findings as reported by the interne, and taking the specimens of urine. She receives no instruction as to what it is all about and seldom hears the physician tell the patient anything more than the date at which she should return for further examination. This would suggest that not only the general practitioner but even the obstetrician with demonstration material at hand is failing to give instruction in prenatal care to expectant mothers and also overlooking the opportunity to teach nurses to give that assistance. In other words, the nurse-instructor's work on prenatal care is not followed by anything done for student nurses at prenatal clinics; and even though the clinic provides teaching in all stages of pregnancy no case is followed through by the nurse from the earliest period of pregnancy to the puerperium. If the physician does not teach this subject, shall the nurse instructor assume full responsibility for it?

To have the student nurse spend one month in prenatal work and two in care of mothers and infants and in the delivery room, as has been suggested, seems impossible. With the three-month affiliation the hospital now changes half its student staff approximately every six weeks and can not be expected to repeat its course oftener than once in six weeks. Too many administrative adjustments would be necessary to give to each student a fair amount of each kind of experience required and at the same time staff the various wards and departments of the hospital properly both day and night. The students can not all follow exactly the same path. One group will begin with the mothers' ward, another in the day or night nursery, another in the clinic, and so on, for the work of the hospital must be covered. Therefore the entire staff will be reassigned among its five or six services (including mothers' ward, toxemia ward, nurseries, delivery rooms, clinics) about every two weeks. In a three-month—that is, a 13-week—affiliated course the periods vary from two to two and one-half weeks, or even a longer time, and those few days more than the 12 weeks may just give to the student nurse the minimum number of deliveries or service in the nursery or other required item on her program.

The plan of affiliation just meets the common interpretation of obstetrical nursing—ability to assist the physician during delivery and to give nursing care thereafter to the mother and infant. If this is true, the preparation for teaching prenatal care must be secured after graduation from the nursing schools as they are organized at present.

Maternity centers and the maternity services in visiting-nurse associations offer excellent fields for this experience. Many such organizations have formulated outlines of material for such instruction and have shouldered the responsibility for teaching nurses. Such teaching and conferences, plus the making of visits with staff nurses and supervisors, might give to young graduate nurses working for small salaries enough practice to enable them to do prenatal work satisfactorily; and only through visiting-nurse services in the field can the nurse have the valuable experience of following up a case from the earliest period of pregnancy to the puerperium.

Some nurses have found it possible to get a fair insight into the teaching of prenatal care during a four-month course in public-

health nursing, the lectures in the obstetrical hospital furnishing a good background.

Not only in rural districts and sparsely settled sections of the country but even in cities—especially those having many inhabitants that are foreign born and accustomed to the services of midwives—the nurses frequently are called to attend deliveries. Even in a hospital the head nurse or some graduate nurse might have to deliver a patient because the hospital was too small to afford a resident physician and the patient's physician had not arrived in time. Such experiences lead nurses to believe that some means of preparation for the delivery of at least normal cases would be very desirable.

In England where nurses get their certificates from the Central Midwives Board and must have them for institutional positions, public-health nursing, and military service, the subjects of obstetrical nursing and midwifery are regarded as one and treated as a graduate course, the obstetrical nursing not being made merely a part of basic training. Although the American nurse understands signs and symptoms of antepartum and postpartum hemorrhage, stages of pregnancy, the mechanism of labor, the various presentations, and much else that the English nurses are taught, the American nurse is not taught actual delivery; but the English nurse during her preparation has 25 to 30 deliveries under supervision in hospitals or out in the districts. Under these circumstances such American nurses as have qualified for midwives have gone to England for their preparation. The course in most of the schools there has been increased. I am told, to nine months or a year.

For two years the National Organization for Public-Health Nursing and the National League of Nursing Education have had a joint committee studying the problem of the need for advanced preparation in obstetrics for at least some members of the nursing profession; and the attendance of several hundred nurses at the committee's round-table discussion of the subject at the Atlantic City convention in the spring of 1926 indicates the interest of the nurses. The interest of hospitals, institutions, and physicians dealing with the maternity problem has not been aroused for this type of instruction.

Although it happens that nurses have been led to take the initiative in outlining courses and securing instructors for some branches of nursing education, it is obvious that obstetrical instruction for nurses should be given by members of the medical profession. Part of this instruction might be given simultaneously with the teaching of medical students. Certain preliminary requirements should be outlined, as satisfactory early education, graduation from an accredited nursing school, and registration in a State.

The fundamental problem after all is the economic one. Endowments for nursing schools and endowments for graduate courses are sorely needed. The hospitals to-day can not begin to supply the materials nor the funds required for this work. If financial means and educational opportunities could be secured to give to nurses such obstetrical instruction as has been outlined as desirable for aid to mothers and infants during the prenatal and natal periods, a new group of persons would become interested and the whole cause of nursing education would be advanced.

DISCUSSION

The CHAIRMAN. That was a most interesting and admirable paper. It is a pleasure to hear Miss Hall speak so clearly about the subject, and I know you appreciate it. I will ask Miss Elizabeth F. Miller, from the Pennsylvania Department of Welfare, to open the discussion.

MISS MILLER. In the paper that Miss Hall has just presented there are some interesting points to which she invites your attention. In regard to the basic elements of training for nurses who are aspiring to State registration for general nursing—so far as this group is concerned we begin with the preparation of nurses for several types of public-health nursing, and that with which you are concerned chiefly is infant welfare and also the problems of rural nursing. The relationship between your particular workers and the assistance that a public-health nurse can give you is of such vital consequence that it should invite a great deal of discussion to-day.

Miss Hall has brought out the matter of the preparation of nurses in prenatal care. I should like to add a word to that in connection with the training of nurses to meet rural needs. In my particular work in Pennsylvania I am concerned with the hospitals in the remote sections, and I have often been impressed with the problem of the proper teaching of prenatal care there. We realize fully that in many of our hospitals, though the State has established a curriculum and though it has outlined a course of 30 hours, very often the extent of the training and experience that the nurses have of maternal care consists only of the case that may be hurried in at the last moment, or some complication that gives a thrill to the medical student or interne. When I have gone into hospitals I have seen rows of empty beds; and there are still communities, especially the mountain communities in Pennsylvania and elsewhere, in which the maternity patient will not go to a hospital and in which prenatal clinics have not been established. That patient or that group of patients is at a distinct disadvantage when it comes to proper prenatal care. This accounts for the emergency cases with which we are concerned and which give a nurse a decidedly wrong perspective in the matter of maternity care.

There are also various adaptations of the curriculum in our schools of nursing. These may vary from the 30 hours to desultory teaching when the instruction is given by the busy practitioner, who may be delayed because of inadequate transportation facilities and other causes. Therefore for the nurse who is to be of the greatest assistance to you some training in addition to the basic elements given in the schools of nursing is necessary.

Miss Hall frankly states the difficulty that many hospitals have in securing prenatal instruction for the nurses. In this connection I would like to emphasize the value of visiting nurses' societies, infant-welfare centers, and maternity centers as supplements to the hospital teaching in obstetrics. Whether you find it true in your own States or not, we find in Pennsylvania that these facilities are not used to the extent they might be in providing this instruction or giving the proper point of view to the nurses.

The last point that Miss Hall has emphasized is the subject of special obstetrical training for nurses, to which she has invited your earnest attention. As a member of the committee that is working on this problem and therefore vitally interested in it I would be glad to hear a frank discussion from your group, representing as it does all parts of the United States and many phases of public-health activities. As Miss Hall told you, the committee is concerned with the obstetrical nurse for just one reason—to supply better care for the rural mother in isolated parts of the country. We have no interest in developing nurses into midwives who would practice for commercial purposes. We would like to make that clear at the outset in order to prevent any possible misunderstanding.

We believe all are agreed that this is distinctly a public-health movement and therefore should interest every group of public-health workers, whether they are doctors or lay directors of public-health bodies. We believe that the obstetrical nurse for our rural communities should be one who has had the obstetric training of a general nurse plus a special course. The question has come up several times whether this special course could not be included in the regular nurses' training course. The committee is of the opinion that this work should be carried on by mature women; that no nurse under 25 years old, for instance, should be accepted for such a course. We believe furthermore that these courses should be outlined and sponsored under medical supervision, such as schools of public health and universities offering public-health nursing courses. This will at once put high value upon the training and arouse the proper appreciation and mental attitude on the part of the applicant.

Questions that arise in considering these courses are: Where they shall be established, how they shall be financed, and who will be the instructors. We may recall the statement made by Miss Van Blarcom that any maternal-welfare program must be guided and directed by the medical profession and must emanate from it; so naturally the medical profession will be our advisors from the medical standpoint. We believe that the nurse who presents herself as a candidate should have had public-health training, whatever the length of the proposed course may be.

I am sure that you understood from Miss Hall's paper the surprise expressed by English nurses that American nurses are familiar with puerperal hemorrhage and other complications. We believe that with the background which our nursing students get we can reduce the obstetrical course from nine months to possibly six months or four months. However, we are seeking the advice of the best medical authorities in various parts of the country, and we shall be guided by their judgment.

We should like to convey again to this audience the idea that we have no thought or desire in any way to usurp the physicians' prerogatives. But we do aim and hope to establish better maternal care for our rural sections. Pennsylvania is fairly densely populated, and yet in our State, with its many physicians and public-health activities, there are still farmers who are delivering their wives; there are still 12-year-old sons of miners who are delivering their mothers; and there are still neighbors who are called in to practice midwifery, even though we do have the licensed midwives. Because it is aware

that this need exists all over the country and that the rural needs are not met, this committee is launching its program; and the committee would be glad indeed to have the reaction of some of the members of this audience. It will prove very helpful for our next committee meeting, which we hope to hold in March.

Doctor SCHWEITZER. I want to give just a little experience of one of the nurses in the Indiana division of infant and child hygiene. She was a college graduate, a graduate of a recognized nursing school. She had had an experience of seven years with a maternity hospital in Chicago in out-patient obstetric work, and at one time she served in an Army nursing division. She went overseas, and it was necessary for her to secure a midwife license in order to instruct nurses there. When she came to me she remarked she had a license as a midwife. She taught in a fine way what the rural people needed to know concerning hygiene, prenatal care, and so on. Now she has gone to Columbia University to take advanced work. I give this as an example of the type of training that may be available. She never infringed in any way on the prerogatives of a physician. She was qualified to do the things she did, and she did them as well as anyone possibly could; I have only the highest commendation for her work.

Doctor KNOX. I should like to express my great appreciation of these two papers, because they give me a little light on the problem I spoke of this morning, which is a real problem. It seems to me we have three possibilities—physicians, midwives, nurses—for helping the women in some out-of-the-way places. We have in Maryland, and I suppose it is equally true in other States, a diminishing number of rural practitioners. We have large areas from which the physicians have drifted into the larger towns, leaving the rural areas almost entirely without medical care. We have also necks of land running into Chesapeake Bay, which are almost inaccessible in the winter season. We have a large negro population, which is a very important factor all through the South. Under these conditions midwives seem to be absolutely necessary; somebody is required besides the few doctors for these people. I think the members of my profession work harder for very little or nothing than any other profession and very rarely refuse a case even if they are positive they will get nothing for it. The negro midwives have little or no training; they may have seen a case with a doctor, yet many of them are most ignorant. You would be amazed to see the letters we get from them; I suppose some of you have received them, too. I had a letter last week that I could not read at all. There was some effort at phonetic spelling, but it was practically impossible to read and understand it. What we have been doing—I know Virginia has been doing it also—is to give a course that will make better midwives out of the ones we have; to try to get the worst ones out of business; and to try to place those who have some training in the localities where they are most needed, so as to have at least one good midwife in every area out of reach of a doctor.

Can we do anything more with the doctors? Can we have obstetric consultants in a town or in a county, or two of them on salary, who will do nothing but obstetrics? That does not seem practical.

The plan that would interest me particularly is to have some nurses with obstetrical training. I believe some of the negro registered

nurses could be persuaded to take these courses. Then if we could have one or two in each of our counties where there are negroes we should save more lives than by any other means I know of. I regard this as the most important single problem of our whole program, and I am glad to have had this opportunity to discuss it.

The CHAIRMAN. Doctor Knox brings up the question of an obstetrical consultant; the only State that I know has a regional consultant is New York.

Doctor GARDINER. We have a number of regional consultants drafted from the specialists in pediatrics and obstetrics, but they do not do anything of this kind; they have acted as consultants in only a few cases around Albany. I imagine it is a question of distance and perhaps the ability of the doctor to take a particular case at a particular time. I do not believe the obstetrical-consultant idea would work out in a big area; it might in a small community.

Mrs. REID. If this effort were made to have the nurse trained, how would you get her to stay in a given community? My point is, if you make the same effort to get doctors into communities that you make to get nurses into the counties, do you not think it might work out better in the end?

Doctor GARDINER. They will not go because they can not make a living in these remote places. If they were assured three meals a day they might remain.

Mrs. DILLON. We are just conducting a survey of typical areas in West Virginia to find out whether or not it will be an economical measure to attempt to teach the midwives we now have. From information available from one-third of the counties, which are typical of the State, we have decided after careful consideration that it is absolutely impossible to teach the present type of midwife, with a few exceptions. We think it would be money thrown away and time wasted. We have a few intelligent midwives who are doing good work, but the majority are an uneducated, self-confident group that it is absolutely impossible to consider in connection with safeguarding the lives of mothers and babies. So far as medical service is concerned we have counties that have only four physicians and counties in which they are located only in the county seat; and as there are women 20 or 30 or 40 miles from a physician and roads that, in the winter, no doctor can get through, the problem will not be adequately met by medical men, no matter how great and unselfish their interest may be.

(The meeting adjourned to attend the showing of the film, "Sun Babies," produced by the United States Children's Bureau.)

WEDNESDAY, JANUARY 12—MORNING SESSION

DR. BLANCHE M. HAINES, DIRECTOR, MATERNITY AND INFANT-HYGIENE DIVISION,
CHILDREN'S BUREAU, PRESIDING

The CHAIRMAN. I should like to talk to you a little about the program this morning. We have had a great many requests for the consideration of the work in the county health units, and we have with us this morning, as you know, Doctor Ferrell, of the Rockefeller Foundation, to speak to us on this topic.

Last year we had a committee appointed to consider the evaluation of maternity and infancy work in the county units, and it seems very important that the report of that committee should follow Doctor Ferrell's address. Therefore, we shall have Miss Marriner give us the report of that committee work on this morning's program, postponing the other topics until to-morrow morning.

I feel very apologetic about the number of report blanks and questionnaires that have been sent to you to fill in this past year, but you know this has been a crucial year, and we needed the material requested. One question that we asked you last year was how many mothers and babies you were reaching with the work. We all felt assured that you underestimated the number because you did not know just how many babies and mothers you reached. You did know how many you reached in conferences, but there were many other ways of reaching mothers and babies. We hope that you will include these in your next reports.

Doctor Crumbine has an announcement to make.

Doctor CRUMBINE. I thank Doctor Haines and Miss Abbott for the opportunity of inviting everybody to attend the fourth annual meeting of the American Child Health Association, to be held in this city May 9 to May 11. I wish you would please understand that this is not a perfunctory invitation, but that it is the desire to have all the child-health workers in America attend this conference, including both official and nonofficial agencies. It has been the desire of our president, Mr. Herbert Hoover, that this be a unique meeting, in that it is an attempt to evaluate and appraise the importance of child-health work thus far, and to formulate the next step; and, if possible, to make that step with a united front, advancing the cause of child health in America. I suspect it is going to be rather a significant meeting, and we feel confident that the chief workers in child health will be present. I know it is difficult for you to attend so many meetings, but this one is to be held just before the meetings of the American Medical Association and the American Pediatric Society, and therefore it may be convenient for many of you to attend it. I sincerely hope that many, if not all, of you may be present.

The CHAIRMAN. We appreciate very much having so many supervising nurses from the States attending this meeting, especially as we know that many of you have had to pay your own transportation expenses.

The subject this morning is maternity and infancy work in the county unit. Not all the States are doing maternity and infancy work in these units, but many of them are, and it will be interesting to know how many. We shall all be especially interested in the talk and discussion this morning and in the committee report. It is very gratifying to have with us the man who has made the county units popular and who represents the agency that is making the county unit possible in many States. I introduce Doctor Ferrell, of the Rockefeller Foundation.

Doctor FERRELL. Doctor Haines and ladies and gentlemen, I welcome this opportunity to be with you. The majority of you here, engaging in child-health work, are employees of official health agencies. The program of the International Health Board, with which

I am connected, operates in this country only through and in the name of the official health agencies. Therefore whatever may be the program of the official health agencies is the program of the International Health Board. Accordingly we are intensely interested in whatever you may formulate as your program of activities and your program looking to permanent work.

I accepted without hesitation the invitation to be present at this meeting, and I supposed that I would have only four or five pages to present. As I began to unfold my views, however, the paper began to gain somewhat in length, but I hope that most of it may be interesting to you. At any rate I will go through with it as fast as I can; and if it gets too long, do not hesitate to do as they used to do in the South—just “sing the speaker down!” [Laughter.]

THE COUNTY HEALTH ORGANIZATION IN RELATION TO MATERNITY AND INFANCY WORK AND ITS PERMANENCY

BY JOHN A. FERRELL, M. D., DR. P. H., ASSOCIATE DIRECTOR, INTERNATIONAL HEALTH DIVISION, ROCKEFELLER FOUNDATION, NEW YORK CITY

Local health service in every State is essential. In area or in population, usually in both, the State is too large to permit the conduct of adequate health service unless it is based on small territorial units. The service to be satisfactory must be continuous and must serve, at least ultimately, all communities of the State simultaneously. Public opinion in the United States is averse to centralization of government, and the problem of administration is simplified—certainly in the field of public health—if the work is conducted through and in the name of a suitable local organization. If the central and local organizations work in cooperation the sources from which to obtain funds are increased in number, the amounts obtainable are usually larger, and the results are more impressive. Administrative and financial participation stimulates county pride. Moreover, an intimate acquaintance and understanding is established between health worker and the individuals, and the conditions which will influence the character of the work are markedly improved. Even if all the necessary funds were obtainable from the legislature the State organization would find it exceedingly difficult to employ and direct a sufficient number of workers to provide adequate health service throughout the State. It is feasible, however, for the State to employ a small group of experts in each of the more important branches of health service to give leadership, counsel, and aid to the local workers. When necessary, experts can share—temporarily, at least—in training local personnel, in conducting field studies and demonstrations, and in other important activities. That is to say, it is practicable for the experts of the State organization to have advisory duties in connection with the personnel of the local organization, and thus to contribute substantially to the value of the work.

In the United States generally the county is the governmental unit which best serves as a basis for local organization. The average county in size, population, and wealth is suited to the requirements of a small health organization composed of full-time trained staff members. A town or city having resources in population and wealth equal to or greater than the average county, and a much smaller area, is exceedingly well suited to the requirements of a local organization. Unfortunately the city can not be utilized in the development of a state-wide service. Both city and county units are employed in many States, but there has been a marked trend in these States toward a consolidation of city and county health work, except, of

course, in the larger cities. In Alabama, for example, there is provision for county health organizations, but none for city health organizations. The health services of Mobile, Montgomery, and Birmingham are conducted under a cooperative arrangement between city and county authorities as county organizations.

In a number of States, mainly those in New England, the county is not a strong administrative unit of government. Next to the State, the town or township serves as the local governmental unit. (Cities, for the purpose of the present discussion, are not considered.) The average town or township in such States is generally too weak in wealth and too small in population to support a creditable full-time health service. The problem of developing a local health service capable of state-wide extension is engaging the attention of the public-health authorities in these States. A suitable basis doubtless will be evolved and ultimately given wide adoption.

The health service in every community should be continuous. A periodic service for the detection and correction of physical defects and for immunization against such diseases as smallpox, diphtheria, and typhoid fever might prove reasonably satisfactory if the field of public health were limited to problems of this type. We know that many of the important problems are of an emergency character. No one would be so foolish as to expect that an itinerant health unit available for one week in April and another week in October would be able to prevent the spread of diphtheria or smallpox in a county. This would be no more reasonable than to propose that a town make an arrangement to have for two weeks each year the protection of police or a fire brigade. The emergency character of many public-health activities renders it necessary to have full-time workers stationed permanently within easy call of all parts of the community. Moreover, as a general rule results are obtained gradually through continuous and persistent effort by workers who know the people, the roads, the conditions, and can deal with each problem at the most opportune time and in the most tactful manner. The itinerant worker may be capable, earnest, industrious, and exceptionally well trained, and yet he or she can not meet the needs of the community by making brief, irregular visits to the community. An official service that is adequate, continuous, and permanent—supported by taxes and conducted by full-time workers—should be our goal.

The merits of specialized versus general activities for the local health organization or for members of its staff have been discussed in recent years with animation. In large towns or cities where a great number of workers can be employed to serve small areas, specialization in activities by members of the staff may yield excellent results. When, however, the service is planned for small towns and rural communities where few workers are available to cover vast areas, only limited specialization is feasible. The health worker, whether physician, nurse, or sanitary officer, will find it necessary, as a rule, to function much after the fashion of a general practitioner of medicine. The field is so broad, the population so large, the funds and personnel so limited that the intensive effort advocated by many authorities is impracticable.

The taxpayers of the county are reasonably well informed as to the cost of the health service, the size of the organization, and the activi-

ties customarily expected of the health department. They will be dissatisfied if the service is limited indefinitely to one or two special groups of citizens or to one or two special diseases or health problems. Furthermore, they would not tolerate—even for a temporary period—a failure to combat vigorously any threatened epidemic or to deal promptly with other emergencies, even though the personnel might be busily engaged in routine measures in connection with some problem which could be continued from month to month and year to year. They will usually acquiesce in the featuring of an important activity for a reasonable period of time, especially if extra financial aid is available for the activity. It is usually unwise, however, to confine effort to a single phase of health work for too long a period. The people become tired of being educated too persistently on one subject. They relish an occasional change of topic. The person who hasn't hookworm disease or malaria may have or be threatened with another preventable disease. As a taxpayer he feels that he should not be neglected indefinitely.

Infant-welfare work offers many advantages as a feature for a local health organization. This is also true of measures for the protection of women during the puerperal period. These problems are universally important and will be supported by the public as readily and for as long periods as will any of the routine procedures of a health department, but even in featuring these subjects the best interest of the cause of public health will not be served unless—perhaps at the same time—other activities generally expected of the health department receive attention.

The Rockefeller Foundation, with which I am connected, has made appropriations in this country for aiding in the development of county health organizations with the expectation that hookworm disease, rural sanitation, or malaria control would be featured more or less continuously for two or three years. In a number of instances other activities seemingly engaged the attention of the health workers almost to the exclusion of these problems. I can, therefore, readily understand and perhaps sympathize with the officers of the Children's Bureau if they become disturbed when their funds in the support of full-time county health organizations may not produce promptly the expected results in the field of maternity and infancy welfare work. Various factors may perhaps interfere with the systematic conduct of this highly specialized work. These can be overcome, I believe, and a program of procedure evolved that will be equally acceptable to Federal, State, local, and private contributors.

The featuring of an important health problem by a county organization has been demonstrated to be practicable and oftentimes very advantageous. This, of course, presupposes that effective, clear-cut procedures will be employed and tangible results demonstrated with reasonable promptness. An impressive result thus obtained will create public confidence which, in turn, will enable the workers to stress other important problems in an orderly manner. Gradually the necessity for maintaining the health service on a creditable basis will come to be recognized, and then appropriations from State, county, and county towns can be obtained to meet the cost of reasonable expansion of the program. The majority of the county health organizations now in existence have been aided—at least in the

initial stages—with funds intended for the support of special phases of health work. From 1915 to 1920 the United States Public Health Service and the Rockefeller Foundation assisted in the establishment of such organizations because of an interest in measures for combating the filth-borne diseases. Since that time the Public Health Service and the foundation have supported new county organizations without committing them to feature any special problem. Their objective was a full-time, trained staff and a well-rounded program financed, as early as practicable, entirely with public funds.

The foundation since 1922 has given aid to the establishment of a number of county organizations on condition that malaria would be emphasized for two or three years as an outstanding problem. Of the 331 county organizations operating at the close of 1926, 226 have received contributions from the foundation, and of these 37 have featured malaria control. The American Child Health Association and the Commonwealth Fund for more than five years have contributed to the establishment of county organizations on condition that child-welfare activities would be featured. The Milbank Foundation likewise has aided in the organization of county health work with a view to emphasizing tuberculosis control. The principle seems to have been pretty well established as a sound procedure by official and voluntary health agencies because the number of county organizations has increased from year to year in a spectacular manner. The contributors in behalf of special problems, even though disturbed at times because of limited activities in their special fields, have found consolation in knowing that the personnel supported has learned something of the importance of the special problems, and that the activities probably will be continued from year to year and the results in the special field will be cumulative. Regardless of any special interest in the field of public health it should be a source of keen satisfaction to any agency to have played a part in bringing into existence a county health organization devoted permanently to the health interests of the county.

There is no question as to the need of better care for women in the puerperal period. The high maternal mortality rate in the United States is notorious. Practically every community needs better facilities for protecting women in the child-bearing period. The task, like infant-welfare work, provides duties for the health staff every week in the year. Its nature and importance appeal to everyone. There is some difference of opinion with regard to whether the work to be done should be left to the field of clinical medicine or to the field of preventive medicine and public health. The sincere health worker should not be interested so much in who does the work as in the result. If the medical profession will proceed to reduce our excessively high maternal mortality the health worker should, when requested, cooperate as far as practicable. If reasonable progress is being made by the physicians or is in prospect, the worker should devote attention to other important duties. If the medical profession—in spite of cooperation offered by the health department—can not or will not do the work necessary to save the lives and health of women in the child-bearing stage, then the problem becomes a charge upon the health department.

None of the special problems mentioned would seem more attractive as a feature for newly created county organizations than the maternity and infancy welfare work in which the Children's Bureau is particularly interested. Since 1922 this organization has cooperated with State and local boards of health in the support of county health work, and through aid from the Sheppard-Towner fund many units have been established which otherwise could not have been put into operation for years to come. Infant-welfare work is a universal problem. It makes its appeal in every community and in almost every home. The methods to be employed have been evolved as an outgrowth of successful experience, and it has been demonstrated that they can be employed successfully by county organizations. Results of thorough work will be reflected in the mortality statistics as promptly as in most other activities or perhaps more promptly.

Unfortunately all the people can not be thoroughly educated overnight with regard to any public-health procedure. Moreover, even after they are convinced of the wisdom of changing customs and habits, much time is consumed before the improved practices become general and the results are registered in the mortality tables. Notwithstanding these difficulties infant-welfare work offers many advantages as the first step in the development of a sound program for a county health organization.

Personally, if I were a health worker in a county unit I should not undertake any activity which could be considered as belonging to the field of clinical medicine. The practice of medicine should be entirely the province of the practicing physician, and he should consider it a part of his duties to practice preventive medicine among his own clientele. I should do everything practicable to get physicians to make periodic examinations of the apparently healthy, to urge them to immunize the population to the fullest possible extent, to administer venereal-disease treatments, to correct physical defects of school children, and to give adequate care to infants and mothers. In cooperating with them and in attending to general public-health duties which can not be expected of the practitioners of medicine, the health worker will be fully occupied. When efforts in this direction fail repeatedly at any point I should feel justified in following the next logical step. It seems to me unnecessary and unwise for the health worker and the physician to engage in controversy. There is work enough for all. A fair and reasonable basis for getting the work done should be established, common ground should be found, and cooperation and good will should prevail. Any other course will prove costly to all interested parties, as the cause of public health will suffer. If the public-health officials and the practicing physicians do not agree upon a feasible working plan, the laity then may assume leadership in the field of public health and determine—wisely or otherwise—who shall conduct health work and what shall be its character and scope.

Perhaps the introduction of a controversial question in this discussion is not in order. I mention it because this session of the conference is devoted to a discussion of permanency of maternity and infancy welfare work in local health organizations. If the organization is not established along sound lines and if the program and pro-

cedures are not sound, the work will not be permanent. More than \$2,000,000 yearly have been appropriated for the past three or four years by Federal, State, and local governments for the support of maternity and infancy welfare measures. The authorities responsible for the spending of this money have been experimenting with various methods of procedure, and now—quite properly—they desire to make an appraisal of each method.

At least three methods of procedure in maternity and infancy welfare work have been widely adopted in rural areas. In some instances special workers have been sent out by the State health departments to cover wide areas and to devote themselves to these special phases of health work. In other instances nurses—not a part of the county organization—have devoted themselves to county-wide measures, and in some cases a nurse has had to cover two or more counties. Moreover, a large percentage of the 331 county health units have engaged to some extent in maternity and infancy welfare work, and either in personnel or in money they have derived some support from the Sheppard-Towner funds.

A correct appraisal of the advantages and disadvantages, from the standpoint of the Children's Bureau, of the various methods of attacking the problem will be difficult. It is feasible, of course, to obtain records of the activities of staff members of each county unit, and doubtless these reports will give a very good idea as to the value of the work. However, we should remember that certain activities may be of little value, whereas others may be productive of striking results in protecting health and preventing premature death. A satisfactory method for translating health activities promptly into tangible evidence of health conservation has not been developed. The morbidity statistics at present are too incomplete to have great value. The mortality records are reasonably complete, and although they probably contain many errors they afford about the only available universal basis for the measurement of results in health work. They are far from satisfactory. They will not reflect promptly and definitely many activities that we know to be valuable. No one doubts, for example, the value of removing diseased tonsils or adenoids, or of correcting dental defects, and yet it may be one, two, or more decades before correction of these defects will be reflected in mortality statistics. However, since the mortality statistics are the best index we have for testing results, it would seem desirable to utilize them in an effort to appraise, as far as practicable, the various types of work that have been conducted in the field of maternity and infancy welfare work. Even though effective work in this field theoretically should be reflected quite promptly in the mortality records we know that considerable time will be consumed in educating the masses with regard to any health problem to a degree that will lead them to improve their ideas, habits, and customs. Even if laws could be enacted calling for procedures recognized by the authorities as most effective they could not be enforced until sanctioned by at least a majority of the people.

We have seen evidences, certainly in the field of infancy welfare, that effective health work over a period of years will influence the infant death rate in a striking manner. The record of Richmond, Va., while Doctor Levy was commissioner of health, is an impressive

example of this type. During the first year or two, starting in 1907, the health department devoted itself to inspection. Then the instruction of mothers was started, the milk supply of the city was improved, and privies for homes without sewerage connection were given attention. In five years they got a striking reduction in the death rate.

Of the 331 county health organizations, 207 (62.5 per cent) have been established since 1920. It has been difficult to secure competent personnel, and a multitude of problems have claimed attention. Accordingly it is not reasonable to expect so soon a striking reduction in death rates from special causes. As the maternity and infancy welfare work did not get under way until 1922 or 1923, even less should be expected at this time in the way of reduction in death rates in this field.

Although we have no right at this time to expect marked evidences of improvement we should begin at once making such tests as to the efficacy of the measures as can be applied by having the figures for the various types of work that have been undertaken prepared to cover recent years, and for succeeding years as soon as the figures are available. It will be practicable then to get graphs started that, if continued from year to year, ultimately will reveal any trend that may occur.

In 1924¹ I collected the mortality figures for typhoid fever for several States that had made considerable progress in the establishment of county health organizations. A group of counties was selected that had been operating on a full-time basis for periods of three to five years, and their records were consolidated in order to include as large a population group as practicable when computing the mortality rates. In each State a similar group of counties having no full-time county health organizations was selected and similar computations made. The tables, then, for a series of years gave the mortality record for the entire State, the group of full-time counties, and the group of nonfull-time counties, and these records were graphically presented.

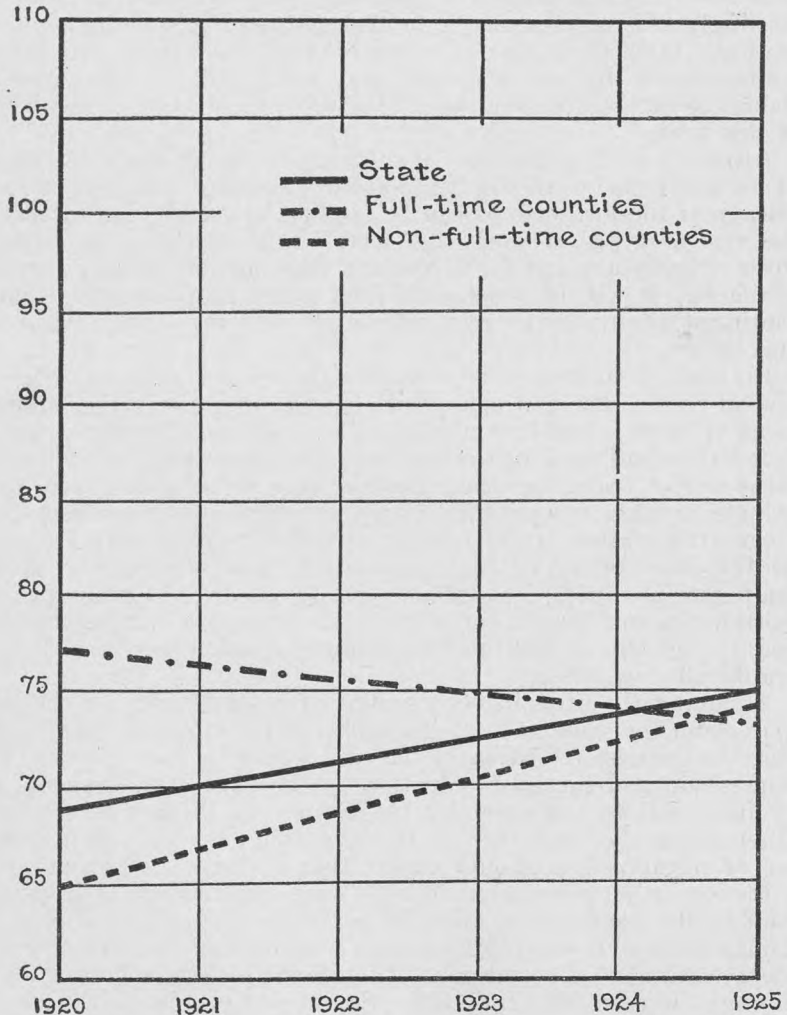
Assuming the rates in both groups of counties and for the State were about the same in the beginning, we should expect theoretically that the greatest reduction in the rate would be shown by the full-time group and the least reduction by the nonfull-time group, and an intermediate reduction by the State. If there was a marked difference in the three rates in the beginning, as occurred in a number of instances, we should expect that at least the percentage of reduction on an average in the full-time counties would be greater than in the nonfull-time counties or in the State as a whole. Although there were exceptions, the general trend of the various graphs was according to expectations. The graphs have now been extended through the years 1924 and 1925. Samples of graphs showing infant mortality are here presented (see pages 62-64) as an illustration of a method which might be tried for testing the merits of different procedures in dealing with maternity and infancy welfare. We have undertaken the test relative to county organizations in a few instances, employing the same States (Alabama, North Carolina, Ohio, and

¹ See paper read before Conference of State and Provincial Health Authorities, at Lansing, Mich., June 14, 1924. Reprints in limited numbers may be obtained upon request to author, 61 Broadway, New York City.

Virginia) and the same groups of counties that were used in the typhoid studies in order to see what the present situation is and to chart from year to year the changes that occur. Approximately 50 per cent of the population in these States is now served by full-time county health organizations.

AVERAGE ANNUAL INFANT MORTALITY RATES, ALABAMA, 1920-1925

[Number of deaths under 1 year per 1,000 live births; 8 full-time county health organizations; 8 nonfull-time counties, 1920-1924, and 7 nonfull-time counties, 1925.]



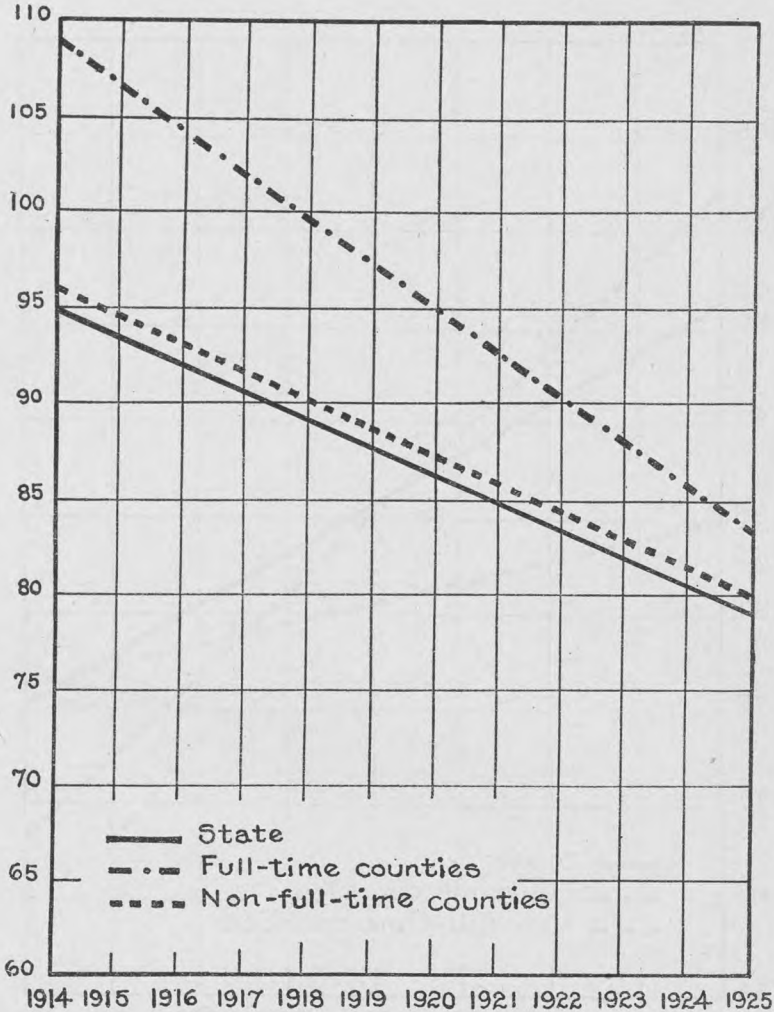
It would seem important for each State and county organization to chart the various causes of death during recent years, and from time to time to bring the records up to date in order to know what changes are taking place. Such records should be of inestimable value as a guide in formulating health programs. Although the information on mortality may be defective, we must do everything we

can to utilize what is available. Some one may devise a better method of using the mortality statistics, but I do not see now just what it will be.

My personal view is that the county health unit affords one of the most effective means of dealing with general and special health prob-

AVERAGE ANNUAL INFANT MORTALITY RATES, NORTH CAROLINA, 1914-1925

[Number of deaths under 1 year per 1,000 live births; 6 full-time county health organizations; 6 nonfull-time counties, 1914-1924, and 5 nonfull-time counties, 1925.]

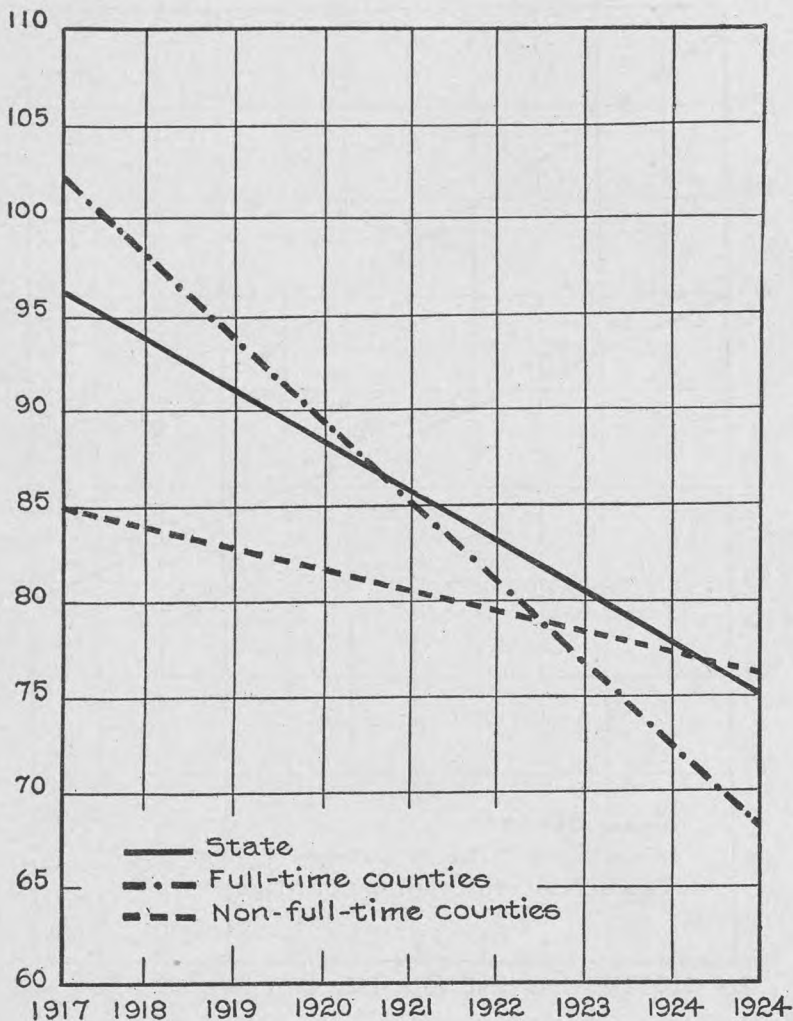


lems in towns, villages, and rural communities. I should be slow to change this opinion, even if it should not be emphatically supported by the statistical record suggested above. The county organization is probably permanent, it is expected to have a trained full-time personnel, and the workers should become intimately acquainted with the people to be served and win their confidence and coopera-

tion. Each succeeding year should bring increased results. These are fundamental considerations which make for adequacy and permanency. No other method of procedure, it would seem, could be expected in the long run to yield as satisfactory results. Even though results in some instances may fall short of those hoped for,

AVERAGE ANNUAL INFANT MORTALITY RATES, VIRGINIA, 1917-1925

[Number of deaths under 1 year per 1,000 live births; 6 full-time county health organizations; 6 nonfull-time counties, 1917-1923, and 5 nonfull-time counties, 1924-1925.]



the advantages are so great under the full-time county plan as to justify patience.

In discussing maternity and infancy welfare work in the county units I have avoided purposely an attempt to discuss details as to program or procedure. Many of those attending this conference are experts in this special field and have had extensive and successful ex-

perience in it. They are qualified to speak with authority and doubtless will present their views.

Likewise I have avoided a detailed discussion as to the administrative relationship that should exist between staff members of the central organization and those of the local organizations. Each team of workers, whether central or local, must have an administrative head through whom all negotiations between the State and local personnel should be conducted. In a number of States the responsibilities of the State health officer are so heavy that it is necessary for him to designate a deputy to represent him in matters relating to local organizations. The experts in each special field of the central organization should clear their negotiations through this administrative channel. It would not be feasible, for example, in a county unit that is composed of a health officer, a nurse, and a sanitary officer to have the health officer supervised by the State epidemiologist, the sanitary officer by the State sanitary engineer, and the nurse by the director of maternity and infancy welfare. Nevertheless, though responsibility should be centralized, the administrative structure would be unsound if it should prevent staff members in the local organization from obtaining all necessary instruction, counsel, and aid from the State experts.

Thoroughness and persistence should be required of the county staff in dealing with maternity and infancy welfare measures. These problems are important and should not be slighted. Lack of proper training by the personnel is, perhaps, more frequently responsible than any other cause for limited results. Even the physicians engaged in private practice are frequently in need of special training. Certainly the health officer and the nurse of the county unit should have thorough training in this field of service.

The possibilities of providing facilities for better training of the practicing physician can best be discussed by others. Something can be done, I believe, for better training of the health personnel. It is desirable, of course, that the health officers attend schools of public health and there receive complete courses of instruction, and that nurses complete prescribed courses of first-class schools of public-health nursing. Both health officer and nurse should then have opportunity for practical field training under capable and experienced workers. It is not yet feasible, of course, to have the rank and file of the health personnel take full courses in these schools. Undoubtedly as time goes on the number of workers to have such training will increase. In the meantime everything possible should be done to equip the health officers and nurses for their immediate duties.

In Alabama the State board of health, with the cooperation of the International Health Board, has been conducting, since 1922, a field-training station for health officers, and there have been usually from four to eight young physicians there at all times receiving practical field training. Forty-six such physicians have been sent by State boards of health, with the board's aid, and 35 at State expense, to receive from 4 to 12 weeks' training, and 46 have been appointed by the board for temporary training. Practically all these 127 men are now occupying positions in State or county work. The experience has been very satisfactory and has added a number of valuable recruits to the ranks of health officers, and in each case the health

officer has been able to gain a considerable amount of knowledge and practical experience that aided him substantially in meeting his duties.

It has occurred to me that an extension of the idea might be practicable in giving special training to county health personnel in duties relating to maternity and infancy welfare work. If one, two, or three counties, carefully selected, should have exceptionally able personnel featuring these branches of service, present and prospective personnel for county organizations might be sent to these counties and in a few weeks receive the training necessary to enable them, wherever employed, to carry out similar work. If such training can be obtained by the newly selected personnel of county organizations, I am sure that maternity and infancy welfare work will not be neglected and that the results will show marked improvement.

On the whole, it is my opinion that our public-health work is growing rapidly along sound lines and that we are obtaining results which will win the support of taxpayers to an increasing degree and attract to the field young men and young women who with training and experience will steadily raise our public-health standards.

The CHAIRMAN. I am sure we are all delighted with this talk by Doctor Ferrell. We will have the discussion opened by Doctor Monger, director of health in Ohio, who has more county units than any other health officer in the United States.

DISCUSSION

DOCTOR MONGER. AS I believe that Doctor Ferrell knows more about county health unit administration than any other person in this country, whatever I may add to what he has said will simply emphasize points he has made. Any opinion I may express is only my personal opinion on problems as we see them in our own State, and these may be essentially different in other States. Six years of full-time health administration in Ohio have at least taught us humility.

But we are sure of this: That county health-unit administration is the logical thing, and some things do seem to stand out. We have nearly 50 full-time county health administrative units and 31 full-time city administrative units. The increase in budgets in more than 80 per cent of the local units of the entire State during the past six years indicates that at least the taxpayers appreciate full-time service and are willing to pay for its extension. It seems clear that the full-time system does meet a real need.

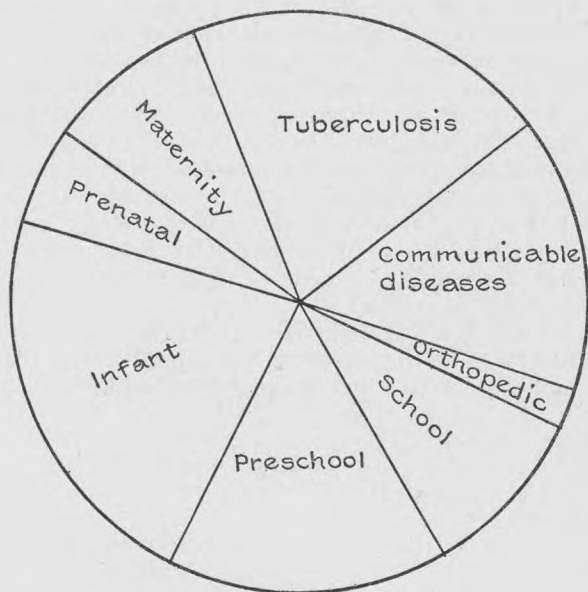
The success of any public-health organization depends first upon efficient administration. To mention only one item, proper direction requires both natural and acquired equipment; that is, the administrative head must be adequately paid. Furthermore, if public-health administration is to succeed it must deliver concrete service that the taxpayer can evaluate personally in return for the money expended.

Just as in business the overhead expense must not be out of proportion to the production, the public-health work must be administered by units large enough to carry the full cost of good administration. County, city, or combined districts must contain enough people to permit the per capita cost of administration to be distrib-

uted to a nonprohibitive point. An administrative cost of more than 15 or 20 per cent is unwise at the outset.

I wish to emphasize a point Doctor Ferrell made by quoting it exactly: "If I were a health worker in a county unit I should not undertake any activity that could be considered to belong to the field of clinical medicine." We must remember that in this sort of work we can not go faster than the medical profession can or will go with us. Let us stick to education and demonstration; if we do not accomplish all the good the idealist thinks we could, we at least shall not do the harm we otherwise might do. Continuous service is very valuable, as Doctor Ferrell has pointed out; but it is important also that the health administrator be not a competitor.

DISTRIBUTION OF VISITS BY NURSES; OHIO DEPARTMENT OF HEALTH, 1926



Public-health administration is a distinct specialty. Perhaps it may be defined as the application of the principles of preventive medicine. This involves many things. The successful public-health administrator must be first of all a good doctor, with all the virtues that term implies; he must be a good educator and a good publicist; he must know the technical details of his work and see its possibilities; he must possess a human understanding and patience that will enable him to conquer the many obstacles that beset his way; and he must be a good organizer, able to marshal the technical, professional, semiprofessional, political, volunteer, and lay factors and resources necessary for success. In short, he must be a scientific statesman (if there is such a term) able to show the taxpayer that he receives a fair measure of service—for the public does not discriminate, it evaluates results.

Doctor Ferrell effectively points out the very great value of maternity and infancy work to those in administrative positions. We have never dissociated our department completely into divisions and bureaus, and I have been astonished to see the importance of maternity and infancy work in a big State program. To ascertain two years ago the extent of our prenatal, natal, infancy, and preschool work I had a survey made of two counties carrying out an ordinary generalized program and found that these activities constituted more than 50 per cent of the work. I may sum it up by saying that after all the tap of the public-health nurse on the taxpayer's door is foremost in the whole picture of public-health accomplishments.

I wish to show you a chart (see p. 67) reflecting the consensus of opinion of 175 health administrators with large State, county, and city experience—40 per cent being full-time administrators serving more than 4,000,000 people—who met three years ago to discuss some scheme of evaluation of public-health activities. This chart will serve to give you an idea of what maternity and infancy work represented in the nurses' visits in the city and county units of Ohio in 1926. The percentage of visits to prenatal cases was 5.4; to maternity cases, 8.9; to infants, 22.2; to preschool children, 15.6. You see how big the maternity and infancy phase of the work is. Though I am not arguing for a specialized field of endeavor I suggest that this element of public-health work makes a surprisingly great contribution in proportion to the required expenditure of money and effort. It has had also a secondary beneficial effect in promoting interest in public-health work in general.

The CHAIRMAN. We will delay the rest of the discussion until after Miss Marriner gives us the report of the committee on the evaluation of infancy and maternity work in the county units.

EVALUATION OF MATERNITY AND INFANCY WORK IN A GENERALIZED PROGRAM

BY JESSIE L. MARRINER, R. N., DIRECTOR, BUREAU OF CHILD HYGIENE AND PUBLIC-HEALTH NURSING, STATE BOARD OF HEALTH, ALABAMA

The report of your committee¹ on evaluation of maternal and infant hygiene work in a generalized program is as follows:

The committee met in Atlantic City in May, those present being Miss Marie Phelan, Dr. Blanche M. Haines, Miss Elizabeth Fox, Miss Ruth Houlton, Miss Florence Patterson, and Miss Marriner. Type-written material prepared by the Children's Bureau and setting forth a list of activities which may be accounted as maternity and infancy work was distributed to members of the committee and discussed. It was agreed before adjournment that the work of the committee would have to be continued by correspondence.

During the summer the chairman wrote to each member of the committee sending a copy of the material that had been distributed in May and asking for its further consideration. Replies came bearing evidence of careful thinking and offering valuable suggestions, among them that a survey be taken of the situation in the several States where Sheppard-Towner funds are being used to subsidize a general public-health nursing service and that certain amendments be made in the list of activities accounted as maternity and infancy work as submitted at the Atlantic City meeting. Doctor Haines furnished a list of the States in which the maternity and infancy program involves subsidizing local public-health nursing service, and the following questionnaire was sent to these 26 States:

INFORMATION FOR THE COMMITTEE ON EVALUATION OF MATERNAL AND INFANT HYGIENE WORK IN A GENERALIZED PROGRAM

1. Are Sheppard-Towner funds used in _____ to subsidize or maintain
(Your State)
local or county activities in the public-health nursing field? _____
2. If funds are so used please state briefly your plan of cooperation.

3. Is a definite signed contract executed by the State and county health organizations defining the obligations of each in the cooperative undertaking? _____
4. If no signed contract is made, how is the obligation to expend these funds for the welfare of mothers and babies safeguarded?

5. Please send copies of all record and report forms.
6. If studies have been made showing time distribution of nursing activities please include samples of these.

¹ The members of the committee were: Jessie L. Marriner, chairman; Dr. Blanche M. Haines, ex officio; Marie T. Phelan, U. S. Children's Bureau; Florence M. Patterson, Community Health Association, Boston; Elizabeth Fox, American Red Cross; Ruth Houlton, director, Visiting Nurse Association, Minneapolis, Minn.; and Katherine M. Kreizenbeck, bureau of child hygiene and public-health nursing, department of health, Michigan.

Twenty-two States returned the questionnaire with replies. The answer to the first question was Yes in every instance, merely serving to confirm the list of States using maternity and infancy funds to match county funds.

With three exceptions the replies to the second question varied only in financial details of the plan of cooperation and in administrative procedure; all the larger groups (19) required the nurses to give generalized service, but expected maternity and infancy work to occupy from one-sixth to one-half of the full time, according to the proportion of such funds used. Three States were committed to a specialized maternity and infancy service in which these funds were used, one having discontinued participation in a county organization after one year's trial.

The third question was answered by only 21 States. Of these, 11 did not execute signed contracts with the county health organizations; 10 States considered that they had contracts (6 sent copies of the form used; 4 stated that letters submitting and accepting the proposition and the published program subscribed to by the State and the county organization constituted a contract). Of the six contract forms submitted, only three stipulated that a definite proportion of the nurse's time should be devoted to maternity and infancy work; one required one-fourth and one one-half of the nurse's time, and one required her full time. The other three contract forms deal almost entirely with financial matters and details of administration, making no mention of definite requirements in the interest of maternal and infant hygiene. One states specifically that "the nurse is to devote her entire time to general public health nursing activities."

The answers to question 4 from 11 States that do not require signed contracts varied from such expressions as "It is not safeguarded," "Safeguarded by honor of employees," "Cooperation good" to detailed accounts of supervisory systems which included daily records of activities, periodical reports to the State bureau, and periodical visits and check by the State staff. In one instance the payment of the salary of the nurse is contingent upon her record of maternity and infancy work, which must have reached a specified minimum.

Copies of record and report forms in use were furnished by all States replying to the questionnaire. Not all of these provide for record of time spent in maternity and infancy work, and none requires a time record on all phases of work, though one states that this will be required next year.

One State has made graphic studies of the time distribution of its nursing personnel, and samples of these studies are included in the material at the disposal of this committee. All material assembled for the use of the committee has been brought to Washington for study at a committee meeting at the Children's Bureau January 10, 1927. Any recommendations which may follow this report will be an outgrowth of the deliberations of the full committee.

The committee in session on January 10, 1927, at the Children's Bureau decided that it would be well to suggest that States have a clearly defined program for cooperative maternity and infancy work in counties and make sure that these plans are thoroughly understood by those participating. It further suggested that systems of

recording and reporting activities be perfected in the several States looking toward a more thoroughly balanced nursing program and that methods of supervision suited to the local situations be adopted, continued, and improved.

It was quite evident from a study of the records that it would be difficult to make up a report of the work done in the county units of the different States; and because I am, of course, more familiar with our own system than any of the others, Doctor Haines has asked me to discuss it and also to bring out the attitude that we try to put into our supervisory work, which is involved in the study of time distribution.

I will give you just the rough items that we had to decide upon before we could work out a system of time distribution. Two questions arose: Whether our nurses were carrying on a generalized nursing program; and whether there was a fair distribution of time among the various activities. In an attempt to answer these questions the following estimate of the average time required for the various activities was adopted as a working basis:

Home visits for—

- Prenatal care and instruction, 30 minutes.
- Postpartum care and instruction, 30 minutes.
- Infant hygiene and instruction, 30 minutes.
- Preschool care and instruction, 30 minutes.
- School follow-up and instruction, 30 minutes.
- Communicable-disease control and instruction, 30 minutes.
- Tuberculosis control and instruction, 30 minutes.

- County institution (almshouse, etc.), 20 minutes.
- Adults (other than tuberculosis cases), 20 minutes.
- Midwife, 20 minutes.
- Group meeting, 1½ hours.
- Talk (school children, etc.), 15 minutes.
- Typhoid vaccination, 100 per hour.
- Smallpox vaccination, 25 per hour.
- Travel, 15 miles per hour.
- Assistance with school examinations, 20 per hour.
- School visits, 30 minutes.
- Professional visits (to physicians), 15 minutes.
- Cooperating agencies, 15 minutes.
- Social service, 15 minutes.
- Birth registration (vital statistics), 15 minutes.
- Individual office conference, 10 minutes.

The time required for the different types of activities was estimated first by conferences with heads of departments, health officers, and the more experienced nurses. Exact records were later kept for one month as a check. These showed that the approximations made were relatively accurate. No satisfactory estimate of time spent in travel has yet been made because in view of differences in cars, in roads, in individual drivers, and in methods of computing mileage it seems practically impossible to strike an average rate per hour.

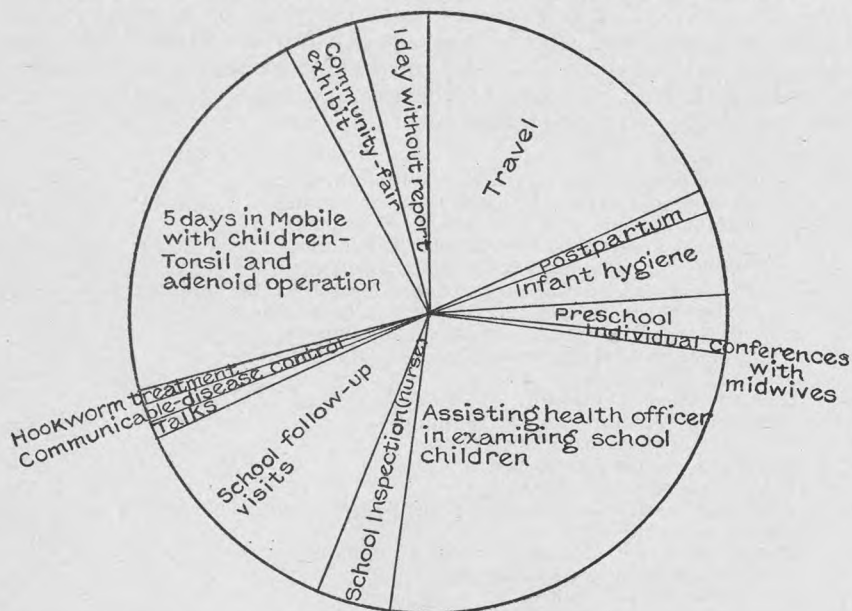
A supervising nurse from the State department visits each organized county every month. On this visit she studies the record of daily visit cards of each county nurse for the preceding month, tabulating the types of activities and the number of visits under each. From this she makes an estimate of the number of hours spent during the month in each activity. This number compared with the total

number of working hours for the month gives the percentage of time devoted to any one activity. For greater uniformity a 44-hour week is taken as a basis. From the figures a circular, or pie-shaped, graph (see below) is made for each month so that the nurse may see her own work as a whole and as part of the activities of the county unit.

When our supervisor makes her visit it is in the spirit of a research worker coming to study what the health department is doing and what it did last month, and not in the spirit of a critic coming to find fault with what it did not do.

The present system of supervision has been on trial for only four months. A marked effect is already seen in more complete, more accurate, and more intelligible daily records of the nursing work.

TIME DISTRIBUTION FOR ONE MONTH OF WORK OF EXPERIENCED COUNTY NURSE



What we hope to see is a group of nurses with a keener appreciation of a well-planned, generalized nursing program and of its development in the individual counties as a part of a state-wide program of public health.

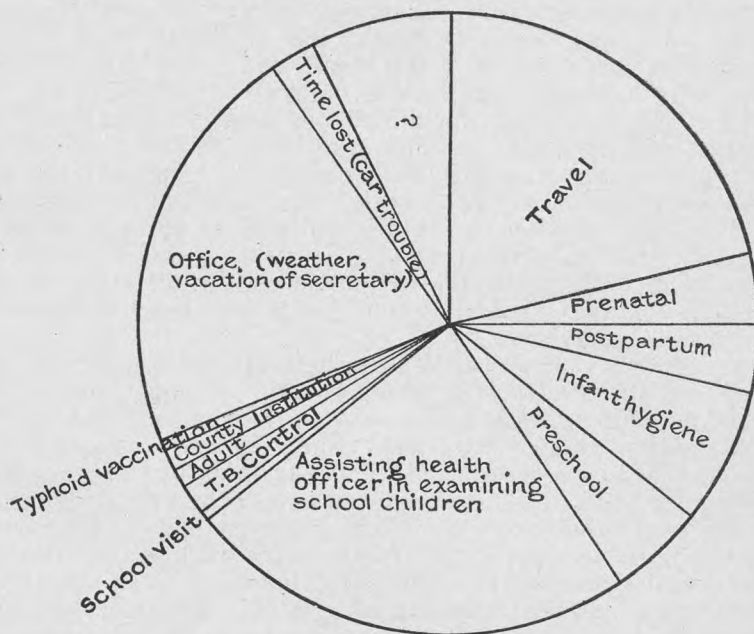
DISCUSSION

The CHAIRMAN. We will now hear from Miss Patterson, general director of the Community Health Association of Boston, who is to open this discussion.

Miss PATTERSON. I think you must all know that, as shown in Miss Marriner's report of the committee, there has been great difficulty in arriving at the method of evaluating the nurses' part in maternity and infancy work. It has always seemed to me that the program of the maternity and infancy work of the Children's Bureau is one of

the most potent factors in its success. I think all of us in public-health nursing, no matter what we are doing, realize we must have a strict accounting of our time. We must show that our work is worth while and that we have been spending money only as it should be spent. However, I think very simple records can show this, as Miss Marriner pointed out. First of all, I agree with Miss Marriner as to her daily record. I would go a little further and include transportation time on the daily report sheet which the nurse carries into the home. The report can show an itemized or an arranged statement that would take not more than one minute to make at the end of a visit. The time can be identified by the next visit, which naturally goes into the transportation. If it is a daily report it can be summarized, taking certainly not more than two minutes at the end of

NOVEMBER TIME DISTRIBUTION OF WORK OF INEXPERIENCED COUNTY NURSE ON STAFF SINCE JULY



the day, and going through the nurse's daily report sheets will give us, wherever she has worked, an absolutely accurate report of what she has been doing.

One other thing Miss Marriner did not bring out in those records. It seems to me that if any public-health nurse is to carry on her work intelligently and to secure the best results she can do it only by keeping an actual account of her work on each visit, not so much from a statistical point of view but as a measure of what she really accomplishes. I think all of us will agree that probably the poorest work which we have had in public-health nursing is our prenatal work. The reasons were brought out in Miss Hall's paper yesterday on nursing education, which conclusively pointed out that nurses are not receiving much or any instruction in prenatal care. Further-

more, she showed very clearly that at present nursing education is limited definitely by hospital necessities which will not permit the training school to offer public health nursing education on prenatal care. Miss Hall has suggested that that might be secured from the public health nursing associations.

We can not improve the maternity and infancy work or safeguard it—safeguard the funds of the Children's Bureau, for instance—by any quantity measurement; the only way in which we can enlarge this work with this money is to lay more emphasis on quality. This is not easily done, but there are several practical methods which can be used. Miss Hall's students happen to have their field experience with our association. I might say, by way of explanation, that the Community Health Association has a general nurses' organization. I think we bear out Doctor Monger's theory that any general nursing service can safely be trusted to carry a heavy proportion of the maternity and infancy work. We had the general nursing service, not the child-hygiene work. Last year between 40 and 50 per cent of our total was maternity work, and maternity work included prenatal and delivery care. While our staff is made up mostly of nurses who have had four months or more of nursing work, these students get their field work with our association and get their prenatal experience with us. This means they get two months of field work, and during that time they get the prenatal and maternity work. However, in only two months' experience a nurse can get only a limited view of what can be accomplished in prenatal education, especially when only part time is given to this subject. I therefore believe that so far as possible all public-health nurses who work in rural communities should have one year's experience and be under very careful supervision.

I am not sure that I entirely agree with Miss Marriner in her new method of supervision. Of course, one aim of every supervisor in general nursing service is to maintain a well-organized plan. That I think is Miss Marriner's method. But even more important than that, it seems to me, is the acquisition of training by the nurse in her teaching methods. The supervisor can impart this only by going into the home with the nurse and watching her methods and suggesting how she might improve them. Much of the work which Miss Marriner described as done by supervising nurses might be done by the nurses. It is excellent teaching material for the supervisor, but I should hate to think that the supervising nurse has a teaching duty only.

The nurse should realize that the success of her work depends very largely upon how successfully she works with the doctor. If we nurses make more effort to work with the physician it seems to me that we can do a great deal by discussing with him our routine prenatal questions, and thus we can educate the women in the community to know what they have a right to expect in pregnancy supervision. The good doctors always welcome our cooperation, provided we make it clear how we can help them.

I should like to believe that we could look forward to securing the results in Boston which our friends have secured in Tioga County by public-health nursing. But we have found repeatedly that no matter how carefully we do our educational work with our prenatal

cases—you can make your urinalysis and blood-pressure tests every week or every two days, for instance—when we have an abnormal case we shall not have safeguarded the mother unless the services of a skilled obstetrician are available for delivery.

There are certain methods, I think, that can be used to help in educating nurses in prenatal care. We are not all as well educated as we ought to be. Many nurses in the field now, who have been doing public-health nursing for a number of years, have not had the advantages of instruction in prenatal supervision. Miss Kuhlman, I think, has done much to help her nurses in prenatal education by issuing to them outlines of talks which might be given to groups of expectant mothers.

I think that our greatest hope lies in attempting to improve the quality of our prenatal visits and having a larger degree of confidence in one another.

The CHAIRMAN. I am sure we are very glad to find that Miss Patterson has stressed the point not only of the amount of time spent but of the quality of the work in the county.

Doctor SCHWEITZER. I quite agree with everything Doctor Ferrell said, and I have been very much pleased with Miss Marriner's discussion and report. But I think certain points of view have not been fully given. We have grown accustomed in the last few years to hear two distinct points of view, that of the health official as to what the medical profession should do, and that of the practicing part of the medical profession as to what the public-health officials should do; and I believe it is high time that we doctors who are doing public-health work and the doctors who are engaged in the general practice of medicine get together and arrive at some agreement with regard to what each thinks the other ought to do.

Doctor Ferrell spoke of the permanent county units that were being conducted and mentioned the agreement that a certain amount of time should be given to the control of hookworm and malaria. If we were developing county units in Indiana we should not give two years to the control of hookworm and malaria obviously, because we have practically no hookworm districts in Indiana and very little malaria. In 10 years in the laboratories of Indiana I think we had about 21 positive malaria specimens each year. We could very well give time, however, to the prevention of diphtheria and typhoid. So whatever we decide depends partly upon geography and partly upon local needs; and in developing county health units we must keep those in mind.

I wish to speak briefly with regard to the relation of the maternity and infancy work to other parts of the public-health program, and I believe you will forgive me if I talk of my own State. In several instances in the last year we have tried to adapt our maternity and infancy program to State needs and to make it a coordinate part of the State work. We give a maternity and infancy course in a series of five lessons. These lessons are given in 8 to 14 places in each county, usually with the township as the unit. They are given in two counties alternately by doctors and nurses who are on the staff of the division of infant and child hygiene. The entire course occupies a period of six weeks.

In one county the child-health conferences were held by means of the healthmobile two or three years ago. The people since then have been working with county nurses in an endeavor to carry out some of the things that were suggested. They have done some excellent work of their own in having some child-health conferences during the summer and doing the school health work during the winter. This winter we are giving our maternity and infancy course in that county. At first when we talked to the county nurse about it she thought perhaps it might interfere with some things she had planned, but after she understood the course more thoroughly she found that she could coordinate it with her work and that its results would be very helpful for her "school-nursing" program. She had been making inspections of children, doing the routine work in the school, and has just about completed them. She felt that if the Sheppard-Towner nurse organized the county, having committees with chairmen in each township to help develop the maternity and infancy program, it would be an excellent background for the home-nursing work that the county nurse wished to put on later. So she is going with the nurse from the division of infant and child hygiene, organizing in each township groups who will be given our maternity and infancy course, which she will follow up with her hygiene and home-nursing work. This again will be followed up by the health examinations of children by our own physician and by whatever local physicians wish to help; and by the time we get our maternity and infancy course through, more local physicians are going to be interested in the nursing part of this program. The child-hygiene workers are making a demonstration in the county in which children who are going to start to school next fall for the first time will be examined, as well as other children who are under school age. That is just an example of how the State work can be coordinated with the local work.

So far as the State board of health is concerned, our State health commissioner has been emphasizing the protection against diphtheria this year. In the maternity and infancy classes we feel that that is a very good thing to do, because part of our work is the study of the prevention of infectious diseases, and therefore part of one of the lectures is devoted to this subject, together with motion pictures showing how to prevent diphtheria.

In one or two counties we have had the epidemiologist give a special talk on the prevention of diphtheria, and always we show this film and have a talk by our own physician. His work has been delayed by epidemics in the State, which have demanded his personal attention, but our instruction in diphtheria prevention has gone on.

We are trying to have the county child-health board continued in each county as a local organization after we leave. This board is composed of medical and municipal officials and lay people. One man who was approached on this subject said, "If you are going to have a child-health board, don't have all doctors on it." He meant that the other people in the community also are interested in health protection from the economic and other points of view, and they all wanted to have a part in it. So we felt that our child-health board should be composed of all kinds of people in the community. Wherever we can get child-health boards organized they will be a nucleus for the development of county units, which the State

health commissioner is trying to provide for by a bill before the present legislature authorizing the expenditure of local funds for that purpose. That is the big project before the State legislature this year.

One of these boards is trying to get a county nurse. Another is promoting a program for the prevention of diphtheria. As many children as possible are immunized in that particular county. The boards take up whatever project seems to be the best for them to work out at a given time, but all of them are keeping in mind maternity and infancy work.

We need to have ideals toward which we are working, but we must keep in mind all the time that we sometimes have to reach the ideal indirectly. We have not developed in Indiana county health units; our work has been almost entirely educational, and it has been done through physicians and nurses who are employed by the staff. Wherever we have made examinations of children or done work of that type it has been demonstrational.

Wherever we meet the individual doctors in the county work we find a very large proportion of them heartily in favor of the maternity and infancy work; and while some of them say they do not want it done indefinitely with Federal money, they are quite willing to cooperate with us in promoting the work. They almost universally say it is the finest thing that has been done. Two or three very prominent physicians in the State medical society have said that they think the work has promoted standards of maternal and infant care further in the last five years than had been possible in 10 or 15 years previous to this time.

Doctor BRYDON. I have observed in the past few years in these conferences, and in other national conferences along public-health lines, that we have been concerned largely with what to do and how to do it. I suggest for our next conference that we more definitely discuss results. I believe the time has come when we should say how many babies are under medical supervision, how many mothers in the State have had courses in child care, how many little mothers' leagues have been established, how many young girls have had instruction in child care, how many children of preschool age are physically fit, free of defects, or representing a minimum standard. I should like to see that note stressed more than ever as we go on.

The CHAIRMAN. Thank you, Doctor Brydon. We shall be very glad to consider the suggestion.

Miss MARRINER. I just wish to say that of course we do have case records in our plan, but since they do not affect this time study in any way they were disregarded so far as it was concerned. The records are in the offices of the county boards of health, and this study of the time distribution, which has extended over four months, was made partly for the sake of the contribution it might make to the question which was asked last year and for which this committee was formed to find an answer. It is not at all certain that this particular arrangement for supervision will be continued indefinitely. I should be inclined to think that a combination of the time-distribution study and the usual type of supervisory visits in which we go out with the nurse and get an impression of her work and make personal suggestions to her would be the type of supervisory visits that would con-

tinue. But we have found the time-distribution study very interesting and valuable for ourselves, and we hope that the directors will be able to get something out of it.

The CHAIRMAN. I am going to ask Doctor Ferrell to close the discussion now.

Doctor FERRELL. I think there is little for me to add to the subject. It has been thoroughly discussed, and I find that I have no conflict of view with those who have discussed the paper. I am in hearty accord with the speaker from Indiana, that it would be foolish to propose the conduct of activities relating to malaria or hookworm disease in Indiana. The point that I should like to have emphasized is that an outstanding activity in a particular State should be featured. It is not enough that it be a problem that must be dealt with; it should be a problem that we know how to deal with. Maternity and infancy welfare work constitutes a universal problem; it does not have to be confined to the South, where malaria and hookworm are present; it prevails in the northern States and in the Provinces of Canada and in the distant Tropics. It is an international problem, and it affords an ideal point of contact between the health services in this country and those of other countries.

I am in hearty accord with the speaker from Virginia. It is not enough in the field of public health that we be active and industrious and enthusiastic and earnest. We must be intelligent; we must be wise; we must select those activities which will yield tangible results and watch our results and our procedure, from year to year, and be sure—just as the stockholders and the board of directors of any large industrial corporation that is spending money are going to be concerned about the dividends—that as trustees of the public health and the spending of public funds we likewise shall be able to give an account of our stewardship and show to the stockholders, who are the taxpayers, a satisfactory dividend on the investment and the work left to our discretion. [Applause.]

Mrs. HOWE. I should like to ask whether copies of the committee's time-distribution charts will be available for the use of the directors—that we might use them in evaluating our own State work?

The CHAIRMAN. I think we shall have to take action on the committee's report, and then we will decide. We could easily mimeograph it. What will you do with the report of the committee?

Doctor STADTMULLER. I move that we accept the committee's report and ask for copies of it.

(The motion was seconded, put, and carried.)

The CHAIRMAN. Shall we discharge the committee with a great deal of thanks? It has certainly given us a great deal of information. We wish to express our appreciation to Doctor Ferrell for giving us the very fine address that he has this morning, and also to the others who have taken part in the morning's program.

(Meeting adjourned.)

WEDNESDAY, JANUARY 12—AFTERNOON SESSION

DR. BLANCHE M. HAINES, DIRECTOR, MATERNITY AND INFANT-HYGIENE DIVISION,
CHILDREN'S BUREAU, PRESIDING

The CHAIRMAN. You may think it strange that we have put on the program this afternoon a breast-feeding demonstration as part of a method of developing a permanent program of prenatal and natal care, but I do not know of anything that would be so permanent as to develop breast feeding among all the mothers of the United States. We know that the bottle-fed baby dies in greater numbers than the breast-fed baby, and I believe that we could lower the death rate from diarrhea and enteritis if we would stress breast feeding and educate the mothers not only in the intent to do it but in the actual doing of it. Consequently it gives me great pleasure to introduce to you Dr. Frank Howard Richardson, regional consultant in pediatrics for the division of maternity, infancy, and child hygiene of New York State.

BREAST-FEEDING DEMONSTRATIONS

BY FRANK HOWARD RICHARDSON, M. D., REGIONAL CONSULTANT,
DIVISION OF MATERNITY, INFANCY, AND CHILD HYGIENE, STATE
DEPARTMENT OF HEALTH, NEW YORK

I am not going to try to teach you trained executives anything about demonstrations. I may say, however, that a breast-feeding demonstration, if it is to be permanent, must sell the idea of breast feeding as a private practitioner's method of feeding the babies in his care, not as a public-health measure. Before speaking further on breast feeding, however, I want to talk to you about infant feeding as a whole.

It is a rather interesting fact that every physician has a different plan for feeding the babies in his practice, varying with the date of his graduation from medical school. There is no standard method, such as there is for the treatment of typhoid or other disease. Unfortunately this does not mean that we have been making progress through the years. Back in 1860 Peters and Meigs had the idea of imitating breast milk chemically, but it was not a success. Then came the percentage idea of Rotch, of Boston, which left much to be desired. After that we had the caloric-feeding method; then letter combinations such as "B. B." and "B. A.," the use of malt soup and dry milks; and to-day we have lactic-acid milk.

Along with all this change without real progress two significant things are to be noted. One was the establishment, back in the eighties, of the first milk commission by Doctor Coit, in cooperation with Mr. Francisco, in Essex County, N. J. The idea was simply to get clean, fresh milk for babies. The other was the work of Dr. J. P. Sedgwick, of Minneapolis, Minn., who made the important assertion—truism though it seems—that breast milk is better than any other food for babies. This was emphasized by Holt's observation that many babies in his Fifth Avenue practice, who were fed carefully and scientifically on the bottle, died; whereas very few of the clinic babies in the slums, who were mostly breast fed, died during their first year. Sedgwick did not stop with this pronouncement, however. He went further, and asserted that every mother who desires to do so, and whose doctor is sufficiently interested, can nurse her baby as long as she desires.

By a doctor who is sufficiently interested is meant the physician who will take the trouble to learn breast-feeding technique, teach it to the mothers, and have them practice it. This gives me my theme for to-day, for I believe that any physician who cares to can have pretty close to 100 per cent breast feeding in his practice.

I wish now to show some pictures. [Lantern slides, "Simplifying Motherhood" and "How to feed the baby," were shown.]

This is the only fact that you need impress upon the mother in order to secure her cooperation; the breast-fed baby has five chances

for life as compared to the bottle-fed baby's one. This is the main point, though incidentally you may mention how much easier for her the breast feeding will be.

There are two essentials in breast feeding. One is, complete emptying of the breasts. The other is, making up for any deficiency of breast milk by giving an artificial or complementary feeding. If the nursing baby does not empty the breast the mother must do it herself. She should use the ball of the thumb and the ball of the finger on opposite sides of the breast, at the edge of the pigmented area, bringing these together toward the nipple, and at the same time making a slight pull forward and outward. The mother must go through with this compression, or milking motion, after every feeding; and she should express not merely a few drops of milk but a stream 3 or 4 feet long. This may be done while the baby is still nursing. It is an effective way to wake up a lazy baby, who goes to sleep while he is nursing; sending a throatful of milk into his mouth will wake him up, and he will begin sucking immediately. This emptying of the breast by the mother is not needed, in a majority of instances, where sufficient milk is being secreted. It is useful whenever the supply becomes diminished; and also as a test to ascertain whether the baby has emptied the breast or not.

Two sets of causes lead to premature or unnecessary weaning—and in my opinion every premature weaning is unnecessary. One set of causes relates to the mother, the other to the baby. The first of the maternal causes is caking of the breasts. The oversupply of milk when it first comes in makes the breasts very heavy and painful. It has been the custom in obstetrical hospitals during the first two or three days after the birth to bind the breast tightly and to give doses of castor oil. The flow naturally diminishes in consequence, and then everyone is surprised when the next day there is no milk!

When the patient is lying down instead of sitting the breasts are elevated with respect to the chest, and venous congestion is removed, exactly as elevating the arm diminishes the pain and swelling in a bruised or infected finger or hand. This position is one which a properly fitted brassière should imitate. Such brassières can not, however, be bought in the stores. Those on sale crowd the breasts against the chest, flatten the nipples, and do everything else they should not do, in an effort to produce the so-called boyish figure. Now here [showing picture] is a simple little contrivance a salesman in one company made for his wife. The belt anchors a pair of suspenders that cross in the back, and end in front in two webbing bags to hold the breasts. This can be adjusted and tightened and is very satisfactory. The booklet of the New York Maternity Center Association gives a very good way to improvise such a sling, as does also that of the division of maternity, infancy, and child hygiene of the New York State Department of Health. It is unfortunate that these things can not be bought and that each mother must improvise her own.

Another maternal condition that causes many premature weanings is cracked or fissured nipples, an exquisitely painful condition. The tenderness in normal nipples that is experienced at the beginning of each nursing by certain high-strung mothers is frequently as painful, or even more so, and nothing apparently can be done to alleviate it; but at least the mother can be assured that it will grow less as time

goes on. A fissured nipple, on the other hand, can become very serious. The best care of fissuring is its prevention! Squares of ordinary waxed paper smeared with a mixture of bismuth and castor oil will prevent or cure this condition. Simply pasting these squares on after the nursing will protect the delicate tissues from contact with the clothing and keep the two drugs in constant apposition with the surface of the nipple.

A third maternal condition frequently offered as a reason for premature weaning, is "nervousness." But if the mother has enough sleep and rest, there is no strain nor drain; and "nervousness" need never interfere with nursing a baby. I doubt whether any nursing mother gets anywhere near enough sleep, unless her doctor insists upon it. Remember that the 10 o'clock nursing usually keeps her up until 11 o'clock or half past 11; she must awaken for the 6 a. m. feeding; and if she is subconsciously listening during the interim to hear the baby if he wakes and cries, she will not have an adequate night's sleep. She is far more likely to have too little sleep than to have too little food.

I want to say a word about this 10 p. m. feeding. I like to have babies fed at (1) 6 and (2) 10 a. m. and (3) 2 and (4) 6 p. m., then not again until (5) 11 or 12 p. m. Ten p. m. is the worst possible nursing time for the mother. It interferes with her going out anywhere for an evening's enjoyment and interferes with her going to sleep, if she wishes to stay at home and go to bed early. But if the baby has been fed adequately at 6 p. m. he soon becomes accustomed to a 6-hour interval before the next feeding, especially if he has become accustomed to a 4-hour interval by day. She can pick him up at midnight, or at whatever time she comes in, or she may let him sleep until he awakens, and then feed him. He will get used to this in a very short time. At two months, or even as early as six weeks, he may begin to sleep until 2, 3, or 4 in the morning; and shortly thereafter may be expected to sleep clear through the night. This of course presupposes a completely satisfying feeding at 6 p. m.

Some mothers who have already had one or two children suffer very violent afterpains when the baby begins to nurse. This is due to the intimate nerve-system connection between the stimulation of the nipple and the contraction of the uterus. It is not impossible that the stimulation given by the nursing baby promotes the involution of the uterus not only for the first few days but for a number of months.

In regard to food, if the nursing mother is allowed to eat as she pleases, but will in addition to her regular diet take a quart of milk a day, she need take no further thought as to her diet, except that she should have enough green vegetables. It will be a good thing if she will use brown bread, not white, and fresh milk, not Pasteurized market milk that may have been on the wagon two or three or four days. If she knows some one who has a good cow and further knows that the milker washes his hands, this will be fine; otherwise she had better take certified milk.

Now as to some causes for premature weaning on the part of the baby. A bubble of imprisoned air—not gas from indigestion, nor wind, nor colic—may give to the baby a deceptive sensation of fullness, and so stop him from nursing. This air, which occupies

the stomach between feedings, becomes compressed when milk is taken in. While the baby lies in the usual nursing position, the fluid coming in from the esophagus prevents this air bubble from escaping [showing drawings]. But if the mother lifts the baby up over her shoulder and gently pats his back, the air bubble will move about and come out, thus leaving room for more milk. This has been substantiated by these X-ray photographs made by Dr. Charles Henry Smith, of Bellevue Hospital. The X-ray pictures of this 4-months-old baby at the beginning of feeding [indicating on picture] show a small amount of milk in the stomach, with a bubble of air in front of it. With a large amount of milk in the stomach and a large bubble of air in front of it [indicating] the baby now is crying and seems in pain. This is taken a few minutes later. The baby then is held in the erect position, the milk drops down into the lower part of the stomach, and the air is forced into the upper part and thence into the esophagus. An eructation of air follows; then the baby stops crying and goes to sleep. The next picture shows the stomach contracted on the food and the baby put back in a horizontal position. There is no reason for the entrance of more air, as the whole stomach is occupied by milk, until the food goes through into the small intestine.

The second set of pictures [indicating] shows the same thing with a 6-months-old baby fed in a horizontal position. Babies should not be fed in this position, because it puts the esophagus below the liquid level, like a plumber's trap, and of course the air can not escape. This baby was uncomfortable, and of course he cried. Putting the baby erect and patting him on the back drove out the air bubble, as in the previous case; and the baby stopped crying and went to sleep. He remained all right when put in a horizontal position.

What else can give this deceptive sensation of fullness? Pressure from outside the stomach, as from a stool in the rectum or urine in the bladder, will produce this same effect. These can be overcome by use of a lap chamber and a suppository whittled out of a piece of plain white soap. (To prevent its chipping, the soap for this suppository must be put in water for a while before it is whittled.) This process may have to be repeated several times in one nursing. Placing the lap chamber in position the mother inserts the suppository, then with the free hand puts the chamber against the baby—not setting the baby on the chamber, as this might tire him and the straining might possibly cause prolapsus ani or hemorrhoids. The reflex connection is soon established; after this the suppository is no longer necessary, as placing the chamber in position is enough to start the movement. A mother reported to me the other day that if she used the chamber cold, the baby responded much more quickly.

So-called overfeeding is not to be feared. All of us used to think it a terrible thing to overfeed a nursing baby—though no one could state exactly what would happen to him if we did! I do not believe it possible for the stomach of either a breast-fed baby or a bottle-fed baby to be unduly distended by food which he takes of himself; in other words, you can not overfeed a nursing baby. The babies who give trouble because of “indigestion,” “gas,” “wind,” or other causes, are generally those who have not had enough food.

Colic in a nursing baby usually means hunger. He can not be fed too much at a time though he can be fed too often. I think an interval of four hours between feedings better than one of three hours; but at these four-hour feedings he must be fed full. A baby who has had enough food looks satisfied and acts satisfied. A baby not getting enough will cry or suck his thumb, and eventually become underweight and emaciated.

"Green stools" or "curdled stools" should be written on the death certificate of many a baby, for many a baby has been unnecessarily weaned because his stools were green or curdled. I have come to the conclusion that almost every normal baby sometimes has green stools. In my experience also curdled stools are about as common as homogeneous stools. Certainly the appearance of a stool is negligible, if there are no other symptoms. Odor means a great deal more. A number of mothers have told me they could identify by their baby's stools what foods they had had the previous day; but that is quite different from the stool interpretation we used to make. Even Fritz Talbott, who has written as much as any one on this subject, is not now putting nearly so much stress on stool interpretation as he used to do.

(A demonstration of breast feeding and manual expression of breast milk was given with two patients.)

Remember that with manual expression of milk there is no danger of infection, because the fingers do not touch the ostia, or mouths, on the nipple surface; whereas infection by a breast pump is fairly easily caused. Furthermore, the breast pump is not successful if the milk is at all scanty; and the hot stupe is no better. The process in manual expression is exactly the same as that used in milking a cow. Pressure at a distance from the nipple, as in breast massage, will expel some milk, but only from an overdistended breast; and this will give the woman considerable pain. But a direct pressure properly exerted just back of the nipple [indicating] causes no pain. The mother can do this herself. If she hurts herself she will know that she is doing it wrong. Of course one should wash his hands before doing this; but rather for the sake of the baby than for that of the mother.

Now let us get some idea about these two mothers. How old is this baby?

FIRST PATIENT. Seven months.

DOCTOR RICHARDSON. Have you plenty of milk?

FIRST PATIENT. I had plenty at first but not so much later.

DOCTOR RICHARDSON. How often do you nurse the baby and how long at a time?

FIRST PATIENT. At first every three hours, then every four hours. The nursing lasts 20 minutes.

DOCTOR RICHARDSON. Now watch what I am doing. The ball of the thumb and the ball of the finger on opposite sides of the breast, starting at the border of the areola [illustrating]. How many of you can see this? [Expressing milk from the patient's breast.] I find it best to keep my thumb and forefinger dry; but one mother told me she could do it better when hers were wet.

DOCTOR HAINES. Will some one who is conservative estimate the length of that stream of milk? Doctor Holmes, will you?

Doctor HOLMES. Six feet.

Doctor RICHARDSON. When did you nurse the baby before this time?

FIRST PATIENT. At 6 o'clock this morning.

Doctor RICHARDSON. It is now about 4 p. m. If she has been in the habit of going as long as this, she is lucky to have this much. Now let us try the other breast. You see that stream; and I have just begun! If I keep on, it will flow much more freely. Very frequently expressing milk from one breast stimulates the flow from the other. Notice that I use the *ball* of the thumb and the *ball* of the index finger.

Now the second patient. How old is your baby?

SECOND PATIENT. One month.

Doctor RICHARDSON. And you are going to take him off the breast? What is the trouble?

SECOND PATIENT. He is not satisfied with my milk.

Doctor RICHARDSON. He is not satisfied with the *amount* of milk. I find that most nursing babies are not satisfied a good part of the time; hence, colic, crying, and the diagnosis that something is the matter with the milk. Here complementary feeding saves the day. I can divide mothers into three classes: One class consists of those who have plenty of milk, e. g., Italians and colored mothers. The difficulty with these often is to get them to stop nursing after 20 months or 2 years.

The second class consists of those who nearly lose their milk at one time or another, thanks often to the obstetrician and the rest of us doctors, or because of some shock, or because of overfatigue. That is a temporary loss, never a complete permanent disappearance. If we offer them some assistance and give complementary food to the baby for a while, the milk always comes back. The beginning of menstruation frequently is such a critical time. These mothers can be tided over very easily by allowing the baby to take as much of the complementary food as he will.

Remember the amount of complementary feeding is never to be prescribed. This is to be decided solely by the baby. If only one makes sure that the breast is completely emptied, then there is no danger in allowing the baby to take as much of the complementary food as he will. In fact, he should be urged to take all he will, and the feeding should not terminate until he has done so. Underfeeding causes colic; overfeeding never does. In fact, overfeeding is practically impossible, because in the vast majority of instances, a baby will not take too great a quantity of food.

The third class gives difficulty all the time, but the number in it is comparatively small. Now, this mother [indicating the second patient] did not give the baby a square deal. You see, in the first place, that she has a depressed nipple. At about the sixth month she should have begun using the thumb and finger three times a day with the same grip I have shown you, bringing the nipple gently forward and outward, but without pressure [indicating]. Then she would have had no trouble with inverted nipples. You see the milk coming out. Probably she is producing as much milk as the first patient is. Now I want you to do it yourself, like that [indicating to the patient]. Do this 5 or 10 minutes or as long as there is any

milk there, every time the baby gets through nursing, and you will have plenty of milk for him. The other nipple is in about the same condition. Of course, the baby himself is going to be the best corrective for this inverted nipple. This mother, who was about to give up nursing because she had no milk, has an abundance of it, as you have yourselves seen. If she will get all the milk out of the breast after the baby has finished each time she will have plenty for him. Meanwhile she must let him take as much of any good complementary feeding as he will. When you are teaching the patient to do this, stand behind her so as to have your hand in the same position as hers is to be—left hand for right breast, and vice versa [illustrating]. Ask whether you are hurting her. That will show whether you are doing it too vigorously. Soon you will be using a gentle milking motion, as you see, which can be kept up for a long time without fatigue after you become familiar with the motion.

Get over the idea that it pays to analyze milk. An analysis is of no value unless it is made from at least three specimens from every nursing of a whole 24-hour period. The content of the fore milk, the middle milk, and the stripping at the end of a nursing or milking varies greatly; and there are further variations due to the condition of the mother, her diet, her state of fatigue, and all sorts of other things. Hence no analysis is likely to show an average content; and as the milk is likely to be found to be too high or too low in one or another constituent, the nursing is stopped and the baby suffers. The only serious thing ever likely to be wrong with breast milk is the quantity of it.

You may say that this does not fit in with all we have heard about rickets. Granted; but complementary feeding can take care of that possible deficiency. Use cod-liver oil, sunlight, quartz light, one or all three of them; but do not discard breast milk entirely because it is not perfect, nor ignore what there is of it because there is not enough to use as the baby's sole food.

As to complementary feeding, I am so convinced that breast feeding is more than good enough that I think it will make good the defects of almost any milk mixture that may be used with it. Of course, certified milk should be used for making the complementary food. In most cases 1, 2, or 3 ounces of cream should be discarded from the top of the bottle, because the law requires certified milk to have at least 4 per cent fat, and that is too rich for most babies. What is left may be diluted with two-thirds water at first, then half, then one-third, until at six months the milk is used undiluted. If you boil this milk, boil it to cook it and make a smaller curd when digested, not to sterilize it. In Europe they have not worried about curds, because they had to boil the milk as a protective measure; and boiled milk has a very small curd when digested. If we do not boil even clean milk we may have the problem of the big curd.

As a matter of fact, I have given up the one-third milk and two-thirds water. The complementary feeding on which I start a baby is half milk and half water, boiled, as much as he wants. I hesitated about advocating this in public until I found that I rarely addressed a group of doctors when at least one of them did not inform me that he had been doing the same thing, but had not dared to admit that he had been feeding his babies as much as they wanted.

This is the simplest and best way I know to prepare complementary feedings: Take a pint of water. Bring it to the boiling point in an open saucepan. Pour in a pint of cold milk, which, of course, stops the boiling. Bring it again to the boiling point and let it actually boil for three minutes by the clock, though not vigorously. Stir meanwhile so that it does not stick to the pan nor form a skin or pellicle. Then take it off and add whatever sugar you wish to use. I start with two level tablespoonfuls of malt sugar for a quart mixture. (A quart of milk a day is enough for any baby, by the way. When he begins to want more than that he is ready for some additional food.) If on this amount of malt sugar the baby has loose stools, reduce the amount. If he is constipated, increase to three or even more tablespoonfuls to the quart mixture. When the baby is 6 or 7 months old I like to stop using both the sugar and the diluent. Some babies of this age will take as much as 16 ounces when they are very hungry, though they do not hold it all in the stomach at one time. The increased peristalsis pushes it through very rapidly into the duodenum. I constantly tell my mothers to fill their babies up. If they vomit, fill them up again. That sounds rather extreme, but the vomiting of a nursing baby is not due as a rule to indigestion but to an air bubble, as I showed you; or to tightness of diapers or band; or even to quick moving about, or crying. It is a simple mechanical emptying of the stomach, not at all like the disagreeable and painful vomiting of a seasick adult, nor the vomiting of acute gastroenteritis. If the baby does not get any more food after such an emptying of the stomach, he naturally cries and "pulls his little legs up on his stomach," and then people think he has colic and propose to dose him with peppermint waters, camomile, catnip tea, or castor oil, instead of giving him the food he is hungry for and is surely entitled to.

DISCUSSION

MISS GRAHAM. In South Carolina, where many of the people that we work with have no means of taking care of the milk, would you recommend dried milk?

DOCTOR RICHARDSON. Personally I would much prefer a dried milk to a doubtful liquid milk. All the dried-milk companies make a straight dried milk and a partly skimmed dried milk. The only trouble I ever have with milk is the butterfat. I don't think there is anything that will take the place of butterfat; but I don't think you want the overfat milk; and certified milk, or any special-herd milk is, as a rule, 4½ per cent fat, which is too high. If you use one of these dry milks partly skimmed you will be perfectly safe. And remember if you are where you are not sure of your milk, always boil it. But don't let anybody tell you that Pasteurization, boiling, or anything else will take filth out of milk, because it won't. Personally I would not think of drinking anything but certified milk, though I am not excessively wealthy. I have found that patients who would be furious if you asked them whether they got second-class butter or cold-storage eggs, do not seem to see that certified milk is just first-class milk. The commonest question among mothers that I have not converted is, "Well, Doctor, how soon can I take the baby off certified milk?" I always say, "Just as soon as you start buying second-class

butter and third-class eggs and cheap meat. I can tell you where there is a cheap butcher store. Occasionally the butcher drops the meat on the floor, but you are going to cook it anyway, so it doesn't make any difference." The mother gets insulted, of course, and says, "I can pay for anything I need." Then I tell her, "Well, pay for certified milk." There is only one reason that certified milk costs more than other milk—because it is better.

Doctor SCHWEITZER. Are the films that have been shown for sale?

Doctor RICHARDSON. You will have to ask Doctor Gardiner whether those films can be bought. They were made by the New York State Department of Health.

The CHAIRMAN. We have two other topics in connection with the breast-feeding demonstration. I shall ask Doctor Smith, director of the Michigan bureau of child hygiene and public-health nursing, to tell us about the breast-feeding demonstration in that State.

A BREAST-FEEDING SURVEY IN 11 COUNTIES IN MICHIGAN

BY LILLIAN R. SMITH, M. D., DIRECTOR, BUREAU OF CHILD HYGIENE AND PUBLIC-HEALTH NURSING, STATE DEPARTMENT OF HEALTH, MICHIGAN

There is no question that the character of feeding during the first year of life is the main factor in the health destiny of the baby. Although prenatal and natal conditions may largely account for neonatal deaths we must look to difficulties in feeding as the underlying cause of the disorders which result in so many deaths during the later months. The early establishment of breast feeding is of paramount importance * * *. There is no real substitute for mother's milk.¹

Realizing the need of education of mothers as to the importance of breast feeding and its effect on infant mortality and morbidity, the Michigan Department of Health has conducted a series of breast-feeding campaigns in 11 counties in Michigan, which have included a total of 2,082 babies.

The deaths in Michigan in 1925 of 1,742 children under 2 years of age from diarrhea and enteritis alone is sufficient incentive for such an educational campaign, since the incidence of diarrhea and enteritis is much higher in artificially-fed than in breast-fed babies. The bureau of child hygiene of the New York City Department of Health several years ago made a study of deaths from diarrhea and enteritis and found that "17 per cent were exclusively breast fed and 83 per cent artificially fed in whole or in part,"² proving the much greater resistance to this disease on the part of breast-fed babies. Increased resistance to disease of every kind among breast-fed babies is a well-recognized fact.

The survey in Michigan was conducted by nurses in the employ of the Michigan Department of Health. Nurses assigned to this type of duty had a preliminary course in manual expression of breast milk at the clinic for infant feeding in Grand Rapids. They visited nursing mothers with nurses connected with the clinic and observed the manual expression of breast milk by the nurses and by the mothers, and they themselves learned to express the milk so that they might instruct the mothers whom they later visited in other counties. This course proved very valuable, as during the survey not a few mothers of premature babies or babies too weak to nurse were found and the mothers shown how to express the milk and thus give these babies the benefit of breast milk which they otherwise would not have had.

The nurse assigned to a certain county would first visit the physicians in the county and secure their approval of the survey, and next would visit the county and township clerks and get the names of the

¹ Bolt, Richard Arthur, M. D.: "The mortalities of infancy." *Abt's Pediatrics*, vol. 2, p. 36. Philadelphia, 1923.

² Baker, S. Josephine, M. D.: *Child Hygiene*, p. 211. New York, 1925.

parents of all infants born in the county within the past year. Names were also obtained from priests, ministers, cradle rolls, and many were referred by neighbors before they had been reported to the clerks. In this way the nurse was able to get in touch with the mothers of very young babies, and it was on these mothers that she first called, so as to get to them early the information about the value of breast feeding and to instruct the mothers as to their own diet and the care of the baby. Particularly she stressed the great importance of regularity of feeding and of having the baby sleep alone at night so that it would not want or get night feedings. When the supply of milk was insufficient, she spent considerable time with the mother going over her diet and urged the generous use of milk (at least a quart daily) and of corn meal as a cereal. Mothers who were unresponsive at the first call were not urged too much at that time, but literature was left. When the nurse called again she was usually given a much more cordial reception. In many instances she would be questioned about the diet and hygiene of older children in the family. The nurse was supplied with literature, including diet lists for expectant and nursing mothers, breast-feeding schedules, diet lists for older children, recipe books, and dodgers on the care of children. This literature was particularly acceptable in rural districts where health education is not so readily available as in urban districts. The following form was used in obtaining information:

BREAST-FEEDING SURVEY

Name_____

Date of birth_____

Address_____

Nationality of mother_____

Occupation of father_____

How long breast fed_____

Why weaned_____

What is being fed_____

Home conditions_____

Remarks_____

In later campaigns information has also been obtained as to the age of the mother, diet of the mother during pregnancy and lactation (whether good, fair, or poor, and what it lacks), the physical condition of the mother, and whether she was attended by a physician or a midwife, as these factors all have a direct bearing on the ability of the mother to nurse her baby.

In many instances an interpreter was needed; often an older child who had attended school acted in this capacity, or a neighbor was called in.

The following table shows the result of this survey by age groups:

TABLE 1.—Duration of breast feeding, by age of babies

Duration of breast feeding	Number of babies of specified ages						
	Total	Under 1 month	1 month, under 3	3 months, under 6	6 months, under 9	9 months, under 12	Over 1 year
Total number of babies.....	2,082	159	543	612	292	211	265
Breast fed:							
At time of survey.....	1,397	144	450	442	188	101	72
Previous to survey.....	517	6	55	120	76	91	169
Less than 1 month.....	166	6	43	58	23	24	12
1 month, less than 3.....	132		12	48	17	24	31
3 months, less than 6.....	67			14	19	13	21
6 months, less than 9.....	52				17	13	22
9 months, less than 12.....	69					17	52
More than 1 year.....	31						31
Never breast fed.....	168	9	38	50	28	19	24

Of the 2,082 babies surveyed, 1,314 (63 per cent) were under 6 months of age. The mothers of this group had the advantage of being instructed in the benefits of breast feeding and in infant care while the babies were still very young. Of these babies under 6 months of age 1,036 were still breast fed, 181 had been weaned, and 97 had never been breast fed at the time of the survey.

Of the 2,082 surveyed, 168 had never been breast fed, 1,397 were still breast fed, and the remainder were weaned or on artificial feeding. A group of 103 had been breast fed more than one year, and 31 of these had been weaned at the time of the survey. Of the breast-fed babies, 81 per cent were wholly breast fed and 19 per cent were partially breast fed, an encouraging proportion of wholly breast-fed babies. Of those who were weaned or partially breast fed, 331 were receiving cow's milk and 129 were on patented baby foods. This shows that mothers are awakening to the value of cow's milk where breast milk is not available, but much education along these lines is still needed, as the simplicity of the preparation of some of the patented foods as compared with modified cow's milk and the fact that the patented foods keep better in hot weather than cow's milk are strong arguments among mothers in favor of their use.

The following list shows the reasons reported for the babies not being breast fed:

Reasons for not nursing babies	Number of mothers
Total.....	512
Insufficient amount of milk.....	191
Mother ill.....	100
No breast milk.....	57
Milk did not agree with baby.....	43
Milk not of good quality.....	26
Baby ill.....	20
Defective breasts.....	19
Mother pregnant.....	16

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Reasons for not nursing babies	Number of mothers
Baby would not take breast.....	10
Mother dead.....	8
Mother would not nurse baby.....	7
Mother had to work out.....	6
Adopted baby.....	5
Mother did not have time.....	4

The reason most frequently given for the mothers not nursing the baby was an insufficient amount of milk, 191 mothers making this statement. When we consider that many of these 191 mothers could have nursed their babies had they been instructed during the prenatal period as to the effect of diet on lactation during both the prenatal and nursing periods, this group has an added significance. Also, in cases where even proper diet for the mothers did not result in sufficient milk for the baby, if the mothers had been instructed as to the value of breast milk many would have continued breast feeding supplemented by the feeding of modified cow's milk. Adequate prenatal care with proper instruction as to diet would have reduced this group materially.

The reason next in frequency was that the mother was ill. While the question of illness of the mother was not always followed up in detail, overwork of the mother and frequent pregnancies were mentioned as having a possible bearing on many of the cases. Lack of proper prenatal, natal, or postnatal care was also mentioned as a factor in some cases.

That the mother had no breast milk at all was the reason third in frequency, but since this reason was given by the mother and not by the attending physician, it can not be relied upon. Many of these women doubtless had a scanty secretion of breast milk, and the mother either was glad of an excuse not to nurse the baby or was not encouraged to keep on trying and put the baby immediately on artificial feeding. This group, like the first in which insufficient quantity of milk was given as a reason for not nursing, could doubtless have been considerably reduced by proper measures.

That the breast milk did not agree with the baby was the fourth reason given, and we know that the actual number of cases in which breast milk does not agree with a baby is small indeed. Faulty diet of the mother, causing digestive disturbance in the baby, or deficient diet resulting in insufficient amount of breast milk and fretfulness and failure of the baby to gain in weight, were probably the real reasons why this group did not receive breast milk—conditions which could easily be improved with the cooperation of the mother. In the groups for which other reasons were given, as in those already discussed, breast feeding could have been carried on had the mothers been properly instructed.

The accompanying table shows the nationality of the mothers interviewed. American mothers predominated; next in order came French, Finnish, Polish, German, and English. The Finnish mothers nursed their babies longest, 14 per cent of the entire number being breast fed for a year or more. Among the babies of American mothers, the largest group were breast fed between one and three months; most of the American mothers weaned their babies by the end of the eighth month. The proportion of mothers who did not

nurse their babies at all was larger among those of German birth than in any other nationality group, consisting of at least 50 mothers.

TABLE 2.—Nationality of mothers, by duration of breast feeding of babies

Nationality of mothers	Number of babies breast fed for specified periods							
	Total	Never breast fed	Less than 1 month	1 month, less than 3	3 months, less than 6	6 months, less than 9	9 months, less than 12	1 year or more
American.....	1,132	91	171	342	285	149	62	32
French.....	172	21	21	48	38	17	17	10
Finnish.....	147	11	16	32	25	18	26	20
Polish.....	125	14	12	26	33	21	8	11
German.....	109	15	15	27	28	11	8	5
English.....	79	6	11	20	18	8	13	3
Swedish.....	50	3	7	14	11	6	9	4
Irish.....	43	7	6	9	9	—	8	3
Italian.....	23	1	1	7	5	4	3	4
Slavic.....	18	2	3	7	3	2	1	—
Austrian.....	15	3	—	5	2	1	3	1
Miscellaneous.....	206	24	20	62	46	18	18	16

As to home conditions, 14 per cent were poor, 25 per cent fair, and 45 per cent good; in 16 per cent the home conditions were not given.

In the course of the survey many interesting cases were discovered, and the nurses were able to correct some very erroneous ideas and to have valuable contacts with mothers at a time when they were most needed. One history obtained was that of a baby given away by the mother to a middle-aged couple with no idea as to infant care. The baby, which was in the 3 to 6 month period, was being given bananas to control "chin drop." The baby was kept clean, and the adopted mother was apparently grateful for suggestions from the nurse. Another case was that of a baby 1 to 3 months old, breast fed. The baby was fussy, and the mother, who was on a deficient diet, nursed him constantly. After talking with the nurse she promised to put the baby on schedule feeding and to improve her own diet. A premature baby, weighing $2\frac{1}{4}$ pounds, was unable to nurse because of weakness. The mother was taught breast expression and given a demonstration of feeding the baby with a medicine dropper; she was also instructed as to the general care of premature babies. The parents were living in an isolated district where medical advice was not available, and they were most grateful for help.

We had a number of cases of babies who were premature or too weak to nurse at all, or too weak to empty the breast. In these cases manual expression was demonstrated, and in this way the mother was able to give the baby breast milk.

Of course, not all cases were responsive. Many mothers were self-sufficient and did not wish any suggestions. Especially was this true of the mothers of a number of illegitimate children, most of whom were neglected and in poor condition, and not breast fed. The general response was very good, however, and mothers appeared eager for definite information as to the effect of their own diet on their ability to nurse their babies and seemed to appreciate the advantages of breast feeding when these were pointed out. The nurse stayed long enough in a county so that it was generally known why she was there, and she did not stop with one call on each mother but returned,

in some cases many times, to be sure her recommendations were being carried out.

Particularly encouraging has been the cooperation of physicians. In some cases certain physicians were, if not antagonistic, at least indifferent at first. A physician in a northern county laughed at the idea of a breast-feeding survey, but before the nurse left the county he was referring his newborn babies to her and urging her to see the mothers at once, and in some cases where breast feeding could not be carried out he instructed the nurse to demonstrate to the mother how to prepare artificial feeding.

Encouraged by the results of this survey, the Michigan Department of Health plans to do more work of this type in an effort to educate the mothers of the State as to the far-reaching effects of breast feeding on the present and future health of the baby.

I might add that we were able to check up very nicely on our birth registration with the mothers. The young mothers were asked whether or not they had received a certificate of birth registration. If they had not received it within about six weeks or two months, that meant either that the birth had not been reported at all or that it had not been reported properly, and the mothers were instructed to write to the health department inquiring whether or not the birth had been reported, or to take it up with the attending physician. We found that this improved our birth registration in those counties.

The CHAIRMAN. Doctor Boynton, director of the Minnesota division of child hygiene, will tell us of the pioneer work in Minnesota.

DISCUSSION

Doctor BOYNTON. The breast-feeding demonstration in Minneapolis in 1919 and 1920 was conceived, planned, and supervised by the late Dr. J. P. Sedgwick, then head of the department of pediatrics of the University of Minnesota Medical School. In a paper presented in 1912 at the third annual meeting of the American Association for the Study and Prevention of Infant Mortality he had stated that "Maternal feeding should be the keystone of the propaganda for the prevention of infant mortality," and had presented the results of an investigation made by questionnaires sent to the physicians of Minnesota and to all physicians registered for the section on diseases of children at the American Medical Association meeting. His purpose was to ascertain how many of their own children had been breast fed, and how long. He found that 82 per cent of the children of the first group mentioned and 78 per cent of those of the second had been nursed more than three months, and he concluded that the percentage of wives of American physicians nursing their children three months or longer was greater than that of wives of laymen. Doctor Sedgwick pointed out further that the fundamental requirement for the stimulation and the continuation of the milk flow is the complete and regularly repeated evacuation of the breasts. Though the idea and technique of manual expression were comparatively new at that time, this method of evacuation of the breasts was soon advocated.

Several years before the Minneapolis demonstration it had been shown at the clinic for newborn at the University of Minnesota that the amount of breast milk could be increased through regular nursing and breast expression. Doctor Sedgwick cites cases in which regular

stimulation of the breasts by the baby and manual expression reestablished lactation for mothers who had ceased nursing their babies for a period of four to even nine weeks.

The first step in the breast-feeding demonstration was the formation of a so-called "breast-feeding investigation bureau," in the department of pediatrics of the university. I may summarize the description of its organization and methods presented by Doctor Sedgwick at the 1912 meeting of the American Public Health Association:

Every physician in the city was written to and invited to visit the university, where the purpose of the bureau was carefully explained. Representatives were sent to lay details of the problem before physicians with whom communication at the bureau was not possible. It was emphasized that no physician in private practice would be employed in this work, and the special desire expressed by any physician was recorded in a card-index file. Some physicians preferred to carry out the bureau's directions through their own offices instead of having their patients seen by representatives of the bureau. After several months a representative called on all the physicians to ask whether the bureau was embarrassing them in any way and to request suggestions for preventing any such embarrassment. The municipal health department and the Infant Welfare Society cooperated, and the press gave hearty support. The expense for the year's study (about \$7,000) was met by the graduate school of the university, the war chest, and individuals. The method of work was as follows:

1. The health department reported daily the names and addresses of newborn infants and the names of the attending physicians or midwives. These were recorded immediately on cards.

2. A social worker called on each mother (usually within three weeks after the birth) to obtain a brief history of the baby and the other children, including the duration of breast feeding and the reason for discontinuance if it occurred before the ninth month. If difficulty in nursing the baby was reported the bureau at once communicated with the attending physician; if he gave permission a nurse visited the patient and an attempt was made to correct the difficulty.

3. When the baby was 6 weeks old and nine times thereafter at monthly intervals a card bearing the following questions was mailed to the mother:

Is your baby still breast fed?

How often do you feed him?

Does he receive the breast only?

Are you having difficulty nursing the baby? If so, what?

If he is not breast fed, when and why did you stop?

How long was the baby breast fed?

4. The visiting nurse made a second call on the mother when the baby was 2 months old, as it was at this time that mothers were most discouraged and inclined to wean their babies. After they appreciated the desirability of continuing the breast feeding it was seldom necessary to do more than urge that regular demands upon the breast be continued and to stress the necessity of complete emptying at each nursing. The failure to use the mammary gland regularly and completely is unquestionably the most common and most potent cause for its failure to function.

Of the babies born in the first five months of 1919, 72 per cent were on the breast at the end of the ninth month, 80 per cent at the end of the seventh month, 86 per cent at the end of the fifth month, 93 per cent at the end of the third month, and 96 per cent at the end of the second month. The infant mortality rate in the city, which had never been lower than 72, fell to 65 in 1919; and the figures for 1920 were still more encouraging.

After the demonstration was concluded the Infant Welfare Society was able to continue the work to the extent of sending a nurse to visit every baby born in the city until January 1, 1925. The percentage of babies breast fed two to nine months or more among the 807 studied in 1919, the 867 studied in 1920, and the 859 visited by the society in 1924, as compiled by the society's executive secretary, are shown in the accompanying table. The table also gives figures for 1926, furnished by the Infant Welfare Society, applying to 865 babies.

This demonstration has shown that education of the mothers will increase the proportion of breast-fed babies and that such education can be accomplished in a large community.

TABLE 3.—Percentage of breast-fed babies among groups of babies in Minneapolis, Minn., by duration of the breast-feeding period

Duration of breast feeding	Percentage of babies breast fed in—			
	1919	1920	1924	1926
2 months.....	98	98	97	91
4 months.....	91	93	85	82
6 months.....	86	89	78	75
8 months.....	80	84	69	68
9 months or more.....	78	81	63	64

The CHAIRMAN. In my judgment there is absolutely nothing more important than educating the people and the physicians, the mothers, everyone concerned, as to the importance of breast feeding. That is my belief, and I hope you will go away with that feeling also. We hope the little breast-feeding folder, on which Doctor Anderson has worked very hard and which Doctor Richardson has approved, will prove useful to you.

Miss Agnes K. Hanna, director of the social-service division of the Children's Bureau, will present the next topic, teaching child care to groups of girls and women. It is not the usual method of teaching child care that she is going to present. I think you will be very glad to hear her report also on a field trip that she made last summer to some of the States in New England and in the Middle West to observe your work, when she was detailed to the maternity and infant-hygiene division of the Children's Bureau.

ANALYSES OF CHILD-CARE TEACHING IN MOTHERS' CLASSES AND LITTLE MOTHERS' CLASSES

BY AGNES K. HANNA, DIRECTOR, SOCIAL-SERVICE DIVISION, CHILDREN'S BUREAU, UNITED STATES DEPARTMENT OF LABOR

There is general agreement among public-health workers that teaching is one of the major activities of every public-health agency. Important as is research in health matters to the development of an adequate health service, it is of almost equal importance that the findings of research be presented to the layman in the most effective way.

Although this teaching function of public-health agents is granted, we are not agreed as to how the actual teaching should be done. There are many of you who feel that aside from a certain amount of general information presented in lectures or in the literature you produce, most of the teaching of the physician and nurse should be individual teaching, consisting of instruction given to the mother when she is with either the physician or the nurse. On the other hand, many of you feel that in addition to this individual contact you really need group contacts. By teaching groups of mothers it is possible to reach a larger number of persons and also to bring about a realization of common problems and common interests in the group which should lead to greater community activity.

As several of the State departments have undertaken some type of group teaching for mothers and for girls of school age, the Children's Bureau sent me last spring to make a preliminary study of the types of instruction in child care that was being given in mothers' classes and little mothers' classes, and also to study the agencies giving such instruction. In each State visited contacts were made with State agencies that might be providing such work—the bureau of child hygiene, vocational-education board, and extension service of the college of agriculture. In the cities as many private and public agencies as could be found were also visited. It was evident in every State that interest in teaching child care to girls and women was increasing and that many different agencies were attempting such work. These agencies might be classified into three groups: Schools, agencies interested in forming club groups for women, and health agencies.

It seems to me that the responsibility of State departments of child hygiene toward the development of child-care teaching is twofold: First, to provide the study materials and expert advice to school officials or to leaders of groups studying child care either in the schools or in women's clubs; second, to provide actual instruction to groups of women who may be interested in coming together for this purpose.

Schools.

Teaching child care to girls of school age was originally an extra-school activity. It was taught by public-health nurses either in

settlements or in the school after school hours, its purpose being to give help to the little girls who were actually caring for their younger brothers and sisters. The first piece of work of this type was initiated about 20 years ago by Dr. S. Josephine Baker, who called these classes little mothers' leagues. There has been a marked change, however, in the point of view toward this type of work. Health agencies are no longer thinking of little mothers' classes as a means of giving better care to younger brothers and sisters. This is being accomplished more effectively by contacts with the mothers of these children. It is the education of the girl herself, a potential mother, with which they are concerned.

The schools also are realizing that child-care topics provide a new approach to the study of personal hygiene or of home problems. As a result of such thinking there is a steadily growing tendency for the schools to include child-care topics as part of the regular curriculum.

There are two different types of courses in child care that may be found in the schools. The junior courses are a direct outgrowth of the little mothers' league work and cover usually 10 to 20 lessons concerned primarily with the physical care of the infant and the pre-school child. This course is given either to girls of the seventh, eighth, and ninth grades or in a continuation school. The senior courses are offered to the more mature students in the eleventh and twelfth grades. Such courses include the study of child psychology and child management as well as the physical care of children and may include a study of reproduction and care of the expectant mother.

In the localities visited in this preliminary survey there was much variation in the extent to which the schools were providing child-care courses and in the persons teaching these courses. In some cities courses in child care have been given in a few schools as the result of the interest and initiative of individual teachers, whereas in others the study of child care is a required topic. Junior courses were being taught by grade teachers, by home-economics teachers, or by nurses. Senior courses were invariably taught by home-economics teachers. Most of the State departments visited knew of individual pieces of work that had been done by teachers, nurses, or home demonstration agents under their supervision or direction, but only one State (Wisconsin) had attempted a complete state-wide plan for incorporating child care as a recognized part of the school curriculum.

The teaching of child care to girls of school age should be a school activity. One of the important activities of State departments of child hygiene should be to interest school authorities in child-care teaching and to help in the development of adequate teaching by providing authoritative teaching material and training classes for teachers in the normal schools and in service. In each of the States visited the department had given some work in the normal schools, and in most States study materials had been prepared or were being prepared. In several States, however, the State nurses, not the teachers, were actually teaching the children. The use of the State nurse as a teacher in the school is of value only as a demonstration.

An analysis of the outlines for junior courses in child care (little mothers' classes) prepared by several State departments shows that

there is much difference of opinion among the writers of such courses as to the topics to be included, the emphasis given to different topics, and the sequence in which they have been presented. Some States have outlined short courses concerned primarily with the care of the baby; others have planned courses that combine lessons on personal and community hygiene with lessons on child care. Minnesota, for example, has 6 lessons on personal hygiene as part of a 20-lesson course, whereas in the 18-lesson course prepared by Wisconsin no such general hygiene lessons are given. In the Minnesota course these lessons are placed in the beginning, whereas in New York the single lesson on personal hygiene is given almost at the end of the course. Since the study of child care may be considered as an integral part of either the general health education of a school or the home-economics course, the person writing the study material for school use should consider such correlations with great care.

Self-directed study groups.

Self-directed study groups consist of groups of women who have undertaken to study some aspect of child care under the leadership of some one chosen from among their number. Such study groups have three needs: Well-planned study material, an effective leader, and some interested agency that will give expert advice and direction to their work and help in the procuring of adequate and authoritative study material. There are several national agencies interested in the development of child-care study clubs.¹ Cooperation with all these agencies is most desirable. Members of the staff of the State child-hygiene department can easily find out what groups in the community are being reached by these agencies and should interest the women that they meet in organizing for study.

A large number of the child-study groups that have been formed have given their attention primarily to the study of child behavior and management rather than to the problems of the physical development of children and child hygiene. If interesting study outlines and study material on these topics are prepared by health agencies, more attention will be paid in club groups to the health aspects of child care.

Classes and lectures for mothers.

The two types of group work that we have been considering are those in which the interest of the State child-hygiene department is largely that of a cooperating agency. Classes and lectures for mothers, however, are quite generally considered as direct activities of the State staff.

The terms lectures and classes are used interchangeably by many persons. Actually these two methods of instruction represent quite different types of work, serving different purposes. The purpose of class work is to improve the practices of a mother as well as to give information. Some activity should be required from the mother, and the topics studied should be related to her particular need or to the

¹ The Federal Board for Vocational Education cooperating with the State departments of education; the extension service of the Department of Agriculture, Washington, D. C., cooperating with the State colleges of agriculture; National Congress of Parents and Teachers (Inc.), 1201 I Street NW., Washington, D. C.; American Association of University Women, 1634 I Street NW., Washington, D. C.; Child Study Association of America, 242 West 76th Street, New York, N. Y.

needs of the whole class. Furthermore, class work necessitates lesson material to guide the mother's thinking and to provide projects on which she can work. The purpose of a lecture, on the contrary, is primarily to create interest. It also is a means of giving information, but it is the desire to do something or to know something that is the real objective toward which the lecturer should work.

If you will think back over your own experience as an auditor at lectures given by various persons, you will doubtless realize that in many cases you were a passive listener more or less interested, possibly more or less bored. Other lecturers, usually those talking about something on which you have been working, have started you to thinking and adjusting your ideas. A still smaller number may have aroused you to do something—change your own behavior or do some piece of constructive work. The real measure of the value of a lecture is not the number of listeners, but the extent to which the listeners have been inspired to do something.

Lectures on health topics should have as their purpose either to arouse a desire to get accurate health information or to arouse a desire to get adequate health facilities. This should be firmly borne in mind when planning a lecture program for a given community. Decide what the community needs and direct your lectures to that end. A desire for permanent centers, itinerant clinics, or a community nurse is not aroused by a general health talk, nor is a desire to study child care created necessarily by a purely informational lecture.

In a class as contrasted with a lecture it is the contributions of the members of the class rather than those of the teacher that are important. The real problem of the teacher is to help the members of the class to think clearly about the problems under discussion and to adjust their ideas to the new idea that she wishes to present. This means that every member of the class must talk about her ideas. How can this be done? How can you make class work an active exchange of ideas in which every mother participates but where no one gives a long-drawn-out story of her experiences? The answer to these questions lies partly at least in the use of the proper type of lesson materials. If a group of people are given a practical piece of work to try out, especially if each person experiments at home, there is usually no difficulty in getting a definite expression of opinion from everyone as to the difficulties, values, or desirability of the project which was undertaken.

The most satisfactory method of starting class work in a group of women who have come together to study child-care problems is to give out at the first meeting a questionnaire to be checked. This questionnaire should provide space for entering some information about the child or children that the mothers wish to study, such as: His name, age, when last physical examination was given. It should also have a list of possible problems with which the mothers might be concerned. The mothers should be asked to check the ones which they would like to study. This procedure will give the teacher real information as to the mother's needs and interests and should serve as the basis for the selection of topics. The problems of a mother with her first baby are quite different from those of a mother with both preschool and older children. It is always desirable, therefore, to

make some plan for meeting in separate groups or subgroups the mothers having similar problems. It is possible to hold the interest of mothers in class meetings, even though their problems are different, if the lesson materials that are distributed are adapted to the individual needs.

Lesson materials.

These, then, are the essential characteristics of lesson materials for class work: (1) Lesson materials must outline something for each person to do. Several suggestions should be made, such as to observe a child's actions or habits, to study his posture or color, to select from a list the best method of procedure in a given selection. (2) They should be planned for small units of instruction. It is better to study one or two things intensively than to be satisfied with half-formed general ideas. (3) They should contain exact, definite information about the problems to be studied. This information should be planned to answer the many questions that may arise in the mother's thinking and give her simple yet accurate explanation of the reasons for carrying out a definite procedure in the care of the child. (4) They should be so simply expressed that they can be used at home by the mother without much explanation. If study materials on a topic are given out at the meeting that precedes the discussion the members of the class will have time to try out the ideas that they contain and be ready to express their opinions at the next meeting.

Lesson materials that fulfill these several conditions should be prepared on every topic that concerns the care of children. The Children's Bureau is planning to complete a series of 40 or 50 lessons on some of the most important topics—physical condition, child hygiene, prenatal care, and child management. This should be only a beginning in the preparation of materials of this type, however, as the lesson materials to be used in a class for mothers should be adapted to the particular needs of the individual mothers and these will vary with the ages of the children and the customs of the groups. Problems must be real to a mother to make her try to understand the reason for changing her own practices. And it is the mother who sees the reasons for things that will be intelligent in the care of her children.

Lesson materials may be used in several ways by the physician or nurse meeting groups of women—in regular class work, as supplementary to lectures, and for distribution to mothers who are attending weekly child-health conferences. Many health agencies feel that they do not have a staff that is equipped to undertake regular class work for mothers, the lecture being the only teaching method in which they have had experience. As a transition toward class teaching it might be desirable to arrange a lecture series that would cover a number of topics included in available lesson materials and distribute these materials to the audience. This would provide something definite and tangible for the mothers to take home with them and would probably start many to really working on their problems. The distribution of lesson material at health centers is probably the best method of using those materials for the doctors or nurse whose activities in the centers and in home visits make it impossible to undertake regular classes. Many of the advantages of group work may

be obtained even under these conditions if the same lesson materials are given out to all the mothers attending the conference. This would provide a common topic of conversation among neighbors, and the questions of the mothers could be answered by the nurse or the physician when she again attended the centers. This method is most valuable when the mothers attend with some regularity.

Recommendations for the furthering of group teaching in child care:

1. Group teaching is an important aspect of a State maternity and infancy program, and a definite policy in regard to such work should be developed in each State. Effective group teaching can not be carried out in a sporadic way. It must be made a definite part of the permanent program of communities.

2. The appointment of an educational specialist to prepare materials and to develop group organization should be of great assistance in furthering such a plan.

3. The most effective method of developing training in child care for girls of school age is through state-wide cooperation with the State department of education.

4. Lectures, classes, and self-directed study clubs represent three stages of group education for mothers. Each of these types of work serves a particular function—lectures stimulate a desire for study, classes teach the method of studying child-care topics, and clubs provide more extended opportunities for mothers who are able to carry out a more comprehensive plan.

5. The development of group instruction for mothers in any community can be given greater impetus by cooperation with all other agencies that are working for the establishment of study groups.

DISCUSSION

The CHAIRMAN. Miss Miriam Birdseye, of the Bureau of Home Economics of the Department of Agriculture, will discuss this paper. We are very glad to have Miss Birdseye with us because so many of you are having help from the home-economics group, and if we can get more help in this educational work and relieve some of these county nurses we want to know about it.

MISS BIRDSEYE. I think I ought to say that I come not only from the Bureau of Home Economics of the Department of Agriculture but also from the extension service of the department. With such a group as this it is not necessary to explain very much about the extension work, because I am sure every one of you has had contact with the State or county extension people. I know, too, that our people feel that the divisions of child hygiene and the county nurses are among their best friends and closest cooperators and that the work that is very near to our hearts is in many cases exactly the kind of work that you are doing. I see, for example, that you use the food standards from which a good deal of our nutrition work starts.

Almost from the beginning the extension service has been working with organized groups of women, of home makers; we have had what Miss Hanna has called "self-directed study clubs." We call them home demonstration clubs. Where we do not have permanent clubs we have "project groups," which come together for meetings on one particular line of work, such as food selection or special feeding for preschool children or child management. This is usually a series of four to six meetings, winding up, if possible, with a meeting at which the people can show their friends what they have done—what in many States they are calling a "county achievement day." The people work long enough to see results, and then partly by exhibits, partly by interesting stunts, they not only reinforce their own enthusiasm but interest friends and other onlookers.

I have just come back from a field trip during which I attended such a meeting in the central part of Minnesota. Though there was snow on the ground and more falling, about 300 people had come to this county achievement day, the climax of five meetings. Twenty-two communities had been carrying on the work, and 20 of them had made posters or other exhibits, which were on the armory walls. Some of these posters and some others are out here in the hall with the label of the University of Minnesota above them. These posters embody the ideas that had been given to these women; you will notice that they include something about breast feeding and something about sunshine. Each community had been asked to have two demonstration babies, for whom they had kept a record of weight and of improvement in diet and hygiene, and they brought these records with them to this final meeting. So we find that it is possible to get women to work for several months and to make a report that will influence other people. We measure the success of our teaching very definitely: First, by the practices that people adopt and continue to use; second, by the number of people that they reach with this information; and, third, by the actual demonstrations that they make to the community, such as the children who may be particularly watched in connection with the work of the classes.

The extension service is working with the feeding of the family, and you can not talk about feeding the family without thinking about the children and about the mother, especially if there is going to be another child. We are doing very little work in the actual physical care of the child, except the fundamental things like sunshine and regular sleep and plenty of rest and good sensible hours and the schedule that the State recommends. But there is much that a nurse might do in the groups already formed; she might carry on for two or three meetings beyond a series already scheduled or she might like to have a composite series, part of it handled by the home demonstration agent or the nutrition specialist, and part by herself. It seems to me that this is one phase of the help we need, and it is, perhaps, help that you would like to give.

In our girls' clubs little work is being done with the care of children, except for the food and the sunshine; but our girls are organized, many of them, to take up the preparation and selection of foods. It is very natural in this connection to discuss how the meals that the girls are planning may be adapted for the younger children. So these girls are doing a good deal to influence the proper feeding of the younger members of the family.

One thing the extension people can do which many organizations can not is to give attention to the actual food supply on the farm. It may be all right to say, "The child should have spinach and this and that and the other thing"; but if this food is not on the farm, the farm child is not going to get it. The extension service is emphasizing the necessity for a proper food supply on the farm with reference to a definite food-selection standard, which calls for milk, vegetables, whole-grain foods, a moderate amount of protein, plenty of liquid, and raw fruits or vegetables daily.

We have found it hard to interest a group of people in the feeding of children as a special problem. They think the children are getting along well enough, so what is the use of fussing? We have been thinking and saying and acting that if we could hold up to the average parent the picture of a child just as fine as a child could possibly be—properly built, with no signs of rickets and with every sign of a body mechanism in good working order, with good nutrition and good circulation, with freedom from all preventable defects—so that parents would always have this picture in their minds as they looked at their own children, they would be much more ready to listen to suggestions on child care and child feeding. So we are trying for the thing which Miss Hanna was speaking about, to discuss with them the points to work for in children. And here we need the intelligent help of physicians who have the point of view not simply of mending but of building intelligently for the best that is possible. We often need help at a State or county meeting to demonstrate some perfect child for a group of leading women who are going back into their own communities. I had an invitation this week, which I could not accept, to be at the University of Missouri during farmer's week and to demonstrate before a group of representative women the best children to be found in the city, showing the points that indicate good growth, a body in good running order, and good posture.

We are trying to teach our boys and girls in the clubs to be their own exhibits. We are trying not only to teach them good food habits and good health habits along accepted lines but to show them that many qualities of the finest human being are just the same as those of animals that are being prepared for exhibit.

Many of you know that we are promoting health contests. There is much to be said for and against health contests, and the way they are being carried on now is not so good as the way I hope they will be carried on shortly. I have just come back from the National 4-H Health Contest in Chicago, where 22 States sent their "health champions," the ones who made the best showing in the State health contests. I have seen the tremendous amount of work that those children were interested to do to put themselves in shape for this contest, working for better posture, working with their feet, improving their habits, improving their color, having their teeth put in perfect condition, and doing all kinds of other things to improve themselves. Some boys and girls 17 and 18 years of age had been working at it for a couple of years, and they are having a good deal of influence on the boys and girls back home. From these children who enter the contests we want to select the specimens that we have been speaking about.

See this lovely picture of the two girls, one from Iowa and one from Mississippi, who tied this year at 98.4 per cent [exhibiting photograph]. We do not like the idea of percentages, but that is the way it seems necessary to handle the contests. Both the girls had been working for this contest for two years. This girl from Mississippi is from a county which for three years has sent out the highest-scoring girl. In the four years of these contests Iowa and Mississippi have tied once and in the three others they have divided the honors. It is interesting that 98 per cent of the club members in the county from which this Mississippi girl comes are having a physical examination this year, and all the school children had a physical examination as a result of the interest that the girls' 4-H clubs had created. And the county medical association is helping. The people want the children in their county to win, and by and by they are going to want every child in the county and the children that are coming along in the next generation to be as fine as the best.

What we need to help in this work is somebody that we can call on from the State department of health to give a demonstration of one of these perfect children at the State fair or the county fair or some big meeting. Many of our extension specialists in nutrition are prepared to give it, but many of them are not. If we call on some physician from the department of health to show the people the points that these fine specimens exemplify, I think it would have a splendid influence not only on the women but on the men. This is just one of the many avenues of cooperation which I have been glad to speak about to-day.

(Meeting adjourned.)

THURSDAY, JANUARY 13—MORNING SESSION

S. JOSEPHINE BAKER, M. D., PRESIDING

The CHAIRMAN. I am going to claim the privilege, now that I have the floor, of speaking just for one minute before I read my paper, about the papers yesterday—Miss Hanna's in relation to teaching girls and mothers and Doctor Richardson's on breast feeding.

I wish to call attention to the part of Miss Hanna's paper about the teaching of young girls. The little mothers' leagues were started originally simply because it was clearly evident that in our cities at least the young girls were the greatest causes of infant mortality, though quite unwittingly. If they were one of the great causes of infant mortality—showing they did not know how to take care of their little brothers and sisters—it seemed wise to make them one of the aids in reducing infant mortality. In the very beginning we went to the public schools and asked them to put in these courses. They all refused. In New York they are still refusing. And while I do not feel that the little mothers' leagues are in any sense to be taken as better than the courses in the schools, they are, for the present moment at least, the only thing that we can do in some parts of the country. Some of the large cities have introduced courses in child care in the seventh or eighth grade, as Miss Hanna says; but by and large through the country this is a movement that comes along slowly. I should be glad to see the time when the little mothers'

leagues go out of existence because the training in child care has been made part of our regular school curriculum; but at present we have in the little mothers' leagues one of the greatest weapons at our command in the reduction of the baby death rate, because, after all, what we are doing is laying a basis for a sound motherhood as well as for the immediate results. And if the basis of all of our efforts is education, as I believe it is, the time to start education is the time when the child or young person takes it as part of her ordinary training. Therefore I do hope that these classes for the teaching of girls will go on.

Just to throw a little side light on the question of breast feeding I might say that when we started our child-health centers in New York City, as far as I can recollect we did not have at the centers a single breast-fed baby. When I left New York three years ago, 65 per cent of the mothers that came to the child-health centers were nursing their babies and came simply for instruction. Without question that has played a very large part in the reduction of the baby death rate in New York City.

Another point which Doctor Richardson took up and which I should like to speak about from experience is the use of simple milk dilutions when artificial feeding is necessary. I have a very strong feeling indeed that most of us do not get the results that we are aiming for because of the complexity of our organization; and if my experience is worth anything at all I should like to hand it over to you and say that we have succeeded always in proportion as we have simplified our methods. The more simple our milk feedings are the more effective are our results; simply a dilution of milk in water, depending upon the age of the child—one-third, one-half, or two-thirds with the necessary milk sugar or malt sugar added—has proved absolutely proper and now I believe is indorsed by most of the pediatricians. It is a long way from the old percentage feeding of my college days and Doctor Roach's idea, when we lay awake nights considering how to work out the percentages for every individual baby—it is a long way from that to the method of simply adding water to the milk and giving it to the baby, but it seems to work as well or, if anything, better.

The particular topic this morning which I am going to present to you is one that I am perfectly aware is as dry as dust, and I think that nothing could be a more thankless task than to read a paper on cost-accounting systems or on statistics. But I may say that although the paper has a statistical basis I am going to spare you the statistics just as far as I can and try to see whether we will bring out a discussion of your individual problems in regard to costs.

A POSSIBLE COST-ACCOUNTING SYSTEM ON SEPARATE ITEMS OF WORK CARRIED ON UNDER THE MATERNITY AND INFANCY ACT

BY S. JOSEPHINE BAKER, M. D., CONSULTANT, CHILDREN'S BUREAU,
UNITED STATES DEPARTMENT OF LABOR

At the third annual conference of directors in charge of the administration of the maternity and infancy act in the States, held in Washington in January, 1926, a resolution was adopted requesting the Chief of the Children's Bureau to appoint a committee to take under consideration the determination of a proper cost-accounting system for separate items of work. In order to obtain the necessary data, a letter and a questionnaire were sent to the director of each State division of child hygiene cooperating with the Children's Bureau under the provisions of the act. Forty of the States have answered these letters and filled out the questionnaire. One reply was received too late for tabulation. The three States not replying were apparently unable to furnish the information asked for, because of the short time that they have been administering the provisions of the act.

Before considering the information given in these letters and in the questionnaires, I wish to express to the State directors my sincere appreciation of the time and effort that they have given in answering these questions. The predominant impression I have received in reading the answers to my inquiry has been one of work carried on under great difficulty of administration, with limited appropriations, and in the face of obstacles that at times have seemed almost unsurmountable.

Almost without exception the problem faced in the States is a rural one involving the question of transportation over great distances. One State (New Mexico) reported the necessity of one of its nurses making a trip of 220 miles each way in order to conduct a baby-welfare conference, while the director of the division of child hygiene of New York State gives us her opinion that "good roads and good snow removal could well be a part of the child-hygiene program." But another impression that comes from reading these reports is that each State has certain problems that differ from those existing in other States. Thus the Southwestern States call attention to the difficulties encountered owing to the migratory character of their population, with the need of adjustment of methods to meet the particular problem presented by a population mostly Mexican in origin. The Northeastern States practically all mention their large alien population, involving the administrative consideration of the race habits and customs of many nationalities. Throughout the Southeast the problem of the ignorant and untrained midwife is a predominant one, and the high maternal and infant death rates

among the negro population claim earnest and serious consideration. On the other hand, the States of the great Northwest, with their vast territory and their comparatively small population, have little or no concern with the midwife, who seemingly is not employed to any extent. But these States have to meet the problem of long distances to be covered and the proper expenditure of an appropriation which is based on population and not on the extent of territory to be served.

Though different sections of the country show, in this way, what may be called a group problem, we still find that each State is confronting certain difficulties of administration, which from the point of view of that State seem individual. Before considering these differences, however, it is of interest to mention the similarities that exist. Nearly all the States feel the pressing need of larger appropriations, if effective work is to be carried on, and practically all report that it is impossible to cover more than a small part of the field and to meet more than a minor part of the need with the money now available for this purpose. There is evidence that the State directors are keenly alive to the need for more extensive and widespread work in bettering the conditions of mothers, babies, and young children, and they are attempting to reach as large a part of the population needing this attention as may be possible.

One of the questions asked in the inquiry related to the State director's impression of the most important part of the activities of that particular State. The answers can be grouped roughly as follows: Nine States report that general health education of the public is the most insistent need. Eight States mention the necessity of extending their work in prenatal instruction and care, and three States report the supervision of midwives as their most important problem. In the remaining 19 States the most urgent needs were as follows: Extension of work for the prevention of infant mortality, 3 States; preschool work, 1 State; lectures on obstetrics before medical societies and in medical colleges, 3 States; little mothers' leagues, or their equivalent, as courses of instruction to girls in elementary and high schools, 5 States; the extension of cooperative work in the counties on a 50-50 basis of appropriations between the State and the county, 7 States. It should be understood that these were given as the most pressing needs for immediate attention and that many of the State directors did not confine themselves to one item. The more individual problems presented by the States can not receive detailed consideration at this time, but it is interesting to note that in practically every instance the type of work that each State feels is of the first importance is reflected in the proportion of the appropriation spent for this particular purpose.

In this connection I wish to mention the human, as opposed to the merely statistical, impression given by these reports from the States. We are all agreed, I am sure, that no effort can be maintained under Government or other auspices that is so essentially human as well as humane as this work for the conservation of the health and life of the mothers, babies, and children of this country. To speak of life-saving in terms of money, therefore, may well be an anachronism; but for the purpose of effective work, I know we are equally agreed that intelligent economy in money expenditure is essential. In all probability it will never be possible to determine

in terms of dollars and cents either the value of a human life or the cost of saving it. It is this human element that makes our task at once so difficult and so inspiring. If inspiration was the only quality needed to make our efforts wholly effective, I am confident that our problems would vanish overnight. But from the point of view of our administrative programs, it is not only necessary but also enormously helpful for us to take account of one another's problems and to profit by one another's experiences. Our purpose, therefore, is to determine as far as we may, from the practical experience of each State, the most economical and effective way of spending money in order to achieve our purpose of improving the health, and consequently reducing the death rate of mothers and young children.

Running throughout the reports from the States, one can find evidences of expenditures which seem to fall into two well-defined classes: First, the use of appropriations for the purpose of intensive work directed toward the immediate saving of lives, and, second, the expenditure of funds in such a manner that, though life-saving may not be the immediate result, it will become more definitely assured in the future. These two methods seem so well defined that it may be well to discuss them a little more in detail.

By the expenditure of money for immediate life-saving we mean the more intensive type of work which concerns itself with instruction and care of the individual mother and her baby. With limited appropriations efforts of this type are necessarily restricted in scope. The licensing and supervision of midwives, detailed prenatal care and instruction, the establishment of baby-health centers with regular and continued supervision of the babies and education of mothers in methods of baby care, the physical examination and continued health supervision of children of preschool age, the establishment of either permanent or itinerant clinics for correction of physical defects, and similar types of intensive and direct work may be classified under this heading. Efforts of this kind must necessarily be confined to a limited number of mothers and babies. While our methods for this type of work are well established and almost standardized, the unit costs vary to a great extent. We may assume that unit costs for this work may be as definitely standardized as our methods have been; but the factors of population density, areas to be covered, the number of mothers and babies who can be reached within any given limit of time, and the complicated elements of ignorance or social and racial maladjustment provide a background which is so complex that it has not yet been possible for us to speak of standardized unit costs for this type of work with any degree of assurance or finality.

The second method, which has been considered preferable by a number of the States, is that of general public-health education. Its purpose is to provide for the widespread dissemination of the methods to be followed for the proper hygiene of maternity and infancy. Its aim is to reach not only all the mothers and babies of the State who would otherwise be without this instruction and resulting care but also to build up a body of well-informed public opinion which will cooperate in furthering the reduction of the maternal and infant death rates and give assurance of better health for all mothers, babies, and young children. Methods of this type include widespread

publicity, the use of articles in newspapers regarding the health of mothers and babies, dissemination of literature outlining the detailed methods of maternal and infant hygiene, the introduction into the elementary schools, high schools, and colleges of courses on personal hygiene and the hygiene of infancy, cooperative efforts of medical societies and medical schools in order to obtain better obstetrical teaching and practice, and cooperative work with the medical profession. We may also include lectures given before organizations or clubs of both men and women, child-health days or weeks and the use of farm bureaus, agricultural units, home-economics groups, and parent-teacher associations. Work of this type, based on the idea of universal public-health education, may not, and usually does not, result in any immediate reduction of the maternal or infant death rates. On the other hand, it is definitely cumulative, and, when tried over a sufficiently long period of time, has been found to be more lasting in its effect upon health betterment and reduction of death rates than the possibly more costly, yet more immediate, intensive work. In this connection, it seems fair to state that while the direct health education of mothers and direct care of babies is more immediately effective within the group under supervision, the appropriation for each State is now so limited that this intensive work rarely makes a marked impression upon these death rates in the State as a whole. It is interesting to note how many of the States feel that public-health education on a wider scale is, after all, the more efficient and more lasting way of achieving our purpose.

Still another method, which in a sense combines the types of work we have been discussing, seems to be increasingly used as a way of achieving both purposes and often results in an immediate reduction of the maternal and infant death rates as well as in general public-health education. This method is the stimulation of the counties in each State to carry on their own work under a county program, the appropriations being supplied under a 50-50 appropriation by the State and the county. In nearly every instance where this method of work has been tried, it has been found possible to combine the best features of intensive work with the health education of the community.

An interesting side light on this method of county work is shown by the reports of practically every State where it is carried on. This is the better understanding among the members of the medical profession and the increasingly interested cooperation of the doctors in these communities. In going over the reports from these States, as well as those from many others, one can not fail to be impressed by the constantly repeated statement that the individual doctors who are close to the work and who have an opportunity to observe it are almost without exception interested and fully cooperative. In one State, by request of the medical school, the State division of child hygiene provides a course in pediatrics for the students and also gives a graduate course in the same subject for physicians. In the second State, by request, lectures on obstetrics have been given before medical societies. In the third State physicians of high standing are accepting positions on the staff of the State division of child hygiene in the capacity of consulting obstetricians and pediatricians, and the county medical societies are definitely cooperating with the State de-

partment of health in the county work. In a considerable number of other States, less extensive but nevertheless effective instances of this type of cooperation are cited. All the reports give a definite impression that as individual doctors learn to know the purpose of this form of public-health work they are not only willing but often eager to assume a share in it.

It is hardly within the province of this report to deal more specifically with the individual problems presented by each State. It would seem far better that such a presentation should be made at this conference by the directors themselves. Our purpose at the moment is rather to determine, if we may, the most economical way of obtaining the results we are seeking. We may mention, therefore, that certain States have found it possible to effect economies in administration by a readjustment of their methods. For instance, some States have found that if infant and preschool care are carried on as a unit, and not under separate divisions or as separate entities, not only is the cost of such work lessened, but the far more important result of improving health throughout infancy and preschool life is achieved more readily. This is because there is no break in the program and because the child is under continuous observation from birth until the school age. Other States have found it more economical to deal, at first, exclusively with children of preschool age. It has seemed, in such instances, that these children were more readily reached and that this afforded an easy approach toward gaining the confidence and interest of the mothers. From this beginning they have found it better to work backward to the matter of infant care and then to prenatal care. Still other States seem to have achieved their greatest economy and efficiency by concentrating on prenatal and better obstetrical instruction. They report that by the preparation and the distribution of obstetrical packages and by the reference of expectant mothers to physicians for prenatal care, they have obtained cooperation from physicians to such an extent that the establishment of infant-welfare centers and the health supervision of children of preschool age has been an easy second step. There are, again, States which have found it expedient as well as economical to concentrate upon the establishment of either little mothers' leagues or similar courses of instruction in the elementary and high schools. The secondary education of mothers, as well as the training for potential motherhood, resulting from this type of instruction has been reflected in the willingness of the mothers to seek further information with regard to their own health and the health of their children.

It would be possible to cite other instances of similar import; but the cumulative effect would only be to heighten our impression of the exceeding difficulty of evolving any standardized methods that would be found equally effective in all, or even many, of the States. Possibly we are overambitious in even attempting to standardize our procedure or our relative unit costs. It is only fair to remember that child-hygiene work is still the newest part of our public-health program. The first bureau of child hygiene under governmental control was established in 1908 in New York City. There were only five similar State bureaus up to 1914. Thirty-eight States began their work of this kind in 1922, two States in 1923, one State in 1924, and two States in 1925. It may well be that a much longer time will have

to elapse before we can, with any assurance of rightness, determine the methods that may be followed with the greatest economy of time, effort, and money expenditure.

As a beginning toward this end, however, it would seem that some way of determining the unit cost of various items of work might be evolved. It would be difficult to set a hard and fast standard applicable to all the States. There can be no question that a unit cost which might be considered proper in a closely populated community would bear little or no relation to a proper cost for a rural territory. Moreover, it is well known that proportionate overhead costs decrease as the extent of the actual work carried on increases. If a nurse must travel 100 miles to hold a baby clinic with, perhaps, a dozen babies in attendance, the total expenditure of time and money will be considerably greater, and the per capita rate higher, than if the clinic is held within a 5-minute walk from her home and the attendance of babies is from 100 to 150. And the same reasoning holds good in each line of work carried on by the State. The problems connected with density of population, area to be served, and the racial types of the people, all must be considered.

It is evident that each State must have a cost-accounting system suited to its particular needs and conditions. As a basis for this it is advisable to make from time to time intensive studies of each item of work. It should not be difficult to prorate the proportion of overhead costs, the expense of travel, the amount spent for salaries, and the other costs of such intensive work units. A comparison of this expenditure with the number of people reached and served or the items of work performed will give a fairly accurate unit cost. Such analyses need not be costly nor time consuming, and the results will serve as a basis for economical administration. Comparison of these unit costs of work may be made with those of other States having similar administrative problems, and such comparisons should point the way to more effective efforts with a lessened expenditure of funds.

Unit costs can be too low as well as too high. The test is not the amount of money expended but the results that have come about because of this expenditure. The understanding of the value of relative unit costs in determining the proper type of administrative program will inevitably lead to a sounder economic basis for our work and to increased returns as shown by lowered maternal and infant death rates and higher standards of health for mothers and babies.

May I add that it is our hope that each State at definite periods of each year, January 1 and July 1, for instance, will make an intensive study of its work, apportioning its overhead, salaries, traveling expenses, incidentals, and cost of supplies among the types of work carried on, then taking the number of people actually reached, dividing the percentage cost among the population cared for, and determining the unit cost of caring for each person. (See suggested cost-tabulation sheet, p. 113.) Having obtained this information, each State, it is hoped, will get into communication with the States that are near to it and that have similar problems, and find out their unit costs. It is only by such comparisons that you will know whether you are spending your money to the best advantage.

U. S. DEPARTMENT OF LABOR
 CHILDREN'S BUREAU
 WASHINGTON

Cost-tabulation sheet

Type of work	Proportionate amount spent on each item in—			Total cost	Number of persons reached	Unit cost of specific activity	Unit cost of each person reached
	Salaries	Travel	Overhead				
Combined prenatal and child-health conferences.....							
Health conferences for children.....							
Health conferences for prenatal cases.....							
Health conferences conducted by nurses only, no physician present.....							
Little mothers' classes.....							
Mothers' classes.....							
Midwives' classes.....							
Dental conferences.....							
Home visits:							
(a) Prenatal.....							
(b) Obstetrical.....							
(c) Postnatal.....							
(d) Infant.....							
(e) Preschool.....							
Nutrition work.....							
Inspections of—							
(a) Infant homes.....							
(b) Maternity homes.....							
Talks and lectures.....							
Prenatal letters.....							
Correspondence courses.....							
Graduate courses for physicians.....							
Graduate courses for nurses.....							
Preparation of exhibit material.....							
Conducting of exhibits.....							
Community demonstrations.....							
Campaigns.....							
Surveys.....							
Preparation and distribution of literature.....							
Administrative work.....							
Supervisory work.....							
Other activities.....							

DISCUSSION

The CHAIRMAN. Doctor Krause, director of the division of child hygiene of Missouri, will open the discussion for us.

Doctor KRAUSE. I think none of us know how much time Doctor Baker has had to put on the subject of determining unit costs. I know that she was working on it even up to yesterday afternoon at 4 o'clock, because at that time I had the first opportunity of going over the paper with her. The paper was indeed enlightening to me and to the rest of us here. I am surprised that Doctor Baker can make a paper on so dry a subject so pleasant to listen to.

In our program we have to acknowledge that each State is going to spend its money in direct ratio to its public-health problems regardless of the department in which the public-health fund is expended. In some States that are not in the birth-registration area, for example, we have had to include under infant work our birth-registration program, our prevention of blindness campaign, and other things. Many factors will make the unit cost of work vary in the

several States, as Doctor Baker said. I simply wish to add this: In Missouri and in other Middle Western and Western States our method of travel is an item. In Missouri, for instance, to go north and south costs approximately three times as much as to go east and west to a clinic. In other words, we have to go to one of the two metropolises to get north or south. Our clinics in those areas are small. It costs us much more to reach 10 or 12 children a day in southern Missouri than 40 or 50 children a day in eastern Missouri or western Missouri. In showing the cost of work for a State many subdivisions must be made under the several main headings of maternity and infancy work—birth-registration campaign, work for prevention of blindness, etc.—activities that do not figure at all in some of the Eastern States.

One thing that complicates this type of unit-cost accounting is the very nature of some of the work that is carried on. In intensive work such a cost-accounting system is very easy; it is a matter of simple bookkeeping. If your work, however, is of the type tending toward general education of the public, with the dissemination of literature, with large mothers' classes, the sending out of prenatal and postnatal letters, and dealing with woman's clubs and other organizations, it is very difficult to get unit-cost figures. There I think you must group your activities. You must see how much it costs, for instance, to send out prenatal letters, to give a talk before a women's club, to hold a child-welfare conference, or to speak before a group for the purpose of teaching. In other words, your unit cost must have an entirely different basis from the number of people reached, and that has been one of the complications of this report.

I have no doubt it is possible for the Children's Bureau to work out a simple form on one sheet which could serve as a basis for computing the costs.

The cost of personnel varies. In our State, for example, I hire assistants at \$10 a day—pediatricians or obstetricians to give graduate courses to medical societies. Lecture courses in other States cost \$40 or \$50 or \$60 a day. All of that enters, of course, into our unit of cost, and we readily see why there is so much variation in the expenditures.

The itinerant type of clinic which is carried on as a means of education costs much more in proportion than the other types of work. In our own State we can work much more cheaply in the 13 counties in which we run a full-time maternity and infancy program than we can in the remainder of the State, in which we are dealing with more or less the itinerant type of work or clinic.

I think the nurses should not be burdened too much, nor the doctors, nor any of our workers with the cost-accounting system. But we all acknowledge that we must have a cost-accounting system, because in dealing with National, State, and county governments we must show definite, concrete costs to our public.

The whole program, as I see it, resolves itself into this: Regardless of the type of work that we are doing, whether in one State it is mainly infancy work or in another State is mainly maternity work, we are really dealing in salesmanship; we are trying to sell public health, the idea of preventability of disease, and when we get our total cost I think we might bring it down to a very sensible oper-

ating cost by taking the whole result and dividing it into the total expenditure. We would get a single unit of cost in this way and not try to subdivide it—at least for the purpose of education.

Since all States differ and every State may have some suggestion to make on this, I am not going to burden you any longer with my own ideas. I just want to say again that I thank Doctor Baker personally for the paper.

MISS ABBOTT. I should like to say a word just at this time. I want to testify in the first place to the fact that the bureau undertook this because there was a request for it at the last conference and because I was eager to show, in following it up, what the complications and difficulties are.

The Children's Bureau spends a considerable sum of money on its cost-accounting system. The bureau employees are required to keep track of their time, turning in every day what they do; that is, so many hours' in checking the State budgets as they come in (to discover possible sources of error), so many hours in correspondence, so many hours on reports, field work, etc. After we have the facts from which we could get the cost accounting, then what would be useful to know and what would not is the next question. I used to have put on my desk every month a cost accounting of all the items of the bureau's program when I first came to the bureau, but the cost of doing this was so great that we abandoned it because after a few months it gave very little information that was of value. But we still have the information so that it can be made up at any time; and if you were to ask me just what it costs to edit a report or to get up a schedule in any one of the different phases of the bureau's work, we have the information if we choose to spend the money and the time of the clerical staff to determine it.

Now ours is enormously simpler than the State program; the States have a promotion program, whereas our is mainly some form of research work. Ours, on the other hand, is more difficult than a program such as Doctor Baker had in New York City, where most of the work was permanent-center work with a program that went on day in and day out in each center. You need to know exactly where your money is going and what it is going into—the amount that is going into prenatal letters versus the amount that is going into lectures by doctors; the amount that is going into mothers' conferences versus the amount that is going into these other things. We are sometimes asked, "Are these mothers' clubs paying us what they are costing us, or are these other things paying what they are costing us, or are they not?" We should not be able to evaluate accurately many of these services, but we ought to know what each costs as a basis for judgment as to what we will do next. The results, as Doctor Baker says, can be summarized on a single sheet, but assembling the information on which that summary is based is a costly undertaking. I am willing to try anything that we are asked to try, but I do not feel optimistic about working out a scheme which it will be possible for all the States to adopt.

DOCTOR GARDINER. You may think information was very scarce last year when I wrote that very inadequate paper for the third annual conference of directors, but what happened then was that we were having a reorganization of all departments in our State. About that

time we had had our attention called to the cost of prenatal work, the per capita cost at that time seeming very high. The work happens to be widely scattered. There is a large amount of traveling. We can not tell the penetration quality of education, nor can we evaluate it in dollars and cents. But I do think we ought to know how much we should be spending for prenatal work versus infancy work at this stage of the program, and I think the States that are somewhat alike ought to hold their expenditures within certain bounds. For instance, if 20 per cent is the average proportion that you spend for prenatal work, let us look over our budget and see if we can get somewhere near 20 per cent.

The same thing might apply to administration. When we come before legislators, they are apt to say, "How much of this is going into salaries? How much is it costing to administer this fund?" Our salaries are mostly for field work. We are spending only about 10 or 12 per cent on actual administration; the rest goes into specialized service in the field or actual financial assistance. I should like to know what other States are spending for actual administration, and I think it should not be very difficult to make some general classification and find out what we are spending on the principal types of work from year to year.

The CHAIRMAN. I have not compiled the total overhead. That is perfectly easy to do from the figures we have, but it did not seem necessary for the purpose of this study.

Doctor GARDINER. The director might be an administrator and also spend time in the field. Doctor Schweitzer used to spend a great deal of her time in the field in Indiana, and yet she administered, too. How are you going to divide that?

The CHAIRMAN. I should like to hear from some of the other directors on the subject brought out by Doctor Gardiner, as to whether it is at all possible to standardize in different States the amount of time or money that should be spent on any particular object. My feeling from reading questionnaires is that this is not possible; that one State, for instance, necessarily must spend a large part of its appropriation on midwife supervision, we will say, while other States have no midwife problem at all, and to set an arbitrary figure to be spent for midwife supervision would not be quite fair. I think it is not possible to set an arbitrary proportion which must be spent on infant care, or preschool care, or prenatal care. But I should like to get your reaction on this question.

Doctor KNOX. I think we have all been very much helped by your paper, especially because it has suggested the advantages and the difficulties of a cost-accounting system and it has not been at all insistent about making us have a uniform method of expenditure. I agree thoroughly with Doctor Gardiner that we have to proceed very carefully. In fact, I think most of us look upon our work as having a good deal of spiritual value, if you please. You do not go to the churches here and estimate the value of the pastor by whether he visits two or three parishioners in one afternoon, or 10 the next afternoon, or how he spends his time. As long as he is the right kind of man doing the right kind of work he can be trusted. I think, however, we ought to know in a general way what we are spending on prenatal care, on obstetrical work, on work for infants,

and for the preschool child; but these proportions will not be uniform in the different counties. I think this report, together with Doctor Ferrell's yesterday, gives us all a good deal of information which we ought to have. The actual results in the work accomplished are perhaps one way of checking our efficiency and the time that we spend on different pieces of work. But I do not believe that at this time, with our methods all more or less sub judice, we can fairly compare one State with another, because conditions are so very dissimilar.

I am sending men from Baltimore into rural Maryland to hold conferences where perhaps five years from now they will be held by the counties themselves because of the educational propaganda that we are carrying on. Are we planning for a next year's program? Or are we planning for a 10-year program? Whether we are planning for the immediate future or the long distant future depends a good deal upon how well regulated our costs are each year.

The CHAIRMAN. Doctor Knox's very able presentation of this question calls attention to two points that I think we should emphasize. I tried to speak of one of them in my paper, and he has spoken of the other. One of them is, of course, that it is absolutely impossible for us to determine in dollars and cents the value of human life. We can not do it and we should not do it. I know everyone of you feels, as I do, that this is the most human as well as the most humane work that can be carried on. But we do have to account for our expenditures and it is well also for the purpose of self-analysis to work under some sort of "cost accounting" or call it "a more detailed budget system," if you choose. I think if we find, taking the midwife again as a unit of comparison, that it is costing one State \$10 each to supervise and register midwives, and that another State that has an equally serious midwife problem is registering and supervising midwives for \$4 each, then the \$10 State ought to get in touch with the \$4 State and say, "What method do you use? How do you get efficient service for that price?"

Doctor KNOX. Or vice versa. "Why are you spending so much? Are you getting better results than we are getting?"

The CHAIRMAN. Any cost-accounting system that could be devised should be a very personal and intimate part of your work; it should primarily tell you how you can stop leaks or spend your money to better advantage.

Doctor GARDINER. The travel expense involved in carrying four or five consultant nurses was quite large, and finding out how much it cost did enable us to reduce expenses. The expense accounts were running very high, and we found that by putting the nurses in certain districts and having them work out of local centers we could reduce the cost of that service by at least a third. Knowing your costs has a value through making possible comparisons of work from year to year, if nothing else.

Doctor BREEDING. I certainly should be glad to cooperate in following out any reports that we are asked to get up, but I sincerely hope that they will be made as simple as possible, as has been indicated by the speaker.

The CHAIRMAN. I am sorry we shall have to close this discussion now. The program has been changed, and we have two other papers.

If there is any time left at the end of the second paper we can revert to this subject.

DOCTOR HAINES. I move that we accept this committee report with a great deal of pleasure, and also that we should like to have the chairman continue the committee and help us with further work.

[The motion was seconded, put, and carried.]

THE CHAIRMAN. The next paper on the program is "Itinerant conferences as an advance agent in developing permanent centers," by Dr. Cora Allen, of Wisconsin.

DOCTOR ALLEN. Wisconsin has worked out two things on a permanent basis: The permanent centers and the infant-hygiene classes that have been incorporated in our school system through the cooperation of the State superintendent of schools. Mrs. Hasbrouck, who spoke to you last year, is our full-time organizer, and she has taken as her slogan, "Every Wisconsin girl educated for intelligent motherhood." Her work has grown until this year she has a full-time assistant. She has been able to go into any number of rural schools, teacher-training schools, and normal schools.

We are getting out a new textbook, a manual, and a teacher's handbook that is on the press now. As soon as it comes off we are going to send it to each of the directors and supervising nurses, and to anybody else who wants it. It is free for our school system. We have been able to sell it outside the State for 5 cents, the manual for 5 cents, and the handbook for 3 cents. I am not advertising the prices particularly. We are only too glad to send the books out as samples. We are also proud to say that 38 States and Hawaii are using our books in some form of school work, in domestic-science work, or infant hygiene centers.

I wish you would all look at our spot map of the number of schools where this work is being taught. We like to get our girls between 12 and 14 years of age, because they may leave school at the age of 14 and because Mrs. Hasbrouck feels that at this time it is the perfectly natural thing for the girls to be playing with dolls and it is only a step to the normal baby.

The course can be presented to the boys as well as to the girls; it has been done in some of the schools. When our certificates have been sent out for the little mothers the reading has been changed to include the "little fathers," and the teachers write in that the boys are very well pleased with this work.

My permanent hobby is permanent centers, and although Doctor Haines gave me the subject of itinerant conferences I am going to dwell mostly on the permanent work, because we feel that that is where we are going to show our results later on.

ITINERANT CONFERENCES AS AN ADVANCE AGENT IN DEVELOPING PERMANENT CENTERS

BY CORA S. ALLEN, M. D., DIRECTOR, BUREAU OF CHILD WELFARE AND PUBLIC-HEALTH NURSING, STATE BOARD OF HEALTH, WISCONSIN

Throughout Wisconsin's public-health program the greatest need seems to have been in rural communities, and even before the Shepard-Towner Act was effective our child-welfare special—a motorized health center similar to the one sent out in 1919 by the Federal bureau—was in the field carrying the gospel of preventive medicine to parents in rural and more or less isolated regions.

With the acceptance of Federal funds the special continued a well-planned five-year campaign, going into small villages or country cross roads for one or two day stops so as to serve as many as possible in each county visited. The examinations were made in the car, which was fitted with tables, scales, running cold and hot water, and its own heating and lighting devices. Small dressing rooms at each end furnished protection and privacy during undressing, examination, and dressing. The history of each person to be examined was taken in the adjoining schoolhouse or even the country store. From one to three weeks was spent in each county. By this preliminary contact it was hoped to arouse enough interest so that regular conferences might be established where expectant mothers and children under 6 years of age could be given thorough physical examination and advice along hygienic and dietary lines. It has always been the policy of the State Board of Health of Wisconsin never to attempt to correct defects, change formulas, or in any way encroach on the family practitioner's domain. From the first the work was understood to be entirely educational and was accepted as such.

The truck, staffed by a woman pediatricist, a trained public-health nurse, and a mechanic, has now finished its term of service with 24,000 examinations to its credit. Every county but one was served, and many requests have been made for a return visit. The response in the northern, or most rural part of the State, was particularly keen, and follow-up calls by nurses show advice has been taken in many cases, and approximately 50 per cent of remediable defects have been corrected.

Directly following the first week's work of the special, 16 counties were chosen for the establishment of regular monthly conferences as demonstration clinics. The intention was to stay in a community one year or until the importance and worth of the work was demonstrated, then to move on to another point in the county, leaving the regular conference in the hands of a local physician to be carried on permanently. In a few places this plan was accepted, and the regular centers held every week, two weeks, or monthly, as the case may be, are well attended and bring satisfaction to mothers,

doctors, and workers. But physicians in rural territories who have the time to attend conferences regularly—to advise mothers with normal children how to keep them well—are not always easy to find. So after almost three years of following the original plan we tried a new way of establishing permanent centers. Almost everywhere our county nurses were convinced it had been a well worth while piece of work and were willing to carry on these permanent centers without a maternity and infancy nurse. In every place the mothers objected to having the centers moved just as they had become accustomed to depending on the regular information and words of encouragement, and always the workers watched with keen interest the babies' growth and gain from month to month. It did seem that the year's work was almost worthless if no one could be found to carry on. Women's clubs, Red Cross chapters, Kiwanis, Lions, Legion auxiliaries—any number of organizations—began to besiege us with requests to allow them to pay for a State physician and let the centers continue.

The demands have been amazing. Communities in which no public-spirited enterprise has had a hearing before have voted money for their own health centers, and those held now only poorly represent the number we might be having had we sufficient personnel.

One year ago we had but one permanent center, in a little country town, paying with Red Cross funds for a physician sent by the State at the request of the two local practitioners. Now 15 communities are holding "paid, permanent centers," with examinations made by State doctors, and 9 more organized as itinerant centers are being carried on regularly with examinations made by local physicians, while 41 other centers are held in various parts of the State where the only active part the State takes is in furnishing literature.

Traveling expenses and hotel bills are borne by the State. The permanent center is included in the regular itinerary of the State physician—a plan that reduces traveling expenses to the minimum. All other expenses, such as record cards, laundry, heat, light, and comfortable rooms, are borne by some local organization. Members of women's clubs act as hostesses and history takers. There are uniform cards for histories and for the mother to take home which can be purchased from a local printing firm, and the doctor to whom a case is referred is given or sent a copy of the examination.

Literature on many subjects is furnished free. Government bulletins, pamphlets on teeth, goiter, tonsils, etc., published by the Wisconsin State Board of Health, and health literature obtained from two prominent insurance companies are gladly accepted, and not only save much of the doctor's time in the giving of advice but serve the mothers as references. During the summer months the "Sunlight for Babies" pamphlet was followed so religiously that an outsider might have gained the impression that the coming generation was reverting to sun worship.

It is early yet to expect results, but, during 1926, 1,425 infants, 616 preschool children, and 83 prenatal cases were seen in centers held for an aggregate of 70 days, and 1,229 were regular return cases. The average attendance for children was 29+, and the average of return cases 17.5+. This does not take into consideration the additional 50 weekly or bimonthly centers held by local men throughout

the State. No reports of these are sent us, but we know they are considered of sufficient value to be continued.

Although our babies are supposedly normal, we often find unsuspected troubles, and our records show cretins referred for gland therapy; babies with enlarged thymus, sent for X-ray diagnosis; babies with incipient diabetes and tuberculosis, congenital dislocations, and bad heart conditions; and, of course, numerous cases of uncared-for genitals and diet disturbances. The discovery of these troubles and their correction by the family physician make the mothers and fathers loyal supporters of a "baby center," and entitle the public-health workers to a feeling of satisfaction in their share of lowering our too high infant mortality rate.

In some centers young mothers, who as girls in school have had instruction in the infant-hygiene classes, are regular, faithful attendants, and in such mothers one sees hopes of a better and healthier nation.

Very often a mother who has had the prenatal letters brings a 2 weeks to 4 weeks old baby to be admired and watched as he grows into a "Wisconsin better baby," and more than one of these babies of young mothers have been kept on breast feeding by timely advice and the follow-up visits of the nurse. One of our problems seems to be the uprooting of the idea that "the mother's milk is not agreeing with the child." We don't always win out, but we do have to our credit a goodly number of babies returned to the breast who had been weaned for a period of two to seven weeks.

The big factor in the success of the permanent center is the trained public-health nurse, who with the vision of one of our school nurses who conducts a monthly conference, says, "I am firmly convinced that the best piece of school work a nurse can do is thorough prenatal and preschool work." She reports fewer remediable defects and fewer underweight children in this year's kindergarten class than ever before. All her children are examined, and 76 are immunized for diphtheria.

One county nurse has succeeded in getting local physicians to give their time for a series of conferences during the summer. She reports 536 children from 4 to 6 years of age in the rural districts. Of these 396 (74 per cent) received a thorough examination. Sixty have been vaccinated. Thirty have been immunized for diphtheria, and the immunization program had just been begun. Her rural teachers do the weighing and measuring and have a daily check-up on "health chores," and in 6 rural schools 100 per cent of the children have the teeth cared for. Another county nurse, besides holding a regular monthly conference with large attendance, has "health clubs" in 70 per cent of her rural schools, with a membership of 2,108 children, who are all urged to have at least one physical examination each year.

Reports for 1925 show that nurses, other than maternity and infancy nurses, throughout the State are interested in the prenatal and infant phase of their work as well as all other classes of nursing that fall to their lot. They made 18,242 home visits to babies and preschool children, and 3,717 to expectant mothers. They transmit requests for prenatal letters to the State bureau. Many of these nurses are responsible for their own baby centers. (These figures do not include Milwaukee, a city of 500,000 inhabitants.)

In one of the most rural counties in the northern part of the State, where it seems impossible to hold regular permanent centers because of climatic and financial conditions as well as the sparsely settled population and great distances for travel to a central point, the State holds yearly conferences lasting from one to two weeks, moving the doctor and center from place to place and thus offering a service similar to that given by the child-welfare special. Seventy per cent of the preschool and school children in this county are immunized, and 75 per cent are having goiter-prevention treatment, while the home conditions are greatly improved as a result of this partial permanent plan.

The consensus of opinion seems to be that one of the most effective ways of reaching an entire family is through a permanent center where homely truths can be told and retold, and results of right methods seen in the steady, normal growth and gain of the children who attend regularly.

Regular courses in public-health work are being given in many of our State medical colleges, and better prenatal care and healthier babies are almost bound to result. Bearing these young men and women in mind always, we are hoping that our permanent centers may be carried on under State physicians until trained public-health physicians will relieve them and make the centers permanent in the fullest sense of the word.

DISCUSSION

The CHAIRMAN. Mrs. Helen Moore, assistant director of the Michigan bureau of child hygiene and public-health nursing, will open the discussion of Doctor Allen's interesting paper. I hope that during this discussion something will be said about the relative value of the permanent and the itinerant clinic.

Mrs. MOORE. In Michigan our work is conducted somewhat differently from that in Wisconsin, as conditions are different to a certain extent. Our itinerant clinic goes into a county and stays one, two, or in some instances three weeks only. If the nurse making the preliminary arrangements for the clinic finds that the physicians are not friendly, the itinerant clinic simply does not go in. Very frequently the next year when our clinic is in that vicinity the physicians have had a change of heart, and we can go in and do our work with their help.

As in Wisconsin, a report is always sent to the physician; and if there is a county nurse in the county a report is left with her in order that she may do the follow-up work. Our object from the beginning has been to make the work permanent. We have always insisted that there be a committee of lay people to assist at the clinic. Sometimes the nurses doubted whether they assisted or not; but we made them think they were helping anyway, because we wanted to get across that educational part of the work to the lay people.

Outside Detroit and Grand Rapids we have 70 permanent centers. Some of them were not organized through our efforts, because in many of our towns there are health officers and a well-organized staff who have done all the work themselves; but 21 of the 70 were a direct result of our itinerant clinics. These 21 are in small towns, drawing from the rural communities. They are financed entirely

by local funds. Often the physicians would offer their services free, but we have discouraged that in every single instance, because we have felt that the women who are sponsoring the clinic will appreciate it more if they have to work and pay for it.

These clinics have reached many people; and, as Doctor Allen has said, the babies are brought back week after week and month after month. One mother said when the day came for the clinic it made no difference whether she had a bridge club or what not, she had to go to the clinic.

We feel that the itinerant clinic has been a great factor in building up our permanent centers in the smaller places. It has given these women something practical to do and a vision of what adequate supervision for a baby means.

The CHAIRMAN. I think we should have some further discussion on this important point. I know this question comes up for you all at frequent intervals, and I think some of the other States should report upon their progress with either the permanent or the itinerant child-welfare clinics and upon their relative importance and value.

Doctor KNOX. I should like to ask both these speakers whether there was any attempt to confine these services to indigent mothers or whether the leading women in the communities attended these conferences. In Maryland we consider that the future success of our work is to be judged not by the number of people that are coming to the conferences but by the number of the mothers who are calling in their own attending physicians.

In Baltimore city, of course, we have had for many years very well-organized weekly dispensaries, and in some of the larger towns in Maryland—we have not many cities outside Baltimore—they are establishing weekly conferences of the same kind in the poorer districts where the mothers can not afford to have doctors of their own. But the rural problem is different. It makes no difference how poor a rural mother is; I have never asked one yet who her doctor was that she didn't name one. But you ask the people who go to Johns Hopkins dispensary or the various free dispensaries who their doctors are and they will say, "We haven't any doctor." But the country people have them, although they do not call them in as they should. What we are trying to do, therefore, is: (1) To educate our lay public into the importance of going to their own physicians week by week or month by month, and (2) giving obstetrical and pediatric lectures to the doctors and seeing that they are willing to give advice and to devote a larger portion of their time to this preventive work.

Doctor ALLEN. In reply to Doctor Knox's question, whether the cases handled in the centers are indigent, I may say that they are not, and we are very proud of that fact. We are very glad that our mothers who could afford the services of a specialist come to our State health center for several different reasons. In the first place, their influence is good. Another thing is that if anything is wrong we do not correct it; we send those mothers to their doctors, and the doctors therefore know that the State does not interfere with their practice in any way. If the mothers can not get from their local physicians the kind of help they are demanding now, I think they are entitled to have it from an organization that is being maintained by

their own taxes. Wherever we have a local practitioner who is willing to do that work we let him do it and are very glad to have him do it. We think it is very important for Wisconsin babies to grow up right, and we think that they need supervision to do it. In this way we are educating a whole lot of people on this point. We have had more than one local physician object when we first commenced to hold permanent centers because women's clubs demanded it, but they have come our way now. They not only visit us but they are willing to correct defects that we find and send to them. They are immunizing, they are vaccinating, they are hearing more about preventive medicine. We think we have gone a long way when they are perfectly willing for the State to hold a conference and for the women's organizations to pay for it or when local physicians ask us to organize a State center and make no objection if the babies under their care come to it. Many who at one time objected are sending for our prenatal letters and other literature.

Doctor GARDINER. It seems to me there are three things we have to do. First, we have to show the woman what to expect in the way of a preventive program, then we have to convince the physician that the woman should have this service, and then again we have to go back to the woman and teach her that she must pay for the service. So we go through these three phases, and they are not all the same in the various States.

Doctor Knox is near Johns Hopkins, where they give preventive work and the people are ready to pay for it. In New York State I know we are convincing the physicians that there is a great deal of preventive work to be done, and they are showing an inclination to do it—to take it up as a county medical society project and do it on a community-wide basis; and it seems to me the rest will follow in natural course. That really should be their business after all—to deliver the kind of service that the people demand and are willing to pay for.

The CHAIRMAN. That is an important point, I think.

Doctor STADTMULLER. Where we get the reaction on the part of the physicians that they would be perfectly willing to do this work but are too busy, then if we attempt to do it we hear that we are doing "State medicine," and the local physicians object. So we do not have physicians from the State office go out to conduct a clinic on salary paid by a local group. However, we often choose a local physician, rather than send a pediatrician from some other part of the State, and pay him a per diem fee while he is making the examinations. We have been able to meet the objection in this way.

Doctor APPLETON. I do not know whether our health centers in Hawaii would be called permanent or itinerant. We drive across the island somewhere and hold a consultation in one place one week and another place the next week. We have been able to get cooperation from the physicians more easily perhaps than some of you, because we have few physicians in the rural districts and there is a permanent man who is responsible for each district. We go to this man and ask him if he would like to have a center and ask him to take charge of it. We have no funds to pay him, but he usually is very glad to do it. If one of these district physicians does not want the center, we do not go there. We go into only the districts where we are

wanted. All our territorial nurses are placed in counties; in place of having our territorial staff in the main office we have them in the counties. We have a consulting and supervising nurse for all centers, and the director acts as consultant physician for them. If the local physician is unable to give the time the director takes charge of the center; he may not be able to be there every time but will be there as often as possible, perhaps at intervals of one or two months.

In this way, by going only where the local physicians are willing, we have been able to cover a large part of the territory, and gradually the physicians who were opposed to the work are falling into line. I think one thing that has made this possible is that the director refuses to take any practice. The other is that we have made our program educational primarily and not at all curative. At first we were even very careful about being diagnostic and referred the cases to the local physician, but that policy had to be changed. But as long as the work is just educational and we are very careful to refer each case to the family physician—who has charge of the center with our physician as consultant—that obviates any possible difficulty.

Doctor RICHARDS. I have been interested in this paper because it helps in some of my problems. We have just outside of Salt Lake City a suburb where we have organized what we might call, according to the usual classification, a permanent health center. It is one in which weekly conferences are held, and the work there is confined almost exclusively to infant welfare. We follow the plan of having the local doctors do the work. There were six or eight doctors in that community, and upon being interviewed they all expressed willingness to take their turns at holding these conferences. After we had gone into the matter in detail with them, it was thought best that the conferences be held weekly and that the physicians be grouped. Two men or three were assigned to the conference for three months at a time, and then another group for three months, and so on until they had all taken their turns during the year. We had the cooperation of the physicians and of the local organizations, and we were able to assist them in a directional way. During the past two years we have been rather disappointed. The doctors were willing to give their time, but some of them realized that they were not especially interested in pediatrics. Moreover, one drawback of the rotation method was that some of the doctors beginning their terms did not hesitate to change the children's formulas, and some of the mothers became more or less dissatisfied because this changing seemed to them haphazard, and some of the doctors became dissatisfied because other doctors were changing their formulas. The condition has just developed to the point that local people are more or less losing confidence in the rotating service of the physicians and the physicians themselves are not satisfied.

Now, I believe that these doctors will all be perfectly willing to have an outside man who is doing nothing but itinerant work—that is, who is paid for his entire time—come into that community and take over the responsibility of handling those conferences. That will give the community one man who will handle the work uniformly. Moreover, I think sometimes we gain a certain amount of prestige by having a doctor not from the community; it lends an incentive to mothers to bring their children. Every once in a while we get this

from both sides: Mothers will say, "Oh, I can take my children to Doctor So-and-So any time I wish. I can always see him." Then we will have a doctor say, "Oh, I see that child every once in a while, and I don't see any reason for seeing him every week." I believe that in certain instances the employment of an outside physician to handle these conferences will solve some of these problems.

One of you spoke of the itinerant worker remaining in the community for one to two or three weeks. I am wondering if I understood correctly, that they stay the entire time. The doctor and the nurse probably made up the itinerant group. How did the physician spend his time and how did the nurse spend her time during the three weeks? Or were they just in and out on three definite days of the three weeks, spending the rest of their time elsewhere?

DOCTOR ALLEN. I think probably Doctor Richards means Michigan instead of my State, because I tried to make it plain that with the child-welfare special we stay only one day or two days, then move on to another point in the county. We go into a county for two or three weeks, but we just visit different places; and our permanent centers are established after that. We stay in one place for, say, a year, with demonstration work. Whenever a mother is able to pay she is encouraged to go to her physician. I know that in Wisconsin our mothers are willing to pay if they can get the right kind of service. Just as soon as our physicians are willing to take care of our well babies and our prenatal cases we shall not need any State workers.

DOCTOR SCHWEITZER. We have had so many difficulties in Indiana that it might be helpful to review some of them. With regard to permanent conferences I think we have none that are actually being supervised by the State department. We have a few that have been the outgrowth of activities of local departments. I have asked physicians and have asked other groups for suggestions concerning permanent conferences. The one that we particularly assisted in starting was at Elkhart. The lay people sponsored it, chiefly the child-welfare committee of the League of Women Voters. It was financed first through efforts on the part of these women and later by the community fund. It is a permanent part of the city's activities at the present time. The city started with one permanent child-health conference in the municipal building. It now has four or five, one of which is for colored children. These conferences care for about 300 children, I think, on the average. At first they tried to have physicians on a rotating schedule, but they soon found the results very much as Doctor Richards outlined a moment ago. Then they tried having salaried physicians take charge of this clinic, and that worked very well so far as the clinic itself was concerned. The babies were getting good service. They had a dietitian who gave the mothers advice concerning the preparation of food and balanced rations for the children of preschool age.

At that time there were no pediatricians in the town. The physician who first had charge of the clinic found that he needed more knowledge of the feeding of babies, so he took some special work in Chicago. He went once or twice a week, I think, and visited the baby clinics there, and he became much more proficient than he had been at first. The women who come to the clinic are interested in

having their babies cared for and fed properly; and naturally they go to the physician in whom they have confidence as a person who is proficient in baby feeding. So the men who are developing pediatric practice in the town are the men who are in charge of this clinic.

In South Bend some of the best men in the city have charge of the dispensary babies, where wonderful work is being done. The work in the well-baby center is done only for indigent people, the physician in charge believing that those who can afford to pay for such work should go to physicians in private practice.

In Indianapolis the work is being done on very much the same plan. But in the rural districts we have no permanent centers. All the work has been done in the temporary centers and has been welcomed by physicians as a temporary thing, which will make the mothers understand that the babies should be supervised and should be taken to the local physician for such supervision. Local physicians report that more mothers are bringing babies earlier for attention and that they have fewer cases of severe illness.

The CHAIRMAN. We shall have now a paper on "Developing permanent health centers," by Dr. Mary E. Brydon, of Virginia.

DEVELOPING PERMANENT HEALTH CENTERS

BY MARY E. BRYDON, M. D., DIRECTOR, BUREAU OF CHILD WELFARE,
STATE BOARD OF HEALTH, VIRGINIA

[Abstract]

The modern public-health movement has three objectives—curative treatment, preventive measures, and constructive health education. The practicing physician, surgeon, or specialist alone is concerned with the first. Health departments have initiated the second and third but are urging that the physician take them over as a part of his work and also that health education be made a part of the educational system of the State.

In the last 12 years the health center, the home of the local health department, has become an institution in public-health work. Through lectures, literature, classes, conferences, posters, and demonstrations it aids in preventing disease and in spreading health education. It is recognized as a place from which everything connected with health practice and health education may be disseminated.

In Virginia the health centers are varied both as to the types of organization and as to the nature of their activities. The larger cities, such as Richmond, have a central office which is often itself the health department, in charge of a medical director, supervising the activities of smaller branch centers and stations. Health surveys are made from the central office, and every effort is made to prevent disease and to promote health. The program of the center usually includes maternity and infancy work, the complete physical examination of children under school age, and the holding of preventive and diagnostic clinics. State laboratory auxiliaries are maintained in some centers, aiding materially in the diagnosis of disease. Some centers also have a nursing staff, which, in addition to doing maternity and infancy work, cooperates closely with the school authorities in forwarding the health of the school children and helping parents to have the children's defects corrected. An attempt is always made to cooperate closely with all social-welfare agencies. In 10 cities in Virginia there are health centers in which work of this character is done.

The State has 5 counties with a well-organized health center in each, and 10 counties with a total of 37 health stations. In rural communities, where it frequently happens that only nurses' services are available, the health station is growing in popularity and in usefulness. Each month the attendance at both centers and stations has increased. It is hoped that eventually a sufficient number may be established to make such services available to the entire population, both urban and rural.

DISCUSSION

The CHAIRMAN. Now I want to call on Mrs. Dillon, who is in charge of the work in West Virginia, to open the discussion of Doctor Brydon's paper.

Mrs. DILLON. West Virginia has 31 permanent health centers in operation at the present time, the first one of which was established five years ago, while the latest is only three months old. The average attendance of mothers ranges from 4 to 14, and the average attendance of children, from 4 to 25.

The term "permanent health center," as we are using it in this meeting, is a relative one, varying greatly in meaning, and represents widely varying personnel, equipment, and scope, depending on the territory, length of period in operation, and finances available; as, for instance, the health centers operating in the large cities versus the half-year-old rural center in Paw Paw, W. Va. Therefore, from the beginning of this discussion, we are asking you to realize that we in West Virginia are using the term for any center in our State where the people support a definite place, which is open at definite, regular periods, with a public-health nurse on duty, where persons may secure health information and help. In all but three of these centers a measure of medical service is available regularly, and in these three provision has been made for the immediate future. Medical service is available through volunteer service on the part of local physicians, through physicians employed by coal companies and other industries, (much of our work being carried on in coal-mining territory and in mill and manufacturing towns), and through full-time health officers employed as directors of city and county health departments.

The methods of work leading up to the establishment of these centers have varied slightly in communities and counties, but in the main have been quite similar. The plan which is now being developed in Cabell County is typical and will serve as an illustration. This county began its program in September, and the nurse has had the advantage of experience of other workers upon which to rely.

Cabell County is unusually well organized through the Farm Bureau, having 18 community organizations, in 13 of which a "health committee" was already appointed before the nurse was employed. These formed a nucleus through which the public-health nurse could function immediately.

Her program leading up to the establishment of permanent health centers is outlined as follows: (1) Group teaching; (2) demonstration child-health conference; (3) development of regular, periodic child-health conferences. Her first step usually is to meet the "health committee" of the community. Together they discuss the health needs of the community as already outlined at the community country-life conference at the annual meeting, when the community scoring was done. (The Farm Bureau encourages communities to meet annually to "take stock" of community needs. The people score themselves on community spirit, citizenship, recreation, health, homes, schools, churches, business, and farms. The scoring is done on the basis of 100, and a program is outlined upon which to work during the coming year in order to raise the community score at the next annual meeting.)

The nurse suggests that the health committee be responsible for getting together the adult women of the community in a "health-study group" to discuss community health problems and plans for meeting them and for some definite study on personal, home, and community hygiene, prenatal and child care, and other problems.

The women are really eager for this information, the men of the community are interested in their having it, and little difficulty is experienced in getting the study classes organized. Before the course of lessons is concluded plans are made to conduct a child-health conference in the community, and this instructed group of women is used in every way possible in the preparation for and conduct of the conference. During the course of study the public-health nurse has asked a physician to give one or more talks to the group on communicable disease and other phases of her outline so that he is already interested in that group and their plans, the women know him and want his help and advice in making the community health program. Medical service therefore comes about naturally and easily for the child-health conference. After the demonstration conference is over and the report of the findings compiled, a community meeting is held at which this report is presented and discussed and plans are made for corrections, further health education, etc. This is the time when it is generally decided to make provision for a permanent health center—a health center of seemingly meager proportions and very limited usefulness in the minds of those who are accustomed to the large city centers with their numerous departments in charge of specialists. But such highly specialized and elaborately equipped centers are neither possible nor relevant at the present time in small cities, towns, and rural communities. These small beginnings will develop as intelligent public opinion is created, which, in our State, is rapidly crystallizing into sentiment for full-time county health departments through which all health activities for the territory can be administered.

Other activities which have entered into the gradual shaping of public sentiment in favor of permanent health centers in various places have been prophylaxis clinics, talks before organized community groups, house-to-house canvasses, and publicity through pulpit, press, and schools.

These centers are financed through county health-unit budgets, city health-department budgets, combined State and county funds, county or community health association budgets, Red Cross chapters and Tuberculosis League funds, and women's clubs.

The nurses are using lay people as assistants in 29 of the 31 centers for the following duties: Securing suitable quarters, equipping and preparing them for the reception of children, motor service where necessary, hostess service, writing up record cards and histories, weighing and measuring, publicity, and, after the lay helpers have been carefully selected and instructed by public-health nurses, a limited amount of follow-up work. The amount of assistance rendered by lay people is determined largely as a rule by the nurse's vision and her ability to teach and use others.

In one county the women met as usual when the nurse was on vacation, weighed their children, marked up their height-weight records (using the Children's Bureau weight chart), and studied a lesson under their own leadership rather than miss the monthly meeting at the health center.

In another county where transportation from the county seat is impossible for several months in the winter, the women met monthly, weighed their children, and studied a lesson prepared and mailed to

them by the county nurse; the secretary of the class mailed in a written report after each meeting until the nurse could get to them. If a problem arose, if a child failed to gain, or if any phase of the lesson was not understood, it was reported and discussed by correspondence.

Methods used to maintain attendance have been as many home visits as possible by the public-health nurse, supplemented by a local group of carefully chosen and instructed lay women, and various forms of publicity. A few nurses on occasion have served simple refreshments (fruit juice and crackers) for the children.

Prior to the preparation for this discussion a simple questionnaire was sent from our office to local fields where permanent health centers are in operation. A few excerpts from replies are illuminating on certain points under discussion:

A health-unit director who has just taken charge of a pioneer county program says:

I have begun to interest mothers in certain localities in looking forward to having health-study clubs instituted. One of the main features of these health-study groups in a community is to interest the women so that they will carry a share of the responsibility, and I have found them of material assistance in carrying out the child-welfare program.

Another health-unit director who has only well begun his county program wrote:

We believe that the immunization stations of the past few months throughout the county will contribute greatly to a larger infant-welfare program as soon as roads permit in the spring.

This health officer is making extensive plans for a "child-health week" early in May and is writing a personal letter to every baby, on receipt of his birth report, inviting him to keep his eyes open for the announcement of the date of the child-health conference. This will be a county conference, and as a result of this demonstration he hopes to establish several centers in the county.

The Logan County health unit, which is conducting 7 permanent health centers, states that all its centers are rent free and are held in the following places: At the health-department offices in Logan, in the women's club rooms at Omar, at the Young Men's Christian Association in Mudfork, in the nurse's office in the district school building in Holden, in doctors' offices in Big Creek and Chapmansville, and in a church in Man. Methods used in this county to increase the interest and maintain attendance, are home visits, talks before clubs and other organizations, post cards mailed out from the department office. The community leaders and club women set the example by bringing their own children. The health officer furnishes the medical service.

The directors of our local full-time health departments, with one or two exceptions, are favorably inclined toward the establishment of permanent health centers; more than 50 per cent have already one or more in operation, and others are definitely working toward that objective.

The CHAIRMAN. We are going to hear now a paper on support for a permanent local program, by Miss Crough, who is in charge of the work in New Hampshire.

FOUNDATION FOR PERMANENT CHILD-HYGIENE PROGRAM IN NEW HAMPSHIRE

BY ELENA M. CROUGH, R. N., DIRECTOR, DIVISION OF MATERNITY, INFANCY, AND CHILD HYGIENE, STATE BOARD OF HEALTH, NEW HAMPSHIRE

In New Hampshire from the beginning of our maternity and infancy program we have endeavored to establish a foundation that would be of a permanent nature and of a character to create in the minds of the people a desire for this type of work, leading them to see its vital need, quietly and constructively teaching them how to put into execution in a practical way, through their own effort, the things most needed in the individual community.

In order to do this it was necessary to give a definite service of some sort to every city, town, and village in the State. After careful consideration and because of limited funds we decided that the service which would be the farthest reaching and of the greatest educational value would be periodic, personal letters, books, pamphlets, and leaflets on prenatal care, child care, and the general health of mother and child. Through these we would be able to reach into the home of every newborn baby in the State and establish a close contact. Since then every three months an envelope is sent containing a friendly little letter and information on certain phases of infant care and feeding that is helpful to the mother. At the end of a year the mother receives several booklets on prenatal care and a leaflet on breast feeding.

We also started a speakers' bureau, an exhibit department, and a loan library, and endeavored to secure the interest and close cooperation of the newspapers as a means of teaching the people of the State what our program was and why it was needed.

This plan has been very closely adhered to up to the present time; but during the first year, as a special means of emphasizing the significance of the work, two surveys were undertaken—one in a city with a high infant mortality rate and one in a county with a high maternal death rate. Following the surveys, at the request of the local health authorities, two nurses were lent from the division to put under way a prenatal and child hygiene program. Our staff nurses are mature women with years of public-health experience and excellent training as a background; they are very carefully selected, not entirely because of these qualifications but also because of ability, personality, tactfulness, and love of their fellow creatures.

In the sections where our nurses are located the first step in the program is a visit to each physician, during which our entire program is closely gone over and the advice and cooperation of the physician are requested. Thus from the beginning a clear understanding in regard to what each physician desires is established.

In every prenatal case the nurse endeavors to see that the patient is immediately placed under a physician's care, frequently arranging to carry the prospective mother in her own car to the physician's office. She continues to visit the patient and give the necessary care and advice if the physician desires. Cards are filled in immediately following each visit to a prenatal case and are mailed to the physician in charge. This keeps him in close touch with the patient and is of special value in rural sections where travel is somewhat difficult and the patients have not reached the point of seeing how necessary it is to pay periodic visits to their physicians.

Letters from our State health officer and the monthly bulletin reporting the progress of the work are sent to the physicians of the State.

Talks are given before county medical societies; educational material is sent in quantity several times a year to physicians with our postal cards which are used for sending in the names of patients desiring information and booklets. Our diet slips, furnished free of charge, are almost universally used by the physicians of the State. Whenever we request a definite service from a physician requiring time away from the office, he is remunerated sufficiently so that "he at least breaks even." This is true of all child-health conferences and toxin-antitoxin clinics.

Because of the close contact we are able to make with the medical profession there is a very clear understanding of our program, and we are given the best of help and cooperation. The local physicians as a rule examine at each child-health conference. In sections where there is no physician a children's specialist does the work for us. It frequently happens that a request for the children's specialist comes from the physicians themselves.

We are also in close touch with health workers and with our health officers and town fathers.

A careful study is made of each community, in order that we may have a suitable and definite plan to better health conditions ready to present. Naturally the plan of work varies in the different parts of the State. In one section the most urgent need is a public-health nurse; if this is the case we endeavor to stimulate public interest, frequently loaning a nurse for a limited time to develop a suitable program and making sure that sufficient emphasis is laid on prenatal, infant, and preschool work.

A prenatal demonstration properly arranged and carried out has proved a most successful way of securing the lasting interest of physicians, nurses, and, most important of all, the women themselves and their husbands.

The mothers' classes conducted as a part of the prenatal demonstrations have been of the greatest value in teaching large groups of mothers the value and need of this type of work. These classes have been well attended, the Manchester demonstration lasting for two years and averaging 39 pupils per lesson.

Without doubt the keystone of a permanent program is the good will, interest, understanding, and activities of the people in a community.

In New Hampshire there are 11 cities and 235 towns and villages. In 153 of these we have formed what is known as a permanent com-

mittee made up of men and women of the town who have a well-developed sense of civic responsibility and a strong desire for civic improvement, who are interested in whatever will improve the health and well-being of the women and children in their midst. This committee, when properly and carefully instructed, is largely responsible for carrying out the plans of the maternity, infancy, and child-hygiene division.

The formation of a permanent committee as a rule begins with a child-health conference. Naturally the first conference must be carefully handled by the staff nurse of the section; she must assemble her committee and go carefully into every detail of organization work, transmitting to them her own enthusiasm and absolute belief in what she is doing, assigning the different duties to the various members, always bearing in mind this fact—that people are far more interested when they are a part of a general plan and have real, tangible service to render.

In the beginning it is necessary to hold frequent meetings with the entire committee, the chairman, or a special group, in order to be sure that the details are being carefully and properly carried out.

When the nurse in charge, fortunate enough to possess genuine organizing ability, keeps in touch with her committee, and through personal contacts, letters, and other means sends frequent reports in connection with conferences and correction of defects, she has formed in that community a group of citizens not only capable and responsible, but able and eager to help continue the health work necessary to make that particular community an outstanding one in the State. In many of our towns such a committee, formed from clubs, church organizations, schools, and professional and business people, has become so deeply impressed with the results from the first child-health conference that it has voted to be responsible for one or more each year.

Groups of women from the permanent committee also make and keep replenished the obstetrical packages which are being used in 42 of the towns.

Members of the committee have been of the greatest help with the follow-up work in sections where there are no public-health nurses. They carry mothers and children to and from doctors' offices, clinics, hospitals, and conferences, and are very successful in stimulating the interest of the parents in carrying out recommendations with regard to correction of physical defects found as a result of the conference examination.

Prenatal cases are reported to the main office, or direct to the county nurse, by members of the committee; they also keep in close touch with the mothers and the entire group of preschool children.

After one child-health conference is held in a community, there is little difficulty in checking up on the quality of work of each member of the committee, and then in a tactful way suggesting whatever changes in personnel will be of benefit to the future of the work.

We have found it comparatively easy to arrange toxin-antitoxin clinics for the preschool children. Our permanent committees, through the children's conference, have become acquainted with the parents of the preschool group and are very successful in making home visits to explain the nature of the work and why it is needed.

Recently in a rural community covering three towns the committee with very little help succeeded in having every family, with the exception of two, present for the first immunizing dose; 120 children were immunized as a result of their endeavors. The clinic was most systematically arranged and carried out. Our staff nurse met with the committee twice, called upon some of the more difficult parents, and arranged the details of the clinics. All the rest of the work was done by the women and men of these three villages.

Mothers' classes, lectures to school girls, and health exhibits are also arranged for by the permanent committees. This greatly simplifies the work of the county maternity and infancy nurse and allows her to extend the activities.

Several of these committees are now working out a plan to secure from the town fathers a yearly fund that may be used for health work. This is a most important development in our plan for permanent work, as it would mean that the town itself could finance conferences, clinics, and a limited follow-up service. Then if the division of maternity, infancy, and child hygiene of the New Hampshire State Board of Health should find it necessary to curtail its activities in certain communities, a very commendable and satisfactory program along similar lines could be maintained in each of these localities through a small staff working out from the State office.

The public-health nurses in the State receive frequent bulletins and letters showing the progress of the child-hygiene program. They have cooperated wonderfully in the work and are carrying on much better and more extensive prenatal and preschool programs than in the past. Each nurse possesses a complete set of index cards with names and addresses of all preschool children in her community. These cards are sent every month from the State office. In this way it is comparatively easy for the 156 public-health nurses in the State to keep a supervising eye on the preschool children. This, together with the work being done by our staff nurses, establishes a very thorough system of follow-up work. The nurses of the division meet with the local nurses at stated intervals to go over physical-examination cards and check up on defects and other matters.

The development of work of this type must be slow and gradual if it is to be of a permanent nature. It requires an intensive, consistent, educational campaign that includes newspapers, churches, clubs, civic organizations, schools, and every group of men and women in the State. An awakened conscience to the health needs of the community must be felt by every individual in order that effective work be accomplished, the results of which will be reflected in the future in the physical, spiritual, and mental well-being of our boys and girls.

DISCUSSION

The CHAIRMAN. This is a very interesting and very important paper, it seems to me. I am going to ask Dr. Elizabeth A. Ingraham, director of the Bureau of Child Hygiene of Connecticut, to open the discussion.

Doctor INGRAHAM. Perhaps in New England more than in any other group of States we must show the citizens that child-health work will be permanently beneficial and worth while financially. As

the foundation for our work in Connecticut we seek the support of the local health officer and every local physician of good standing. Generally this is given as soon as they understand our aims and methods, see the advantages of the work, and realize that indirectly it accrues to their interest. We make it clear that no medical work (not even first aid) is done at the conferences, that no advice is given except as to hygiene, and that if medical or surgical care is needed the parents are urged to take the children to their family physicians. As practically everyone needs medical services at some time, and as doctors are often trusted friends as well as medical advisers, they can be veritable child-health missionaries or, if prejudiced, serious obstacles in our path.

Our procedure in a town in which a child-health conference is planned is as follows: The director of the bureau of child hygiene calls upon the local health officer, outlines the plan, and discusses methods. Having secured this officer's approval the director calls upon the local physicians of good standing (in alphabetical order) to present the aims of the work, point out its purely educational and advisory character, and emphasize the fact that it can not be done except with their approval and cooperation. Each physician is told that the bureau will report to him any defects found in his patients at the conference. The request is then made that he give his services in turn at the conference.

We do not get specialists for the conferences because we believe that the local physicians might regard this as a reflection upon their ability and take less interest than when we depend on each of them to give an hour or two of his time once a month. We never offer to pay for their services, and we do not invite them to come as spectators. We tell them that it is their work and until each is ready to do his part no conference will be held.

At the conference each defect is recorded on our so-called "doctors' defect sheet," diagnosis to the mother being avoided if possible. At the close of the conference these sheets are mailed to the State department of health; and the director of the bureau of child hygiene writes to each local physician reporting the condition of each patient of his who was examined, adding that the mother was advised to bring the child to him for consultation and advice. If the examining physician reports that the services of a specialist are needed, the child is referred to the specialist through the family doctor, with whom the director or assistant director of the bureau discusses the situation. This method of referring the children avoids any local clashes, as defects found by Doctor A are reported to Doctor B through the bureau.

The bureau maintains constant contact with the local physicians. It sends to each a so-called "service calendar" so that he may know the dates of his service at conferences, and on the morning of the conference he is reminded by telephone in addition.

After more than three years' successful experience we believe that this method holds the interest of the physicians and that permanency in the work can be achieved only through the active and friendly support of the local physicians and health officers. We have never had any child-health centers except permanent ones in Connecticut. Because the burden is laid upon the community from the outset the

citizens become accustomed to the work, and as they realize its value we can withdraw active assistance from one center after another, finally functioning in an advisory capacity only. Thus we can cover a wide field upon a comparatively small appropriation.

I may add that we do not allow any artificial feeding to be recommended at our centers. We believe that artificial feeding is so important that it should be done by direction of the family physician and under his supervision, and if a conference physician advised changing a formula he could properly be considered as infringing upon the family physician's province.

(Meeting adjourned.)

THURSDAY, JANUARY 13—AFTERNOON SESSION

MISS MARIE T. PHELAN, R. N., EXPERT IN MATERNAL AND INFANT CARE, MATERNITY AND INFANT HYGIENE DIVISION, CHILDREN'S BUREAU, UNITED STATES DEPARTMENT OF LABOR, PRESIDING

The CHAIRMAN. The program this afternoon is to be devoted to subjects relating to the maternity and infancy nursing problems. We are very glad to have with us this afternoon Miss Jane Allen, the general director of the National Organization for Public-Health Nursing, who will discuss the supervision of field nurses.

SUPERVISION OF FIELD NURSES

BY JANE C. ALLEN, R. N., GENERAL DIRECTOR, NATIONAL ORGANIZATION FOR PUBLIC-HEALTH NURSING

The topic "supervision of field nurses" has peculiar pertinency at a conference of workers in maternity and infancy care held under the auspices of the United States Children's Bureau. Wherever there exists a program of maternity and infancy care, we find public-health nurses holding an important place. The program supported by Sheppard-Towner funds are often carried on in sparsely populated rural sections where such care would otherwise be negligible or entirely lacking. This means isolation for the nurse, and thus supervision becomes a matter of paramount importance.

It is significant that public-health nursing, which has had such a phenomenally rapid development in the last 10 years, has apparently reached that stage where attention is beginning to turn to some of the finer phases. Public-health nurses, as a group, are beginning to see more in their jobs than a routine performance of assigned tasks. This is indicated by the frequency of National, State, and local conferences, by more and more writing on public-health nursing, by a steady flow of students between the field and the university courses in public-health nursing, and by a noticeable spread of the idea of staff-education programs.

An increasing number of public-health nurses are seriously studying and evaluating public-health nursing procedures. Up to the present time we have been so engrossed in meeting the urgently pressing, immediate needs in our field that we have not had the time to give to a much-needed analysis of purposes and functions. So recent is all our thinking on this subject that, even now, such study is going on, in the main, only in the older, well-established centers of public-health nursing.

Of all the functions involved in public-health nursing, supervision is probably receiving the greatest attention. We are becoming conscious of a growing conviction that this function is perhaps the very hub of the whole wheel. We are also beginning to realize the wide range of possibilities it holds for strength and efficiency of service, for economy of time, effort, and funds, and for the development and professional growth of our nursing staffs.

Although it is true that on the whole we do not yet know very much about supervision, we have nevertheless made such progress in our thinking that we can say that the principle of supervision is to-day unchallenged wherever good standards in public-health nursing prevail. There are, however, many different ideas as to what constitutes supervision. Taken by and large, the prevalent idea is the traditional one of a routine "checking up," a more or less autocratic surveillance for the purpose of getting the work done efficiently

and expeditiously. The majority of nurses worked under this kind of supervision in their schools of nursing. We were submissive to it as a part of our necessary training, but it left in us a definite impression of chafing and rebellion and a desire to avoid a similar relationship whenever possible. Under such autocratic supervision the nurse was only a means to an end, rarely an end in herself. Initiative and independent thinking and acting were discouraged. Little if any consideration was given the matter of the nurse's own growth and development. The work in hand was the main object. All else was subordinate to this end. But when a nurse who has come out from under such a régime finds herself more or less "on her own" in the public-health field, where the demands made upon her give her the widest possible play for independence and initiative and where she feels the spur of ultimate responsibility not only for her own success but for that of her program as well—is it any wonder that we see the pendulum sometimes swing to the other extreme and find her on the defensive to preserve her new-found freedom? To the average public-health nurse to-day, except in the comparatively few larger centers of public-health nursing, the term supervision carries with it this more or less unpleasant connotation. It may be vague and indefinite in her own mind. She may have heard of or experienced a better form of supervision which is less autocratic, but still the old hang-over persists. It is well thus to remind ourselves of the underlying reasons for the prevalent attitude on the part of public-health nurses towards supervision which all in theory approve but which many in practice seek to avoid or, at best, only tolerate.

In view of this situation it is perhaps fortunate that of all the recent constructive thinking on public-health nursing, none is of more importance or more encouraging and hopeful than the newer interpretation of supervision. We have now begun to look upon this function as an educational one, which means a revolutionary change in methods and technique. We are having to restate our purposes and aims for this particular function, and we find ourselves looking at our staff nurses and our programs of community service in entirely new relationships.

Efficient and acceptable field work still remains our ultimate aim, but many of us now realize that the best way to accomplish this is to regard the field nurse, her growth, her development, her self-expression in her job, as a specific aim also.

The focal point of attention has become the nurse herself—the nurse as an individual with latent possibilities for the development of new powers, the nurse as an intelligent, thinking being with an inalienable right to self-expression and personal initiative. We see the supervisor, on the other hand, as teacher and guide, keeping in the background as much as possible but at the same time with no smallest detail escaping her; ready to help make the weak places strong, making sure that standards are maintained and that the program is efficiently carried on, and constantly awake to new opportunities. Instead of the old, impersonal, arbitrary oversight, we now think the desirable relationship is that of friendly adviser-expert helper, staunch and loyal supporter.

Field supervision of public-health nurses as a State function, although essentially the same in principle as supervision in a closely knit city staff, necessarily differs somewhat in practice. Here the factors of distance and time enter in. With the nurses scattered over a large area, many of them isolated workers, the problem is largely one of how to maintain contact and how to keep open the channels of communication and understanding. On the one hand, the supervisor needs to keep herself fully informed and sympathetic with the local situation, not only its problems but also its resources and its strategic opportunities. She should make it possible to know the nurse, to make a case study of her as an individual, as it were, in order that she may appreciate better her special needs and her possibilities for development and for professional growth. On the other hand, the local nurse must be encouraged to turn gladly to the supervisor for needed help. So close should be the contact with the supervisor that the nurse is continuously aware of this source of sympathetic understanding and expert advice, of stimulation and encouragement.

In addition to this all-important relationship between the two individuals, the supervisor and the supervised, a definite supervisory responsibility exists for linking up the local nurse and the local program with the larger groups and the broader programs, State and National. In this we find the coordinating function of supervision. Here lies the means for establishing standards and for securing that united effort toward the attainment of a common goal which we are more and more recognizing as of fundamental importance in the modern public-health campaign.

These, then, are the immediate needs in the supervision of field nurses: (1) A supervisor well informed as to local program and local nurse; (2) a cordial and sympathetic relationship between supervisor and nurse; (3) open and well-used channels of communication; and (4) coordination and unification of nurses and programs as a whole. It may be helpful to consider some practical means for meeting these needs.

First of all, good supervision requires a carefully worked out and executed introduction of the new nurse to the field. Too much emphasis can not be given to the bearing which this has upon the whole situation, present and future. To permit a new nurse to begin her work without a proper introduction is unfair not only to her but to the community itself and to the program as a whole, to say nothing of the handicap which it furnishes in the establishment of desirable supervisory relationships. If she is new to the State, she should spend several days at supervisory headquarters following a definite schedule of contacts and making a general study of resources and standard procedures. She should meet personally the staff of State workers. She should visit the State institutions, with which, as a local nurse, she will have future contacts, and thus secure first-hand knowledge of the available resources within the State. She should learn something about the development of the public-health program in the State, the principal laws relating to health and disease, past and present problems, plans for future development, and present standards. She should familiarize herself with the facilities in the State department of health, the rules and regulations governing the

control of communicable disease, the laboratory service, the publicity program and how it functions in relation to local workers in assisting with speakers, loans of films, slides, and posters, the free health-literature supply, and any other available services or sources of material that may later prove helpful. She should be instructed as to records and reports and given general information as to the public health nursing program for the State. Thus, before she proceeds to her own particular field of work, she has become somewhat oriented and has been made an intelligent member of a State group engaged in a unified State program.

The second half of the introduction should take place in the local field, to which it is desirable that the supervisor plan to accompany the new nurse. She should spend enough time with her to give her personal introductions to the key people, to make sure that she is established satisfactorily as to living quarters and that some arrangement for office room is made, and to give needed assistance in working out a tentative program and schedule.

Such an introduction to the field, covering a period of one week to 10 days, is the best possible guaranty of the kind of supervisory relationship desired and is an investment well worth the time and the effort. It is a minimum below which no supervisory program should go if it is to be successful. Subsequent supervision can be based on this sound foundation as a beginning and consists in the main of strengthening the initial bonds of contact and interest in every possible way.

Much of the contact is necessarily by means of correspondence. Supervisors of field nurses have hardly tapped the possibilities in this particular phase of their work. We often read or hear the statement that letter writing is fast becoming a lost art, but a successful supervisor of field nurses is finding it an art in which she must develop all the skill possible. To respond unflinchingly in a helpful way to an expressed need—more, to become adept at reading between the lines and realizing the unexpressed need—to be alert and quick to follow a lead and write letters so friendly, so full of genuine interest, so helpful, that the nurse receiving them wants more; these require real skill and conscientious, careful effort on the part of the supervisor.

How much such letters can mean to the nurse working alone no one can ever know unless one has actually been in that situation. The encouragement to stick to the job, the inspiration to see beyond the difficulties and anxieties to the larger gains that will eventually be secured, all this the supervisor's letters may carry to the lonely worker.

The analysis and appraisal of the statistical and narrative reports sent in by the field nurse also present opportunities for supervision. Careful study and evaluation of the individual reports, month by month, will give an insight into the status of the local program, how it is measuring up to local needs, what new needs are becoming evident, how much, if any, progress is being made, and how the local is fitting into the State program. Properly studied and used, these reports should also prove illuminating as to the nurse herself, and a discerning supervisor should find in them rich opportunities for increasing her insight into and understanding of the

nurse and her individual needs and possibilities, her weakness and her strength. The successful supervisor recognizes the importance of reports and makes increasing use of them.

Having started the nurse out with a proper introduction to the field and having subsequently maintained close contact with her and the local program through correspondence and the proper use of field-service reports, the supervisor uses the periodic visit to the local field as a further means of supervision. Considerable thought and careful planning are necessary if this is not to become a superficial, more or less perfunctory and routine procedure. The nurse and her local groups, official and nonofficial, should be given the opportunity to plan in advance for the visit of the supervisor in order that they may obtain the most satisfying returns. On the other hand, the supervisor will want to make certain a well-rounded visit that will include all those contacts which the special needs of the nurse and her local program indicate would be helpful. If the right supervisory relationship exists the field visit will be eagerly anticipated and warmly welcomed. At this point we have one of the observable tests of good supervision, for we now recognize that the right relationship between the supervisor and the field is fundamental to all the other desirable assets we expect this office to produce.

Finally, it is a major responsibility of the supervisor to coordinate the field work and to insure certain accepted standards in programs and work. She needs to think of the State program as a whole and to look upon each local program as an integral part of that whole. The question becomes paramount how to bring about a knowledge and understanding and appreciation of each other's work that will mean united effort toward a common goal. This must be accomplished so as not to jeopardize local initiative nor to hamper any honest effort to carry out plans best suited to specific local needs. Two ways of doing this have proved successful: (1) Occasional regional conferences and (2) bulletins or news-letters issued regularly and circulated throughout the State. A group consciousness, a realization of a common interest, and an appreciation of mutual helpfulness in solving similar problems are brought about through this exchange of ideas. A wholesome stimulation of local interest and effort usually follows. If supervision really means such oversight as will bring the best help and stimulation to the workers, then the occasional group conference and the regular State bulletins are of the utmost importance. Supervisors are justified in expending a good deal of time, thought, and energy on such projects, for, if rightly managed, they bring rich returns in a better coordinated and more efficient community service.

Granted that supervision as a function in public-health nursing should mean all this, the most important factors are, after all, the supervisor herself and her qualifications for success in her job. Not tenure of office as a staff nurse, not maturity of years or experience, not education nor technical preparation alone predicates the good supervisor. In the supervisor, as in any teacher, that which, for want of a better name, we call personality counts for much. The nurse who, in addition to sound academic and professional education and a background of successful professional experience, has the rare gift of leadership, of being able to work harmoniously with others, of

sympathetic understanding and of discerning insight into the needs and promise in others is the nurse who is, as we say, good supervisory material. She must be open-minded and flexible in her thinking, she should have imagination and vision, she needs well-balanced judgment and a saving sense of humor, and, most of all, she needs plain everyday common sense.

Too much emphasis can not be placed upon the importance of a properly qualified supervisor. We admit she is rare and difficult to find to-day, but now that we are beginning to appreciate her strategic position in the whole scheme of successful public-health nursing, we are urging more and more the necessity of definitely selecting nurses who give promise of development and helping them to become fitted for this kind of work.

DISCUSSION

The CHAIRMAN. Miss Allen's paper will be discussed by Miss Mary D. Osborne, supervisor of public-health nursing of the State board of health in Mississippi.

Miss OSBORNE. Miss Allen's paper is so replete with good things and so comprehensive that in order to open the discussion it will be necessary for me to restate certain outstanding facts.

It seems to me that first of all the supervisor must have the utmost belief in and unselfish devotion toward her work, a vision of results to be obtained, self-confidence and yet the power of self-effacement. She needs an adequate background based upon theoretical and practical experience. She not only must know how her particular work should be done to obtain desired results but must possess the art of interpreting and imparting this knowledge to others, no matter what particular activity is concerned. Expertness within a given field which comes from good training and broad experience in varied phases of practical work is fundamental. "An expert supervisor," it has been said, "is so familiar with the basic principles and concepts of modern psychology, sociology, and philosophy that she applies them in the solution of each problem within her special field."

Every nurse must do her own learning. No one can be educated without first-hand individual effort and experience. An axiom of pedagogy is to aid the pupil to think independently. To paraphrase Miss Goodrich: A good supervisor should teach the nurse to become habituated to thinking while learning by doing. In order to grow, the individual worker must have interest in her work, actually think out her own problems and develop her own initiative. It would seem that one of the faults of educators is to keep in mind the ideal pupil and her reaction rather than the average pupils. Much of our literature has this fault.

The acid test of the efforts of the teacher is: Does she arouse in the pupil an active interest in thinking and the urgent desire diligently to work out the theory in practical detail? The supervisor who can teach the nurse spontaneous action without arbitrary restraint and at the same time inculcate in the pupil a plastic and responsive desire to follow her lead, will do much to establish a good morale. The good supervisor does not repress spontaneity but by various and oftentimes subtle methods stimulates it to develop under her guidance.

Supervisorship must fill a felt need. A good supervisor is one who is not simply a dictator to say that this or that shall be done thus and so, but one who trains the supervised how to think out the problems in their relation to the development of a constructive program of work, one who teaches how to interpret a particular phase of work in its relation to the whole, one who teaches how to organize an individual piece of work so that it may be a smooth-functioning part of the whole.

A supervisor should be a guide, a counselor, a friend, a support, but not a dictator nor a prop upon which to lean. In addition to the ability to lead, the supervisor must have the power to instill into her coworkers the faith to follow her lead. Nor does it suffice to be a leader only. The leader must keep on developing and holding the sustaining power. A good supervisor does not launch new ideas precipitately and yet does not lag.

Unstinted personal praise relative to lines of action and results obtained should be given at the right moment. Criticism should be constructive. Problems should be thought out individually by the supervisor and the supervised and later talked out together. An impersonal attitude toward the work often clarifies problems as they arise and hastens their solution. A good supervisor thinks in terms of the supervised, helps to clarify indefinite and muddled thoughts, teaches how to differentiate between nonessentials which clutter up and encumber and essentials which clarify. Such a relationship preserves the individuality of the supervisor and the supervised and tends to develop correct methods among the workers and in the work.

With regard to methods used in supervising public-health nurses affiliated with the State board of health, it seems to be time well spent and but fair to the nurse and the organization for which she works to have her begin her services by spending a few days at headquarters, where she may meet the heads of bureaus and gain knowledge of the field activities which will help her in her local work. Group conferences also may be planned for public-health nurses, either special conferences of their own or conferences in conjunction with the State nurses' association of which the public-health section is a part.

In Mississippi after placement in the field the public-health nurse works under direct supervision of the full-time county health officer, the bureau of public-health nursing acting as a clearing house and rendering assistance and guidance as indicated.

The supervisor has the advantage of the supervised, not because she has more authority but because she is able to gain a comparative vision of all services and their relation to one another and to the whole. The reward of the supervisor is automatic. To stimulate development in others in turn develops and improves one's own methods. It is most gratifying and stimulating to take an inexperienced and untrained worker and watch her progress not only in the technique of her work but in her own development. To note her self-development is sufficient reward, but it also develops the power of leadership in the supervisor.

Miss Fox. I should like to ask how you are going to get that two weeks at the State health department headquarters financed? Who

pays for it? The State department, the municipality, or some private agency?

MISS OSBORNE. In our State the county health unit does that.

MISS FOX. I think it is a splendid thing, but it would be difficult to get it financed.

Mrs. DILLON. May I say in answer to Miss Fox's statement that in West Virginia we do not attempt any two weeks at headquarters, but we do try to have all nurses coming into our State from the outside at headquarters for at least two days. We have never had any difficulty in getting the county to which a nurse was going to finance not only those two days at headquarters but the additional expense involved in having her come to headquarters. They seem very glad to do it, because they believe the experience to be worth far more than the extra expense involved. We have followed very much the plan that Miss Allen has outlined for those two days—to get the nurse acquainted with the personnel of our organization and of the related State agencies. The nurse goes into her field with more self-confidence than she otherwise would have, and we have been assured over and over again by them that they feel even the two days at headquarters were very much worth while.

MISS ALLEN. My experience has been that success depends on making the right contact with the community. They see the value of this to their own local people and are glad to pay the expense. When I was State supervising nurse we did not have the nurses at headquarters as long as two weeks, but we were able—because all our State institutions were right near headquarters—to have the necessary visits accomplished in a week; and our committees were always willing to finance that.

MISS BEAUCHAMP. We have county health units in Arkansas, and the relation of the supervisor to the nurse who is employed by the unit is just a little more complicated than her relation to the nurse employed by the State. It has been perfectly easy for us to bring the nurses into the State department for one or several days where we are subsidizing the service and where we organize a committee and put the nurse in; but I should like to hear from someone who has had more experience with county health units and with the cooperation of the directors of those units, as we are beginning to have more county units in our section.

MISS OSBORNE. In the work of the units in our State, Mississippi, the nurses are under the direction of the unit. We are at their beck and call to help, and we are called upon to help whenever they want us.

MISS MARRINER. I do not know whether what I have to say will answer Miss Beauchamp's question or not. The nurses in Alabama are brought into headquarters for varying periods, one to several days, or in some instances a week or more. The expense is carried by the State board of health as part of the preparation of the nurse for her office.

THE CHAIRMAN. How much does that cost the State, Miss Marriner?

MISS MARRINER. It is not a large sum. I have not the average figures in mind. I usually invite the nurses to my house, where they are guests; the expense is not very great.

Miss OSBORNE. May I ask if their salary begins at that time?

Miss MARRINER. Yes; they are on salary then.

The CHAIRMAN. I think there is quite a difference in the programs in the States where they have county units and in those that have only a state-wide public health nursing program.

Mrs. McCALEB. We do not bring our county health nurses into headquarters. Of course the Sheppard-Towner nurses in Ohio are on our pay roll, but I am wondering whether, with the large number of nurses we have, it would be possible to finance this. We are constantly getting new nurses, and they are employed by the county boards of health; I doubt whether the State would be willing to finance it.

The CHAIRMAN. What means do you use in the State for instruction?

Mrs. McCALEB. We have instructing nurses who visit the new nurses. They spend probably a week with them in the beginning, and they visit them as frequently as they think it is necessary.

Doctor GARDINER. In New York we have consultant nurses that go about the State visiting, and an extension course also is offered. In fact the Sheppard-Towner nurses do not go to headquarters; we really go to them.

Mrs. REID. In Florida the new nurses coming on the State staff report for duty at the State department of health and remain there a sufficient period of time to become familiar with the records and report blanks. (The bureau of child welfare and public-health nursing is in the State department of health.) The contact with nurses who are employed locally is made by the field supervisor, who, as soon as possible after a nurse has been employed locally (either by a community organization or a county) visits that particular nurse, acquaints her with all the facilities that she may have from the State department of health, and helps her as much as she can.

The CHAIRMAN. I recall that when I was with the Red Cross we had nurses who were going to the various States to take positions stop at the office when it was possible and spend two or three days becoming familiar with the records and getting acquainted with the office staff. We felt that it was a great help to the nurses who went to far-distant parts of the country, because they not only became familiar with the records and the general routine of the office work, but also became acquainted with the workers in the office—the people to whom they were writing and who were answering their letters.

Miss Fox. Another point I should like to know is the opinion here on Miss Allen's suggestion that the supervisor should go in with the new nurse and get her started. That is a thing we have long advocated in the Red Cross; but we get this comment from our own nurses in the field, and I wonder whether the group agrees: That the supervisor's going with her takes away from the nurse's local prestige, the local feeling that she is competent to handle the job. If the supervisor can go in a few days later, making it appear to be a casual routine visit that just happens to come at that time, the same thing can be accomplished and the nurse's standing in the community can be saved. I am inclined to feel that our field people are right in taking that stand about it,

Doctor GARDINER. You presuppose that a county unit is made up more or less of specialists and that they are in a measure self-sufficient. Do you not think that if they want help they can ask for it, rather than to have things imposed upon them?

The CHAIRMAN. I think that is understood.

Doctor SCHWEITZER. The system in Indiana is somewhat different from that in some of the other States. Whenever new people, either doctors or nurses, come on the staff of the division of infant and child hygiene, they not only come into headquarters to get information, to get acquainted with the staff and with the routine, but also are sent into the field with the staff which is already at work, to learn the field routine and organization. We try always to stay away from the county nurse until she is thoroughly established in her own right before we offer any assistance from this department.

The CHAIRMAN. The next subject is "Standards for training of public-health nurses," by Miss Fox, national director of public-health nursing, American Red Cross.

STANDARDS FOR TRAINING OF PUBLIC-HEALTH NURSES

BY ELIZABETH FOX, NATIONAL DIRECTOR OF PUBLIC-HEALTH NURSING,
AMERICAN NATIONAL RED CROSS

What I am going to say is so obvious, so well known to you all, that it hardly seems worth your while for me to present it. And yet we are all more or less in the same predicament trying to live up to our own accepted standards, for we all have more positions to fill than we have well-prepared nurses to fill them. We are constantly facing this question: Shall we compromise with our standards and employ nurses who we know do not come up to the standard of preparation that we feel is necessary? We are facing this all the time in the Red Cross, and I am sure that every State worker faces the same question. Every time we are in a mood to compromise I think we should stop and question whether that is in the long run the wise thing to do, and what I want to do here to-day is a little thinking out loud on that point.

Most of us are placing nurses in towns or counties where public-health nursing is a new thing. This nurse may not be the first, but the nursing service has not been there very long and the town or the county is not advanced in public-health measures. With the exception of some two or three hundred counties there is no full-time health department, and consequently there is no comprehensive health leadership in the county. There is usually very little health work going on in the schools. Probably there are no health clinics. There may be some sick-baby clinics or some other special clinics for treating disease, but no health clinic. There is almost nothing in the way of a health consciousness or an organization of the county for health work. That is the setting into which we are often placing our usually lone nurse to do maternity and infancy work in your case, generalized nursing in ours.

Perhaps I am not the one to say what objectives you are setting for the nurse in maternity and infancy work, but I think it is proper to assume that (1) you want her to bring about in the town and county in which she works a much higher valuation of human life and of the need for adequate prenatal, maternity, and infant care; (2) you want her to supply the knowledge which will lead to better prenatal hygiene and better care of the infant; and (3) you want her to help produce the facilities which will make good prenatal care and good child care possible. Now, what must the nurse be able to do if she is going to "put over" such a job?

First of all, it seems to me that she must have a public-health point of view, a point of view which leads her to see the individual as a member of a family and a member of society and not simply as an individual, to think of the problem presented by the individual and then think of the family problem of which the individual's problem

may be either cause or effect, and then beyond that to the community problem, a point of view which emphasizes prevention and education rather than merely the alleviation of ills already existing. That may seem very obvious, and yet it is not a point of view that nurses are born with; it is not a point of view that nurses graduate from their training schools with. It is an acquired point of view—the outcome of special study and experience. And it is a first necessity.

The second requirement seems to me to be the desire and the ability to teach, since we have said that an important function of the nurse is to diffuse knowledge. This means that the nurse must know the why and how of proper prenatal hygiene and the facts about the growth and development of the normal child both physical and psychological. If we have not sound, scientific, and comprehensive knowledge ourselves, our teaching is a farce. Beyond that the nurse must have a knowledge of how to present her subject so that it makes an impression, so that it creates an enthusiasm, so that it brings about a change of heart, so that it ends in actual practice of the things she is advocating.

Third, the nurse must have skill in getting people out to classes and to clinics and to other centers where she hopes to instruct or help them. The nurse who doesn't know how to get to the people, doesn't know how to make them enthusiastic, how to attract them to classes and clinics, how to interest them after they come and make them come again, is not going to get very far with her educational program. She must be a promoter and an organizer.

Fourth, she must understand the control of communicable diseases, because that plays such an important part in our preschool program. That means much more knowledge of their spread and control and prevention than any of us received in our training.

Fifth, since her greatest opportunity and effectiveness are in the homes she must have a knowledge of good home visiting. She must know what she is going into the home for, how to make a successful approach to a home, how to take in the situation when she gets there, and how to "get over" the right ideas and influence the situation constructively—very important skills these, without which her work will amount to almost nothing.

Sixth, she must know how to arouse community interest in a maternity and infancy program, in better care for mothers and babies. That goes far beyond a mere publicity campaign. It goes into the realm of knowing how to arouse and make use of the latent interest of every group in her community, and by actually tying it into her program, making it come to life and amount to something.

Seventh—I don't know but that this is almost the most important factor and it doesn't depend on education solely—she has to have the ability to work with others. How many a program has gone on the rocks because the nurse couldn't get along with the doctors, because she hadn't any idea how a nurse functions alongside a health officer, how a nurse relates her work to the school system, how she ties it in with the health programs of other agencies, how the activities of public-health nurses and social workers are enterprises in partnership. She must know how to accommodate herself to other activities in the community and adjust her program so that they become a harmonious whole.

Eighth, she must have the ability to plan her work to make her time count for the most. She must be so familiar with the operation of each of her duties that she can make them fit together in an efficient and workable schedule. It seems to me that those eight abilities are indispensable if the work that you want done in the town or county is actually going to result from the nurse's appointment.

Now, the ability to do these things and to avoid the opposites of these things, seems to me, leaving personality out of the question for the moment, to be based on a knowledge of hygiene, of preventive medicine, of public-health administration, of sociology (at least some idea of the structure of society and the way it functions), of pedagogy, of psychology (most important), of community organization, of the principles and practice of public-health nursing. Miss Osborne added a requirement which I had not thought of before but which now seems to me to be perhaps most important of all, a knowledge of philosophy. If we had that, I don't know but that a good many other problems would solve themselves.

If you agree with me that a piece of work being launched in a community is not likely to meet with success unless the nurse can do the things outlined, and if you agree that success in these things depends largely on her possession of the knowledge suggested, where are we going to find satisfactory nurses to fill our vacancies? There are three sources from which we can draw: (1) The nurses who have had no experience or special preparation for public-health nursing, (2) those who have had experience, and (3) those who have had a public health nursing course. Let us examine each of these sources.

As for the nurse who has had no experience or special preparation, what can we expect from her? Obviously unless she has graduated quite recently and from one of a score of leading schools, she has been taught none of the subjects we have listed as essential. But it is often argued that individuals without experience in public-health nursing, without postgraduate training in public-health nursing, but with common sense, can do an excellent piece of work. I agree in part with that statement. I think there are now and then broadly educated, highly intelligent nurses who are so observant, so quick-witted, who have so much common sense, so much judgment, that they learn very rapidly, take advantage of everything they learn, and very soon are able to do a very good job. If I didn't think that, I would be forgetting some of the very leaders of our profession than whom we have none better, who many years ago stepped from the hospital into the development of visiting nursing. But let us remember that they are our outstanding women of whom we have only a few. Nurses of their caliber are so rare that there is probably not more than one for each State. Furthermore, in this day and age any nurse with that exceptional quality of mind and temperament is the last one to be willing to undertake a piece of work unequipped for it, so that she would not be available until she had equipped herself through postgraduate work. With all the more intelligent nurses eliminated by their own insistence on adequate postgraduate preparation before appointment, we have left only those of average or less than average intelligence, those who do not have that wonder-working common sense, which it is argued will

compensate for lack of knowledge and experience. It is obvious that they are doomed to fall far short of the mark.

Our second source of supply is the staff nurse—the nurse who has learned some of these things through experience as a member of a staff where she has had teaching supervision. To be sure, she has not had as much of the theory of preventive medicine, sociology, psychology, and the other subjects as she needs, but she can go a long way toward handling the eight essential points. Fortunately this source of supply is relatively large, though almost totally lacking in a few States.

Then there is the third group, the students who come out of our postgraduate courses, the group that we feel is best equipped to handle the work. Unfortunately at present there are only two or three hundred students coming out of these courses annually, for the courses are not well patronized. You hear it said often, and sometimes I think truly, that the student coming out of some postgraduate course is not so well equipped for pioneer county work as some one who has learned through experience, because she is so full of theory and advanced ideas that she is not content to begin at the beginning and go slowly. That is an indictment of our courses; and if it is true we should tell the directors of those courses that their graduates are failing us in this respect. It is not that education spoils the nurse, but that she has not had the proper perspective given her as a part of her education.

I am sure there is no one of us who does not believe, indeed has not been convinced by experience, that other things being equal, the nurse who has had a postgraduate course has a great advantage over one who has not and a much greater chance of success. You notice I say "other things being equal," for no postgraduate course can give character or common sense or personality; and if these are lacking no amount of education can compensate for their absence.

Eloquent testimony is given to the fact that we all believe in a high standard of preparation for public-health nursing in the report in 1924 of the committee to formulate standards for positions in public-health nursing, a joint committee of the Conference of State and Provincial Health Authorities, the American Public Health Association, and the National Organization for Public Health Nursing. This report was accepted by each of these organizations. (See p. 152.)

These standards represent a tremendous advance in the last 10 years. I remember well, right after the war, when the Red Cross enunciated its standard for rural nursing, the outcry that went up from within the Red Cross and from the State health officers all over the country, that our standard was far too high, that we would surely choke a new and strong interest by setting such a high standard. To-day the standards that these three bodies I have just mentioned have agreed to are higher than those set by the Red Cross.

I have just one thing to say in closing: When we consider the situation honestly I believe we are all agreed that experience proves that with very few exceptions the only nurse who makes good on the job is the experienced or trained worker. We have compromised from necessity over and over again only to find that half-way measures do not meet the need. The nurse almost invariably falls

far short when we pursue a short cut, and it is a question whether more injury than good is not done when that happens.

If we do believe that it takes proper preparation to do a good job, then we must see to it that more nurses enter the postgraduate courses, and that depends largely on our own enthusiasm for them. If, in our hearts, we think a nurse who has not taken a course can do just as well as a nurse who has, we are not going to be enthusiastic about postgraduate courses. However, if we honestly believe that postgraduate education is the right thing, then we will talk about it, we will try to get the nurses to want it, and more than that, we will reward those who have gone to the labor and expense of taking postgraduate work by seeing that they get greater emoluments than those who have not, other things being equal.

It is the responsibility of all of us who are handling this problem of recruiting and placing nurses, and who believe in high standards, to do our share toward increasing the supply of adequately prepared people before we accept compromise.

Report of the committee to formulate standards for positions in public-health nursing (representing the Conference of State and Provincial Health Authorities, the American Public Health Association, and the National Organization for Public Health Nursing)

- I. For the nurse on a staff providing well-qualified nurse supervision.
 - A. Minimum qualifications for 1925.
 1. For nurses graduating from schools of nursing since 1920.
 - (a) At least two years of high-school education.
 - (b) Fundamental nursing education—namely: Graduation from a school for nurses connected with a general hospital having a daily average of 30 patients or more and a continuous training in the hospital of not less than two years. Training shall include practical experience in caring for men, women, and children, together with the theoretical and practical instruction in medical, surgical, obstetrical, and pediatric nursing. Training may be secured in one or more hospitals.
 - (c) Registration under some State nurse practice law.
 2. For nurses graduating from schools of nursing before 1920.
 - (a) No academic qualification stated.
 - (b) Professional training or experience which has developed a wisdom and judgment which is valuable in the public health nursing field in spite of lack of formal academic education.
 - (c) Same as A, 1 (b).
 - (d) Registration under some State practice law.
 - B. Desirable qualifications for 1925, to become the minimum qualifications for 1930, or 1927 if possible.
 1. For nurses graduating from schools of nursing since 1920.
 - (a) At least high-school graduation or its educational equivalent.
 - (b) Same as A, 1 (b).
 - (c) In addition to the services required in the fundamental technical education (obstetric, pediatric, medical, and surgical nursing), theoretical instruction and practical experience in one or more of the following services: Public-health nursing, communicable-disease nursing, tuberculosis nursing, hospital social service, mental hygiene. (These services may be given in the school or taken as postgraduate work.)
 - (d) State registration in the State in which the nurse is to be employed.

- I. For the nurse on a staff providing well-qualified nurse supervision—Contd.
- B. Desirable qualifications for 1925, to become the minimum qualifications for 1930, or 1927 if possible—Continued.
2. For nurses graduating from schools of nursing before 1920.
 - (a) No academic qualifications stated.
 - (b) Professional training or experience which has developed a wisdom and judgment which is valuable in the public health nursing field in spite of the lack of formal academic education.
 - (c) Same as A, 1 (b).
 - (d) In addition to the services required in the fundamental technical education (obstetric, pediatric, medical, and surgical nursing), theoretical instruction and practical experience in one or more of the following services: Public-health nursing, communicable-disease nursing, tuberculosis nursing, hospital social service, mental hygiene.
 - (e) State registration in the State in which the nurse is to be employed.
- II. For the nurse working alone, i. e., without duly qualified nurse supervision.
- A. Minimum qualifications for 1925.
1. For nurses graduating from schools of nursing since 1920.
 - (a) At least two years of high school.
 - (b) Same as A, 1 (b).
 - (c) Four months of instruction under one of the recognized public health nursing courses, or four months' organized instruction for the special field, or one year's experience on the staff of a public health nursing organization giving daily qualified nurse supervision.
 - (d) Registration under some State nurse practice law.
 2. For nurses graduating from schools of nursing before 1920.
 - (a) No academic qualifications stated.
 - (b) Professional training or experience which has developed a wisdom and judgment which is valuable to the public health nursing field in spite of the lack of formal academic education.
 - (c) Same as A, 1 (b).
 - (d) Four months of instruction under one of the recognized public health nursing courses, or four months' organized instruction for the special field, or one year's experience on the staff of a public health nursing organization giving daily qualified nurse supervision.
 - (e) Registration under some State nurse practice law.
- B. Desirable qualifications for 1925 which should become the minimum qualifications for 1930, or 1927 if possible.
1. For nurses graduating from schools of nursing since 1920.
 - (a) At least high-school graduation or educational equivalent.
 - (b) Same as A, 1 (b).
 - (c) In addition to the services required in the fundamental technical education (obstetric, pediatric, medical, and surgical nursing), theoretical instruction and practical experience in one or more of the following services: Public-health nursing, communicable-disease nursing, tuberculosis nursing, hospital social service, mental hygiene.
 - (d) Four months of instruction under one of the recognized public health nursing courses and one year's experience, or an eight months' course in public-health nursing and six months' experience.
 - (e) State registration in the State in which the nurse is to be employed.
 2. For nurses graduating from schools of nursing before 1920.
 - (a) No academic qualifications stated.
 - (b) Professional training or experience which has developed a wisdom and judgment which is valuable in the public health nursing field in spite of the lack of formal academic education.

II. For the nurse working alone, i. e., without duly qualified nurse supervision—Continued.

B. Desirable qualifications for 1925 which should become the minimum qualifications for 1930, or 1927 if possible—Continued.

2. For nurses graduating from schools of nursing before 1920—Con.

(c) Same as A, 1 (b).

(d) In addition to the present requirements in fundamental technical education (obstetric, pediatric, medical, and surgical nursing), theoretical instruction and practical experience in one or more of the following services: public-health nursing, communicable-disease nursing, tuberculosis nursing, hospital social service, mental hygiene.

(e) Four months of instruction under one of the recognized public health nursing courses and one year's experience, or an eight months' course in public-health nursing and six months' experience.

(f) State registration in the State in which the nurse is to be employed.

Special personal qualifications desirable for all public-health nurses: Adaptability, tact, patience, tolerance, courtesy, a spirit of cooperation, and an open mind.

This report is submitted with the committee's recommendation that further study be made of the qualifications for nurse directors and supervisors, and for continued revision of these qualifications from year to year.

It is further recommended that a committee be appointed to consider standards for directors and supervisors in municipal health departments, based upon a study of the report on the qualifications of superintendents and directors in 69 public health nursing organizations, made by the Provisional Section on Public-Health Nursing of the American Public Health Association.

DISCUSSION

The CHAIRMAN. I am sure we all agree with Miss Fox in her standards for public-health nursing. Some of the nurses who are on our large staffs probably would make admirable workers for some of the districts that are calling for nurses at the present time if we could only win them away from their present civic positions. I wonder if Miss Fox can tell us how to do that.

Miss Fox. We go to the superintendents of nurses day in and day out, and ask them for help.

The CHAIRMAN. I ask constantly for nurses who have had special training in care of the preschool child and the expectant mother. I happen to know several nurses who have had many years' experience along this line; and I have been unable to persuade them or even to get the superintendent to acquiesce and encourage them to go.

The discussion on this paper will be opened by Miss Ada Taylor Graham, director of the bureau of child hygiene and public-health nursing in South Carolina.

Miss GRAHAM. It is rather embarrassing to follow Miss Fox on this subject, because if I disagree with her on any point I lay myself open to the charge of being willing to have a lower standard.

My understanding of standards is that they are the goal which we set and toward which we work and that they are not absolute. We are seldom able to live up to our absolute standards, and I think we fall just as far short of it in public-health nursing as in anything else. I agree that we want our public-health nurses to have all the preparation that Miss Fox has said is desirable, but occasionally I think that we can afford temporarily to compromise and get some-

thing that we can use to a very good end even though it is not the best.

One thing that I have to complain of in the standard courses for public-health nursing is that from our point of view they give the nurses too little training in the maternity and infancy field. I considered my own course very good indeed, but the amount of training that I got in that particular line was much less than in many others. With the Sheppard-Towner appropriation being used by the different States I think we all feel that we want our public-health nurses to have more training in this line, even if it has to be got at the expense of some of the other branches of public-health nursing.

I went to South Carolina four years ago and found many counties with appropriations for public-health nursing and no nurses to put into those positions. It was a difficult situation; and though I felt that I had to uphold standards, I finally decided that we really must do something about it. I got permission from the National Organization for Public-Health Nursing and the Red Cross, who were both interested in our State work, to try out a system of training nurses for our particular field of work. We were careful to make it clear from the start that the four months' practical work that we offered in the field was not to be regarded as a training course for public-health nurses; it was simply a stop gap between the time that was past, when we were leaving these counties without nurses, and the time to come, when we hoped that we should be able to get ample material for our positions from the schools of public-health nursing. That time has not yet come, but we were able to get a sufficient number of nurses from the State to take a four months' practical course in our own field with our maternity and infancy nurses. The training that those student nurses got was practically all maternity and infancy work; that is, they had two months in the field with maternity and infancy nurses, one month with a general county nurse, who combined maternity and infancy work with her general program, two weeks of clinic work, and two weeks of lectures, which included six lectures by the advisory nurse from the Children's Bureau.

When these nurses completed their four months' course they were put into the counties, working under supervision, and we tried to get the thought in their minds that they would ultimately take the course that the universities give in public-health work. So far we have been successful in that our first students, who took our little practical course in 1923, have gone to public-health schools and now have taken their course and returned to us. They have told me that they felt they got a great deal more from their university course than they would have if they had not seen anything of field work.

We gave this course, I frankly admit to you, to meet our own necessities. I am not recommending it by and large because it may not be the thing your particular State needs. In that way, though, our nurses did get the maternity and infancy training that we wanted them to have, for we were very fortunate in having several field nurses and one county nurse who were real teachers and who were able to give the nurses not only the practical work but ideals of public-health nursing that I think are of equal importance.

In asking that our public-health nurses have all the training that we have spoken of we have lost sight of the fact that the nurse in many cases is unable to make the progress in her work that she should. The positions of responsibility and the positions that offer her sufficient remuneration for the long period of training and of service in the field are few. Many people talk of establishing a maximum salary for a public-health nurse working in a county. I have heard over and over again that \$1,800 should be the limit placed on the salary of the nurse working in a county; that if she wants to receive a higher salary she should prepare herself for a supervisory position. This is bringing a note into the discussion that perhaps is not the one I would want to close on; but I do think it is something that we have to reckon with. I would like to see the nurses who are in positions where they have an opportunity to fight against that attitude on the part of the public or officials or organizations employing nurses, take a very definite stand that a nurse may remain a county nurse and be just as valuable as a supervisory nurse, and that the position that she has should not limit her as to salary if she has special ability and a particular county needs her services.

Another thing that I have to say in defense of the practical course that we gave in our State and that some other States are flirting with, perhaps, is that the nurse in that way does learn the field in which she is going to work. In the cities where the public-health courses are given the public-health nurse is trained to work with so many co-operating agencies that when she comes into a rural district—into a county, say, in South Carolina—even if she is a person of ability, she finds it very, very difficult to adapt herself to playing a lone hand and having nobody to call on to handle the various things that she has been accustomed to refer to other agencies; handling the social work as well as the public-health nursing; perhaps serving as probation officer and in other capacities. That is one reason why I think that even if a nurse has had a public-health course in a recognized school, when she comes into a State to work she needs a little more preparation for that particular piece of work in the State than just two or three days spent at headquarters.

I believe that if every State could have one county in which there was unusually good personnel, with a nurse who possessed the qualities of a teacher, and if each nurse coming into the State could spend a month in such a county, in that way she would be prepared for the situation that she is going to find in her own county, and the result for the work of the State would be very good indeed.

MISS ALLEN. I think the matter of the teaching center in the State itself is probably the solution. A few years ago we thought the university course was going to answer the problem. To-day at the headquarters of the National Organization for Public-Health Nursing—or up to January, when we had our vocational service located at headquarters—for one nurse that applied for assistance in finding a position, we had from 10 to 15 positions. The demand is away ahead of the supply. I venture to say that there is not a State supervising nurse here this afternoon that will not back me up when I say that you are just up against it. You are in the position, almost everyone of you, of saying to yourselves, "Well, I am going to keep away from the unorganized territory and not get the people inter-

ested, because I will get my appropriation and then I will be in the embarrassing position of not having a nurse to put in that position." So we think now that the university course is not the answer. It is the ideal; we do not challenge the statement of what the standards for the public-health nurse are. We should like to have them all go to our university courses, but it just is not practical yet. The demand that we have to meet is too great. I think the way to meet it is to establish a teaching center or sell the idea to your State department of health, that an additional program for instruction must be financed.

We find many States having regular institutes, calling their nurses together in conferences, issuing reading lists, and resorting to all manner of devices. We must emphasize more good supervision. Perhaps we should think of our university courses in public-health nursing as for the preparation of good supervisors and have our staff educational programs in our State and in our cities. I think for a while we shall have to resort to that alternative.

Doctor GARDINER. Sometimes it is a case of our taking the nurse that we can get, rather than telling you what kind of nurse we need.

The CHAIRMAN. Many of the Eastern States, the Atlantic Coast States, have been having institutes for nurses; but there are States where the distances are so great that it is almost impossible to bring nurses together at a given time. I wonder if there are supervising nurses here from some of the Western States to tell us how they are keeping in touch with the nurses and what they are doing to train them.

Doctor STADTMULLER. I can tell you what we have done with the nurses in California. At the time we first started the work we arranged separate institutes for the nurses of the northern and the southern part of the State, and we endeavored to supplement talks on the technique of maternity and infancy nursing with talks on the theoretical and scientific questions. We had our leading obstetricians and pediatricians talk to them on the medical phases of the work; we went over the local laws with them so that they would have some knowledge of the facilities and resources of the State if they were called on. We had a good deal of work about feeding and nutrition, and since that time the University of California, which maintains a branch in southern California, has held an institute each year for public-health nurses to which the State department of health contributes through talks from the head of the department and the heads of bureaus. This gives to the nurses an opportunity of renewing their interest in the maternity and infant phase of the work. These talks are very well attended not only by nurses from California but by nurses from a large group of States; not only by county and State nurses but also by school nurses and industrial nurses.

I believe that the nurses derive a great deal of benefit, and they feel that they have got a good deal from these institutes. The State issues a certificate of attendance which can be used later to meet the State requirement that public-health nurses shall receive certificates. They can not receive that certificate from the State board of health until they have had at least four months of theoretical

work; that means attendance at two summer sessions or institute work. They are not now permitted to take the examination without the four months of theory.

MISS DE LASKEY. In Oklahoma county units we have to take the nurses coming out of the hospitals or have no one at all, no others being available. So last spring we started having an institute for nurses, particularly on maternity and infancy work; and the nurses were permitted to come out of their units and spend a week in Oklahoma City, where intensive work of this character was done. Regular classes were held, and at the end of the work nurses took a regular examination and then went back to their units. Of course that is only a beginning, but it is an attempt to meet the immediate problem in the hope that further work may be done.

THE CHAIRMAN. In the far Western States the supply of nurses is very limited, and it is difficult to secure nurses that have had any training or experience in public-health nursing. This problem is so serious that I think we public-health nurses should try to consider it in some of our meetings. Moreover, the distances are great, and the communities are isolated, so that it is especially difficult to get nurses to stay unless you are fortunate enough to find one who is resident and knows the conditions.

MRS. MATHEWS. I should like to ask about the salary paid to nurses in other States. Miss Graham said \$150 a month was the maximum. In Colorado we have not many nurses, and they are always in demand. No matter how poor the nurse is nor how good she is she gets \$150 a month. That is the maximum and that is the minimum. I should like to know just how it should be worked out so there would be an incentive for those nurses to start at less than \$150 and then go up to \$150. It seems that there should be some way of adjusting their wages.

MISS GRAHAM. Speaking about what we did with the nurses to whom we gave training in South Carolina—I do not know whether you understood that we financed the four-month period of training. We allowed the nurses who took the four months of field work their living expenses during this course; and the understanding was that those nurses began their work at \$1,500 a year. Whatever county they went to we recommended that their salary be increased to \$135 a month the second year; and if they continued in the county or in the State we recommended that their salary be raised to \$1,800 the third year. Regular increases in salary are good for morale. Some counties have appreciated the work of the nurse so much that even without our asking them to they have raised salaries to \$175 a month. I think it is only fair, when the nurse has remained in the county, and been faithful to her work, and given good service, that she should have the chance of increasing her salary as much as the people are willing to pay; and I feel that the State departments should recommend to the counties increases in the salaries of nurses who have been with them for a long period of time and done good work.

We have usually had no difficulty in getting the regulation salaries for our county nurses, but where we have not gotten them the nurses are often very unselfish about it. In one county which was divided a raise in salary was due to the nurse; but the county commissioners

came to her and said, "We want to raise your salary, but when we are cutting our county demonstration agents and others we can not do it this year." She replied that she would not leave the county now, because she had just got a lot of things started that she could not drop, and she stayed on. This year is her third in that county, and she is still working for the same salary. Fortunately this is an unusual case, but I feel it is the duty of the supervising nurses in the State to try to "get across" to the people in the county the value of their keeping a nurse, so they will not be always changing. But I think they should not expect a nurse to stay on and on with no prospect of ever getting any higher salary.

Mrs. MATHEWS. Suppose a nurse has reached a salary of \$160 a month but for some reason the program must be discontinued, and the nurse is transferred elsewhere in the State. Does she then go back to a salary of \$125, or does she get \$150?

Miss GRAHAM. We have just had one instance of that sort in South Carolina. Last year one of our most capable nurses, who was receiving \$160 per month, was needed to start the work in a county where we had never had a public-health service. We told her that we could not get more than \$1,800 salary for her; but she agreed to take the work, even though it meant a sacrifice in salary. This year the commissioners have increased it to the amount she was receiving from the other county.

Mrs. MATHEWS. How many States have to hire their nurses through civil service? We have to get ours in that way, and we can not discharge a nurse unless we bring charges of inefficiency, which it is very difficult to do.

Doctor GARDINER. In New York for the past seven years the State department of health has been asked by the State civil-service commission to outline standards for each examination, and the commission has been strict about living up to the standards and not allowing nurses to take the examination who do not come up to the standards.

The CHAIRMAN. Does that relate to county nurses?

Doctor GARDINER. It relates to any, mostly to county and State nurses.

Doctor STADTMULLER. Might I suggest that in writing to the civil-service commission you go into a good deal of detail as to the qualifications that you want? I have done that and found that it often resulted in my being requested to pick my own nurse.

Miss Fox. There is one thing I wish to say, referring back to the question of compromising on standards and taking people for positions who have had little or no experience in public-health nursing. In the last 10 years we have had four or five thousand nurses in the public health nursing division of the Red Cross. Our standards you all know. We have compromised with them in every direction, largely because our chapters have compromised and we do not like to wield the big stick over them. I think I am safe in saying that, by and large, the chapters that have placed nurses without any knowledge of public-health nursing have found their service a flat failure. We should be willing to compromise in that direction if we got anywhere, but we don't. Other compromises have resulted in an ascending scale of success. A little experience has resulted in some little work, more experience in more good work, and a highly qualified

worker with the right personality has resulted in very good work. Our experience has taught us that preparation is the thing that turns the trick, so I am speaking not from theory but from actual, wide experience.

The CHAIRMAN. The last paper this afternoon is on "Methods of training staff nurses in prenatal and infant care," to be given by Miss Mathilde Kuhlman, director of the bureau of public-health nursing of New York. New York has had a very definite program along this line of work.

METHODS OF TRAINING STAFF NURSES IN PRENATAL AND INFANT CARE

BY MATHILDE S. KUHLMAN, R. N., DIRECTOR, DIVISION OF PUBLIC-HEALTH NURSING, STATE DEPARTMENT OF HEALTH, NEW YORK

The training of staff nurses in prenatal and infant care has been more or less in process of evolution in New York since 1922 when two nurses were engaged in the child hygiene division work, one with a traveling unit composed of one doctor and one nurse to conduct field clinics for the examination of preschool children and to supervise child-hygiene stations and one for state-wide supervision of midwives.

During the 1922 session of the New York State Legislature a resolution to accept the provisions of the Sheppard-Towner Act was presented, but the legislature instead of accepting Federal aid passed a substitute bill called the Davenport-Moore Act. This act provided an appropriation which with the budget already available constituted an amount equal to that which would have been obtainable through the Sheppard-Towner Act. It outlined the specific functions of the division regarding the safeguarding of motherhood and the protection of the health of infants and children, and changed the name of the division from the division of child hygiene to the division of maternity, infancy, and child hygiene. This appropriation made possible and necessitated an increased staff of public-health nurses to carry on the work. In the following year the legislature accepted the Sheppard-Towner Act.

The public-health council of the New York State Department of Health required that nurses on the staff should be registered by the Regents of the University of the State of New York and that they should have had not less than two years of experience in public-health nursing. An effort was made to secure for the maternity, infancy, and child-hygiene work nurses who met these requirements, whose hospital training included obstetrics and pediatrics, and who had in addition postgraduate training and experience in mother and child health work. Very few places available to us were carrying on prenatal, maternal, and infant public-health work to the extent that nurses experienced in these activities could be readily obtained.

General standards for conducting the work were outlined by the Children's Bureau at its regional conferences in 1919. Details, methods, and the machinery for carrying on according to the standards outlined were sought from various sources including many organizations in New York City.

We were fortunate in securing our first five nurses with previous experience on the staff of Maternity Center Association, New York City. Most valuable cooperation has been and is extended to us by this association in instruction of our nurses. Each nurse coming on State duty is required to spend a period for observation and in-

struction at the Maternity Center Association, where most careful and painstaking supervision is given each nurse by the field director with whom conferences are held regarding details of visits, conduct of mothers' health clubs, prenatal and infant nursing care, methods of record keeping with reasons for accuracy, and other subjects pertaining to the work.

Other organizations in New York City extending cooperation and opportunities for instruction and observation were: The Judson Health Center, the Henry Street Settlement, the New York Diet Kitchen Association, and the East Harlem Nursing and Health Demonstration. Much valuable aid was given our nurses by these organizations, whose methods and standards were carried to the rural communities of the State and modified to meet their needs and facilities.

An instructor to nurses was secured with extensive experience and postgraduate preparation for the conduct of an extension course in maternity hygiene for community public-health nurses. Members of our own nursing staff were given this course of instruction to prepare them to teach mothers' health clubs. Lectures and demonstrations were given to groups of five or more nurses in near-by communities, at intervals of four weeks. The course comprised lectures on the following topics: General problems of maternal and infant mortality in Nation and State and factors in reduction; physiology and hygiene of pregnancy; discomforts and abnormalities of pregnancy; full prenatal visits; preparation for delivery; after care of mother and baby and breast feeding; mothers' clubs; written examination. The eighth and last class period was given over to a talk on nutrition or diet in pregnancy by the nutrition specialist of the division of maternity, infancy, and child hygiene. Demonstrations accompanying the course consisted of: Layette and patterns; breast tray, care of nipples; abdominal binder; shoulder garters; baby's tray; preparation of delivery bed; preparation of baby's bed; baby's bath; taking the blood pressure; urinalysis.

In 1923 an intensive breast-feeding campaign was organized on Long Island and was carried on for one year. All nurses in the maternity, infancy, and child hygiene division were assigned to a period of this work in order to become familiar with it and to disseminate this knowledge wherever any other type of work was to be undertaken in the future. This work was under the immediate supervision of the regional consultant in pediatrics, who was president of the Brooklyn Pediatric Society. He personally instructed each nurse assigned to the work and held frequent conferences with the directors of the maternity, infancy, and child-hygiene division and the public health nursing division and with the field nurses.

As the maternity and infancy work progressed it was demonstrated that nurses could not be instructed properly and the work standardized without a definite teaching center where they could spend a month or more and where Sheppard-Towner and other community public-health nurses could be instructed and closely supervised, with frequent conferences with the directors of both divisions and the consultant nurses. After careful consideration and elimination of places offering opportunities Poughkeepsie was chosen; cooperation was extended by local health officials; a high infant and maternal

death rate offered a field worthy of endeavor; and the location was easy of access from headquarters office. In 1924 a mother and child health station was equipped, and an endeavor was made to start a teaching center for nurses. It was carried on with more or less difficulty, and after some months the State department of health found it necessary to withdraw.

Some time was spent in careful statistical study by the division of vital statistics and deliberate consideration of other places available where there was urgent need for this work. In November, 1924, the associate director of the division of maternity, infancy, and child hygiene presented the matter of establishing in Fulton, Oswego County, a demonstration mother and child health center before the Fulton Academy of Medicine, which later voted unanimously for such a service and consented to appoint a medical advisory committee to work with the nurse to be detailed to the work. The service was started with the idea of first establishing a model program with a view to the reduction of the infant and maternal death rates, and second, to develop standard nursing procedures so that eventually it might be used for teaching purposes. This was brought about in September, 1926, when an exceptionally well-qualified nurse was found to take charge, whose personality, interest, initiative, and previous teaching experience fit her admirably for this work. Two other nurses are permanently assigned to assist her in carrying on the work of the center.

Each State department of health nurse as she comes on duty will go to the Fulton teaching center for a period of instruction. Sheppard-Towner nurses will be assigned there, and any community nurses employed from whatever source will be urged to spend some time at the center. It is also available to out-of-State nurses desiring instruction.

We hope that as the work progresses community nurses may be able to spend not less than a month at the center; a shorter time is inadequate. Those nurses who have attended the teaching center since September, 1926, are most enthusiastic about the instruction and the knowledge gained.

Our present facilities for training staff nurses are the Fulton teaching center, the children's consultation unit, prenatal consultation units, staff conferences with consultant nurses and directors, suggested reading (Federal and State literature, mental-hygiene and social-hygiene bulletins, maternity-center routines, and literature from other sources), occasional visits to the Maternity Center Association field center and to other New York City organizations previously mentioned. As each phase of the work developed a certain technique was worked out and improved upon from time to time. This has been particularly true in the case of the traveling units, each of which has served as an experience school for new nurses coming on the staff, available only to our own nurses because of the travel expenses involved.

An annual conference of all health officers and public-health nurses is called by the State commissioner of health and is an important factor in the education of our nurses and instrumental in establishing the good will and cooperation of all public-health nurses in the State.

DISCUSSION

The CHAIRMAN. One of the points that Miss Kuhlman brought out in her closing remarks is that the teaching staff and State workers are available to go into the various services in the State and help the local nurses and other health workers devise plans in that community to do a certain part of the maternity and infancy program. I think that is one of the most important parts of our work, to get the cooperation of all the other agencies in the State to help with this program which we think is so important.

I should like to ask whether any of the other States have a teaching center or have thought of adopting that plan of instructing.

Miss MARRINER. At various times we have operated a teaching center in Alabama, but it is not continuous nor permanent.

Mrs. McCaleb. We have in Ohio the prospect of the health commission to be developed along with the International Health Board. I am hoping that this may result in a training center for the nurses as well as the health commission. The stronger we can make the nursing service, of course, the better for teaching all the way around.

The CHAIRMAN. Is there any unfinished business? Are there any committees that you wish to appoint? If not, the conference is ready to adjourn.

Miss BEAUCHAMP. I move to express our appreciation to the Children's Bureau for letting us come together here to discuss our problems. I am sure we have been very much helped by this conference.

(The meeting adjourned sine die.)

APPENDIX.—LIST OF PERSONS ATTENDING THE CONFERENCE

- Abbott, Grace, Chief, Children's Bureau, United States Department of Labor, Washington, D. C.
- Allen, Cora S., M. D., director, bureau of child welfare and public-health nursing, State board of health (Madison), Wisconsin.
- Allen, Jane C., general director, National Organization for Public Health Nursing, New York, N. Y.
- Anderson, Dorothy R., director, division of child hygiene and public-health nursing, bureau of public health, State department of public welfare (Santa Fe), New Mexico.
- Anderson, G. M., M. D., State health officer; acting director, division of maternal and infant welfare and child hygiene, State department of public health (Cheyenne), Wyoming.
- Anderson, Viola Russell, M. D., expert in infant hygiene, maternity and infant-hygiene division, Children's Bureau, United States Department of Labor, Washington, D. C.
- Appleton, Vivia Bell, M. D., director, division of maternity and infancy, Territorial board of health (Honolulu), Hawaii.
- Baker, S. Josephine, M. D., Stamford, Conn.; consultant, Children's Bureau, United States Department of Labor, Washington, D. C.
- Beauchamp, Linnie, supervising nurse, bureau of child hygiene, State board of health (Little Rock), Arkansas.
- Bennett, Mrs. Emily, bureau of child welfare, State board of health (Richmond), Virginia.
- Birdseye, Miriam, extension agent, Office of Cooperative Extension Work and Bureau of Home Economics Cooperating, United States Department of Agriculture, Washington, D. C.
- Bowdoin, Joe P., M. D., director, division of child hygiene, State board of health (Atlanta), Georgia.
- Boynton, Ruth E., M. D., director, division of child hygiene, State department of health (Minneapolis), Minnesota.
- Breeding, W. J., M. D., director, division of child hygiene and public-health nursing, State department of public health (Nashville), Tennessee.
- Brown, Margaret S., instructor of nurses, Fulton Child Health Station, Fulton, N. Y.
- Brydon, Mary E., M. D., director, bureau of child welfare, State board of health (Richmond), Virginia.
- Calvert, Charlotte J., M. D., bureau of child welfare and public-health nursing, State board of health (Madison), Wisconsin.
- Coffey, Ada B., consultant nurse, division of maternity, infancy, and child hygiene, State department of health (Albany), New York.
- Coffin, Susan B., M. D., State department of health (Boston), Massachusetts.
- Crough, Elena M., director, division of maternity, infancy, and child hygiene, State board of health (Concord), New Hampshire.
- Crumbine, Samuel J., M. D., general director, American Child Health Association, New York, N. Y.
- De Laskey, Mary, supervising nurse, bureau of maternity and infancy, State board of health (Oklahoma City), Oklahoma.
- De Normandie, Robert L., M. D., instructor in obstetrics, Harvard Medical School, Boston, Mass.
- Diez, M. Luise, M. D., associate director, division of maternity, infancy, and child hygiene, State department of health (Albany), New York.
- Dillon, Mrs. Jean T., director, division of child hygiene and public-health nursing, State department of health (Charleston), West Virginia.
- Dumm, I. B., M. D., consultant, child-welfare bureau, State department of public instruction (Denver), Colorado.

- Eliot, Martha M., M. D., director, child-hygiene division, Children's Bureau, United States Department of Labor, Washington, D. C.
- Erikson, Ella, director, division of child hygiene, State department of health (Seattle), Washington.
- Farquhar, Margaret, consultant nurse, division of maternity, infancy, and child hygiene, State department of health (Albany), New York.
- Ferrell, John A., M. D., Dr. P. H., associate director, International Health Division, Rockefeller Foundation, New York, N. Y.
- Fox, Elizabeth, national director of public-health nursing, American National Red Cross, Washington, D. C.
- Gardiner, Elizabeth M., M. D., director, division of maternity, infancy, and child hygiene, State department of health (Albany), New York.
- Gardner, Emily, M. D., assistant director, bureau of child welfare, State board of health (Richmond), Virginia.
- Gleason, Marion A., M. D., director, division of child welfare, State board of health (Providence), Rhode Island.
- Graham, Ada Taylor, director, bureau of child hygiene and public-health nursing, State board of health (Columbia), South Carolina.
- Haines, Blanche M., M. D., director, maternity and infant-hygiene division, Children's Bureau, United States Department of Labor, Washington, D. C.
- Hall, Carrie M., president, National League of Nursing Education, New York, N. Y.
- Hanna, Agnes K., director, social-service division, Children's Bureau, United States Department of Labor, Washington, D. C.
- Hayes, Clara E., M. D., director, division of child hygiene, State board of health (Waubay), South Dakota.
- Hayne, James A., M. D., secretary, State board of health (Columbia), South Carolina.
- Henshaw, W. T., M. D., commissioner, State department of health (Charleston), West Virginia.
- Holmes, Rudolph W., M. D., associate professor of obstetrics and gynecology, Rush Medical College, University of Chicago, Chicago, Ill.
- Howe, Mrs. Charles R., director, child-hygiene division, State board of health (Phoenix), Arizona.
- Ingraham, A. Elizabeth, M. D., director, bureau of child hygiene, State department of health (Hartford), Connecticut.
- Jackson, Edith B., M. D., medical officer, child-hygiene division, Children's Bureau, United States Department of Labor, Washington, D. C.
- Jones, Nellie M., supervising field nurse, State department of public health (Burlington), Vermont.
- King, Ruth B., consultant nurse, division of maternity, infancy, and child hygiene, State department of health (Albany), New York.
- Knipp, Gertrude B., chief, division of public-health education, State department of health (Baltimore), Maryland.
- Knox, J. H. Mason, jr., M. D., chief, bureau of child hygiene, State department of health (Baltimore), Maryland.
- Krause, Irl Brown, M. D., director, division of child hygiene, State board of health (Jefferson City), Missouri.
- Kuhlman, Mathilde S., director, division of public-health nursing, State department of health (Albany), New York.
- Lauer, Edward H., Ph. D., director, division of maternity and infant hygiene, extension division, State University of Iowa, Iowa City, Iowa.
- Levy, Julius, M. D., consultant, bureau of child hygiene, State department of health (Trenton), New Jersey.
- McCaleb, Mrs. Zoe, chief, division of nursing, State department of health (Columbus), Ohio.
- Marriner, Jessie L., director, bureau of child hygiene and public-health nursing, State board of health (Montgomery), Alabama.
- Mathews, Mrs. E. N., executive secretary, child-welfare bureau, State department of public instruction (Denver), Colorado.
- Miller, Elizabeth F., State department of welfare (Harrisburg), Pennsylvania.
- Minor, Nannie J., supervising nurse, bureau of child welfare, State board of health (Richmond), Virginia.
- Monger, John E., M. D., director of health, State department of health (Columbus), Ohio.
- Moore, Mrs. Helen de Spelder, assistant director, bureau of child hygiene and public-health nursing, State department of health (Lansing), Michigan.

- Morris, Agnes, director, bureau of child hygiene, State board of health (New Orleans), Louisiana.
- Murphy, Louise M., director, division of child hygiene, State department of public welfare (Lincoln), Nebraska.
- Noble, Mary Riggs, M. D., chief, preschool division, bureau of child health, State department of health (Harrisburg), Pennsylvania.
- Osborne, Mary D., supervisor, public-health nursing, bureau of child hygiene and public-health nursing, State board of health (Jackson), Mississippi.
- Patterson, Florence M., general director, Community Health Association, Boston, Mass.
- Phelan, Marie T., expert in maternal and infant care, maternity and infant-hygiene division, Children's Bureau, United States Department of Labor, Washington, D. C.
- Pickett, Alice N., M. D., instructor in obstetrics, director of prenatal clinics, school of medicine, University of Louisville, Louisville, Ky.
- Reid, Mrs. Laurie Jean, director, bureau of child welfare and public-health nursing, State board of health (Jacksonville), Florida.
- Richards, H. Y., M. D., director, bureau of child hygiene, State board of health (Salt Lake City), Utah.
- Richardson, Frank Howard, M. D., New York, N. Y., regional consultant, division of maternity, infancy, and child hygiene, State department of health (Albany), New York.
- Sargent, Clealand A., M. D., director, division of child hygiene, State board of health (Dover), Delaware.
- Schweitzer, Ada E., M. D., director, division of infant and child hygiene, State board of health (Indianapolis), Indiana.
- Sheahan, Marion, assistant director, division of public-health nursing, State department of health (Albany), New York.
- Smith, Lillian R., M. D., director, bureau of child hygiene and public-health nursing, State department of health (Lansing), Michigan.
- Soule, Edith L., director, division of public-health nursing and child hygiene, State department of health (Augusta), Maine.
- Stadtmuller, Ellen S., M. D., director, bureau of child hygiene, State board of health (San Francisco), California.
- Stumbles, Gertrude, consultant nurse, division of maternity, infancy, and child hygiene, State department of health (Albany), New York.
- Sullivan, Mary, supervisor of midwives, bureau of child hygiene, State department of health (Trenton), New Jersey.
- Tallant, Alice Weld, M. D., Philadelphia, Pa., consultant, Children's Bureau, United States Department of Labor, Washington, D. C.
- Underwood, Felix J., M. D., executive officer, State board of health, acting director, bureau of child hygiene and public-health nursing, State board of health (Jackson), Mississippi.
- Veech, Annie S., M. D., director, bureau of maternal and child health, State board of health (Louisville), Kentucky.
- Whipper, Ionia R., M. D., expert in maternal and infant hygiene, maternity and infant-hygiene division, Children's Bureau, United States Department of Labor, Washington, D. C.
- Williams, Maysil M., M. D., director, division of child hygiene and public-health nursing, State department of public health (Bismarck), North Dakota.



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