A
Community Trust Survey
of

Prenatal Care in Chicago

A study of the Importance of Prenatal Care and of the Existing Facilities in Local Hospitals and Clinics, with an Outline of Standards and Some Recommendations

by

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TABLE OF CONTENTS

FOREWORD

THE establishment and maintenance of medical charities requires more money than any other form of charitable activity. Sickness is said to be the direct or contributing cause of nearly three-fourths of the poverty with which relief agencies are concerned. Disease and untimely death are largely responsible for the breaking up of families which leave children homeless.

In view of the vast economic and social significance of disease and the great cost of efforts to treat or to prevent it, the outline of a comprehensive community plan seems important. The Community Trust is interested in the development of such a plan both because of its interest in community welfare generally, and because much of the money to be administered by it must necessarily be spent in hospital and health enterprises.

A survey of the institutional facilities for care of the sick and disabled in Chicago has been contemplated. A general and sweeping study of the entire field at one time has, however, seemed impracticable. It has seemed preferable, rather, to take up from time to time such special subjects as conditions may warrant—subjects which may seem to be ripe for investigation and from which some definite results may be hoped for. The present study of Prenatal Care is, therefore, the first unit in the larger program.

The collection of data for the study was begun by Dr. Gertrude E. Sturges in the winter of 1920–21, and has been completed by Mrs. Kenneth F. Rich. In the inspection of the work of various clinics Mrs. Rich had the assistance of Miss Ella Allen, Director of the Social Service Department of the Chicago Lying-In Hospital and Dispensary, whose Board of Directors very kindly agreed to this part-time service. The written report is the work solely of Mrs. Rich.

The finished report was, on invitation of the Community Trust, reviewed and criticized by a committee of specialists which included Dr. Joseph B. De Lee, Miss Edna Foley, Dr. James B. Herrick and Dr. R. W. Holmes; and their suggestions have been incorporated. The cordial co-operation of the officers, managers, and members of the medical staffs of the institutions directly concerned has been most gratifying. To all who have helped so generously the Community Trust desires to express its earnest thanks.

INTRODUCTION

Purpose of the Survey

For ten years or more, Chicago has been developing a general public opinion which condemns the needless deaths of little children. Its campaign for prevention has passed such milestones as its Child Welfare Exhibit, its clean milk regulation, the local impetus of the Children's Year, and has brought about, among other results, nursing services, baby clinics, nutrition classes, and the organization of agencies and institutions whose sole business it is to protect the health of babies, and of boys and girls. Chicago has not been so keenly alive to the relation which child health bears to the health of mothers. Nor has it been generally known that such protection can only be really effective if it begins before the child is born.

That Chicago could claim some measures to check the loss of mothers and babies, from causes connected with birth, was known. How extensive such measures had become, how large a group they reach, through what channels they had arisen, and what standards of care they had developed, no individual, no organization, and no institution in this city, has been able to answer. The study of Prenatal Care in Chicago was undertaken in the hope that three chief ends might be accomplished:—

1. That the problem of the illness and loss of life attendant upon childbirth, might be made clear to the mothers and fathers of Chicago, to their friends, physicians, nurses, to public health workers and to the givers among Chicago's public.
2. That a picture of the facilities Chicago has developed to meet that problem, should be portrayed.
3. That practical steps for a more adequate program of control of maternal and infant mortality from causes connected with birth, as well as the prevention of illness related to those causes, might be set forth for Chicago.

Methods of the Study

In order to present the Importance of the Problem (Part I), previous reports and investigations have been heavily drawn upon for facts relating to the prevalence of maternal mortality, and of infant mortality from causes connected with birth; for facts showing that there has been no general decrease in maternal mortality; for opinions as to the preventability of diseases caused by pregnancy and confinement; for some analyzed results of prenatal care; and for a community program for maternity care. Extensive quotations have been made, as will shortly be seen, in the belief that ground should not unnecessarily be retraced, but that the conclusions of earlier studies should properly become an introduction for the new.

Sources of Information for the List of Prenatal Centers

In a field of service which fluctuates in amount and area covered, it was to be expected that there would not be available in the city, a complete list

of the institutions and agencies supplying prenatal care. In order to compile such a group, information from the following sources was combined:—

1. List of dispensaries licensed by the Bureau of Hospitals, Social and Industrial Hygiene, of the City Department of Health;
2. Hospital list of the American College of Surgeons;
3. American Medical Association Interne and Hospital Lists;
4. American Medical Association Council on Medical Education and Hospitals; Statement as to Inter-Relation of Medical Schools, Hospitals, and Dispensaries;
5. List of Schools of Nursing Accredited by the State Boards of Nurse Examiners;
6. A classified list of local Philanthropic and Charitable Organizations; published by the Chicago Association of Commerce Subscriptions Investigating Committee;
7. File of the Chicago Council of Social Agencies;
8. Chicago Social Service Directory; issued 1918 by the City of Chicago, Public Welfare Department;
9. List of Registering Agencies, Social Service Exchange;
10. Classified telephone directory lists of Hospitals and Dispensaries.

All the hospitals, and all other agencies in which it was thought prenatal work might exist, were canvassed by letter, telephone, or visit. Every effort was made to include in the study all regular institutional prenatal care in the city.

This compilation resulted in a list of 32 institutions, agencies, and stations which have recently maintained, or maintain at present, clinics or other departments for prenatal work. A complete list of those recently or at present active, will be found between pages 46 and 47, where the prenatal centers are spotted upon a map of Chicago. They form the background for the survey of Chicago's provision for prenatal care.

In order to portray a picture of the prenatal care facilities Chicago has developed, four chief methods were employed, by means of which information regarding that care in institutions was secured: (1) a descriptive schedule, (2) analyses of groups of case histories, (3) annual service figures, and (4) visits of observation to the clinics or hospitals while patients were being examined and treated. Before any of these methods were applied, the chief of the obstetrical staff of each of these institutions, the attending physician for the prenatal clinics, or other executive was approached and a conference had. Through all the steps of the survey, their co-operation as well as that of hospital superintendents, nurses, social workers, and attendants, was generously extended.

(1) Schedule

Exclusive of the six schedules filled out for maternity homes and two small maternity hospitals of similar character, thirty-two schedules were secured, by visitation, from hospitals, dispensaries, medical schools, nursing stations, institutional churches, and a mission, which have offered in the past or offer at present, advice and care to expectant mothers. The schedule included information as to the age and location of the center; its type of patient; the

district and radius from which patients are drawn; hours and periods of operation; affiliation for control and for delivery; medical and nursing service; social service; equipment; record systems; fees charged; volume of work; general procedures. In other words, the schedule was aimed to bring out a description of the organization, equipment and facilities for this type of service in Chicago.

(2) CASE HISTORY

Fifty consecutive case histories of patients who had received prenatal care and had been subsequently delivered, with the exceptions indicated below, were studied at each institution able to furnish them. In the instances of the three agencies maintaining a series of prenatal stations, representative groups of case histories from one or more of those stations were included. The specific prenatal centers covered by this case study, and the actual number of histories read, will be noted in Part II, Section 10. It may be said as a tribute to the sincerity of purpose of these agencies, that not one refused access to these most intimate records. Nor does this survey propose in any way to violate that confidence. In no case has the identity of the individual patients been disclosed. These case histories were examined in order to learn the length of time expectant mothers are under care, the number of prenatal visits they make to clinics, the number of home visits made to them, and certain essential data regarding the content of the medical care given. When compared with standards, this examination of case histories gives some qualitative analysis of prenatal work, as practiced in the institutions of Chicago.

(3) ANNUAL FIGURES

Annual figures, as to the number of patients given prenatal care, the number of visits to clinics and to homes, the number of deliveries, and the number of losses of mother or child at birth were requested of the institutions. Very few of the institutions publish such figures in annual reports. In some cases, they could not be ascertained from the records as kept. Those obtained do indicate in a measure, however, the amount of service given by this specific group of institutions.

(4) VISITS OF OBSERVATION

The facts brought out by the schedules, and by the study of case records and annual figures, were substantiated by visits to the prenatal stations, for the observation of processes and routine while interviews and examination of patients were in progress. Other interesting features of clinic procedures and customs which were noted during these visits, will be sketched under the topics: Attitude Toward Patients, Advice and Instructions, Medical Students, Presence of Nurse, Cleanliness of Procedure, in Part II, Section 9.

Scope of the Survey

This study has been limited to the institutional prenatal care afforded by the community. No fair estimate of the quantity or quality of the prenatal care given the private patients of private physicians could be arrived at, without the application of methods of securing information similar to those employed with the clinics. It is at once apparent that there is no open door to the

observation of treatment, to examination of case records, to the descriptive schedule or to tabulation of annual figures for private practices. Physicians, whose opinions upon such care in the private field were solicited in the course of this investigation, are of the belief that the amount and character of the prenatal care given private patients by the physicians they engage, varies widely. It varies with the amount the woman demands, with the amount of the fee, and, in the words of the Chief Obstetrician of one of Chicago's large hospitals, "with the conscience, intelligence, training and experience of the physician." It is strongly believed that all community interest, information and support of prenatal care will be reflected in the service of the private physician, through whom much of that interest was kindled.

PART I
IMPORTANCE OF THE PROBLEM

1. PREVALENCE OF MATERNAL MORTALITY

General

The people of this country have been surprised and shocked to learn that more women of childbearing age in the United States, lose their lives from diseases caused by pregnancy and confinement than from any other disease or class of diseases, except tuberculosis. [a] [b] "The fact that childbearing should be classed with diseases, is in itself a very striking fact." [c] The United States Government has found, in taking stock of its losses by maternal mortality, that in one year (1919), 17,800 mothers,[b] in that part of the country alone included in the death registration area, lost their lives from causes connected with childbirth.

Disasters of flood or fire which destroy towns of less than 10,000, cause national alarm and arouse immediate measures for relief and prevention. America's mothers lose their lives, one by one, in no such spectacular fashion and therefore have not yet been surrounded in any comprehensive way with all the protection of which medical and social science are capable. They suffer, moreover, because of the very "antiquity of the fact of childbearing. . . . Habit has made death in childbirth seem a natural thing" but "men and women must be taught its needlessness." [c]

The United States, it may further be pointed out, has not kept pace with other countries in reducing its maternal mortality. Under the caption "When Will the Thermometer Fall," the Federal Children's Bureau has devised the chart reproduced upon the following page. [d]

The chart shows that the United States is nineteenth in the group, and that at present it faces the spectacle of lower maternal death rates in many countries of Europe, and even of the Orient. It is believed by many persons of authority that the United States occupies no such unfavorable position among other countries. Variations in the reporting of births and deaths and in the keeping of vital statistics, open sources of error in comparisons. Nevertheless, no more accurate figures have been presented. Until more uniform bases of comparison are available, this record must be accepted as a challenge.

What happens to the mothers in America's large cities is therefore no surprise. Dr. John Osborn Polak, of Brooklyn, speaking at the Annual Session of the American Medical Association, made the statement that "In New York City on the island of Manhattan, last year, one mother died for every 205 babies born, while in the greater city of New York, one woman in every 250

(a) U. S. Children's Bureau Publication No. 19, "Maternal Mortality" 1917, p. 51.

(b) U. S. Children's Bureau Publication No. 61, "Save the Youngest" 1921, pp. 2, 3.

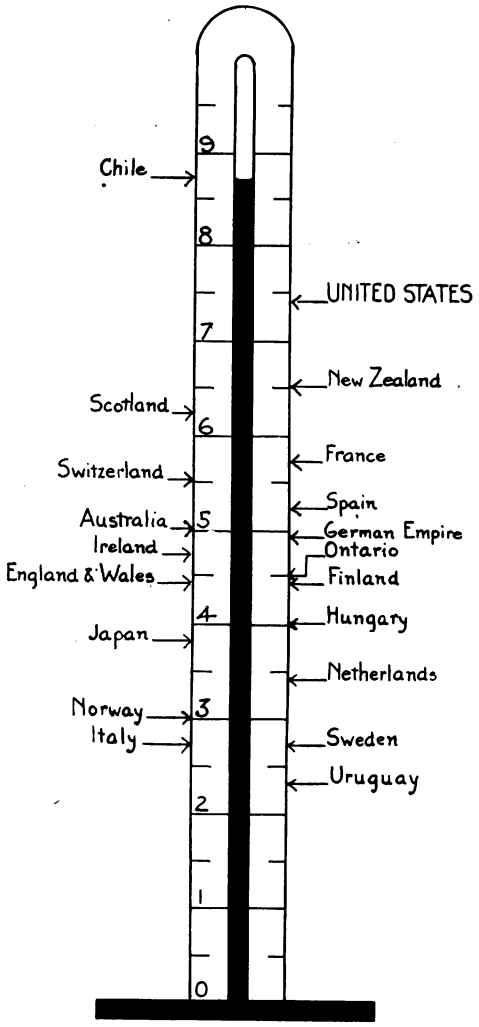
(c) "The Most Efficient Means of Preventing Infant Mortality," Mrs. W. L. Putnam. American Journal of Obstetrics and Diseases of Women and Children, July, 1918, p. 104.

(d) Furnished and reproduced by courtesy of the U. S. Children's Bureau.

MATERNAL MORTALITY RATES

Per 1,000 Births

Latest figures available Jan. 1, 1922.



Children's Bureau,
U. S. Department of Labor.

deliveries, died from infection or as an indirect result of it." [a] New York's rate, as will presently be seen, is more favorable than that of other large cities.

"Women who die from this cause," the Children's Bureau observes, "are lost at the time of their greatest usefulness to the State and to their families; and they give their lives in carrying out a function which must be regarded as the most important in the world." [b] "And physicians remind us," the Chief of this Bureau reaffirms, "that the women who die in childbirth are few besides those who suffer preventable illness or a lifelong impairment of health. The loss involved is immeasurable. It does not stop with the loss of vigor and efficiency of the mother. It extends, in general, to the well-being of her home and her children; and, in particular, to the motherless infant who faces a peculiarly hazardous existence. For example, in two of the cities included by the Children's Bureau in its study of infant mortality, the mortality rate among babies whose mothers died during the year following birth is compared with the rate for all the babies in the city. In Waterbury the rate among the motherless babies is three times the average for the city; in Baltimore, five times the average for the city." [c]

"It is no light matter," Mr. Louis Dublin [d] concludes in one of his notable statistical studies, "that with the present development of sanitary science and of preventive medicine there should still be one fatal termination in every 100 to 200 cases of pregnancy and childbirth. Yet this is the situation in a number of large centers of population for which adequate data are available."

One of the most interesting comparisons of the death rates of mothers in large cities, from causes connected with childbirth, has been made by William Travis Howard, Jr., of the School of Hygiene and Public Health, Johns Hopkins University.[e] Using as a base the sum of the living and still births reported and the number of deaths of women from causes connected with the puerperal state, rates are calculated, as shown in the following table, for New York City, Philadelphia, Baltimore, Boston, and Washington, D. C., cities in which it may "be assumed that the reports of live and still births and the reporting and classification of deaths are reasonably accurate." These five cities are included in the U. S. Census Registration Areas for both Births and Deaths.

(a) Chairman's address (June, 1921) read before the Section on Obstetrics, Gynecology and Abdominal Surgery, printed under title "The Defects of our Obstetric Teaching," Journal of the American Medical Association, June 25, 1921, p. 1809.

(b) "Maternal Mortality," Bureau Publication No. 19, 1917, p. 9.

(c) Sixth Annual Report of the Chief, U. S. Children's Bureau, p. 12, Washington, 1918.

(d) Statistician, Metropolitan Life Insurance Company, New York City. See "Mortality Among Women from Causes Incidental to Childbearing," p. 17. Reprinted 1918 from the "American Journal of Obstetrics and Diseases of Women and Children."

(e) "The Real Risk-Rate of Death to Mothers from Causes Connected with Childbirth." Reprinted from the "American Journal of Hygiene," Vol. I, No. 2, March, 1921.

MATERNAL DEATH RATES PER 10,000 BIRTHS (LIVE AND STILL) FROM CAUSES CONNECTED WITH THE PUERPERAL STATE

(*Summarized from the tables prepared by Wm. Travis Howard, Jr.*)
1915–1919

(Compiled from the Annual Reports of the Health Departments of the Various Cities)

Year	New York City	Philadelphia	Boston	Baltimore	Washington, D. C.
1915	48.08	65.86	62.71	54.18	
1916	45.37	67.90	75.43	63.73	
1917	44.08	57.69	64.01	56.11	
1918	45.84	56.47	84.78	72.16	85.32[a]
1919	47.23	60.02	66.54	75.43	
Average Total	46.11	61.48	70.71	64.89	

(a) Calculated from Census Reports.

Certain facts stand out from this table; first, that the "average total rate for New York City is conspicuously lower than for any of the other cities under consideration;" second, that the rates for Boston are "excessively high, as compared with other cities;" third, that the record for Baltimore, like that for Boston, is, on the whole, "without a redeeming feature." A most encouraging observation is made by Mr. Howard upon New York's low rate. "There is happily in the Department of Health of the City of New York. evidence of a direct relation between the statistical studies in the Bureau of Records and the successful efforts toward the administrative control of puerperal fever, but in this respect New York stands in lonely isolation."

An earlier analysis, by the U. S. Children's Bureau, also brought out comparisons among certain of the largest cities in the birth registration area. This study calculates the maternal death rate per 1,000 live births. At that time, and upon that rate basis, Boston occupied somewhat more favorable a position when compared with Philadelphia. Among the five largest cities in the provisional birth registration area at that time, as will be seen by reference to the abbreviated table, Detroit led the list, with the highest rate of deaths of mothers, from diseases caused by pregnancy and confinement.

MATERNAL DEATH RATE PER 1,000 LIVE BIRTHS

From Diseases Caused by Pregnancy and Confinement in the Five Largest Cities of the Provisional Birth Registration Area,[b] 1910

Philadelphia	Boston	Pittsburg	Detroit	Grand Rapids
7.5	5.3	8.0	8.1	7.4

(b) Abbreviated from "Maternal Mortality," U. S. Children's Bureau Publication No. 19, p. 52.

Chicago

Accurate figures for Chicago are impossible to obtain. For, as is well known, the births of babies in this city are not matters of complete public record. Chicago and Illinois still lie outside the birth registration area of the United States, a fact which explains the omission of Chicago from the studies above quoted. This state of affairs is particularly baffling and disappointing when it becomes desirable to understand the size and nature of the problems represented by the deaths of mothers and babies in Chicago. For as the earlier study pointed out, "the method of computation of death rates which gives the clearest picture of the hazards of childbirth, is that which takes into account only the women giving birth to children in that year." [a]

According to the last correction,[b] the number of births in Chicago, as estimated for 1920, by the City Department of Health, was 57,000. This number represents live births only. In 1920, according to reports made to the Health Department,[c] 354 mothers died from causes connected with childbirth. Expressed in ratio, this means that the maternal death rate from those causes per 1,000 estimated live births was 6.2; per 10,000 estimated live births, 62.1—a rate which is apparently higher than that of Boston in 1910. The rates per 10,000 estimated live births, 62.1, is interesting in the light of Mr. Howard's figures for New York, Philadelphia, Boston, Baltimore and Washington. It cannot be strictly compared with them because it includes live births only, while Mr. Howard's figures include both live and still births. It seems fair to assume, however, that even with the inclusion of still births, were such possible for this city, the rate of maternal deaths from childbirth in Chicago, would still be far in excess of at least that in New York.

Using again the birth estimate as a base, 57,000 for 1920, and remembering the number of maternal deaths for that year, 354, it is evident that for every 161 babies born alive in Chicago in 1920, one mother lost her life. The risk for mothers in New York at present, as Dr. Polak has pointed out, is very much less.

As compared with other causes of death, in spite of some highly developed obstetrical centers, and generally increasing provision for maternity care, childbirth in Chicago is still attended with grave dangers. Among women of childbearing age, it bears a relation to other causes, strikingly similar to that true for the death registration area of the whole country. For women up to the age of 49 years, diseases caused by pregnancy and confinement are apparently among the five most prevalent causes of death in Chicago. The year 1914 is the last for which any comparison is possible. Beyond that year, the City Health Department has not maintained in one tabulation the triple classification age, sex, and cause of death. Not all diseases, conspicuously Organic Diseases of the Heart, were included in the tabulation at that time. Diagnosis in some cases may have been incomplete or incorrect. The informa-

(a) "Maternal Mortality," U. S. Children's Bureau Publication No. 19, 1917, p. 32.

(b) December, 1921, figures furnished by the Senior Statistical Clerk.

(c) Figures furnished, December, 1921, by Bureau of Vital Statistics—Dept. of Health, City of Chicago.

tion gleaned from the Health Department vaults is, however, in spite of omissions, or underestimates, sufficiently striking for presentation and is summarized in the accompanying brief table.

MATERNAL MORTALITY

Number of Deaths of Women of Childbearing Age from Five of the Most Prevalent Causes in that Age Group[a] Chicago, 1914.

(Figures furnished by the Bureau of Vital Statistics, City Health Dept. of Chicago)

CAUSE	NUMBER OF DEATHS
All Causes [b]	4681
Tuberculosis	1078
Puerperal Group	**392**
Cancer	389
Pneumonia	285
Nephritis and Bright's Disease	261

(a) Health Dept. Figures are tabulated in ten-year age groups, i.e., 10-19 yrs.; 20-29 yrs., etc. Therefore "Childbearing Age," as used in this table must unfortunately begin at 10 yrs. and extend to 49 yrs.

(b) Deaths of women of these ages from "Organic Diseases of the Heart" was not tabulated by Health Dept. In 1913, in Death Registration Area of U. S., for Women of Childbearing Age, "Organic Diseases of the Heart" was the third highest cause of death. (See "Maternal Mortality," p. 51, U. S. Children's Bureau.) Since only five specific causes are included, they do not total "All Causes."

As will further be pointed out, there are sources of error in strict comparisons. But, to repeat, it appears entirely safe to conclude, first, that deaths of mothers in Chicago from causes connected with childbirth, if not second or third in the list, are at least within the five most prevalent causes of death among women of childbearing age, and second, that New York has forced its rate for such deaths far below that for Chicago. One other fact, the high maternal death rate for colored mothers, remains to be cited.

Mortality Among Colored Mothers

All discriminating reports upon the prevalence of maternal mortality in this country point out the strikingly higher rate for colored mothers. Mr. William Travis Howard, previously quoted, has examined the rates for colored mothers in certain states and cities where the population is proportionally large. He found that, "in the four states Kentucky, Maryland, North Carolina, and Virginia, and in the cities, Washington, D. C., and Baltimore, Maryland, the rates are much higher for negro than for white women, and the negro rates are markedly in excess of the whole in both city and country." Moreover, in comparing still birth rates in the birth registration area of the United States, he found that "the proportion for the negro is double that for the white."

The Metropolitan Life Insurance Company analyzing the maternal mortality among a large group of its insured women, found that the rate per 100,000 for the white was 66.1; for the colored women, 82.3, showing that

"colored females suffer much more seriously than do white women from the diseases and conditions incidental to childbearing." (a)

An earlier study by the U. S. Children's Bureau (b) brings out the same facts, as the following abbreviated table shows:

DEATH RATES PER 100,000 POPULATION
in the Death-Registration Area
from Diseases Caused by Pregnancy and Confinement,
by Color of Decedent, 1910-1913

Year	Rate per 100,000 population	
	White	Colored
1910	8.3	12.5
1911	8.4	13.3
1912	8.3	13.4
1913	8.3	14.6

It is seen that the rate for colored women is more than one-third greater than for white women, and that it increased over a four-year period.

Unfortunately, there is no accurate basis, either of population or births, upon which the rate at which colored mothers in Chicago die from childbirth, can be determined. There is no reason to suppose that it would be proportionately less here, than in the country as a whole. In fact, there is every reason to believe, in a city to which a large negro immigration is new, that the death rate of its colored mothers must be very much higher. It will be seen later in this report that little in the way of good obstetrical care in this city is available to them. These facts point to a strikingly definite step in the program for prenatal care in Chicago, the opening of adequate facilities for the maternity care of a group so needy and so eager to take advantage of them. Unlike those other new or secluded residents of the city, bound by old fashioned superstitions or midwife traditions, the colored mothers, as will be noted later, require little education as to the value of good medical care at childbirth. Their very neglect has taught them their need.

2. PREVALENCE OF INFANT MORTALITY FROM CAUSES CONNECTED WITH BIRTH

In the Country as a Whole

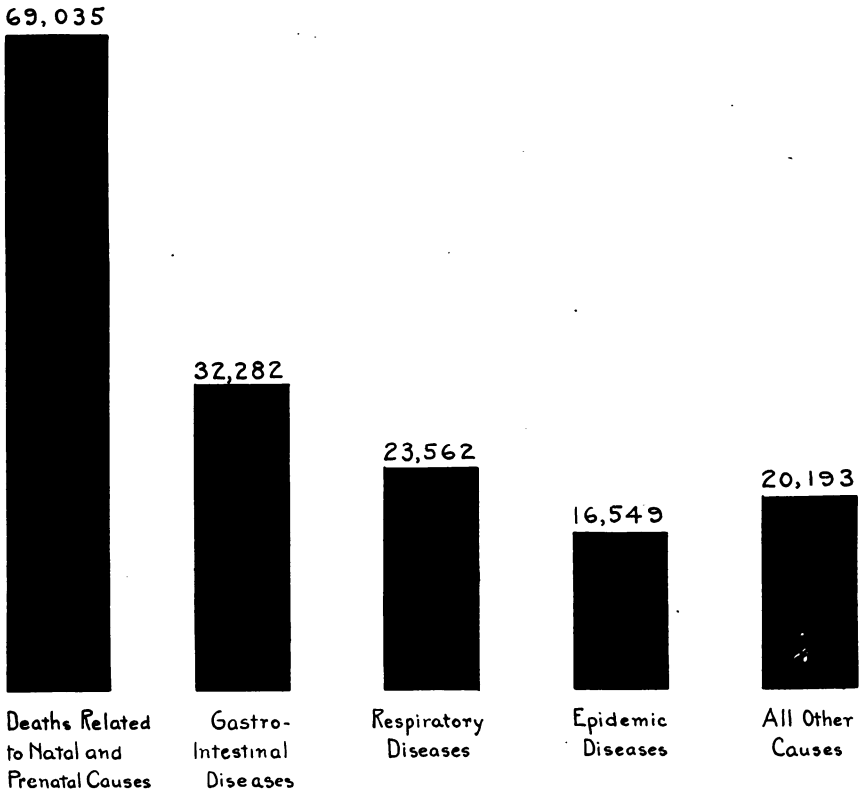
Loss of mothers in childbirth is not the only toll of life taken because countries have not properly safeguarded this event. The loss of infants at that point was recognized long before. Literature upon infant mortality, its causes, and means of checking, is now easily accessible. The index of infants' morbidity, or of their blindness from ophthalmia neonatorum has not been

(a) "Mortality Among Women from Causes incidental to Childbearing." Reprint 1918, p. 3.

(b) "Maternal Mortality," Bureau Publication 19, 1917, p. 56.

DEATHS UNDER ONE YEAR OF AGE GROUPED BY CAUSES

U.S. Registration Area
1919



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reached. That it is high, is unquestioned. A few points, as to the relation of infant deaths to natal and prenatal causes, the preventability of which has been the slowest of recognition, may here be reiterated. Probably the most striking portrayal of that relation, in the country as a whole, is set forth in the preceding chart prepared by the U. S. Children's Bureau.[a]

Even the most casual observer catches the meaning of that first "tall black monument" and quickly agrees with the Children's Bureau that, "If infant mortality is to be controlled, the work for that purpose must begin in the prenatal period, and must include proper medical and nursing care for the mother at the time of childbirth." [b] The number which die from those causes closely approximates the number of babies who die during the first month of life, in what Dr. J. W. Ballantyne, Physician to the Ante-Natal Department in the Edinburgh Royal Maternity Hospital, describes as the "neo-natal period." The first month has not yet been made safe for babies.

"The new born infant lies," he writes, " on the great divide between two lives, the ante-natal and the post-natal, exhausted and sometimes also a little injured by his transit from the one to the other"—"Birth itself, also, is often more than a time of stress; it may be truly the portals of death." [c]

"At birth, the morbidity and mortality which before were potential become real. This is one great cause of the striking mortality of the neo-natal period. Obviously neo-natal maladies due to disease of the mother in her pregnancy must be prevented by medical supervision during pregnancy; every effort must be made to exclude disease, especially transmissible disease, from the expectant mother's body." [c]

Dr. Whitridge Williams, of Johns Hopkins Medical School, has also "reported that a marked reduction in early infant mortality can be accomplished through prenatal work and especially from the early diagnosis of syphilis in the mother and from intensive anti-syphilitic treatment during pregnancy." [d]

The United States Public Health Service makes the statement that "each year nearly a quarter of a million babies die in the United States. Of these, a large number could have been saved. One hundred thousand of these babies die in the first month of life, most of them because of conditions affecting the mother before the baby was born. By giving proper care and attention to mothers before the baby is born, thousands of baby lives can be saved." [e]

Sir Arthur Newsholme points out that by cutting in half the early or neo-natal deaths, as many authorities believe is more than possible, "a greater saving of life could be obtained than by halving the death rate at any other period of life of equal length. There is ample work for further preventive

(a) Furnished and Reproduced by Courtesy of the U. S. Children's Bureau. Based on Latest Available Figures. (Feb., 1922).

(b) "Save the Youngest," U. S. Children's Bureau Publication No. 61 (Revised, pp. 6, 7, 8).

(c) "The New-Born Infant," J. W. Ballantyne, M. D., Physician to the Ante-Natal Department in the Edinburgh Royal Maternity Hospital. Reprinted from "Mother and Child," Oct., 1920.

(d) Statistical Bulletin August, 1920, Metropolitan Life Insurance Co.

(e) "Infant Mortality in 1921," U. S. Public Health Report, Vol. 37, No. 5, Feb. 3, 1922.

measures against infant mortality in the last eleven months of the first year; but the most fertile and least tilled soil is that of the neo-natal period." [a]

After tracing in detail some of the causes of deaths in the first month of life, he deduces the "highly satisfactory conclusion that this early infant mortality is in large measure preventable." [a] His suggestions for reducing it by means of prenatal care, will be noted in a later topic of Part I.

Here it may be observed that, although in general, infant mortality is perhaps slowly decreasing, in the words of a physician to the Children's Bureau, "this decrease is less marked for the first month of life, when the chief causes of death are natal and prenatal, and more marked in the later months, when diseases of infancy are the main causes, thus indicating an increasing attention to infant welfare activities, without a corresponding increase in prenatal and maternity care."[b]

An analysis of infant mortality rates soon to be printed by the Children's Bureau, points out that, between 1915 and 1920, in the U. S. Birth Registration Area, "certain causes, malformations and external causes, showed little or no change," and that "injuries at birth showed practically no change in mortality rate; premature birth showed a slight increase of 2.2 per cent." [c]

Looking beyond the first month of life, at the deaths of infants under one year of age, the Federal Census Bureau has found that in the death registration area of U. S. in 1918, for instance:

"1 in every 5 deaths under one year was due to premature birth;
"1 in every 11 deaths under one year was due to congenital debility;
"1 in every 16 deaths under one year was due to malformations." [d]

Chicago

Chicago's own deaths, from so-called congenital malformation, from congenital debility, premature birth, and other injuries and accidents at birth, constitute a startling proportion of those infants who die under one year of age. According to the U. S. Census Bureau,[e] 1,428 babies died in this city in 1919, before they reached the age of one year, because of "congenital debility and malformations." They represent almost one fourth (24.8%) of the entire number of babies under one year who died in Chicago in that year. The following table shows that these are the second highest of all the causes of death to which Chicago's babies prove victims:—

(a) Address on Neo-Natal Mortality, before Philadelphia Pediatric Society, Feb. 10, 1920. Reprinted from "Mother and Child," June, 1920, Vol. I, No. 1, pp. 6, 8.

(b) "Infant Mortality as an Index of Progress," printed in "The Nation's Health," Vol. III, No. 12, Dec. 15, 1921. Author, Florence L. McKay, M. D., U. S. Children's Bureau.

(c) "Decline in Infant Mortality in the U. S. Birth Registration Area, 1915 to 1920." Robert M. Woodbury, U. S. Children's Bureau.

(d) A "Physician's Pocket Reference to the International List of Causes of Death," prepared (1920) by the U. S. Census Bureau, p. 29.

(e) "Mortality Statistics," 1919, p. 459.

CAUSE OF DEATH OF BABIES UNDER ONE YEAR IN CHICAGO

From U. S. Census "Mortality Statistics," 1919 (p. 459)

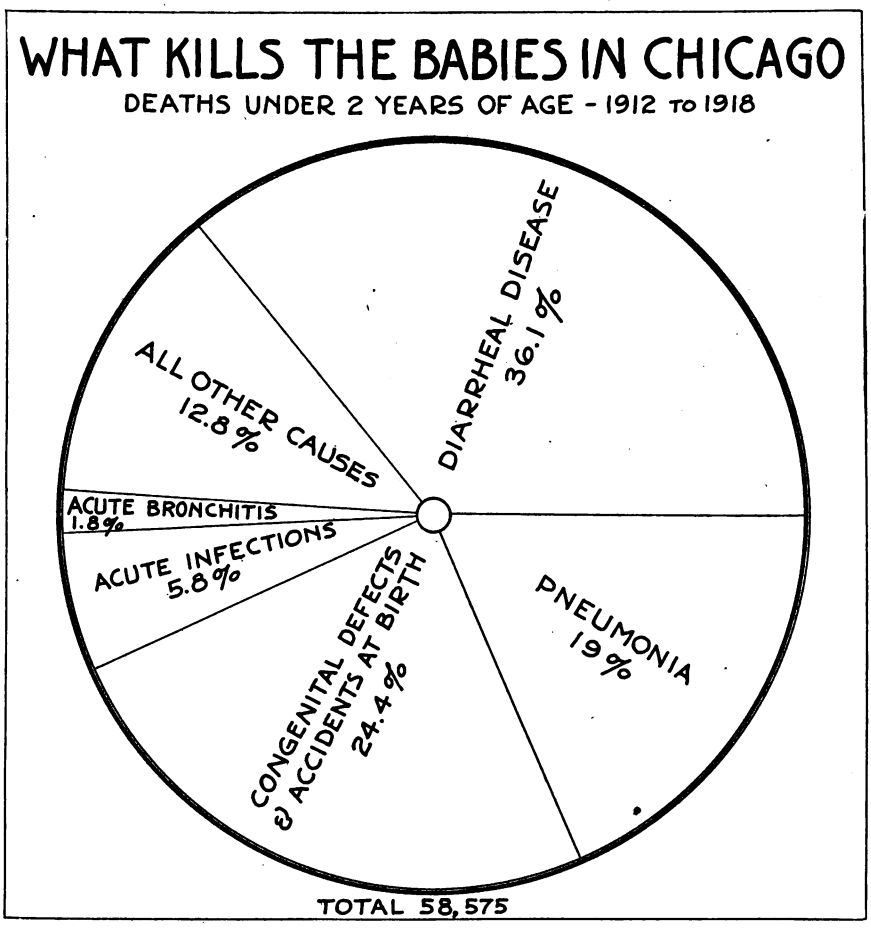
Disease Number—Unabridged Census Classification [a]	Cause	Number Deaths
104, 105	Diarrhea and enteritis	2,158
150, 151	Congenital debility and malformations	1,428
91	Bronchopneumonia	618
89	Acute Bronchitis	187
92	Pneumonia	110
10	Influenza	80
8	Whooping cough	64
6	Measles	58
109	Hernia, intestinal obstruction	38
9	Diphtheria and croup	37
3, 11, 14–19	Other epidemic diseases	33
164–186	Violent deaths (suicide excepted)	30
28, 29	Tuberculosis of the lungs	26
61	Meningitis	25
119, 120	Acute nephritis and Bright's disease	23
102, 103	Diseases of the stomach	20
30	Tuberculous meningitis	19
86–88, 93–98	Other diseases of the respiratory system	15
79	Organic diseases of the heart	9
31, 35	Other forms of tuberculosis	8
7	Scarlet fever	4
64, 65	Cerebral hemorrhage and softening	3
90	Chronic bronchitis	3
187–189	Unknown or ill-defined diseases	3
39–45	Cancer and other malignant tumors	2
108	Appendicitis and typlitis	1
113	Cirrhosis of the liver	1
	All other causes	738
		5,741

(a) Those causes from which no deaths occurred are omitted from the table.

Of the babies under two years of age, also, the Chicago Health Department has found that practically the same percentage (24.4%), die from "Congenital Defects and Accidents at Birth." Most of these deaths probably occurred within the first two weeks of life. Those causes, during the six-year period from 1912 to 1918, are displayed in their relation to other causes, by the accompanying chart, reproduced from the "General and Chronologic Summary of Vital Statistics," by courtesy of the Chicago Health Department. [b]

These facts are not new to many public health workers, nor to students of the causes of infant mortality. They are, however, not familiar to the

(b) Reprint Series No. 16, 1919, p. 1402.



community at large nor to those who have it in their power to make prenatal care for all expectant mothers possible. Back of the prenatal centers for mothers who cannot afford private care, lies community support for more maternity hospitals for all mothers, and for the training schools which must equip more physicians, more nurses and more social workers to conduct them.

From the standpoint of the baby, as well as its mother, "The infant welfare work of the immediate future lies in the control of the deaths which occur during the first month of life. There is nothing inevitable about this mortality. Much of it is no more necessary than that which occurs from diarrhea and enteritis, and which has been shown to be amenable to health work. The campaign must now take another form. It must be directed at the causes of the deaths during the first month of life. It must emphasize the preparation of women for maternity and the care of the mother during pregnancy. It must concentrate on the improvement of obstetrical service.

It must standardize the best practice of prenatal clinics and make these available to the mothers of America, exactly as infant welfare stations have been developed during the past decade or two." (a)

3. NO GENERAL DECREASE IN MATERNAL MORTALITY

General

The number of women who die from causes connected with childbirth is, as has been seen, shockingly large. A second fact in that relation is even more arresting. According to many of the best medical authorities, the rate of those deaths in this country is not generally decreasing. (b) In fact, at least since 1915, as will presently be shown, there is evidence that it has risen.

There has been a revolution in the last two decades "in the control of certain other preventable diseases, such as typhoid, diphtheria, and tuberculosis. During that time, the typhoid rate has been cut in half, the rate from tuberculosis markedly reduced, and the rate from diphtheria reduced to less than one-half." (c) Moreover, those decreases are now matters of general interest. Even semi-popular magazines now include such articles as "Typhoid Fever in 1920." The daily press, since the incidence of the epidemic three years ago, constantly calls attention to the dangers of influenza, its prevention, and cure. "Tuberculosis literature" has been spread broadcast over the country in the campaign to stamp it out. Wartime brought another nation-wide effort to control venereal disease. Infant mortality and some of its causes are now familiar topics to lay audiences. The same popular interest in maternal mortality is only beginning to kindle. In the words of the federal report above mentioned, "Communities are still to a great extent indifferent to or ignorant of the number of lives of women lost yearly from childbirth; many communities which are proud of their low typhoid or diphtheria rates, ignore their high rates from childbed fever. Communities are only beginning to realize that among their chief concerns is the protection of the babies born within their limits, and necessarily also of the mothers of those babies before and at confinement.(c) There is every reason to hope, when the full significance of this needlessly great loss of mothers and babies is appreciated, that another country-wide uprising against a specific cause of death will be focused, and that expectant mothers will be surrounded with every possible safeguard in what Sir Arthur Newsholme regards as "the one chief event in the national life with which is wrapped up the future, and the future welfare of mankind."

One of the first popular and at the same time scientific sources of information regarding these causes of death, was the study of the U. S. Children's Bureau, called "Maternal Mortality from All Conditions Connected with Childbirth, in the United States and Certain Other Countries," issued in 1917 and previously quoted. This report was not blind to the sources of error, which creep into the vital statistics of a country which only partially records its deaths, and still more incompletely, its births. Moreover, this

(a) Mr. Louis Dublin, Statistical Bulletin, Metropolitan Life Insurance Co., Sept. 1920, Vol. I, No. 9, p. 3.

(b) See quotations from leading obstetricians pp. 16, 17. U. S. Children's Bureau Publication No 19, 1917, "Maternal Mortality."

(c) pp. 7, 25 of above report.

report makes clear, "all mortality statistics depend upon the returns of the cause of death as given by the physician or other person on the death certificates, their value depends on the degree of accuracy of diagnosis shown by these returns." [a] The element of "falsification of returns for personal or family reasons" is likewise cited. The sources of possible error are discussed in detail,[a] and the need pointed out of a definite answer to the question "Is the death rate from childbirth falling?", "based on a study of unassailable statistics."

Using, however, the evidence afforded by the best existing records of population, births and deaths in the United States as a whole, this report draws the conclusion that "during the 23 years ending in 1913 in this country, no definite decrease in the death rate from the diseases caused by pregnancy and confinement can be demonstrated; nor can any decrease in the death rate from puerperal septicemia be shown. In the registration area as a whole, . . . the death rate (per 100,000 population) from all diseases caused by pregnancy and confinement, which was 15.3 in 1890, fell to 13 in 1902, and then with annual fluctuations rose to 16 in 1911; in 1913 the rate was 15.8. The annual average for the period 1901 to 1905 was 14.2; for the period 1906 to 1910, 15.5." [a]

Comparisons were also made among groups of states which remained constant in the death registration area, with the same general results.

"It is probable," the report admits, "that the improvement in reporting deaths from childbirth may account for the apparent rise in the rates since 1900; it may also perhaps conceal a slight improvement in actual conditions since that time; but it is safe to say that any marked decrease, in the actual death rate from childbirth during the last 13 years, could not have been masked by this error." [a]

Based more accurately, upon the number of live births, instead of population, in 1910, in the provisional birth registration area for that year, "the rate from all diseases caused by pregnancy and confinement was 6.5." [a] It apparently met a slight drop between 1910 and 1915, for a later Children's Bureau study found that "The death rate from conditions with childbirth rose from 6.1 per 1,000 births in 1915, to 6.2 in 1916, 6.6 in 1917, and to 7.4 in 1919. In 1918 the rate rose to 9.2 and the number of deaths to 23,000 an increase due largely to the epidemic of influenza which was especially dangerous to expectant mothers." [b]

Support is given to the tendency shown by these figures, in the experience of the Metropolitan Life Insurance Company, interpreted by its able statistician, Mr. Louis Dublin. Although in 1919, puerperal mortality showed some decline among its insured women, due, that company believes, to its efforts to control through its maternity nursing service, puerperal septicemia and puerperal albuminuria and convulsions, in 1920, there occurred a striking increase. In the words of Mr. Dublin: "the diseases and conditions connected with childbearing have shown an unsatisfactory tendency throughout 1920. Both white and colored women policyholders show significant increases in the death rate. Surprisingly enough, puerperal septicemia is ap-

(a) Ibid., pp. 15–18; 34–43.

(b) "Save the Youngest," U. S. Children's Bureau Publication 61, 1921, p. 2.

parently on the ascent. This is difficult to understand in view of the increasing number of women who are receiving better obstetrical care in American cities. It may well be that the figures based upon total exposure are not indicative of the true condition, in view of the higher birth rate of 1920. The rate of maternal mortality per 1,000 births is a more informing index. In a group of American cities, combined, comprising New York, Boston, Indianapolis, Baltimore, New Haven, Bridgeport, Hartford and Waterbury, the mortality rate from puerperal diseases per 1,000 births was 6.3 during the first six months of 1920 as compared with 5.5 in 1919—an increase of 15 per cent." [a] Elsewhere, Mr. Dublin has partially explained this increase, particularly as it relates to mortality from abortion and miscarriage, as follows: "Experience has shown that when influenza is epidemic it is accompanied by a very large number of deaths of pregnant women. This is what happened during the later winter and early spring of 1920." [b] Mr. Dublin does not find it so simple to account for the increase in maternal deaths from sepsis and eclampsia in childbirth. "Any increase at all in puerperal mortality," he states, "is disappointing because of the increased emphasis which has been placed in recent years upon better obstetrical service, upon advice to and care of expectant mothers and upon the control of midwifery by public and private agencies. The situation warrants close inquiry by health officers, maternal welfare workers, heads of obstetrical services in hospitals and executives of visiting nursing associations into the field conditions which have produced the higher 1920 mortality from two preventable conditions, sepsis and eclampsia in childbirth." [c] Mr. Dublin's deductions from a study of mortality among women insured by the Metropolitan Life Insurance Co. are borne out by the figures recently announced by the U. S. Census Bureau.

Along with increases in the death rate from pneumonia, chronic diseases of the heart, cancer, and some other causes, appear increases in deaths from *congenital debility and malformations,* and sharp increases from *puerperal fever,* and *other puerperal affections.* In other words, the rate for puerperal septicemia per 100,000 population, increased from 5.8 in 1919 to 6.6 in 1920; for puerperal affections other than puerperal septicemia, from 11.2 in 1919 to 12.5 in 1920. [d]

Although the returns are still incomplete for 1921, indications that there is little improvement, are apparent to the above-mentioned Life Insurance Co. The life or death of its policy holders is, of course, to it a matter of chief financial concern. Variations in their health or in their death rates are quickly noted and the keenest analytical examination of the causes made. Among the thousands of women insured by that Company, who gave birth to children during the first seven months in 1921, the conditions as to puerperal septicemia and puerperal albuminuria and convulsions, were found to be "no better than during 1920." "The total rate from puerperal mortality has, to be sure, gone down very markedly, from 25.2 per 100,000 to 20.1," Mr.

(a) See Statistical Bulletin, Metropolitan Life Insurance Co., Vol. I, No. 11, Nov. 1920, p. 8.

(b) See Bulletin of above Co., Vol. II, No. 7, July 1921, p. 8.

(c) See Bulletin of above Co., Vol. I, No. 12, Dec. 1920, p. 8.

(d) U. S. Census Bureau's Summary of Mortality Statistics, 1920. "Principal Causes of Death."

Dublin finds. "But, this saving is entirely the result of the lower mortality from such conditions as accidents of pregnancy and accidents of labor, which were influenced in the preceding year by the prevalence of influenza. The year 1921 has had very low influenza rates and this is reflected in the normal mortality from accidents of pregnancy and accidents of labor. Septicemia and albuminuria and convulsions, however, maintain the high death rates of the preceding year.—The prevailing high death rate from these two causes warrants renewed concern by health authorities and obstetricians.—These are causes which very directly reflect the character of obstetrical service and the care which women receive during pregnancy and parturition." (a)

Chicago

It is not so easy to trace the changes in the rate at which mothers in Chicago die from causes connected with childbirth. Even if accurate figures for population, for female population, or for female population of childbearing age, in Chicago, were available for the intercensal years between 1910 and 1920, they would not be especially desirable as a rate basis. For, as has been indicated, the truest index of maternal mortality is based upon the number of women exposed to the dangers of childbearing, in other words, to the number to whom children are born. Chicago and Illinois are progressing, through their public health officials and through the efforts of interested social and civic agencies, toward the point where they may be admitted by the Government, to the Birth Registration Area. "Illinois is now the only Northern State east of the Mississippi River, save one, that has not been admitted." (b) Until that time, however, Chicago has only a choice of the estimated number of live births, or of the number of live births incompletely reported, upon which maternal and infant death rates may be calculated. Using reported live births as a base, the death rate would, of course, be unfairly high. Unsatisfactory though they are, rates have been calculated upon a basis of estimated live births. They are presented in the following tabulation, as indication of the fact that so far, Chicago's measures for the better care of mothers in pregnancy and confinement have not been sufficient greatly to affect the proportionate toll of their deaths.

There was apparently some decrease during the years 1917, 1918 and 1919. In 1920, the rate seems to have increased. These figures are based on too insecure a foundation to attach detailed significance to their showing. It is undoubtedly safe to say, however, that had there been a striking decrease in the rate of maternal deaths from childbirth, that fact could hardly have been concealed. Until Chicago's prenatal clinics reach many more than their present 6,000 women a year, a figure which will appear in Part II, Sec. 4, no appreciable saving of the lives of mothers and infants may be expected.

(a) Statistical Bulletin, Metropolitan Life Ins. Co., Vol. II, No. 8, Aug. 1921, p. 5.
(b) "Illinois Health News," August, 1921.

DEATHS AND DEATH RATES PER 1,000 ESTIMATED LIVE BIRTHS FROM DISEASES CAUSED BY PREGNANCY AND CONFINEMENT
Chicago, 1912–1920

Year	Estimated [a] Number Live Births	Deaths from Diseases Caused by Pregnancy and Confinement	
		Number [b]	Rate per 1000 Estimated Live Births
1912	55,774	352	6.3
1913	55,927	337	6.2
1914	56,080	392	6.9
1915	56,234	351	6.2
1916	56,387	375	6.6
1917	56,540	335	5.9
1918	56,693	334	5.8
1919	56,846	313 [c]	5.5
1920	57,000	354 [c]	6.2

(a) Figures furnished Dec., 1921, by Senior Statistical Clerk, City Health Dept. of Chicago.
(b) Figures from "Mortality Statistics," Chicago Department of Health, 1911–1918.
(c) Figures furnished Dec., 1921, by Bureau Vital Statistics, Chicago Dept. Health.

4. PREVENTABILITY OF DISEASES CAUSED BY PREGNANCY AND CONFINEMENT

This report does not propose to enter into a technical discussion of the medical aspects of the difficulties and diseases which surround maternity. It is of primary interest to the lay reader to know that there is now among obstetricians, general practitioners and epidemiologists absolute agreement, as will be brought out by quotations, as to the preventability of many of the diseases and deaths connected with childbirth. Certain elementary discriminations among those diseases, are quite understandable by the lay observer. They are usually divided, for the sake of simplification, into two groups:—

1. Puerperal Septicemia, or Sepsis, commonly known as "child-bed fever."
2. Other diseases, complications, and accidents of pregnancy and parturition, among the most frequent of which, are albuminuria and convulsions.

Dr. J. Whitridge Williams, Obstetrician in Chief, Johns Hopkins Hospital, has well expressed the conclusions of the medical field as to preventability of these diseases, when he asserts: "Since 1843 we have known that childbed fever, or puerperal infection, could be transmitted from one woman to another by the doctor or nurse, and for the past 40 years we have recognized that it was due to the same sort of wound infection as causes death after surgical operations, and that it could be prevented by the same means which have wrought such a revolution in surgery. . . . Another great cause of maternal death is the so-called toxemia of pregnancy, commonly known as kidney disease of pregnancy or eclampsia. This is also, in great part, a preventable disease, which can be averted by proper study and treatment of the women during pregnancy. Statistics recently collected by Dr. Dublin, the actuary of the Metropolitan Life Insurance Co., have shown that 45 per cent of all women dying in childbed in this country succumb to infection,

and that 25 per cent die from toxemia or eclampsia. In other words, his figures show that practically three-fourths of all the women dying in childbed in this country perish from two diseases which could almost always be prevented." (a)

Moreover, based upon an analysis of the causes of death of 4,000 babies born at Johns Hopkins Hospital, Dr. Williams has found "that 34 per cent of all the babies born dead at the time of labor or dying within two weeks thereafter died as the result of syphilis. This death rate is one which can be almost entirely prevented, as it is due to infection of the mother, and this infection can be detected during pregnancy and completely eradicated if the mother is properly treated." (a)

Dr. Joseph B. De Lee, of the Chicago Lying-In Hospital, believes that, in the United States, twice as many women as should, die from causes connected with childbirth.

The discoveries of medical science in the control of infections, and the experience of the foremost obstetricians in practice, has been popularly traced by Dr. Meigs, in the U. S. Children's Bureau report previously quoted. There the conclusion is drawn that "experience has shown by far the major part of all serious cases of infection at childbirth may be prevented by the application of such principles of hygiene and of strict surgical cleanliness as are now established beyond question." The fact that "in a certain number of cases, women may infect themselves through improper hygiene during pregnancy or just before or at confinement" argues for the whole field of prenatal care, in which "the teaching of proper hygiene is an essential part of the work for the prevention of infection." (b)

The group of diseases other than puerperal infection are somewhat more illusive, for they include many different conditions. "However," Dr. Meigs continues, "it is a fact well proved in practice that a large number of these complications can be prevented through proper hygiene and supervision during pregnancy, and through skilled care at labor." (b)

That contention is supported by the previously quoted study of "Mortality Among Women from Causes Incidental to Childbearing," in which reference is again made to "the well-established opinion among obstetricians that the largest part of the mortality from these conditions may be prevented through adequate medical and nursing service carried on during the period of pregnancy. . . ."This, in fact," the author emphasizes, "is the reason for the general extension of nursing service to women during pregnancy. Through such service the nephritic and hepatic cases will undoubtedly be brought earlier under medical observation and many cases, which would under ordinary circumstances terminate fatally as puerperal albuminuria and convulsions, will thus be carried safely through their confinement." (c)

The Children's Bureau report illustrates by describing the character of certain complications and accidents. Dr. Meigs' descriptions are so simple

(a) Statement, May 12, 1920, at hearing on S. 3259, before the Committee on Public Health and National Quarantine, U. S. Senate, pp. 14–16.

(b) "Maternal Mortality," U. S. Children's Bureau Publication 19, 1917, pp. 11–13.

(c) Reprinted, 1918, from the American Journal of Obstetrics and Diseases of Women and Children.

and so clear, so illuminating to the field of prenatal care, and so informing for the lay reader, that the following excerpt is made: "Puerperal albuminuria and convulsions, called also eclampsia, or toxemia of pregnancy, is a disease which occurs most frequently during pregnancy but may occur at or following confinement. It is a relatively frequent complication among women bearing their first children. When fully established, its chief symptoms are convulsions and unconsciousness. In the early stage of the disease the symptoms are slight puffiness of the face, hands, and feet; headache; albumen in the urine; and usually a rise in blood pressure. Very often proper treatment and diet at the beginning of such early symptoms may prevent the development of the disease; but in many cases where the disease is well established before the physician is consulted, the woman and baby cannot be saved by any treatment. In the prevention of deaths from this cause it is essential, therefore, that each woman, especially each woman bearing her first child, should know what she can do, by proper hygiene and diet, to prevent the disease; that she should know the meaning of these early symptoms if they arise, so that she may seek at once the advice of her doctor; and that she should have regular supervision during pregnancy, with examination of the urine at intervals.

"Some obstruction to labor in the small size or abnormal shape of the pelvic canal causes many deaths to mothers included in the class 'other accidents of labor' and also many stillbirths. If such difficulty is discovered before labor, proper treatment will in almost all cases insure the life of mother and child; if it is not discovered until labor has begun, or perhaps until it has continued for many hours, the danger to both is greatly increased. Every woman, therefore, should have during pregnancy (and above all during her first pregnancy) an examination in which measurements are made to enable the physician to judge whether or not there will be any obstruction to labor. A case in which a complication of this kind is found requires the greatest skill and experience in treatment, but with such treatment the life and health of the mother are almost always safe.

"These two examples will suffice. In the same way it could be shown, with regard to all other complications of pregnancy and labor, that those which cannot be prevented can be treated successfully in most cases if detected in time." [a]

Whether prenatal care, as supplied in the hospitals, clinics, and other institutions of Chicago pays regard to the examination of urine, the taking of blood pressure, pelvic measurement, and especial attention to primiparæ, will be brought out in Part II of this report, particularly under the topics Clinic Procedures, and Content of Prenatal Care as Shown by Records.

The agreement of physicians is clear then, that there are means of preventing a large share of the diseases and deaths in maternity.

Dr. James Osborn Polak believes that it is time that the public should be "taught what can be done by prenatal care and proper and clean obstetrics; for good obstetrics would go far toward removing the horrors of childbirth and the consequent dread of invalidism. Prenatal care is the right of every prospective mother. Prenatal investigation permits us to discover syphilis,

(a) "Maternal Mortality," U. S. Children's Bureau Publication 19, 1917, pp. 12, 13.

prevents the occurrence of eclampsia, allows the recognition of malpositions, and thus minimizes the difficulties of labor." [a]

Dr. Barton Cooke Hirst, of Philadelphia, also regards prenatal care as a preventive of maternal mortality. As an answer to the question "What are the most practicable and efficient means of reducing the mortality of the generative process?" he advances the following remedies: "1. Improvement in the obstetric teaching of our medical schools. 2. Multiplication and enlargement of maternity hospitals, under heads competent to deal surgically or otherwise with all the complications and sequelæ of the childbearing process, including all the diseases of women. 3. The establishment of maternity centers for the poor in order to give the women prenatal care, to furnish skilled attendants in labor, and to follow up the results of childbirth." [b]

William Travis Howard, Jr., of Johns Hopkins University, looks upon this field as one of the most important in all the range of public health: "Prevention and control of illness and death of mother and child are among the most neglected and potentially the most fruitful domains of American public health administration, and, of the problems concerned, the two greatest are the toxemias of pregnancy (including albuminuria and eclampsia) and puerperal fever, of which the latter is the more rapidly approached." "It is almost inconceivable that a community large or small, inhabited by people of average intelligence and of relatively great wealth, would fail to apply remedies for such glaring and wholesale women murder, as the data for the United States birth registration area, properly studied, disclose." [c]

5. A COMMUNITY PROGRAM FOR MATERNITY CARE

Recognition of the prevalence of maternal mortality, of infant mortality connected with childbirth, of the fact that this mortality has not generally decreased, but that it is largely preventable, has finally led to the formulation of definite community programs for maternity care, as the foregoing sections have suggested. One of the most concrete of these has been set forth by Sir Arthur Newsholme, formerly principal medical officer of the Central Government Health Dept. of England and Wales, a country whose maternal and infant deaths have shown a very responsive decrease, as those principles have been applied. Eight chief points have been covered in this program: [d]

1. "At every point," in the care of the mother and new-born infant, "the general hospitals or private physician will be needed; and other departments of public health work must be called into aid."

There should be no "lack of continuity of observation and care during pregnancy, post-partum, and in infancy, even though different physicians are

(a) "The Defects in Our Obstetrics Teaching," John Osborn Polak, M.D. Chairman's address read before the Section on Obstetrics, Gynecology and Abdominal Surgery at the Annual Session of the American Medical Association, Boston, June, 1921. Printed A. M. A. Journal, June 25, 1921, p. 1810.

(b) "Obstetric Deaths," Journal American Medical Association, Vol. 77, No. 18, Oct 29, 1921.

(c) "The Real Risk-Rate of Death to Mothers" (1921), pp. 230, 231.

(d) "Address on Neo-Natal Mortality" before Philadelphia Pediatric Society, (1920), Reprint pp. 10–14.

employed. . . . This evidently can only be secured by having at hospitals in all medical teaching centers, prenatal clinics, pre-maternity beds for complications of pregnancy, lying-in beds in the hospital, as well as a home clientele, and beds for complications in or after parturition; a post-natal clinic, and a complete system of home visitation of mothers and infants; a clinic for the period between infancy and school life; and a school clinic."

2. "The best plan for securing an ante-natal clinic is to begin with a post-natal clinic for mothers and infants," for "all post-natal care is prenatal care for the next infant. . . . Prenatal clinics have already been largely developed both on their educational and clinical sides; and on the clinical side, in addition to the treatment of minor ailments, the health prospects of both mother and infant can be improved by measurement of the pelvis, ascertainment during advanced pregnancy of the presentation, periodical testing of the urine, and determining whether the mother has become infected by syphilis or gonorrhoea, and by appropriate action in each case. Diagnosis and treatment of syphilis during pregnancy, I regard as one of the greatest gains obtainable from the ante-partum observation of mothers."

3. "Skilled care during the parturition is even more important than ante-partum care; and it is at this period that the greatest saving of both maternal and infantile life can be secured. It is, I believe, agreed among obstetricians that more infants of viable age die during labor from injury or accidental complications than die from disease during pregnancy. . . . The details of care required in parturition can only be briefly indicated. They include the provision of a trained obstetrician (physician or midwife) for every case; with consultative assistance when required; and adequate nursing help in every case."

4. "A greatly increased provision is needed, especially in smaller towns and in country districts, of maternity homes and hospitals where mothers may be confined. . . . I know of no social work which is so certain to give immediate results in the saving of maternal and child life, in reducing invalidism of mothers and in enhancing the national welfare, as the immediate provision in every area throughout the country, of maternity homes and hospitals for a considerable proportion of normal confinements and for the majority of complicated cases."

5. The average standard of training in obstetrics is "admittedly unsatisfactory." In England, it appears to be generally agreed among experts that "notwithstanding the overcrowded state of the medical students' curriculum, at least three, and some urge six, months, should be devoted by each student to maternity and gynecological work, including work in prenatal and post-natal clinics. When this is done, and when in every teaching hospital there is an adequate service including prenatal clinics, pre-maternity beds, beds for normal and complicated midwifery, beds for post-partum complications, post-natal clinics and infant consultation, the physicians of the future can be adequately trained to meet the growing public demands for medical service, for supervision and care in normal and abnormal pregnancy, and in parturition, and for post-natal care of the infant."

6. "The problem will need to be faced in America whether adequate provision shall be made for medical attendance at every confinement, and practice by unqualified midwives forbidden; or whether, while prohibiting unqualified

practice, trained midwives should be allowed to practice midwifery, as in England, under strict supervision and control. Evidently there can be no prohibition of unqualified midwifery practice unless an alternative provision is available."

7. "The existing system of notification or registration of still-births opens up a large field of investigation and practical help, which has been greatly neglected in the past in most areas.....There is no field in which investigation holds out a more promising prospect of success in the saving of life."

8. "Our knowledge on many points in ante-natal pathology is still very defective."

"Our knowledge of the causes of infantile death during parturition apart from mechanical causes, and of the causes of death in the first week after live-birth is still rudimentary. And this notwithstanding the fact that pathological material is abundant and waiting for investigation. The difficulties of such investigation are great; but it is certain that in the coming years we shall have much light thrown on what is now obscure."

To make that program effective requires "the active co-operation of:

Every private medical practitioner,
Every midwife,
Voluntary hospitals, whether general or special,
Social workers, and
Public health authorities."

Something of the extent to which these points have been developed in Chicago, will be brought out, in various sections of Part II, Chicago's Prenatal Stations.

6. SOME RESULTS OF PRENATAL CARE

Many of the phases of that program are still too new, in organized form, to admit of checked results. Certain examples are to be found, however, which seem to "prove the case," particularly for that part of maternity care which is prenatal. In quoting these examples, no attempt has been made to verify the material upon which these conclusions were based. They have been drawn by physicians, demographers, public health officials, nurses, medical social workers and other persons experienced in the field involved, and they represent honest attempts to evaluate the effects of ante-natal supervision. These effects are traceable chiefly by means of the death rates of mothers and infants. They are not illuminated by that larger field, prevention of morbidity, and cannot be, until all the illnesses which may be connected with childbirth, are made reportable.

Boston

One of the first publicly analyzed experiments in prenatal care in this country was begun in Boston, in 1909, with the "House Cases" of the Boston Lying-In Hospital, and continued during the five years before that institution opened its own prenatal clinic. In that period there were "carried to the onset of labor, 1,512 patients without a death, with very few miscarriages; two in the first year, one during the first half of the second year, and never another. The rate of stillbirths was about half that of the city at large.

The premature birth rate was reduced to seven-tenths of 1 per cent, and the deaths during the first month amounted to between one-third and one-half of the city death rate." [a]

A few years later, Mr. Michael Davis, then Director of the Boston Dispensary, "made an investigation of the results of prenatal care in the crowded wards of the city, and proved that it practically cut the infant death rate in two."

More recent results, in Boston, are sketched in the reports of the Instructive District Nursing Association. A comparison made in 1919, of cases that received prenatal care, and that did not, is brought out in the following tabular statement: [b]

	Number	Infant Mortality (up to two weeks) per 1000 births	Stillbirths per 1000 births
Prenatal Cases Followed to Conclusion	2765	13.75	26.76
Postnatal Cases in which no Prenatal Care was Given	1616	33.81	45.58

From this analysis, the conclusion is drawn that "prenatal care lowered the infant mortality rate 60%, and the stillbirth rate, 44.5%." [b]

St. Louis

In St. Louis, an investigation as to the effect of prenatal care upon a group of pregnant women supervised by the Washington University Hospital, was made seven years ago by the St. Louis School of Social Economy. Among 334 women, "applying for free medical attention to be given them during the periods of pregnancy and confinement, 46 women received dispensary care only, the other 288 women were visited in their homes. . . . Most of the women registered between the fifth and eighth month of pregnancy, a few came to the dispensary as early as the second month." [c] They were given instruction in personal and home hygiene, and routine physical examinations were made. Analyzing the effect of prenatal care upon the babies, it was found that among those whose mothers were instructed, there was a death rate, for deaths before the end of the first month, per 1000 living births of 31.7. In the city of St. Louis as a whole, the rate was much higher, 38. The rate of stillbirths was 29.2% greater in the city as a whole, than among the infants whose mothers had prenatal care. [c] These facts point to the life-saving results of such care.

(a) "The Most Efficient Means of Preventing Infant Mortality," Mrs. Wm. L. Putnam, American Journal of Obstetrics, July, 1918, pp. 104, 105.

(b) Thirty-fourth Annual Report of the Instructive District Nursing Association, Boston, 1919, p. 30.

(c) "Prenatal Care." An investigation conducted by the St. Louis School of Social Economy (1914), pp. 3, 7, 8.

Minneapolis

In a recent experiment in Minneapolis, covering 20 months, in a section of the city "where the midwife had previously held full authority," a group of women were supervised during pregnancy by the Infant Welfare Society and its attending physician. "Out of 1,545 births in the northeast section during that period, 32 died in the first two weeks; out of 157 prenatal cases cared for in Clinic, none died the first two weeks. The stillbirths in the group attended, were 50 per cent less than the city at large.....A Prenatal Station hopes to reach every expectant mother in the district; to provide her medical examination and supervision, if she cannot otherwise have this; and to give her nursing care and advice throughout her pregnancy." (a)

Detroit

The epidemiologist of the Detroit Department of Health states that "it is humanly possible to cut down the deaths in early infancy.....The results of our prenatal work in Detroit indicate what it is possible to accomplish Catering to people in the less well-to-do sections of the city and among whom unfavorable complications were only too frequent it was possible during 1919 and 1920 to keep the infant mortality rate down to 78. (The infant mortality rate in 1919 in the City of Detroit as a whole was 96.7). By extending the privileges of physical examination and advice to the prospective mother it is felt that many unnecessary deaths among babies during the first month of existence may be avoided." (b)

Brooklyn, N. Y.

Very interesting results are reported from Brooklyn. In a "Study of Two Thousand Cases," (c) the Prenatal Supervisor of the Visiting Nurse Association of that city finds that among the 1,002 babies whose mothers received prenatal care, there were 22 infant deaths under one month, and 25 stillbirths. Among the 1,001 whose mothers had no prenatal care, the number rose to 41 infant deaths and 35 stillbirths. Here again, prenatal care apparently saved the babies.

Dr. Alfred C. Beck of Brooklyn, has also made public an analysis of the "End Results of Prenatal Care." (d) In a group of 1,000 cases under prenatal supervision of the Long Island College Hospital there were 25 stillbirths and deaths of infants under fourteen days. Among 1,000 cases under the care only of nurses, with no systematic medical supervision during pregnancy, there were 47 such deaths. Among 1,000 who had no prenatal care, there were 76 infant deaths and stillbirths. The inference is clear, prenatal care for mothers, brings a marked reduction in the number of the babies who die at birth.

(a) A Program for the Prevention of Maternal and Infant Mortality; Infant Welfare Society of Minneapolis, 1921.

(b) "Infant Mortality in Detroit," George T. Palmer, D.P.H., Epidemiologist. American Journal Public Health, June, 1921, pp. 502–507.

(c) Author, Harmina Stokes. Printed in "The Public Health Nurse," Dec., 1921, Vol. XIII, No. 12, p. 628.

(d) Read before the Section on Obstetrics, Gynecology and Abdominal Surgery at the Annual Session of the American Medical Association, Boston, June, 1921. Printed A. M. A. Journal, Aug. 6, 1921, p. 461.

New York City

One of the most conspicuous examples of reduction in mortality by means of prenatal care is furnished by the records of the Henry Street Settlement Visiting Nurses' Service, New York City. In a statement issued in 1920, [a] by its Supervisor of Maternity Work, the following graphic facts were set forth:

STUDY OF 4,683 MATERNITY CASES WITH 4,438 LIVING BIRTHS

Mortality	Number deaths per 1000 cases under prenatal supervision	Number deaths per 1000 cases under postnatal supervision only	City death rate per 1000 cases
Infant (Under 1 month)	9.8	14.8	37
Maternal	None Recorded (5 removed to hospital; 5 cases septicemia; 1 case eclampsia)	None Recorded (6 removed to hospitals; 17 cases septicemia)	
Miscarriages and Abortions	6.8	35.7	
Stillbirths	21	34.5	

In view of such sharp contrasts in death risks between those patients who were supervised during pregnancy and those who were not, it seems fair to say that the Henry Street Nursing Service, in its experiment in prenatal work, "may claim a startling success." [a]

New York's Maternity Center Association offers another pertinent illustration:

"Among 4,496 women who were supervised throughout pregnancy and for a month after the baby was born, the proportion of babies dying before the end of the first month was only 42 per cent that of the city as a whole. These mothers lived under the usual low-income handicap; yet, with the help and care given them, they were able in a large number of cases to bring healthy babies to birth. In addition, the proportion of stillbirths was reduced nearly one-half; and the proportion of mothers who died was less than one-third the general rate for the United States." [b]

Metropolitan Life Insurance Company

This company, from its New York office, likewise made a study of the possible reduction in the deaths of mothers and babies who had been given special care. An inquiry sent out by the Metropolitan Life Insurance Com-

(a) Statement of Miss Alta Elizabeth Dines, Supervisor of Maternity Work of the Henry Street Settlement, before the U. S. Senatorial Committee on Public Health and National Quarantine, May 12, 1920. See printed Hearing on S. 3259, pp. 41, 42.

(b) U. S. Children's Bureau Publication No. 61, Revised, "Save the Youngest," p. 6.

pany "to health officers of all the states and larger cities having good birth registration, resulted in the following information for the year 1919:

"1. More than five women die from disorders of pregnancy or childbirth out of each 1,000 births registered. This is equivalent to one maternal death out of every 185 confinements.
2. Forty-five babies out of every 1,000 total births, or one out of every 22, are born dead.
3. Forty babies out of every 1,000 born alive die before they are one month old.

Such are the dangers to mother and infant at the present time. As against the above figures, are the following, gathered by the statistician of the above company, which prevail among women who receive prenatal and maternity care under skilled direction:

1. Only two women instead of five die out of every 1,000 confinements.
2. Only twelve babies instead of forty-five are stillborn in every 1,000 births.
3. Only ten babies instead of forty per 1,000 born alive die under one month of age." (a)

Chicago

Turning to our own city, tabulated results are found to be more meager. As will be seen later, most of Chicago's prenatal work is comparatively new, so that resulting reductions in maternal and infant mortality cannot be traced over any considerable period of years.

A compilation just completed by Central Free Dispensary (b) results in the following interesting facts. Out of 829 confinement cases cared for between September, 1918 and December 31, 1921 by that Dispensary and the Presbyterian Hospital Out-Patient Department, 622 mothers were given prenatal care and followed for ten days after delivery; 197 for whom there was also a complete ten day history of the child, applied for delivery care only. Two of those 622 mothers died at childbirth, and 28 of the 703 infants born to them died. Of the 197 who had no prenatal care, 2 mothers died, and of their 203 infants, 25. Dr. W. F. Hewitt, the physician in charge of the Prenatal Service, makes the following statement as to the causes of those maternal deaths: "In analyzing the deaths in both the prenatal groups and those without prenatal care, it is of interest to note the cause of the deaths. In the latter group, the causes were tuberculosis and sepsis. The tubercular case came to the Dispensary late in pregnancy, with an advanced case of pulmonary tuberculosis. She did not co-operate by even returning to the Clinic, and died in Cook County Hospital a few weeks after labor. Had the tubercular case been to a physician for former deliveries, there would have been a possibility of preventing this early death. The case of sepsis was not seen by the Out-Patient Department doctor until five hours after her delivery.

(a) Statistical Bulletin Metropolitan Life Insurance Co., March, 1920, Vol. I, No. 3, p. 1.

(b) Figures furnished (Feb., 1922) by Supt. of Central Free Dispensary, Gertrude Howe Britton.

In the prenatal group, one death was due to pulmonary embolism shortly after labor. This is not regarded as a preventable condition. The other case died of meningitis. The patient had a severe rhinitis at the time of delivery, so that in these last two cases, prenatal care did not fall down." The group of mothers who had no prenatal care is, of course, too small to compare upon a percentage basis. The Dispensary superintendent feels, however, that the favorable showing of the mothers who received prenatal care is worthy of note.

The Infant Welfare Society has recently taken stock of its record in the saving of lives and has found that during its ten years of existence, it has reduced its death rate 64%. [a] While, of course, that result has depended upon all types of care, and not alone upon the prenatal, that Society reports during the year 1920 "no deaths among mothers receiving prenatal care," [a] and a death rate among babies, reduced to 1.5% which closely approaches the so-called "irreducible minimum,"—"a saving of 27 more babies per thousand cared for," than was true ten years ago.

Just how those stations, as well as Chicago's other prenatal clinics function, their extent, their physical, medical and social features, will be brought out in the next section of this report.

(a) Annual Report Infant Welfare Society of Chicago, January 1920–1921, pp. 13, 15, 16.

PART II

CHICAGO'S PRENATAL STATIONS

1. LOCATION OF PRENATAL CENTERS

With a few exceptions, Chicago's prenatal centers follow the location of its dispensaries and larger hospitals, in "rather restricted areas" in the city's "two fairly well defined medical centers, one on the West Side and one on the South Side." The official report of the Health Insurance Commission of the State of Illinois [a] makes the following comments on their location:

"Other factors than convenience to the public have in many ways determined the location of the dispensary. Those connected with medical schools have had their location fixed by the location of the schools, which in turn are located in relation to hospitals. For the Municipal Tuberculosis Dispensaries and school dental clinics, the city has been divided into districts and the dispensaries located so that all, or nearly all parts of the city are served. The location of other dispensaries has been determined by that of the hospitals, churches, social settlements, etc. The result is that there are large areas in Chicago in which the population has no ready access to dispensaries, while in other areas patients may choose among several such institutions which are conveniently accessible."

West Side and Southwest

In a small West Side Section, for instance, bounded by Ashland, Monroe, Polk and Hoyne (see map, p. 46), a territory only a little more than one-half square mile in area, have been located six prenatal care centers. One of them, the Illinois Post Graduate Dispensary, 1844 W. Harrison St., has within the last two years discontinued its obstetrical clinic. Another, the Lincoln Dispensary of the Loyola University School of Medicine, 700 S. Lincoln St., has recently combined with the obstetrical clinic of Mercy Hospital, and has moved to 2526 Calumet Ave. A third is just opening, with fresh equipment, in the new West End Hospital, 2058 West Monroe St. Three, however, maintain regular prenatal clinic hours and active supervision of women awaiting confinement. They are well-known institutions:

Central Free Dispensary, 1744 W. Harrison St.
Mary Thompson Hospital Prenatal Clinic, 1712 W. Adams St.
University Hospital Obstetrical Clinic, Congress and Lincoln Sts.

—all practically within sight of each other in the little western "neck" of the new twenty-seventh ward.

A mile east and a half mile south, in the heart of a heavily populated section still made up largely of Jewish families, is the Chicago Lying-In Dispensary, at Maxwell and Newberry Ave. Two blocks from it, is the little clinic of the Zion Society for Israel, maintained for the Jewish people of the neighborhood. The whole southwest section of the city, with its

(a) Published May 1, 1919; see p. 348.

Czecho-Slovaks, Jugo-Slavs, Poles, Lithuanians, and Russians, many with large families; with midwife traditions, with a high maternal death rate from causes connected with childbirth,[a] with an age-old fear of hospitals and doctors, this sweeping area has only one small outpost on its frontier, where expectant mothers are encouraged to come for examination and advice. This is the small, but immaculate clinic of the Howell Neighborhood House, 1831 S. Racine Ave. Unfortunately, it has not in the past been able to maintain a continuous service in its obstetrical clinic, due to conflicting responsibilities of its attending physicians. Though it is awake to its possibilities, it could not, with only its present equipment, serve all the area westward from Racine Ave. Moreover, immigration of new peoples, principally Mexican and colored, is fast filtering into the nearby blocks. The Southwest Side needs a system of centers capable of wide expansion for prenatal work among its many mothers. Its future patients do not yet realize their need of it. It could logically begin with a Social Sevice Department, with nurses and home visitors to demonstrate to the families in that section of the city the need of good maternity care, not only during the prenatal, but during the post-natal and delivery periods as well. This section south of 16th St. and west of the River had for three years prior to November, 1919, another small clinic, maintained as one of the activities of the Halsted St. Institutional Church, at 1935 S. Halsted. Its work was chiefly that of general medicine and although they were welcome, few cases of obstetrics or gynecology reached the institution. It was forced to discontinue the clinic because interior space did not permit of a room which could be kept for medical purposes, distinct and apart from recreational and educational activities.

South Side

The other pocket of prenatal clinics, on the near South Side, is encompassed by Dearborn St. and the Lake, between 24th and 39th Sts. Within that area are the following eight institutions all, except the Post Graduate, maintaining active and regular ante-natal work:

Chicago Medical School Dispensary, 3832 Rhodes Ave.
Hahnemann Medical School Clinic, 2817 Cottage Grove Ave.
Mercy Hospital, 2526 Calumet Ave.
Michael Reese Hospital, 29th and Ellis Ave.
Northwestern University Dispensary, 2421 S. Dearborn St.
Post Graduate Dispensary, 2400 S. Dearborn St.
Provident Hospital, 16 W. 36th St.
Wesley Memorial Hospital, 2449 S. Dearborn St.

Three of these, it will be seen, are situated upon the same street within a distance of two blocks. Two others are one block apart, on parallel streets.

A short distance north of this district, at 1426 Indiana Ave., is St. Luke's Hospital and prenatal clinic. Farther south, at 47th St.; at 51st St.; and at 52nd St. are three other centers:

(a) See p. 1416 Octennial Report, Dept. of Health, City of Chicago, 1911–1918, Ward II.

Chicago Lying-In Hospital, 426 E. 51st St.
Chicago Lying-In Dispensary, 734 W. 47th St.
Chicago College of Osteopathy, 5200 Ellis Ave.

At 4600 Gross Ave., is the Guardian Angel Dispensary. Its plan of work includes the development of a prenatal clinic. A Polish-speaking nurse attached to the dispensary, is active in neighborhood visits, attempting at present to interest the mothers of the community in good maternity care. Nor is any community more in need of it. This is the famous "back of the yards" section. Its bad housing, its congestion, its filth, disease and poverty are very familiar indeed. Familiar, but slow of improvement! Much of it lies in the old 29th ward, now comprising portions of the 12th, 13th and 15th wards, listed first, in the latest published report of the City Department of Health,[a] among the high ward death rates of mothers from causes connected with childbirth, and first, as well, among the high ward death rates of babies, from "prematurity, congenital malformation and injuries at birth." Adjoining it on the north, without any prenatal clinic, is the old 5th ward, also listed in the same Health Department report, as one of the five wards having the highest infant death rate from the same causes.

With the exception of Misericordia Hospital and Home for Infants, to be mentioned in the later discussion of maternity homes, Guardian Angel Dispensary is still the only institution in the area formerly constituting the 29th ward, which offers prenatal clinic care. And it is in the northeastern tip of that old ward! The Chicago Lying-In Dispensary on 47th St. is, of course, relatively near, though farther east. It must serve an enormous territory northward, thickly populated with the families of stockyards workers, as well as the territory east, and south. A more western center is needed. Such a ward, with its unenviable reputation of unnecessary deaths of mothers and babies, needs intensive work by prenatal home visitors and sufficient medical facilities for the care of all expectant mothers who cannot afford the services of private physicians.

There is one prenatal clinic in South Chicago, at 83rd and South Shore Drive, maintained by the Infant Welfare Society and Presbyterian Hospital. It is alone of its kind in that vast area, among the families of workers in steel mills, foundries, and coke ovens. Within that area, north and westward from Lake Calumet, is the old 9th ward, which was found to be one of the five wards with the highest death rates for mothers and babies, from causes connected with childbirth. [a] This Infant Welfare Station is at the Lake Shore, and is sorely needed just there "at the gate of the steel mills." For miles and miles west, however, through this old 9th ward, which, with a few modifications in boundary is likewise the new 9th, there is no station to which the women from this forlorn section of the city may turn for advise and care during the important prenatal period.

North Side and Northwest

The North Side has eight stations where prenatal care is given, all but one of which are east of the River. One of these has recently reopened,

(a) See pp. 1405, 1416 Octennial Report, Dept. of Health, City of Chicago, 1911–1918.

after a period of inactivity, at the Chicago Polyclinic, 218 W. Chicago Ave. Three of the above stations are maintained by the Infant Welfare Society in co-operation with other institutions:

Milton Ave. Station, 930 N. Franklin St.
Osgood Station, 1891 Maud Ave.
Chicago Commons Station, 955 Grand Ave.

Another is part of the Olivet Institute and Dispensary at 1500 Cleveland Ave. A few blocks farther north is Augustana Hospital, 2043 Cleveland Ave., which also carries on prenatal work. St. Joseph's Hospital operates an obstetrical clinic at 2100 Burling St. Grant Hospital, 551 Grant Place, offers ante-natal care to the "Service Cases" who enter the hospital through the clinic.

This leaves the whole Northwest Side, north of Grand Ave., and west of the River, bare of any organized center to which women awaiting childbirth may come for supervision. That area includes the old 27th ward, second highest of all in the city, in its death rates of mothers and infants, from causes connected with birth. [a] It includes parts of the old 14th and 17th wards, also among the first five wards having the highest death rates from the same causes. [a] Under the new ward division, that section begins with the upper corner of what is now the 31st ward and extends through all the wards of the thirties.

Like the Southwest Side, this is a part of the city in which the midwife holds wide sway, for its population is made up largely of people of foreign parentage. The report on "The Midwife in Chicago," made by Miss Grace Abbott, now Chief of the U. S. Children's Bureau, makes clear some reasons for the midwife obstacle to good obstetrical care among women of foreign birth:

"The immigrant preference for the midwife is due in part to the very different positions which she occupies in Europe. There, good schools of midwifery are numerous, and in most countries the midwives who are licensed are carefully supervised by the State."

There is, moreover, among many immigrant women "a prejudice against the assistance of a man during childbirth, so deep that it is only when a physician is urged as a matter of life and death that his attendance will be tolerated by the patient or excused by her circle of friends." [b]

"Little by little," Miss Abbott goes on to point out, "especially when there are some women physicians on the staff, the dispensaries gain the confidence of the women in spite of this social taboo."

Reference to the spot map of Chicago between pages 46 and 47 will enable the reader to trace the location of prenatal stations as they have developed in this city. The three principal areas without such organized care are, as is quickly seen, the Northwest, Southwest, and South Chicago.

Chicago's official mortality statistics indicate that where, in the city area, the death rates of mothers and babies from causes connected with child-

(a) See pp. 1405, 1416 Octennial Report, Dept. of Health, City of Chicago, 1911–1918.

(b) "The Midwife in Chicago," Grace Abbott, Reprinted from the American Journal of Sociology. Vol. XX, No. 5, March, 1915, p. 685.

birth are highest, the prenatal clinics are fewest. In those congested sections of the city which are studded with centers for ante-natal work and in those residence areas where families can afford the services of skilled physicians, death rates from childbirth are comparatively lower.

This report has dealt elsewhere with the effect of prenatal care in reducing the number of deaths of mothers and babies. Given the knowledge that social need exists, and given the tool with which to remove it, any community can lift itself out of its negligence. The time is very ripe for Chicago to exercise the vision and the systematic practicality of its city planners, and methodically to set down prenatal care facilities in those sections of the city where so great a preventable waste of human life takes its toll.

Residence of Patients

The location of prenatal clinics, as at present organized in Chicago, does not strictly determine the residence locality of their patients. In all of the twenty and more institutions which furnished prenatal case records for study, the addresses here of patients were made the object of careful examination.

Nearby centers are not yet sufficient in number, nor do their reputations and standards make them equally attractive. Women are still traveling many miles over the city to receive prenatal instruction and examination. Practically all the clinics have some patients who come from great distances. Addresses at the West Side clinics, for example, show that some pregnant women come to them from South Chicago and Pullman. The long trip is wasteful, not only for the patient, but for the follow-up home visitor as well. A few women come into Chicago for more or less regular consultation visits, from the suburbs and nearby towns.

Generally speaking, however, the majority of its cases are from the clinic's general vicinity. In the words of the Illinois Health Insurance Commission, "The block studies show that those families living in the vicinity of dispensaries take much greater advantage of dispensary treatment than do those who live at any considerable distance from such institutions." [a] Certain of the institutions lay particular emphasis upon location of patient in their work. Settlements, institutional churches and missions, for instance, in some of which ante-natal work has been developed in Chicago, exist primarily for their chosen neighborhoods. Olivet Institute Dispensary is a concrete example. It knows very intimately the families about it. They count the dispensary a family friend. Word of the clinic and its advantages is passed by word of mouth from one prospective mother to another. So that frequently the obstetrical cases of an entire block or short street apply for maternity care at Olivet. The nurse who is head of the clinic, lives at Olivet, and spends much of her time visiting patients who need follow-up care, incidentally proving a great advertisement of the clinic. The deep-seated, friendly interest of the institution in all the problems of these neighborhood families cannot fail to contribute to a solid foundation for good medical clinic work.

Grant Hospital, with its follow-up worker from the Social Service Department, a nurse who likewise conducts its baby clinic, also has elements of this same personal relationship with its neighborhood. As clinics more and

(a) Report of the Health Insurance Commission of the State of Illinois, p. 353.

more come to limit their districts, this type of cultivation of their vicinities will prove an increasing advantage. Its present extent, through other clinic Social Service Departments, is described under a later section.

Four of the active clinics, two of which are primarily teaching institutions, reported that a very considerable number of their patients came from nearby maternity homes. In their cases, the records usually bore, not the girls' addresses but that of the institution, a fact which indicates another type of neighborhood co-operation.

One clinic, which has moved from the West to the South Side, has carried with it some patients from the vicinity of its first location, and farther north.

The clinics situated in neighborhoods chiefly colored, particularly those which provide special hours for colored patients, are by their nature primarily local medical centers.

These examples of intensive work in specific communities, do not, however, represent arbitrary lines of work division.

No agencies except the Infant Welfare Society and the Chicago Lying-In restrict the district from which their patients are received. The two outlying dispensaries of the Chicago Lying-In Hospital have a territorial division of work, the Maxwell St. Dispensary accepting patients who live between Crawford Ave. and the Lake, from 38th St. to North Ave. and beyond; the Stockyards Dispensary receiving those from 38th St. to 70th St., between Crawford Ave. and the Lake. Patients from beyond these limits, however, who live near a car line, are quite generally accepted at both dispensaries. This limitation of service is due to the difficulty of reaching the patients beyond these boundaries, with only street car transportation available.

Most of the clinics have some patients who live much nearer some other clinic. Several have inaugurated a policy of referring some who apply, to their nearest clinic. But there is no general agreement among these centers as to districts of service. In those parts of the city where groups of clinics exist, there is great overlapping and interlocking of fields. The routes of travel of women coming to these centers, if plotted on a map, would show a striking network of crossings and recrossings. While this will undoubtedly be partially true, until clinics are established in those sections of the city where there are at present none, some relief from this duplication is at once possible.

Registration of Cases

Relief lies in the complete registration of all obstetrical cases from all institutions affording ante-natal care, with the Social Service Exchange and the Registration Bureau of the Jewish Charities. Eleven out of the twenty-eight now supplying active prenatal care, more than one-third, are now listed by this first central clearing house which is so readily and quickly at their service, and have no way of knowing that they are not actually caring for the same patients at the same time. In fact, one clinic executive who employs this confidential exchange, stated that a considerable number of patients were found to be registered with several medical centers. What agency shall finally give care in such instances, is a point for most careful consideration and well-understood agreement, by these co-operating agencies. Of the seventeen prenatal care centers which appear upon the List of Registering Agencies, three were found from the last annual record of the Social Service

Exchange to have made no use of this registration bureau. Added to the eleven not even listed, the number of non-registrants grows shockingly large. The clinics which do not register cases, do not, of course, understand the nature and method of the Social Service Exchange, nor the fact that its first characteristic is the treatment of information as confidential. One of the newer clinics, for instance, gave as a reason for non-registration, the "feeling" that such an exchange "does not protect the secrecy of the person asking for help," and that "no good class clinic registers their families." Such a "feeling" is, of course, based on misinformation. Some of the clinics which are listed as registering their cases, do not apparently register all. One dispensary, for example, which cares for more than a hundred pregnant women a year, and whose other clinics are even larger, was found to have registered during the last fiscal year, from its whole dispensary, a total of five cases. The reason given by the nurse in one such dispensary, maintained chiefly for teaching purposes and eager for a large obstetrical clinic, was, that "if this were done, patients would be withdrawn to other clinics." In a city with so high a maternal mortality rate, with so many thousands of mothers who must seek dispensary care, there should be no difficulty in building up clinics without claiming the same patients!

Those centers which are at present maintaining active prenatal clinics and are listed with the "Registering Agencies of the Social Service Exchange" are: Central Free Dispensary, Chicago Lying-In Hospital and its two dispensary branches; Grant Hospital; Hahnemann Medical School Dispensary; Howell Neighborhood House; the four stations of the Infant Welfare Society, "Chicago Commons," "Jackson Park," "Milton Ave." and "Osgood;" Michael Reese Hospital; Northwestern University Medical School Dispensary; Olivet Institute Dispensary; St. Joseph Hospital; St. Luke's Hospital; Wesley Memorial Hospital. The University Hospital Clinic is understood to be trying out Registration, as a temporary experiment.

The list making use of the Registration Bureau of the Jewish Charities, or the Registration Division of the Research Bureau, as it is more properly called, is naturally smaller. At present, it claims as registering agencies, the Central Free Dispensary, Chicago Lying-In Hospital and its two branches, Grant, Mary Thompson, Michael Reese, St. Luke's, and Wesley Memorial Hospitals. The cases of children from the stations of the Infant Welfare Society are registered, but so far, their mothers are not. It is apparent that there are other prenatal care agencies which deal with Jewish cases, which have not grasped the opportunity of the more complete social diagnosis which clearing houses afford.

The first step then, in extending organized prenatal care to as wide a circle of the women who need it, as possible, lies in full registration.

Zoning

With Chicago's present total lack of maternity centers in certain parts of the city, and with the varying standards prevailing in the care given, strict limitation of clinic districts would at present work hardships to some patients.

It is decidedly to the point, however, to note the experience of certain other cities in what is usually spoken of as the zoning system. As the Illinois Health Insurance Commission observed, that system is already familiar to

Chicago, in the districting of the city for its municipal tuberculosis dispensaries and its school dental clinics.

The City of Edinburgh has long had a districting system for its dispensaries. "Charitable Dispensaries," states Dr. John Orr, Physician to Western Dispensary, Edinburgh,[a] "began to exist at an early date in Edinburgh for we find that the Royal Dispensary was established in 1776, and is still in active operation. It was followed in 1815 by the New Town Dispensary, and then by the Cowgate, Western and Provident Dispensaries, so that now the charitable dispensaries have come to constitute a more or less complete system for the provision of attendance on the sick poor throughout the various districts of Edinburgh. From an early period of time in their history, the dispensaries mapped out the city into areas, each of which was attended by a dispensary and patients have come to know that those resident in a particular district are attended by a particular dispensary."

New York has the best-known zoning system for prenatal care in this country, worked out through its Maternity Center Association. The Association followed on the heels of and in conformity with, the program of the Associated Out-Patient Clinics of the City of New York, organized in 1912, on call of a Committee of the New York Academy of Medicine. As one of their general aims, the Out-Patient Clinics set forth the following: "The formulation of a plan for the district limitation of work of those departments of general dispensaries which are organized for home treatment, district visiting or social service." The Maternity Center plan has been described as follows: "At the suggestion of a committee of obstetricians, Manhattan was divided into ten zones, and it was planned to establish maternity centers and substations in each of these ten zones; each center to be the focus of an educational campaign for maternity care for that zone, to conduct doctor's clinics where medical supervision will be given all patients who have not engaged their own physician or registered at a hospital, until such time as they can be persuaded to do so; the nurse in charge of each center together with nurses in co-operating clinics to reach practically every pregnant mother in the zone, to teach her the need for medical and nursing care throughout pregnancy, teach her what and how to prepare for her baby, help her to arrange for her care at time of confinement and keep in close touch with her until she really knows how to care for her baby. It was planned that each center consist of an examining room where a doctor's clinic could be held once a week or oftener, a dressing room for patients in order to assure them privacy and a waiting room, made as nearly like a comfortable sitting room as possible, where there could be a continuous exhibit of a model baby's bed, layette, toilet tray, etc., and a bed properly made for the mother's delivery. This work was to be financed and directed by this voluntary organization of citizens called the Maternity Center Association, only until such time as a demonstration could be made so convincing as to assure an adequate appropriation of public moneys to carry it on. When the association was formed, the New York Milk Committee took the entire responsibility for the work in two of the zones. The Women's City Club continued to finance

(a) Edinburgh Medical Journal, August, 1918, p. 106, "Dispensary Practice as a Part of Medical Training."

the work in the zone where they established the first Center, but put the actual nursing under the direction of the Maternity Center Association." [a]

This Maternity Center Plan, now in operation for several years, is directly in line with the recommendations of the Dispensary Survey of the Public Health Committee of the New York Academy of Medicine. [b] Dealing with the question of zoning, that Committee report states:

"The advantages which would accrue from a regional distribution of responsibility make it desirable to try such an arrangement. At first, perhaps, certain departments could organize their work on a district basis, following the successful example of co-operation on the part of the tuberculosis clinics. The pediatic, venereal disease, obstetric, social service and preventive medicine departments might find it most advantageous to adopt the district division of the field. Other departments might follow later, if these experiments should prove satisfactory."

It is not to be overlooked that there are many difficulties in the way of zoning a city for any specific medical service. What determines a patient's choice of clinic is frequently something far more intangible than mere proximity. It is more often reputation, personal contact with individual physicians, with nurses or home visitors. It may be related to church or denomination, to nationality or color. In the case of prenatal clinics, it oftens depends upon the affiliations with hospitals or out-patient delivery service. Cleveland found "that a dispensary with medical teaching draws from a relatively wider area, since consulation cases are sent to its staff for special study and since the reputation of its staff draws patients. In general the range of a dispensary varies somewhat in proportion to its reputation. People will go long distances to secure expert medical care of which they feel themselves to be greatly in need, but convenience of location and nearness of a dispensary are of great assistance in bringing people in the early stages of disease under care and in attaining easy supervision of treatment." [c]

Mr. Michael M. Davis, co-author of "Dispensaries—Their Management and Development," gives the following suggestion of a guiding principle in the problem of zoning: "The recognition of certain institutions able to do the most difficult and complex diagnostic work (especially the teaching clinics) as reference and treatment centers from a wide area, perhaps the entire city, giving a much more limited defined area to each dispensary of the ordinary type. . . . A complete solution of the problem for a large city is probably impossible at this present time, but I believe beginnings ought to be made by taking up special groups of clinics or special sections of the city, without tackling at one moment more than can probably be handled."

In any attempt to district its prenatal work, Chicago would probably experience many of the difficulties above mentioned, as well as that of clinics already established in "pockets," without sufficient reference to population needs. But long before any actual zones were fixed, Chicago could go far by mutual, and all-inclusive agreement as to respective fields, perhaps through

(a) See Transactions 10th Annual Meeting, American Child Hygiene Assn., 1919.

(b) Journal of the American Medical Association, Feb. 21, 1920, Vol. 74, pp. 549–554, "The Dispensary Situation in New York City."

(c) Cleveland Hospital and Health Survey, 1920, Part Ten, Hospitals and Dispensaries, p. 892.

a body similar to New York's Associated Out-Patient Clinics, to extend its safeguards to more mothers of the city.

2. TYPE OF PATIENTS

With this specialized group of patients, women of childbearing age, sex and age classifications are, of course, limited by nature itself. No attempt was made to analyze in detail the ages of the patients whose histories were studied, since standard obstetrical care, unless the woman is older than usual, does not greatly vary with the patient's age. The clinics which care for the unmarried mothers from maternity homes showed, as would be expected, a considerable number of patients under twenty. One reported a little girl of eleven. Of far greater importance, from the physician's standpoint, is the fact of whether or not the patient is a primipara. In the better clinics, the woman pregnant with her first child is singled out for special consideration. Among the waiting patients, it is often routine procedure to examine her first. She receives, generally speaking, more careful and complete examination, closer supervision, and more insistent persuasion for hospital delivery. Among clinic physicians and attendants, she has become a very definite type, requiring intensive care.

Neighborhood and location are probably the largest factors in the determination of type of patient. Those in foreign neighborhoods draw, of course, patients of mixed nationalities.

Occasionally, an institution has been organized for one specific nationality, color, or creed. Howell Neighborhood House, for instance, was originally established as a center for Bohemians. Michael Reese Dispensary is intended primarily for Jewish patients. The Zion Society for Israel was formed expressly for neighborhood work among Jewish families. Several institutions under Catholic auspices expect patients of that faith. Neither they nor Michael Reese, however, bar patients of other creeds.

It is well-known that Provident Hospital is maintained definitely for colored patients. So much a center for their medical care has it become, that colored mothers from all parts of the city are referred to it. The Chicago Medical School Dispensary, in affiliation with the Fort Dearborn Hospital, supplies prenatal care to many colored mothers, as do also the Northwestern University Dispensary, the Central Free Dispensary, the Maxwell and Stock Yards Stations of the Chicago Lying-In, St. Luke's Hospital Clinic and others in varying degrees; as did the Postgraduate, and as did Lincoln Dispensary before its merger with Mercy. Since Mercy is so near a large colored community, its expectation is for an increasing number of colored patients. In the institutions which receive them, they are apparently peculiarly welcome. It has been the dispensary's experience that they "seek care early, obey instructions, and pay as long as they have money." "Good patients," is their reputation, in more than one of the clinics in which they are received. Prenatal clinic care is, therefore, possible for them to obtain. Adequate hospital provision for the delivery of those who cannot afford to pay for it is not available. Three of the largest hospitals nearest the "colored section" state that they have no facilities for the free care of colored obstetrical cases. Provident Hospital has not sufficient income to

carry so large a proportion of free cases. Here is an urgent need, then, to which this survey points, the opening of larger hospital accommodations for the colored women who appreciate the advantage of safeguarded maternity.

Economic and financial status is a chief consideration in the type of patients admitted to most dispensaries. These institutions have been built up for the sick poor, and they are more or less agreed, upon a limitation to patients who, in the words of the Hahnemann Clinic sign, are "unable to pay ordinary physician's fees and hospital charges." In the words of the Central Free Dispensary's last published report, "these institutions are maintained for the purpose of providing medical and surgical service for people who are financially unable to pay for such service." Generally speaking, it expresses the purpose of other clinics as well, when it states that "its doors are open to all irrespective of race or creed. Need for the kind of service it can render and inability to meet that need are the only conditions of admission to its clinics." (a)

3. DURATION OF PRENATAL CLINICS

Length of Time in Existence

Chicago's prenatal clinics are a comparatively new adventure in her field of preventive medicine. They mark chiefly the 1910–1920 decade. Of the twenty-eight now in active operation, nineteen had their beginning in that period. Two new prenatal clinics opened in 1921, and a third is attempting to organize regular ante-natal work. Another, Northwestern University Dispensary, began regular "prenatal days" Nov. 7, 1921, but its teaching of Obstetrics by the illustrative case work method was inaugurated soon after the opening of the Medical School in 1859.

Three others opened in the above-mentioned decade, but have since closed, the Illinois Post-Graduate, because the physicians' interests were transferred elsewhere; that of the Halsted St. Institutional Church, because of inadequate space and equipment; and the Lincoln Dispensary prenatal work, by combination with Mercy Hospital Clinic. Still another, the Postgraduate, is on the point of discontinuance, chiefly, it states, because of lack of free beds at the disposal of clinic mothers.

One prenatal clinic antedates this formative decade by two years, that of the University of Illinois, established in 1908, shortly after the new University Hospital was built. The prenatal work at Augustana Hospital began in 1905. The four oldest prenatal clinics opened prior to 1900: that at Mary Thompson Hospital in 1865, the Maxwell St. Dispensary of the Chicago Lying-In in 1895, the Central Free Dispensary prenatal clinic in 1899. The fourth, which dates back to 1884, the Chicago Polyclinic, closed temporarily in 1920, chiefly for financial reasons, but reopened again Sept. 1, 1921.

Period of Operation

The clinics' length and continuity of life have chiefly depended upon funds available, physicians' interest, medical school needs, and hospital affiliations. At their present stage of development, the chief interruption of

(a) See Forty-second Report for years 1916–17–18–19, p. 10.

HOURS OF CHICAGO'S PRENATAL STATIONS

(AS OF DEC. 1921)

WEST SIDE		
Institution	**Morning**	**Afternoon**
Monday		
Central Free Dispensary	11:00-1:00	
Chicago Lying-In, Maxwell St. Disp.		2:00-4:00
Mary Thompson Hospital Clinic	10:00-12:00	
University Hospital Clinic		12:00-1:00
West End Hospital Clinic	No reg. hrs.	
Tuesday		
Central Free Dispensary	11:00-1:00	
Chicago Lying-In, Maxwell St. Disp.	9:30 (Gen'l. Med. for Prenatal Cases)	2:00-4:00
Zion Society for Israel Disp.		1:00 (Obs. and Gyn. Clinic)
West End Hospital Clinic	No reg. hrs.	
Wednesday		
Chicago Lying-In, Maxwell St. Disp.		3:00-5:00
University Hospital Clinic		12:00-1:00
West End Hospital Clinic	No reg. hrs.	
Thursday		
Chicago Lying-In, Maxwell St. Disp.		2:00-4:00
Howell Neighborhood House Clinic		2:00-4:00
Mary Thompson Hospital Clinic	10:00-12:00	
West End Hospital Clinic	No reg. hrs.	
Friday		
Central Free Dispensary	11:00-1:00	
West End Hospital Clinic	No reg. hrs.	
Saturday		
Central Free Dispensary	11:00-1:00	
Chicago Lying-In, Maxwell St. Disp.		3:00-5:00
University Hospital Clinic		12:00-1:00
West End Hospital Clinic	No reg. hrs.	

SOUTH SIDE		
Institution	**Morning**	**Afternoon**
Monday		
Chicago Lying-In Hospital		2:00-4:00
Michael Reese Hosp. Clinic	9:00-11:00	
Northwestern Univ. Disp.		1:00-3:00
Post Graduate Dispensary		1:30
Wesley Memorial Hospital	Morning Preferred	
Chicago Medical School Clinic		3:30
Tuesday		
Chicago Lying-In Stk. Yds. Disp.		3:00
Hahnemann Medical School Clinic		2:00
St. Lukes Hospital Clinic		2:00-5:00
Wesley Memorial Hospital	Morning Preferred	
Provident Hospital Clinic		3:00-5:00
Chicago Medical School Clinic		3:30
Wednesday		
Mercy Hospital Clinic	10:00-12:00	
Wesley Memorial Hospital	Morning Preferred	
Thursday		
Chicago College of Osteopathy		3:00
Chicago Lying-In, Stk. Yds. Disp.		3:00
Jackson Park Sta. I. W. S.		1:00-3:00
Michael Reese Hosp. Clinic	9:00-11:00	
St. Luke's Hospital Clinic		2:00-5:00
Wesley Memorial Hospital	Morning Preferred	
Chicago Medical School Clinic		4:30
Friday		
Hahnemann Medical School Clinic		3:30
Post Graduate Disp.		1:30
Wesley Memorial Hospital	Morning Preferred	
Saturday		
Chicago Lying-In Hospital		2:00-4:00
Mercy Hospital Clinic	10:00-12:00	
Wesley Memorial Hospital	Morning Preferred	

NORTH SIDE		
Institution	**Morning**	**Afternoon**
Monday		
Augustana Hospital		2:00-4:00
Grant Hospital Clinic	No reg. hrs.	
Olivet Dispensary		4:00-5:00
Tuesday		
Chicago Polyclinic		1:00-2:00
Grant Hospital Clinic	No reg. hrs.	
Milton Ave. Sta. I. W. S.		2:00
Wednesday		
Grant Hospital Clinic	No reg. hrs.	
St. Joseph's Hosp. Disp.		2:00
Thursday		
Augustana Hospital		2:00-4:00
Grant Hospital Clinic	No reg. hrs.	
Friday		
Chicago Polyclinic		1:00-2:00
Grant Hospital Clinic	No reg. hrs.	
"Osgood Sta." I. W. S.		2:00
"Chgo. Commons Sta." I. W. S.		2:00
Saturday		
Grant Hospital Clinic	No reg. hrs.	

their services lies in the schedule-making of those attached to Medical Schools. Clinics which are a part of teaching institutions having no summer session, tend to lose impetus in summer. For the staff's interest in keeping them at a maximum standard is apt to wane with the departure of the students, for whose practical instruction they were organized. Herein lies a sharp comment upon the fact that the patient does not always appear to be first, in the minds of those who conduct the clinic.

Clinic Hours

The city's list of prenatal clinics is not indicative of the amount of service which is in reality available to the women who cannot afford to pay for private care. Only one of the dispensaries, the Maxwell St. Branch of the Chicago Lying-In, maintains as many as five prenatal clinics a week. This center, it may be noted, has just opened, in addition, a general medical clinic expressly for pregnant women. Two hospitals, Grant and Wesley Memorial, admit expectant mothers for examination at any time of day or week. A third, West End Hospital, which opened its clinic in July, 1921, at present receives women for examination, whenever they apply. As soon as the clinic is built up, it will fix a regular period for obstetrical cases. One center, Central Free Dispensary, has four "prenatal days" a week. Two have three. Ten centers, however, are open to expectant mothers for only two periods a week, and eleven, out of the twenty-eight now operating, only once a week. Complete use of their present facilities involves a far more intensive schedule than is at present maintained in the city. This, in turn, undoubtedly involves larger personnel. Those which are small, and that many are small will shortly appear, can be built up to capacity limit by more intensive neighborhood visitation. Chicago needs not only more prenatal centers in untouched parts of the city, but a larger volume from the equipment it already possesses.

A schedule of Prenatal Clinic Periods has been compiled and is here presented. It may not long remain static, for such schedules are subject to frequent and radical change. It is believed, however, that in any comprehensive, thoroughgoing plan to compass the needs of the whole city in the field of prenatal care, such a composite schedule might serve as a basis of decision, not only as to the joint fixing of days and hours, but of location as well. This is immediate work for a dispensary council.

The hours for clinics, as is readily seen, vary widely, all hours of the day from nine in the morning to five in the afternoon being used. The large majority are open during the afternoon hours, two to four being the most frequent. These are undoubtedly the hours most convenient for the housewives and mothers who are the patients of this particular type of clinic. By virtue of their specialized care, prenatal clinics may never need to face the problem of evening hours.

4. SIZE OF THE GROUP REACHED BY PRENATAL CLINICS

Though Chicago has a list of twenty-eight institutions where prenatal care is actively maintained, these centers, with their present volume of cases, do not care for more than 6,000 pregnant women a year. In fact, actual

NUMBER OF WOMEN ANNUALLY AFFORDED CARE IN PRENATAL STATIONS IN CHICAGO

Active	500–900 Prenatal Cases	300–500 Prenatal Cases	200–275 Prenatal Cases	95–200 Prenatal Cases	25–50 Prenatal Cases	Less than 25 Prenatal Cases	Clinic less than a year old and therefore no annual report
	Chicago Lying-In Maxwell Disp.	Central Free Disp. Prenatal Clinic	Infant Welfare Society Jackson Pk. Sta.	Augustana Hosp.	Chicago College of Osteopathy Clinic	Howell Neighborhood House Clinic	Infant Welfare Soc. Chicago Commons Sta.
	Chicago Lying-In Hosp. Clinic	Infant Welfare Soc. Milton Ave. Station	Northwestern Univ. Disp. Prenatal Clinic	Chicago Lying-In Stock Yards Disp.	Chicago Medical School Clinic	Mercy Hospital Clinic	West End Hosp. Clinic.
	Mary Thompson Hospital Clinic		Provident Hosp. Clinic	Hahnemann Medical School Clinic	Chicago Polyclinic	St. Joseph's Hosp. Dispensary	
	Michael Reese Hosp. Clinic			Infant Welfare Soc. Osgood Sta.	Grant Hospital Clinic	Zion Society for Israel Clinic	
	St. Luke's Hosp. Clinic			University Hosp. Clinic	Olivet Dispensary		
				Wesley Memorial Hospital	Postgraduate Hosp. Disp.		
Total 28	5	2	3	6	6	4	2
Formerly but not at present active					Lincoln (or Loyola) Disp.	Halsted St. Institutional Church Clinic	Illinois Post-Graduate Disp.
Total 3					1	1	1

annual figures would total even less. In 1920,[a] approximately 57,000 women were delivered in Chicago, which means that not more than 10.5% of all pregnant women in that year were given prenatal care by clinics or similar medical organization. It is safe to assume that a large proportion of the remaining numbers had no prenatal care.

Numbers Reached

Only seven prenatal stations in Chicago, according to the latest available figures, care for as many as 300 women each, a year. The following table will show that the work of the city's centers for the care of expectant mothers is confined to a group which, in view of the number of women who need them, is only a small beginning. The prenatal attendance record at clinics, were it possible to secure such a figure from all the institutions in the city, would probably more than double the number of prenatal cases. The number of patients' visits to clinics is discussed in Section 10. What the annual case count is designed to bring out, is the size of the group whom Chicago's prenatal clinics at present reach.

The Chicago Lying-In Hospital, its Maxwell Branch at 1336 Newberry Ave., Mary Thompson Hospital Clinic and those at Michael Reese and St. Luke's Hospital are, by annual case count, the five largest prenatal stations in the city. The Maxwell St. Branch in size, leads the list by at least 150 cases a year. Central Free Dispensary Prenatal Clinic, and the Milton Ave. Station of the Infant Welfare Society are next, with an annual count ranging from 300 to 500 cases. Provident Hospital Clinic, the Jackson Park Station of the Infant Welfare Society and Northwestern University Dispensary Prenatal Clinic carry from 200 to 275 cases of pregnancy a year. Six stations range from 95 to 200 cases a year; six, from 25 to 50; four, less than 25. Two clinics, now active, have existed less than a year, and therefore have no annual report to date. It is therefore apparent that eighteen centers, more than two-thirds of those at present existent, care for less than 200 women each a year. In all centers taken together, to repeat, there is at present care for little more than 10% of all the women delivered in a year in Chicago.

Number Who Need Institutional Care

There is, of course, no definite means by which the number of women needing institutional prenatal care in Chicago, can be determined. It is natural and logical to expect, though it does not always prove true in practice, that those women who are able to claim the services of private physicians, should be given careful examination, supervision, and advice by those physicians, over as long a period of pregnancy as their application makes possible. In 1920, according to the number of births reported to the Health Department of Chicago,[b] 39,468 births were attended by private physicians; 15,816 by midwives, 29 were unattended. The childbirths in the cases of those 6,000 or less mothers given prenatal care in the clinics, are doubtless included for the most part in the number reported by physicians.

(a) . Number of births in Chicago, 1920, as estimated by Senior Statistical Clerk, Department of Health, Chicago, 57,000.

(b) Figures from Office of Bureau of Vital Statistics, Health Dept. of Chicago, Dec., 1921.

How many of those under care as private cases would have profited, in physical welfare, by the supervision of a clinic, dispensary, or hospital, during pregnancy, it is impossible to say. There is no general index of the amount or quality of the prenatal care given by private physicians. That varies with individual practice. Not all, it must be admitted and regretted, live up to the standard of prenatal care set by the leaders of the profession. The question cannot be answered, but nevertheless arises: How many general practitioners actually measure the pelvis, periodically examine the urine and take the blood pressure of the women who trust themselves to their care? Physicians who were met in the course of this investigation and were asked the question replied from "one in ten" to "one in a hundred."

Whether are not the institutions offering city wide prenatal care, should give such service to women who expect to be delivered as private patients by physicians and midwives, is a question distinctly controversial. Though only a small proportion of the institutions supplying prenatal care, admit such patients to the clinic, agreement upon this point, as will further be seen in Section 12, and the shaping of policy by the thorough discussion of all those interested, is needed in the Chicago field.

For the present, it is well to remember that there is a large and unprotected group of mothers who are receiving no maternity care by physicians. In 1908, it was found that 47 per cent of the registered births in Chicago were reported by midwives. [a] In 1913, figures indicated that the number had increased and that "probably more than half the births in the city were attended by midwives." [b] Though there has apparently been some decrease in the last six years, it is still true, according to City Health Department figures, that more than one-fourth of the deliveries are reported by midwives. Something of the nature of their fitness, training and practices, is brought out in the study of the "Midwife in Chicago," made by the Immigrants Protective League. [b] This report points out that "there are in Chicago no schools of midwifery worthy the name," [b] and that, although there is a perfunctory State examination for midwives, there is no legal supervision of their practice, as has been found so expedient in, for instance, England.

Until midwife care has been made far safer than at present, the figure of Chicago's 15,816 midwife deliveries in 1920, will stand as a challenge to community provision of greatly increased facilities for prenatal care. Nor can a limit be fixed at fifteen thousand mothers. It must be extended to all among those fifty or sixty thousand women to whom children are born each year in Chicago, who otherwise find such care unavailable.

The absolute boundaries of the field for prenatal care in Chicago are not even in sight. How far toward those boundaries it must be carried by a type of clinic organization, can be determined more definitely year by year, as patients learn to demand the best of which obstetrical practice, by individuals or groups, is capable.

(a) "The Midwives of Chicago." Rudolph W. Holmes, M.D., Chairman of Committee on Investigation, Journal of the American Medical Association, April 25, 1908, Vol. L, No. 17, p. 1346.

(b) "The Midwife in Chicago," Reprinted 1915, pp. 687–689. Author, Grace Abbott, formerly Director Immigrants Protective League.

5. AFFILIATION FOR CONTROL

Five types of institutions or agencies in Chicago supply organized prenatal work: medical schools; hospitals; social settlements; religious institutions; and nursing agencies. All, it is seen, are so-called "private institutions." Chicago has no publicly conducted prenatal stations.

By Schools of Medicine

Each of the seven undergraduate schools of medicine in the city maintains an obstetrical clinic where prenatal work is done. Six of them afford space within the buildings of the school, namely: Rush Medical (Central Free Dispensary), Northwestern University, the University of Illinois, Hahnemann Medical School, Chicago Medical School, and the Chicago College of Osteopathy. The Loyola School of Medicine, as previously explained, has just moved its Lincoln Dispensary to the new clinic quarters of Mercy Hospital. The status of the clinic of the two Postgraduate Schools of Medicine has been made clear in the foregoing section on Length of Time in Existence.

By Hospitals

Twelve hospitals other than those which are a part of the medical schools above mentioned, maintain prenatal clinics within their buildings. Augustana, The Chicago Lying-In, Chicago Polyclinic, Grant, Mercy, Michael Reese, Mary Thompson, Provident, St. Joseph's, St. Luke's, Wesley Memorial and West End. Chicago Lying-In has already begun to branch, maintaining two prenatal care centers in outlying districts, as well as supplying the medical service to two others.

It is worthy of comment that so few of Chicago's 78 [a] or more hospitals afford prenatal care. A large proportion provide facilities for delivery at childbirth. Many accept the obstetrical cases of private physicians but maintain no regular maternity department. Complicated cases, which enter the hospital at the physician's direction, a month or more previous to delivery, do of course receive prenatal care for a short time. This is, however, as private patients, in whose individual cases, preliminary arrangements have been carefully made.

The Municipal Tuberculosis Sanitorium, with its chain of dispensaries, offers some slight prenatal care as a measure "incidental to the care of the tuberculosis process in such patients," but in general, has "found it more advisable to refer all expectant mothers to special clinics for supervision."

There are no facilities for prenatal clinic supervision by Cook County Hospital. This institution does care for twenty or more "waiting" women who may come into the hospital about a month before delivery. Pregnant women who apply for medical advice are usually referred, through the Cook County Hospital Social Service Department, to the prenatal clinics nearest their homes.

A few of the hospitals of whom the question was asked, "Do you maintain or have affiliated, any prenatal work for expectant mothers?" qualified a negative reply with expressions of regret. Other hospitals indicated that

(a) See "Hospital Number," American Medical Association Bulletin, May 15, 1921, Vol. 15, No. 3, p. 216.

"so far" they provided no ante-natal care, leaving to inference the possibility of such in future. Two or three expressed a hope for such activity, as for instance, one whose Superintendent wrote "we hope to be able to have such clinics within the next two or three years."

By far the majority of the hospitals canvassed, even among the large number which carry on ordinary obstetrical work, however, appeared to have no plan for the development of this first phase of maternity work, prenatal care. Various reasons were given; "no room space," "no time of physicians," "no funds." Several appeared to be ignorant of the whole field. One superintendent's office telephoned, "I don't know what you mean by prenatal clinic."

In the case of many hospitals which do not supply it, there is apparently little appreciation of the technique, or of the value of this piece of preventive medicine. They are to all appearances, not awake to its existence or methods. Some of them are located in sections where the maternal death rate is very high, and where there is absolutely no organized work for expectant mothers. It is surely reasonable to look upon them as possible bases, where future prenatal centers may be established. "It is generally helpful," [a] the Cleveland Hospital and Health Survey points out, "for a hospital which has a considerable maternity service in its wards, to maintain a prenatal clinic (which should be used also for the supervision of post-partum conditions and be administered as part of the General dispensary attached to the hospital). Such hospital clinics should work as co-operative parts of the city-wide plan for maternity care. There is need for many more prenatal clinics, however, than are or can be connected with hospitals."

Maternity Homes

These institutions in Chicago, established chiefly for the care of the unmarried mother, have not developed any extensive prenatal care for the girls to whom they extend shelter. Of the eleven largest and best known in the city, Beulah Home and Maternity Hospital, Chicago Foundlings Home, Chicago Home for Girls, Chicago Woman's Shelter, which also cares for women other than unmarried mothers, Florence Crittenton Anchorage, House of the Good Shepherd, Misericordia Hospital and Infants Home, Salvation Army Rescue and Maternity Hospital, St. Margaret's Home and Maternity Hospital, St. Vincent's Infant and Maternity Hospital, Sarah Hackett Stevenson Memorial Lodging House Association, which cares also for other types of women, of these eleven, it was found that five claimed some measure of prenatal supervision. It could not be discovered that this, in general, had taken the form of regular standard routine. In fact, so meager is it in some that it could be described from a medical standpoint as utter neglect of the supervision of pregnancy. It is said by well-known social agencies in this city, that failure to discover and treat venereal disease in the pregnant girls in certain of the maternity homes is directly responsible for the resulting blindness of their infants by ophthalmia neonatorum. Two of the above homes maintain delivery facilities, as do two similar institutions, conducted for private patients, by single individual physicians, the Chicago Maternity Hospital and Training School for Nursery Maids, and the Douglas Park Hospital. The hospital

(a) Part Ten, "Hospitals and Dispensaries," p. 903.

department in one of the maternity homes was closed by the City Health Department in the Spring of 1921 because of lack of the simplest sanitary provisions and the absence of precautions against infection.

Instead of a trend toward the development of regular routine ante-natal supervision, a marked tendency was noted among maternity homes, to delegate prenatal care, as well as delivery at childbirth, to institutions especially maintained to supply it. In fact, many of the maternity homes have established definite affiliations with outside hospitals and clinics. Such a step, in view of the comparatively small number of patients in these homes, is clearly an economy in administration. Their executives express pride in the fact that "their girls" may claim the services of physicians who make obstetrics a specialty, and that they may receive maternity care in medical institutions equipped for that purpose. Maternity Homes are therefore not included in the list of prenatal centers.

By Settlements

At two settlements, prenatal clinics are in operation. That at Howell Neighborhood House has just been made a regular station of the Chicago Lying-In. That at Chicago Commons is conducted by the Infant Welfare Society and the Chicago Lying-In.

By Religious Institutions

In addition to the now inoperative prenatal work at the Halsted St. Institutional Church, three other clinics, that at Olivet Institute, that in embryo at Guardian Angel Dispensary and that of the Zion Society for Israel are under institutional church or mission management.

By Nursing Agencies

One nursing agency, the Infant Welfare Society, conducts four prenatal stations, as well as furnishes the nurses and home visitors for the prenatal clinic at Central Free Dispensary. That part of the service was supplied by the Visiting Nurse Association until June, 1921, when, by joint agreement, it was turned over to the other nursing organization, which specializes upon the three periods of child life, the prenatal, infancy, and the pre-school age. The nature of the Visiting Nurse Association prenatal work is described under Section 7. The Infant Welfare Society has a definite plan for the establishment of other prenatal stations, by districts, as fast as funds become available. With its elastic plan of organization, it is probably capable of a quicker and wider expansion in its program of prenatal care, than any other one body in the city. It makes a particular point of organizing in any given community, through whatever facilities may be existent there. It has already determined upon certain neglected areas where its next prenatal centers are to be established, and, pointing out the fact that additional costs for ante-natal supervision are relatively small, is asking the community to make immediately possible, the safeguarding of motherhood through its services in ten more districts. Moreover, it suggests in the following words, wider affiliations which Chicago can no longer afford to be without, "We hope the time is not far distant when every agency having any part of a prenatal program

will come together in a clearing house way and develop a plan whereby we can make every effort count most for maternal welfare." (a)

Advantages and Disadvantages in the Various Types of Control

It would be impossible to generalize upon the most desirable type of affiliation for clinic control. The following considerations, however, might well influence decision as to their most effective management.

Prenatal stations controlled by hospitals have the advantage of close affiliation for delivery, attending physicians always at hand, well equipped laboratories easily available; the possibility of continuity of care during the three maternity periods. They have the disadvantage of fixed location, difficult to move as centers of maternal and infant mortality shift, as well as the disadvantage of a rather general hospital tendency to submerge the clinic in favor of other departments. One prospective prenatal clinic, for instance, complained that it was "being equipped with only the cast-offs of the Hospital Surgery Department."

The Public Health Committee of the New York Academy of Medicine points out that tendency in the following: (b) "In appraising physical conditions in dispensaries, it is necessary to recognize at the outset that the hospital dispensaries have in many instances resulted from after-thought, rather than fore-thought. The hospitals naturally came first, and when it became apparent that the dispensaries were an essential feature of good hospital service, they were established in the hospital plant wherever space could be found. The result has been too often that dispensaries which may in the beginning have been adequate in physical plant are now greatly handicapped by lack of space; dispensary needs and hospital needs have grown so rapidly that, in many instances, hospital plants can no longer house their dispensaries properly."

This tendency is being corrected in some of Chicago's progressive hospitals, where shining new clinics have been installed.

Those stations controlled by Medical Schools have the advantage of specialists in Obstetrics and Gynecology always directing their policy, laboratory analyses by students quickly made; the disadvantage of too many students for the comfort and convenience of patients, and of clinic schedules sometimes arranged with the student first, the patient second, in mind.

Stations in connection with settlements, institutional churches or missions have the great advantage of personal, intimate, neighborly contact with their patients. They have the disadvantages of frequently inadequate clinic equipment, and the somewhat dissociated relation with doctors and hospitals.

The station maintained by a nursing agency greatly profits by the fluidity of organization, permitting of rapid increase in the number of stations, as well as by a location which is quickly movable, according to changing need. Its nurses provide an ever-ready organization of social services. Its outstanding problems are perhaps a hospital affiliation sufficiently close, and the maintenance of continuity in care, which after all, is one of the chief tests in the efficiency of prenatal work.

(a) Annual Report, Infant Welfare Society of Chicago, January, 1920–1921. See pp. 4, 15.

(b) See Dispensary Report, 1920, Section on "Organization, Administration and Equipment of Dispensaries," p. 8.

Just which of these advantages and disadvantages loom largest and should become decisive factors as to type of control for the future, is a matter for constant analysis and discussion. Herein lies, for a long time to come, one basis for a joint council of the staffs of the agencies involved.

It is the opinion of the Public Health Committee of the New York Academy of Medicine that "the ideal general dispensary is one which is affiliated with a teaching hospital, and the ideal dispensary nursing service is one which is affiliated with the training school of a hospital." (a)

6. MEDICAL SERVICE

Affiliation for delivery, and teaching affiliations are best viewed through the medical service attending these clinics. What the lay person wishes to know about the medical service, aside from descriptions of the actual handling of patients, a subject treated later, under Clinic Procedures, is something of its size, how it is chosen, with what hospitals and medical schools its physicians are connected, whether they are paid for their clinic service, and whether they attempt to standardize their work within the clinics, through any such medium as staff meetings.

Size of Clinic Medical Staff

It is the practice in most of the institutions to delegate responsibility for the medical care, to a chief obstetrician. He or she usually has, in Chicago's clinics, one, two, or three assistant physicians, most often one. Four of the clinics have only the chief. The largest medical services among the prenatal clinics are connected with the Chicago Lying-In Hospital and Dispensaries, with the Presbyterian, and Michael Reese Hospitals. The Chicago Lying-In has ten obstetricians and one specialist in internal medicine upon its clinical staff. Besides its own two branches, it supplies the medical service in the prenatal clinics of Provident Hospital, Howell Neighborhood House and the Infant Welfare Society Station at Chicago Commons. The Presbyterian has three regular assistants to the chief of the obstetrical clinic work. These four men attend not only at Central Free Dispensary, but also at the other three prenatal stations of the Infant Welfare Society. Michael Reese has, besides its chief of the gynecologic and obstetrical service, three clinic obstetricians, who are also associates on the hospital staff. Two of them are scheduled to attend each clinic.

Method of Appointment

There is nothing unexpected in the method of choosing the medical staff of the prenatal centers. Without exception, in the case of those under the management of hospitals and medical schools, appointments are made either by the Governing Board, or by the chiefs of the obstetrical staff. When made by the Board, if that body is distinct from the medical director or medical staff, it is usually upon recommendation of the latter. In those centers maintained by the Infant Welfare Society, the medical staffs are selected by the two hospitals which supply them, as is that at Howell Neigh-

(a) See Dispensary Report. Section on "Medical Organization," p. 28.

borhood House. The medical staff of Olivet Dispensary is determinated "by the medical staff of Olivet Institute." The services of the physician who examines pregnant women at the mission of the Zion Society for Israel were secured by another interested physician.

Connection with Hospitals and Medical Schools

Upon this point also, the source of the clinic's control indicates to a large extent, the affiliations with the staff of hospitals and the faculty of medical colleges. Those clinics maintained by hospitals have a predominance of attending physicians from the hospital staff; those by medical schools have physicians largely from the teaching force. Certain crossed affiliations, involving both types of institutions are worthy of note. The Chicago Lying-In is a hospital in no way under the control of a medical school but it has teaching affiliations with the Northwestern University and University of Illinois. For the chief of the hospital obstetrical staff and the decisive voice as to its clinic's staff, is likewise chief of the department of obstetrics of the Northwestern University. Most of his associates are also connected with Northwestern. And the chief of the obstetrical department of the University of Illinois and its University Hospital and prenatal clinic is one of the three medical directors of the Chicago Lying-In Hospital. He is also chief of the obstetrical staff of Grant Hospital and its prenatal service, and, during much of its prenatal work, occupied a similar position at the Chicago Polyclinic.

The Presbyterian Hospital, though not a part of a medical school, has close relation with Rush Medical, and the Central Free Dispensary's prenatal clinic. To be on the Presbyterian staff, a physician must be on the faculty at Rush, though not all the Rush faculty are on the Presbyterian staff. Central Free Dispensary has its medical service supplied entirely by the Rush faculty. The same four obstetricians who attend its prenatal clinic attend also the other three prenatal stations of the Infant Welfare Society before mentioned.

Michael Reese Hospital maintains, as has been noted, its own prenatal clinic. Two of the clinic physicians are members of the Rush Medical School faculty and one of the faculty of Northwestern. One of the former is on the Grant Hospital staff.

St. Joseph's Hospital has its own chief of the obstetrical clinic. In case of his absence, the medical service is supplied by a physician from Rush.

Mercy Hospital and its prenatal clinic afford teaching facilities for the students from Loyola. Its physicians have automatically become their instructors.

It is seen, therefore, that the personal teaching affiliations of the medical staff open the way to wider opportunities for the student's clinic experience.

Their individual positions on hospital staffs tend, likewise, to increase the clinic's affiliations for hospital or out-patient delivery of patients at childbirth. Several prenatal centers were found, which had established no regular delivery affiliation, and suffered thereby. In the case of clinics controlled by hospitals, or by medical schools which in turn control hospitals or are controlled by hospitals, this type of affiliation is more or less automatic. Registration in the clinic implies registration for delivery through hospital channels. In the case of clinics controlled by other types of institutions or agencies, affiliation for delivery, as noted above, naturally follows the personal hospital connections of

their medical staffs. The prenatal clinic of the Northwestern University Dispensary is an illustration. That Medical School does not maintain a hospital of which its dispensary might be a part, as is true of some medical schools. Through the hospital connections of its medical staff, however, it affiliates for the delivery of maternity cases chiefly with Chicago Lying-In, St. Luke's, Wesley Memorial and Provident Hospitals.

The Chicago Medical School has no hospital in connection. Its chief affiliation for delivery is with the Fort Dearborn Hospital, with which the School's medical staff is closely connected.

Or again: the prenatal stations of the Infant Welfare Society are in no way a part of hospitals. Their affiliations for delivery depend in the case of four, upon a medical staff from Presbyterian Hospital; in the case of one, from Chicago Lying-In.

This interwoven, involved net work of affiliations of clinic, hospital, teaching institution and medical staff, is confusing to the lay reader. One fact in its relation to prenatal care must be kept in mind. Through this very network, lies the key to that continuity in maternity care, through its three periods, prenatal, childbirth, and postnatal, which is one of the chief criteria of is effectiveness. Knowledge of the patient and her physical condition, observed throughout her pregnancy, the winning of her confidence by the physicians and nurses who should later attend her in childbirth, are advantages which the period of delivery may justly claim.

Salary

In no case was it found that attending physicians of prenatal clinics receive fees or a salary for that specific medical service. It is a medical charity with many. Others perform that service as a part of the obstetrical work of the hospital or medical school with which they are connected. Their remuneration from that other source may include the clinic service as one of their duties. The physicians attending two clinics receive delivery fees from patients met in the clinics, who are confined in their homes. In such instances, the patient is both a clinic and a private case.

Staff Meetings

It is not usual in this group of clinics to find any schedule of staff meetings solely for those who conduct the prenatal service. In most cases, the physicians attend staff meetings at the hospitals or medical schools with which they may be connected. Occasionally these take the form of department meetings and include both the hospital and clinic services of given departments. Institutions which hold regular staff meetings schedule them for the most part, once a month. One hospital has weekly staff meetings. The largest number, however, hold such meetings, according to replies, "irregularly," "occasionally," or "at intervals." Regular hospital staff meetings once a month constitute one of the hospital "Minimum Standards" fixed by the American College of Physicians and Surgeons.[a] As prenatal services further specialize, intensify,

(a) Bulletin, American College of Physicians and Surgeons. Hospital Standardization Series, Vol. V, No. 1. January, 1921, "General Hospitals of 100 or More Beds," p. 5.

develop and increase, those most interested in the establishment of perfect prac tice, will be found holding regular staff meetings.

7. SOCIAL SERVICE

Social Service is in operation in nineteen of the prenatal centers, maintained by fourteen organizations. Nine have no social service departments. It is outside the scope of this inquiry to dilate upon the history of social service departments, their general functions, or the type of workers required. Discussions of these points may be found in Miss Cannon's well-known book "Social Work in Hospitals," (1913); the excellent section on "Medical Social Service in Dispensaries" of the report of the Public Health Committee of the New York Academy of Medicine (1920); the Survey of Hospital Social Service by the American Hospital Association (1920) the chapter on "Social Service" in Davis and Warner's "Dispensaries" or in other chapters of the rapidly increasing literature on medical social service. The Cleveland Hospital and Health Survey (1920) deals with "Social Service in Hospitals and Dispensaries" in Part Ten (pp. 952–960).

Specialized Functions in Prenatal Care

Social Service has now won a recognized place in the field of medical charities and public health work. It is peculiarly valuable in the conduct of any prenatal care and in it, has added functions of specialized nature. The Social Service worker or the nurse who performs social service is needed at the first approach of the expectant mother. It is she who can best overcome lingering prejudices and superstitions, and best accompany the mother into the unfolding mysteries of childbirth. She supplies the woman's presence for the mother who may reluctantly seek the services of a physician whom she may look upon as a stranger. The social service worker has an opportunity to gain the confidence of patients, upon points more personal and intimate than any in the whole range of medical contact. All that is preparation for good medical care.

It is her opportunity again, to explain away, with the physician's later corroboration, the mistaken procedures of midwives and poor practitioners. She it is who should make sure of the patient's understanding of bodily functions and begin the teaching of the hygiene of pregnancy. Upon such understanding and confidence is based the patient's co-operation in the physician's direction and advice, and her safeguarded maternity.

Continuously through all the prenatal period, these services are needed. It is likewise through the office of the social worker, in conjunction with the physician, that later arrangements for confinement care are most naturally made. It is she who should follow through to the postnatal period, and make sure that the new mother may learn how to care for the baby.

No field of medical social service is more tangible of procedure or more measurable of results. It is in a more formative stage, generally speaking, than are other types of medical social service in Chicago. It is performed in varying degrees of understanding and skill by the institutions which have recognized their need of it and have made provision for it.

Extent

From the majority of those which have no social service, there arise expressions of regret and statements of handicap. Several give that lack as the

reason for a small clinic; for breaks in the continuity of supervision of individual cases, when there is no visitor to "send out"; or of patients' failure fully to understand and carry out the physicians' instructions. The interne in one hospital with a prenatal clinic and no social service department, at the time of a visit to the institution, was himself sending out post cards to former clinic mothers, hoping to rebuild clinic attendance. The physician in charge of the obstetrical clinic in another hospital stated that he "lost many patients," in fact "could not hold them," without a home visitor. One of the first steps in a program of prenatal care in Chicago is organized social service in and about every center where mothers-to-be are received.

The following brief descriptions will serve to indicate the extent of social service as it relates to the prenatal care furnished by hospitals, dispensaries and other institutions.

Central Free Dispensary has one of the largest social service departments in the city. For its prenatal clinic, however, the outstanding social service work is performed by two nurses from the Infant Welfare Society, whose full time is given to this piece of work. They are assisted by several student nurses from Presbyterian Hospital. These nurses attend prenatal and postnatal clinics, and make prenatal and postnatal calls on all maternity cases registered at the dispensary. Those calls are periodic for each patient, the first being made as soon as possible after the first dispensary visit. In the first three months after the transfer of this service from the Visiting Nurse Association to the Infant Welfare Society, June 1st, 1921, the latter had, recorded in its work at Central Free Dispensary, cases of prenatal care for more than two hundred and fifty pregnant women. The prenatal and postnatal work surrounding these two clinics dovetails with that of the Social Service Department of the Presbyterian Hospital and its Out-Patient Department. At the point when labor begins, the Infant Welfare Society give place to the Hospital Social Service Department, one of whose workers devotes part of her time to the maternity cases who enter the hospital. The two nurses attached to the Hospital Out-Patient Department usually supply whatever social service is necessary during home delivery. When the patient is discharged, which as a rule is about ten days after delivery, she is persuaded if possible, to attend the Infant Welfare Society district postnatal clinic nearest her home, or that at Central Free Dispensary.

It will be seen that while the service through the three periods, prenatal, delivery and postnatal, is continuous in plan, it is not necessarily continuous as to personnel. The nurse changes, and probably the doctor, interne or externe. Herein lies some social loss. It is a method of procedure which warrants critical observation and analysis by the agencies concerned. The patient's history and record are continuous, however, passed from one to another of those who care for her, and every effort is made to prevent any break or slip in service. In fact, these four agencies, Infant Welfare Society, Central Free Dispensary, Rush Medical School, in whose building the Dispensary is housed, and Presbyterian Hospital, present a remarkable example of co-operation, affiliation and integration.

The social service afforded by the Infant Welfare Society in its four other stations is a part of the work of its nurses. One graduate prenatal nurse is in charge of each of the clinics. Over them all, is a special supervisor for pre-

natal work, who has made a particular study of the Maternity Center Association of New York. The infant welfare nurse in the same clinic visits the cases of infants needing care, calling, it may so happen, in the very homes visited by the prenatal nurse. The two nurses work in such close harmony, however, that unless in emergency, no home is visited by both nurses the same day. The Infant Welfare Society recognizes the problem such duplication presents, but for the present feels that the system in use is preferable to a double type of work by one nurse. This is also a practice, it would appear, for experiment and constant evaluation.

The social service afforded by the Visiting Nurse Association in the field of prenatal care, is alluded to in various sections of this report. It works in and out of prenatal centers which may or may not have Social Service Departments of their own. A further word regarding its character may here be included. About seventy of the nurses of this organization devote a part of their time to supervision of pregnancy cases through home visits. The organization aims to see each case at least twice a month. Medical routines are of course not followed, but the patient is kept under general observation, and is carefully instructed in regard to diet, exercise, bathing, excreta, sleep, clothing, and other aspects of the hygiene of pregnancy. The visiting nurse is given a Manual with a chapter on Maternities in which prenatal nursing procedures are definitely outlined for her guidance. One of the chief services of this nursing agency is its education of mothers as to the need of ante-natal supervision. Cases of pregnancy are referred to the Visiting Nurse Association, by hospitals and dispensaries, as will be seen, by social agencies, physicians, the Metropolitan Life Insurance Company and by a large miscellaneous list of other groups, and individuals. Many of those cases are delivered by those very hospitals, a still larger number by private physicians and a few by midwives. The cases of pregnancy supervised by the Visiting Nurse Association mounted in the fiscal year 1919–1920 to 3008.

Of all the hospitals and clinics, the Chicago Lying-In by its nature, has the largest social service department devoted to maternity work, in the city. It is, however, spread over the three clinics. It consists of a head worker who is a college graduate, a registered nurse, and a graduate of the Chicago School of Civics and Philanthropy; a graduate nurse, a graduate social worker, and a full time clerical assistant. In addition, the head nurse in charge of the Stockyards Branch, devotes a large part of her time to social service activities. There are also a varying number of student nurses whose services are available. Home visits are made to as many patients attending all clinics as possible, the ideal being to make a home visit on each prenatal case. Great assistance in this service is rendered all three stations by the Visiting Nurse Association. In case of abnormality, the attending physician is very frequently called upon to make prenatal home calls. A large part of the time of the social service workers is at present absorbed in clerical work, which somewhat limits the number of prenatal visits, a condition which will be greatly relieved as the clerical force is increased. The Social Service Department takes the patients' social history, determines the amount to be paid for out-patient delivery; makes a special point of registering all cases with the Social Service Registration Bureau and with the Registration Division of the Research Bureau of the Jewish Charities, and refers them for post-natal care to the

Infant Welfare Society or other agencies. The department has a small fund for loan purposes, also a small milk fund. In general, however, when relief is needed, the ordinary relief agencies are called upon. This Social Service Department has a wide cooperation with the other social agencies of the city.

Allusion has already been made to the fine type of neighborhood cultivation carried on by the social workers from Grant Hospital, Howell Neighborhood House, and Olivet Dispensary. Each has one visitor, part of whose time is devoted to prenatal work. The worker at Grant Hospital, a graduate nurse, specializes upon postnatal rather than prenatal visits. She aims to make postnatal calls upon all "house" maternity cases. She has built up a baby clinic which now numbers about 70 cases a month. Much of her time is likewise required for special types of cases in the Hospital, such as children's tonsillectomies, as well as for certain administrative duties in connection with the Hospital's executive office. This heavy schedule of work means that only the urgent prenatal cases can be visited at home. It would appear to the layman, that a social service department head so keenly alive to the province of maternity care and so skillful and sympathetic in her personal contacts, might well be relieved of certain general hospital duties, and given the opportunity, with assistants, to build up not only a general hospital social service department, but also a larger specialized work with clinic mothers.

The same emphasis on postnatal rather than prenatal work was noted at Olivet. The social service visitor is the nurse who has charge of the dispensary and its several clinics, who makes the home calls upon its patients, and who accompanies the doctor at the time of home delivery. The clinic's obstetrical histories show an excellent record of follow-up after delivery. While this is, of course, not prenatal work, for comparatively few of the visits are ante-natal, it does develop the neighborhood's confidence in the clinic work, and tends to bring women in earlier, for prenatal care, at the next pregnancy. The neighborhood nurse is apparently a marked factor in health supervision within the radius close about the Dispensary. The office needs, and would use wisely and well, workers whose time should be allotted purely to prenatal work.

The same thing is true of Howell Neighborhood House. One settlement visitor, at present a young college graduate who speaks the Slavic languages, is available for some regular follow-up work. The strategic position of this institution for prenatal work has been noted in an earlier section. With its definite new affiliation with Chicago Lying-In, the community may expect of it an important contribution to the field of maternity care.

Hahnemann Medical School Obstetrical Clinic claims part of the services of one social worker, who serves also, all the other clinics in this dispensary. She interviews, registers, and admits the patients who apply for treatment. This means contacts with thousands of persons. The last printed statistical report [a] of the Dispensary, Out-Patient Department, gives a total of 12,327 cases, of which 237 were obstetrical, handled in one year. It would be manifestly impossible for one person to make home calls upon all patients, even upon all obstetrical patients. The social worker, therefore, chooses for home visits, which she "makes in the morning," only those patients who appear to

(a) Annual Report, The Hahnemann Hospital of the City of Chicago, 1919, p. 23.

be in trouble, or upon whom calls seem urgent. Registration of applicants in clinics, does not in itself, of course, constitute social service. A large part of the clerical work it entails should be lifted from the shoulders of one who is expected to perform social service. For among the patients who seek care at the Hahnemann clinics are many whose medical treatment can be neither complete nor successful without the individual social readjustments which social service is meant to accomplish.

Michael Reese Hospital and Dispensary combined, have the largest Social Service Department in the City. The head worker has, at the Hospital itself, one clerical worker, and four assistants. The Social Service Department is a regular branch of the hospital service, and derives its support through regular administrative channels. The worker in charge of the Adult Medical Social Service, a graduate nurse, is likewise in charge of the prenatal clinic. She has the assistance of one volunteer. Ordinarily, most prenatal and postnatal calls in the homes are made by the Visiting Nurse Association, which aims to visit each patient from the prenatal clinic. Abnormal cases, or those needing special care are referred back to the regular Social Service Department of the Hospital.

Mercy Hospital has just organized a new Social Service Department consisting of four workers, three of whom are graduate nurses, one a student nurse. One worker is assigned to the prenatal clinic. So far, the greater part of the home visiting is postnatal rather than prenatal. Policies are being shaped for the future guidance of the service surrounding this clinic. With its magnificent equipment, it has every opportunity to extend its care to a wide circle of mothers.

The Social Service Department at Northwestern University occupies a position of unusual prominence. When it was established, two years or more ago, the registrar of the Medical School "turned over the Dispensary" to the head of the new Social Service Department. She has three assistants, some volunteer help, and nurses in training from Wesley Memorial Hospital. Admission to the dispensary, keeping of patients' records, and general administration of clinics are in the hands of the Social Service Department. It does not undertake visits to the homes of prenatal patients. These are arranged for, as at Michael Reese, with the Visiting Nurse Association. That organization's station nearest the home, is notified as soon as the patient has been examined in the clinic. A nurse from that station makes home calls and telephone reports of individual cases, at noon, to the Social Service Department at the Dispensary. Such reports become a part of that Department's case histories. This office is another of many which testifies to the helpful cooperation and ready efficiency of the Visiting Nurse Association.

Provident Hospital has recently acquired one social service worker. Perhaps no agency which supplies prenatal care is in greater need of a Social Service Department than this institution for the colored. It serves a neglected group, ever increasing in population in the city, one for whom adequate care of any kind, even in so fundamental a requirement as mere shelter, is extremely difficult to obtain.

St. Luke's Hospital and Dispensary has a combined Social Service Department consisting of a Head worker, two graduate nurses and a secretary, with two pupil nurses assigned to it for training. The Department serves all the

clinics, makes rounds in the hospital wards every day, takes histories on all free cases in the wards, and usually makes a home call on every free ward case. It is not possible to reach the homes of all the prenatal clinic cases. The social workers are paid by the Woman's Board, and not from regular hospital funds, a condition which may give rise to divided authority and responsibility. It has come to be considered sounder policy to organize Social Service as one of the regular hospital departments supported by regular hospital funds, [a] but guided, it may be, by an Advisory Committee.

Wesley Memorial Hospital has one worker in its Social Service Department and two student nurses. All "service cases" are now admitted to the Hospital through this Department, which determines their ability to pay for treatment and becomes automatically responsible for their welfare; the Department is not large enough to permit of regular calls upon all prenatal patients.

Zion Society for Israel, which makes prenatal examinations for a small group of expectant mothers, performs social service through the nurse who is executive of the clinic. Since she has no assistance, and has other responsibilities in connection with the mission, she is able to visit only the more serious dispensary cases, or those upon whom the doctor especially requests a visit.

It is a trite observation in the field of Medical Social Service to say that all it lacks is more funds and more workers. And yet the clinics' present necessity of spreading thin their social service work for expectant mothers, is perhaps its most striking characteristic. Singling out for attention, only the abnormal, pathologic, or urgent cases, which are all the majority of the clinics can reach, is not covering the field of prenatal care. Such cases are already past the first stage of prevention. They are primarily problems for medical attention. Social Service must preëmpt the preventive field, and assist in keeping prospective mothers normally strong and well in preparation for childbirth. The majority of the Social Service Departments apparently recognize this opportunity. They should be given the equipment to fulfil it.

8. EQUIPMENT

Chicago's housing of prenatal clinics is for the most part, not a source for pride. Eight are in basements. Some of them, to be sure, are high, light and airy with shining new equipment. Others are given ample hospital examining rooms. Those located in old buildings, however, are frequently dark, poorly ventilated, crowded, and none too clean. Several were actually damp. In one, at the time of a visit of observation, pools of water were standing about on the cement floor in the dark "hall" between clinic rooms.

Waiting Rooms

Most clinics have a special waiting room for the patients who collect for examinations. A few use the corridor for this purpose. Benches or cheap folding seats are commonly furnished, though not always in sufficient number.

(a) See "American Hospital Association Report of the Committee on the Survey of Hospital Social Service," pp. 5, 6, Hospital Social Service, January, 1921.

Patients are seen in some of the clinics, standing, as they wait their turn: in others, sitting about on the examining tables. To the lay person, this room of pale-faced men, women, and childen, dully waiting, sometimes unnecessarily long, presents a very forlorn picture indeed. Much has been written regarding reduction of waiting time in dispensaries. As the New York Dispensary report points out, such waste "is a hardship for most patients, if they are employed, or as in the case of mothers, if they have domestic duties." [a] That report makes many practical suggestions for the conservation of this waste. Perhaps delay is more prevalent in general dispensaries, and the attendance of physicians more irregular, than in this specific group of clinics. Certainly, there is little cause for complaint over physicians' lack of promptness, if their arrival is always as timely as during the observer's visits to the prenatal clinics in this city. There are long waits, but they seem to be occasioned by the practice of some institutions of admitting patients, even encouraging them to come, two or three hours before the physician is expected. It would be entirely sound, it would appear to the layman, to recommend that the hours of the clinic should coincide as nearly as possible with the actual time when the physicians arrive for service, or when an assistant can give preliminary attention.

Educational Literature, Printed Instructions, Etc.

Very few of the clinics make any attempt to use these patients' hours, although patients are manifestly in a mood more receptive to suggestion or advice in hygiene, than is the average person in good health. Five agencies, Central Free Dispensary, Chicago College of Osteopathy, Chicago Lying-In, Michael Reese and St. Luke's have printed or typed instructions for pregnant women. They are worthy of comparison and wider adoption. Drawing upon material from other cities as for instance, the printed instructions drafted by the Maternity Center Association of New York City, the instructive District Nursing Association of Boston or the American Child Hygiene Association,[b] a model, standard set might well be formulated, by the group of prenatal clinics in joint council. Chicago Lying-In supplies its three centers with these instructions, printed in foreign languages. University Hospital clinic uses a printed card, which directs the patient to return if specific physical symptoms occur. The Milton Ave. Station of the Infant Welfare Society was the only clinic where a wall display of educational literature was observed. This organization expects to extend such exhibits to all its stations as fast as funds are available. Several other clinics stated that they use the U. S. Children's Bureau prenatal care material, when they can get it. One gives to prenatal patients the booklet of the Metropolitan Life Insurance Co., "Information for Expectant Mothers," and the Chicago Health Department Pamphlet, "Our Babies." On one waiting room table at Olivet Dispensary, magazines of a character to interest and amuse were displayed.

A considerable number of the clinics stated that printed instructions for

(a) See "The Dispensary Situation in New York City. Summary and Recommendations" by the New York Academy of Medicine, Reprint 1920, p. 6.

(b) Address, 1211 Cathedral St., Baltimore, Md.

expectant mothers would be valueless, because "the patients would not read them" or are "too ignorant to understand." It would appear to the layman that herein lies a fault, not of the patient, but of the institution. It is certainly just to assume that the clinic may expect to take some trouble to make clear to uninformed mothers, the nature of the physician's instructions. Patients are sometimes regarded as "ignorant" merely because they do not understand English. In this respect, clinics make the mistake older social agencies made in the beginning, before the need of interpreters was recognized. Only a few of the prenatal care stations frequented by foreign mothers have workers who can speak to them in their own tongue. What Cleveland found true of its situation, might almost, in spite of its older immigration, be said of Chicago: (a) "Very little has been done at any of the dispensaries to provide interpretation for patients not speaking English. There is much complaint from outside charitable agencies that adult patients not speaking English find it difficult to make themselves understood, or to understand what the doctor finds to be the matter or what he wants them to do." One clinic, now closed, gave as a large factor in its decline, its lack of interpreters. It had drawn to it many Italian, Polish and Lithuanian women upon whose blank records was frequently recorded: "Cannot understand English," "Patient speaks no English—History unobtainable." It is no longer difficult in Chicago, to obtain good interpreters. Even without them it is easily possible to follow the example of Chicago Lying-In and furnish instructions in the patients' own languages. Instructions, pamphlets, pictures, wall exhibits, model layettes are all part of an educational program to be operative during the patients' waiting time, a program of which the prenatal clinic cannot afford to lose sight. The Public Health Committee of the New York Academy of Medicine has made this clear in the following: (a) "There is a need for a department of preventive medicine in many of the dispensaries, a department which would be responsible for the educational literature given out to patients, for classes in corrective exercises, in dietetics and such other group activities as require sanitary direction and supervision, and which would also be responsible for health exhibits at the clinic, moving pictures, and lectures; in other words, a department which will make the dispensary a Health Center of its neighborhood."

Admission Desk

In the waiting room is usually located the admission desk. With a few exceptions, it offers no privacy to the patient who must there explain the nature of her physical ills. In several dispensaries, patients file in a long line past an admission window, where any previous records are consulted and where they are given tickets or numbers to the clinics to which they are assigned.

Examining Room

Even the examining rooms afford only partial privacy. There is usually some provision of curtain, or screen, or half-partition which partially shelters

(a) Cleveland Hospital and Health Survey, Part Ten, "Hospitals and Dispensaries," p. 893.

patients as they remove clothing. At Howell Neighborhood House, the doctor leaves the room while the patient is being prepared. Some clinics offer no privacy. Two such are under the control of medical schools. So that patients are compelled to dress and undress with no protection whatever, in the presence of students, who sometimes number as many as six. Some clinics—only a minority, it is reassuring to note—do not curtain or screen the examining tables, of which the room may contain more than one.

By far the majority of the prenatal clinics have only one room for prenatal examinations. A few have two or more. Several use the same room for other types of clinics at other times. Adjacent or near most of these rooms are toilet accommodations. Wash rooms are supplied in fewer instances and in still fewer, drinking fountains. It is certainly not too much to expect that adequately equipped clinics shall contain these facilities.

Instruments

There is great variation in the clinic's supply of ordinary instruments. Some are equipped with modern instrument cases, full of shining forceps, scissors, a speculum, a pelvimeter, retractors, etc. The equipment of most, however, is more meager. Cupboards or tables frequently serve as a repository for instruments. One clinic which is a part of one of the oldest medical schools in the city, was found to be using an ordinary market basket as a receptacle for all articles used about the clinic, including gloves, towels, and pencils. In some instances there are sterilizers. The blood pressure instrument is new to general clinic equipment. Many prenatal stations are still without it.

Laboratories

A surprising number of prenatal clinics have available, either in their own rooms or in the hospitals with which they are connected, X-ray apparatus. In fact, only four stated that they "had no X-ray." They are apparently likewise equipped for the making of urinalyses. In practice, these are made more frequently in the affiliated hospital laboratory than in the clinic itself. While this may be an advantage from the standpoint of adequate equipment, it opens the way for a loss of the records of laboratory findings. They are usually returned on a separate slip to the clinic, and all too often are never entered in the patients' histories. One hospital, which carries on prenatal care as a part of its obstetrical department, sends its urinalyses to the laboratory of a nearby medical school which also maintains a prenatal clinic, a reverse type of affiliation. There is less uniformity of procedure as regards Wassermann tests. They are made not only in the clinics themselves and in affiliated hospitals but also by outside laboratories. The Infant Welfare Stations refer to Central Free Dispensary and Rush Medical, their Wassermann tests, their X-ray examinations, and doubtful urinalyses. Three clinics use the laboratories of the City Health Department for Wassermanns; one uses Iroquois Hospital, also under the Health Department, and another, the State laboratories of the Illinois Department of Health, evidence of the recognition of venereal disease problems, as matters for public control. There are evidently within reach of all the prenatal clinics, laboratories where tests and analyses may be made. How quickly and conveniently they func-

tion would be a subject for more intensive study. How much they are actually used by clinics of the type under consideration is a point upon which the later analysis of case records will shed light.

The conclusion of the Illinois Health Insurance Commission as to the equipment of dispensaries, is quite as true for Chicago's prenatal centers. "Equipment in modern, scientific, diagnostic and therapeutic procedure is essential to the best medical service, and those dispensaries which can place such facilities at the command of their physicians will, other things being equal, give their patients the best institutional medical service." [a]

9. CLINIC PROCEDURES

This phase of prenatal care has been partially presented under the foregoing paragraphs on Equipment and Social Service, and will be further amplified by the summary of the case record analysis. A few additional points of procedure may be mentioned here.

Attitude Toward Patients

Probably that of chief interest to the general reader is the actual handling of patients. Gentleness is a consideration of peculiar importance in the cases of women awaiting confinement. Practically without exception, patients observed during prenatal visits were received with the utmost courtesy and kindness. While this attitude may have been somewhat affected by the presence of an outside observer, still, it is believed that the clinics offer comparatively little cause for disappointment in this respect. It is a pleasure, for instance, to quote the "outside observer's" comment upon the conduct of prenatal examination at St. Joseph's Hospital, "The entire atmosphere of the clinic was one of well-ordered service, courtesy, and kindness" with "no sense of hurry," on the part of the doctor; or again at Mary Thompson, "Each patient is treated with courtesy and kindness;" at the New Infant Welfare Society station in the Chicago Commons building, "The patients were treated with the utmost courtesy, and all seemed to respond with the same spirit. The nurse was of the personality to win the confidence and liking of the patients;" or at St. Luke's "in spite of crowding the procedure was efficient and orderly. Great care is taken by the attending physician to inquire into the general symptoms of the patient, and excellent advice is given."

Advice and Instructions

This point, in its relation to printed material, has been covered in the paragraphs on Equipment. The character of the oral advice varies with the knowledge and ability of the physicians and other staff members who meet the patients; their interest in the obstetrical field; with the amount of time allotted to individual examinations; with the type and intelligence of the patient, her physical condition or presence of abnormalities, with the number of children in her family, for some dispensaries make it a rule to examine first among those waiting, and give particular attention to, primiparae. In

(a) Report of the Health Insurance Commission of the State of Illinois, p. 351.

approximately one-fourth of the clinics, when visited, little or no oral instruction in the hygiene of pregnancy or advice as to care of the body, was given. Herein lies a lost opportunity. For, as has been pointed out in previous connections, the chief reason for prenatal care is its preventive possibilities.

Medical Students

The presence of medical students in the clinics has been commented upon elsewhere. Although their attitude at Hahnemann Dispensary, for instance, was described as "dignified and business-like," at the clinic of the Chicago College of Osteopathy as "courteous and gentle," at the University Hospital as one of "respectful attention," it is undoubtedly true that there is, at some of the numerous clinics to which students are assigned, exploitation of patients in the interest of teaching. Six at a time, observing and assisting in the examination of patients, was the largest number noted in any of the clinics. Three or four, and occasionally five, were not uncommon. This means, of course, that a patient may undergo just that many separate examinations, of more or less completeness. One Professor of Obstetrics, for instance, stated that "as many students as the patient would allow," palpated the uterus, and made abdominal examinations. Even clinics of far higher reputation than this one in particular, seem sometimes to lose sight of the finer points in patients' treatment. The "outside observer's" comment on one is worthy of note: "No more than two students were allowed to make internal examinations on any case, but often one student was examining heart and lungs, another taking blood pressure, while a third was making a physical examination, or taking measurements. From the standpoint of medical teaching, nothing but praise can be given; but, from the standpoint of service to patients, there seems something to be desired. The patient while getting excellent treatment was obviously put to at least mental if not actual physical discomfort." The Social Service Department of one of the largest clinics stated that it was difficult to persuade patients to come in for prenatal care, as "they object to being examined by students." Teaching by class organization is, of course, partially desirable and necessary. Since, however, the number of medical students studying obstetrics is far below the number of prospective mothers who need prenatal clinic care; and since ten of the organized clinics are at present made no use of for teaching purposes, the problem of arranging practical experience, as clinics build up their attendance, upon a basis of individual student field work with a series of individual patients, through carefully worked out affiliations, appears quite within compass.

Presence of Nurse

Only three of the prenatal clinics reported that they had no nurse in attendance. There are usually one or more graduate nurses and frequently student nurses, on the clinic staff. They perform a variety of services, from mere clerical work and the routine of clinic admission, to taking patients' histories, preparing patients for examination, assisting throughout its procedure, explaining physicians' instructions or making home calls. In not

a few instances, a nurse has laid upon her the work of two. Occasionally in the clinics under less efficient organization, the nurse appeared to have no clear idea of her function or responsibility. In the case of such institutions, a Dispensary Council, organized for standardization purposes, might, through joint open discussion, go far toward clarification and economy in the use of nursing service. In many instances, however, nurses were found to be the executives "in charge" of the clinics, or the workers in the Social Service Department. In the better clinics, as would be expected, the time of nurses is conserved, and their energies directed into duties worthy of their training and ideals.

Cleanliness of Procedure

It would difficult to make any statement upon this point, generally applicable to all prenatal stations. The observer had expected to find the now accepted clinic practice of gown and rubber gloves worn by physicians and attendants, in full use in the prenatal stations of the city. Such is by no means the case. In only a small proportion of the highest grade institutions are both gowns and gloves worn. A number somewhat larger, supply one such article, glove, apron or gown. Some of the clinics make no pretense of furnishing any of these supplies. Pregnant women were seen examined by physicians and attendants in ordinary street clothes, sometimes without even the preliminary washing of hands. A better supply of linen, and of paper towels was noted. In several instances, however, beds were not changed during an entire afternoon of prenatal examinations. A few had no adequate provision for keeping instruments clean. Of one examining room the visitor reported "very dirty walls, a set basin in the corner of the room, poor plumbing, a mussy instrument cabinet and table and an air of disorder and dust everywhere. One window, and one door, might have given some ventilation, but the window closed and the air, on entering was foul and lifeless." Happily, no patients appeared for examination during the clinic hours of that particular day, and happily, this was the only institution where such a condition of affairs was found. Cleanliness is a point of procedure upon which there are obvious and well-known standards. Even the clinics financially poorest can be clean. When one remembers that prenatal examinations are in many cases made just before delivery, that many maternal deaths result solely from infections and puerperal fever, there would seem to be little excuse for the failure of any health center in taking every antiseptic precaution.

Controversial Points of Procedure

In the course of visits to dispensaries and clinics, points of practice distinctly controversial within the medical field, were alluded to by physicians, or came within the range of procedure observation. Internal vaginal examinations were found being made after the seventh month of pregnancy; the ante-natal period being supervised with a view to routine induction of labor; and the use of "Twilight Sleep." These are points quite outside the field of this inquiry. They must be left to discussion and decision by groups of scientific obstetricians.

10. CONTENT OF PRENATAL CARE AS SHOWN BY RECORDS

Clinic procedures, as explained by members of the staff, or as noted in visits of observation are greatly illuminated by a study of patients' histories. Each of the agencies maintaining active centers was asked to furnish a random sample of fifty recent case records of women who had received prenatal care and had been subsequently delivered. The agencies displayed an intelligent response, having apparently risen to the view that a case record analysis is part of the science of their work, and is solely aimed to widen and increase its effectiveness. A few were unable to supply such a group of records, either because their prenatal clinic had been closed and records lost; because their work was too new; because their records were incomplete; or, as in the case of one, because the ante-natal care it supplied had been a piece of co-operation among the dispensary, hospitals, and a nursing agency, with no consecutive case histories in the files of any of the three. The Stock Yards Dispensary of the Chicago Lying-In Hospital is not represented in a separate analysis, because records from that branch are transferred to the Chicago Lying-In Dispensary, 1336 Newberry Ave., if the patient is to be delivered by the Out-Patient Department; to the Chicago Lying-In Hospital, 426 East 51st St., if hospital delivery is arranged. All histories are eventually filed at the Hospital, from whose library a sample of fifty was taken. In other words, both the Hospital and the Maxwell St. Branch furnished groups of fifty records each for case study. The Infant Welfare Society prenatal records at the Milton Ave. Station and at Central Free Dispensary were examined. A separate group was not tabulated from the Chicago Commons, Osgood and Jackson Park Stations, because the procedure of the two latter closely follow that of the Milton Ave. Station; and because the former had been too recently established.

In addition to Central Free Dispensary, Chicago Lying-In, and the Infant Welfare Society, groups of fifty prenatal case records each were furnished by the Chicago College of Osteopathy, Chicago Medical School, Chicago Polyclinic, by Grant Hospital, Hahnemann Medical School Clinic, Mary Thompson and Michael Reese Hospitals, Olivet and Post-Graduate Dispensaries, St. Luke's, University and Wesley Memorial Hospitals. Provident Hospital furnished forty-five. Groups of prenatal records numbering from 4 to 34 were also supplied by the Halsted Street Institutional Church, Howell Neighborhood House, Lincoln Dispensary, Mercy Hospital clinic, St. Joseph's Dispensary, and the Zion Society for Israel.

This means that almost one thousand case records, 983 to be exact, from 23 institutions, were included in the study. The points upon which their analysis was chiefly based were the addresses of the patients, showing the radius from which they travel to the center; the length of time under care and the number of visits they make before delivery; the number of home visits by workers from the station, made to them during pregnancy; the number of physical examinations; the number of times pelvic measurements are taken; and the number of Wassermanns, blood pressures and urinalyses made during the period of prenatal supervision. The facts gleaned from such a study, when compared with recognized standards for prenatal care, give an analysis, in some measure qualitative, of this type of service in Chicago.

It is admitted at the outset that written records do not always do justice to the work of a medical or social agency. In the words of the New York Dispensary Report, [a] "The study presented herewith is open to the objection that the hurriedly made out records in the dispensaries do not properly represent the work done, and that it is frequently superior to what the records would indicate. Yet, the records constitute the only means by which an objective presentation of medical work can be accomplished, and when a considerable number of records is used, a fairly accurate picture of the clinical procedures can be obtained." "This method of study," like that in New York, "is predicated on the fact that certain basic information concerning the patient's physical condition, past history and environment, as well as results of laboratory and other procedures, must be recorded as an intelligent guide in diagnosis and treatment." [a]

The question of radius from which patients travel, in order to secure institutional prenatal care, has been set forth under "Residence of Patients," in Section 1. The other facts gathered from individual records, showing the number of clinic visits, length of time under care and the medical procedures as regards urinalyses, blood pressure, physical examination, pelvic measurements, and Wassermann tests, have been combined for graphic presentation in the tabular statement which appears on page 80.

Following the precedent of other surveys, [b] letters have been used to indicate specific institutions, it being foreign to the purpose of this report to engender rivalry among individual agencies, or to be guilty of a breach of confidence with agencies which so generously co-operated in this investigation. It is quite within the purpose of the study that variation in practice should show plainly, and that the need of standardization should be boldly portrayed.

It will be seen that the first two procedures are shown not only in relation to the number of patients, but also in relation to the number of their clinic visits. So variable are the conditions of blood and urine, so dependent are they upon the patient's general state of health, that they serve, in the best medical practice, not only as bases for diagnosis, but as indicative barometers for the physician and nurse, under whose supervision the expectant mother proceeds to childbirth.

While tabulations from the records of the six institutions which furnished less than 45 records each for study, are appended to the table, they are not included in the following discussions of averages and percentages. They are based upon totals too small to permit of conclusions, except as to the practices of these six individual institutions themselves, none of which has handled more than fifteen prenatal cases a year, or more than thirty-five to date.

Number of Patients' Visits

In columns II and III, relating to patients' visits to prenatal stations, the first figure to catch the eye is the 211 clinic visits made by 50 patients at one institution, which averages 4.2 visits per patient. It happens that the majority

(a) Report of the Public Health Committee of the New York Academy of Medicine, Section on "Analysis of Out-Patient Medical Work," pp. 1, 2, Reprint Oct. 16, 1920.

(b) The Report of the Health Insurance Commission of Illinois (1919) uses Numerals. See "Special Report III, Dispensaries and Clinics in Illinois," pp. 358, 361.

TABULAR STATEMENT SHOWING CHARACTER OF INSTITUTIONAL PRENATAL CARE IN CHICAGO

BASED ON COMPARISON OF 983 CASE RECORDS FROM 23 PRENATAL CARE STATIONS

Prenatal Care Centers	Records Studied	Patients' Visits to Clinic		Months Patients Under Care	Urinalyses				Blood Pressures				Wasserman Tests	Pelvic Measurements	Physical Examination
	Number	Number	Average	Median	Per cent Patients with Urinalyses Recorded	Total Number Urinalyses Recorded	Average Number Urinalyses Recorded	Percentage Proportion Urinalyses to Patients' Visits	Per cent Patients with B. P. Recorded	Total Number B. P. Recorded	Average Number B. P. Recorded	Percentage Proportion B. P. to Patients' Visits	Per cent Patients with Tests Recorded	Per cent Patients with Measurements Recorded	Per cent Patients with Examination Recorded
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
A	50	108	2.2	1.7	98.0	100	2.0	92.6	98.0	102	2.0	94.4	16.0	96.0	100.0
B	50	88	1.8	1.6*a*	60.0	49	1.6	55.6	56.0	43	1.5	48.9	0.0	92.0	98.0
C	50	168	3.4	1.6	96.0	123	2.5	73.2	100.0	139	2.8	82.0	6.0	96.0	98.0
D	50	77	1.5	1.5	86.0	63	1.5	81.8	94.0	65	1.4	84.4	0.0	80.0	90.0
E	50	64	1.3	...*b*	30.0	16	1.1	25.0	0.0	00	0.0	0.0	2.0	20.0	96.0
F	50	63	1.3	1.4*c*	4.0	5	2.5	7.9	24.0	19	1.6	30.1	0.0	68.0	90.0
G	50	119	2.4	1.8*d*	94.0	114	2.4	95.8	96.0	50	1.0	42.0	0.0	98.0	100.0
H	50	211	4.2	1.8*c*	40.0	37	1.9	17.5	76.0	158	4.2	74.9	2.0	88.0	98.0
I	50	111*e*	2.2	2.5	58.0*f*	65	1.3	22.0*g*	....*h*	...*h*	...*h*	...*h*	....*h*	....*h*	92.0
J	50	128	2.6	1.4	34.0	24	1.4	18.8	20.0	11	1.1	8.6	22.0	100.0	100.0
K	50	109	2.2	2.3	100.0	106	2.1	97.2	100.0	105	2.1	96.4	0.0	100.0	100.0
L	50	138	2.8	3.0*d*	70.0	67	1.9	48.6	0.0	00	0.0	0.0	0.0	2.0	100.0
M	50	79	1.6	...*i*	14.0	9	1.3	11.4	34.0	23	1.4	29.1	8.0	84.0	94.0
N	45	135	3.0	1.9	48.9	33	1.5	24.4	95.6	123	2.9	91.1	77.8	91.1	6.7
O	50	193	3.9	1.6	98.0	176	3.6	91.2	100.0	193	3.9	100.0	4.0	100.0	72.0
P	50	158	3.2	1.4	76.0	76	2.0	48.1	80.0	95	2.4	60.1	8.0	62.0	100.0
Q	50	116	2.3	.8	92.0	95	2.1	81.9	50.0	25	1.0	21.6	2.0	100.0	100.0
R	4	4	1.0	n.r.*j*	25.0	1	1.0	25.0	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	100.0
S	22	44	2.0	...*k*	4.5	2	2.0	4.5	72.7	27	1.7	61.4	0.0	59.1	90.9
T	24	55	2.3	...*b*	66.7	20	1.3	36.4	91.7	26	1.2	47.3	12.5	79.2	95.8
U	29	61	2.1	...*l*	79.3	38	1.7	62.3	48.3	22	1.6	36.1	3.4	93.1	96.6
V	25	46	1.8	...*l*	28.0	8	1.1	17.4	8.0	2	1.0	4.3	4.0	36.0	100.0
W	34	78	2.3	n.r.	29.4	11	1.1	.14	0.0	00	0.0	0.0	2.9	0.0	100.0

REMARKS: (*a*) Time Under Care Obtainable in only 30 out of the 50 Cases Studied. (*b*) Dates of Delivery not Recorded. Time Under Care Therefore Unobtainable. (*c*) Time Under Care Obtainable in only 34 out of the 50 Cases Studied. (*d*) Time Under Care Obtainable in only 44 out of the 50 Cases Studied. (*e*) 32% or 16 Patients did not Visit the Clinic at All. (*f*) 12% Refused Urinalysis. (*g*) 14% Attended Clinic without Urinalysis. (*h*) On Uncorrolated Hospital Records Not Available for Study. (*i*) Estimated, but Not Actual Dates of Delivery Carefully Recorded—Actual Time Under Care Therefore Unobtainable. (*j*) "n.r." Not Recorded. (*k*) With One Exception, Dates of Delivery Not Recorded. (*l*) Time Under Care Obtainable in only 7 Cases.

of patients at that particular prenatal clinic are unmarried mothers-to-be from a nearby Maternity Home, brought to the clinic by a social worker. Their record of attendance is a tribute not so much to the clinic's influence or to individual patient's recognition of the value of prenatal care, as it is to the policy of a Home which makes sure that its young women receive systematic and periodic medical examination. Four other institutions, on the basis of 45 or 50 records each, average three or more visits per patient during pregnancy; seven average two or more visits; five average only one or more. In other words, almost half of the prenatal stations average only one or two clinic visits per patient, during the entire period of her pregnancy. Many patients, of course, return to the clinic after the birth of the baby, but that fact is outside the scope of this study. Herein lies a concrete illustration of the need of a more intensive program of education for expectant mothers.

Number of Home Visits

Contacts of social workers or nurses, with the patient in her own home, are second only in importance to the patient's visits to the clinic. Unfortunately in only a few of the centers could the number of home visits per patient, or even the total number of home visits to prenatal cases be ascertained. This is due to the fact that in many instances social service records are not correlated with medical records; to the fact that maternity cases are frequently not separated from other types; and to the fact that prenatal and postnatal visits are often not distinguished. Because so few of the institutions could furnish an accurate figure, the number of Prenatal Home Visits has been omitted from this table. For fifty prenatal cases each, six institutions reported respectively 23, 29, 33, 35 and two, 40, prenatal home visits. Undoubtedly, the Infant Welfare Society and Visiting Nurse Association have the highest record of home visits to prenatal patients. Among a group of expectant mothers numbering 1214, supervised by the Visiting Nurse Association, 4076 prenatal home visits were made, or 3.3 visits per patient. On a group of fifty pregnancy records examined at the Milton Ave. Station of the Infant Welfare Society, 298 nurses' home visits were recorded, an average of 5.9 visits per patient. The Maxwell Dispensary of the Chicago Lying-In Hospital also has many home visits to show. These are records which agencies less efficiently organized in this respect, may well emulate.

Length of Time Under Care

Undoubtedly, one reason for the low averages of clinic visits is the comparatively brief period during which patients are under supervision. It is the spoken impression of many of the institutions that their patients apply for care much earlier in pregnancy than is actually the case. Perhaps the striking instances of the few who do come in very early for examination and advice creates the impression. There are other agencies, mostly hospitals, which lament over the fact that patients "come in the last moment." Upon the basis of case record averages, it will be seen from column IV that at only three institutions do the patients reach as long a median time under care as two months. At one of these, a dispensary where cultivation of the neighborhood is a particular feature, the period of supervision has been lengthened to three months. At seven, it ranges from 1.6 months to 1.9

months. Five institutions show a median time under care of one and a half months or less, one, as low as .8 months, or 23 days. For two institutions the time under care could not be computed, because the dates of delivery were not recorded. The last few weeks of pregnancy are frequently too late to correct pathological complications which might have been foreseen and prevented had patients been examined earlier. The fact of a short period of supervision is the second concrete evidence that women need more instruction as to the advantages of prenatal care. The chief value of these first two points of procedure: length of time under care and number of clinic visits, depends upon the patient's appreciation of prenatal care possibilities, through a clearer demonstration of its results and a stimulation of wider confidence in preventive medicine.

Urinalysis

The regularity of urinalysis as a part of clinic routine is clearly indicated by the next four columns of the table. That it is by no means always followed, even though it may be the aim of the clinic to make it routine, is shown by the fact that only one institution has urinalyses recorded for 100% of the patients whose histories were studied. That same institution, moreover, averages 2.1 urinalyses per patient for 97.2% of the total number patients' visits. Five other institutions have urinalyses recorded for percentages of patients ranging from 90 to 98%; one for 86% of its patients; one for 76%; three for percentages ranging from 58% to 70%. Upon the case records of six of those agencies, urinalyses were recorded for less than 50% of the patients. Six institutions, besides the one mentioned, show 2+ urinalyses for each patient. One shows an average of 3.6 urinalyses, for, however, only 98% of its patients. Nine institutions average from 1 to 2 urinalyses per patient upon the basis of the number of patients for whom it was recorded at all. Careful and critical examination of columns V to VIII will disclose to the student of clinic procedures additional facts regarding the routine of urinalyses, as for instance the fact that the number of urinalyses dropped to 11.4% of the total number of patients' visits at one institution, and to 7.9% at another.

The partial failure of this procedure as a periodic routine, as shown by the case records, is due to several reasons, one being the patient's failure to bring specimens as requested; another, the clinic's failure to emphasize this request; another, the loss of laboratory findings of urinalyses that are undoubtedly made, but never become part of the permanent history. Urinalyses are a point of prenatal care well agreed upon by obstetricians. In fact, some regard them as of first importance. The study of records would indicate that there is room for great improvement, generally speaking, in the actual practice of urinalyses within the prenatal stations in the city.

Blood Pressures

Procedure in this respect is shown in somewhat more favorable light. A tabulation of 50 records each from three institutions shows that blood pressures (Column IX) were taken for 100 per cent of their patients. From four others, blood pressures were recorded for from 94 to 98% of the patients. Two institutions, on the other hand, had no blood pressures

recorded upon the 50 records studied from each. Other percentages ranged from 20% to 80% of the patients. Seven institutions averaged 2 or more blood pressures per patient (Column XI) upon the basis of the number of patients for whom it was recorded at all, one reaching an average of 4.2 blood pressures for 76% of its patients, and another, of 3.9 blood pressures for 100% of the visits of all the patients. Seven institutions averaged 1.0 to 1.6 blood pressures per patient. One hospital clinic dropped to a percentage of only 8.6 patients' total visits (Column XII) at which blood pressures were taken. The superintendent of that institution stated that the blood pressure instrument was usually out of repair, and most of the time was enroute between the hospital and factory, in another city. The delicacy of the blood pressure apparatus and the ease with which its accuracy may be impaired, may partially account for the low percentages and averages of blood pressures at some other institutions. Several are not equipped with an instrument. The taking of blood pressure is one of the standards fixed by the physicians and agencies that have made a study of prenatal care. It must be kept clearly in the foreground as a necessary link in clinic routine.

Wassermann Tests

A glance at Column XIII is sufficient to indicate that the taking of a Wassermann test is by no means a matter of absolute clinic routine. Upon the records consulted at six institutions, no Wassermanns were found. At seven institutions, records showed that such tests had been made for from 2% to 8% of the patients; at another, for 16%; at another, for 22%. The highest percentage found among any of the institutions, was 77.8%.

The taking of smears, as a test for gonorrhea, was not tabulated from patients' histories, but was frequently found recorded. Its importance as a routine precaution against the occurrence of blindness of the infant can hardly be over-estimated. A considerable number of the institutions stated that Wassermanns are made only in cases which show symptoms of venereal disease, in other words, that they are made only "on indication." Another reason for the low percentages is undoubtedly the fact that the Wassermann reaction, as an absolute test for syphilis, is held in question by the medical field. For this reason, no generalization upon the activity of the prenatal clinics in detecting venereal infections may be made. It is, however, true of some, that the nation-wide program to stamp out this far-reaching disease, so cruel to mothers and little children, has not been accepted or placed in practice.

Pelvic Measurements

Pelvic Measurements are apparently made for many more of the women who seek prenatal care at hospitals or clinics. Four institutions (Column XIV) recorded them for 100% of the groups of 50 patients each; five, for from 91 to 98% of the patients; three for 80 to 88% of the patients; one institution for 68% of the patients; one for 62%. The value of pelvic measurements in prenatal care is entirely obvious. Complications, for instance, arising from the size of the birth canal, may be noted, and special precautionary measures, therefore, prearranged, for the time of delivery.

Physical Examinations

The most obvious of all the steps in prenatal care would seem to be the physical examination. The opinion of physicians varies widely as to how complete the physical examination should be, though most would probably agree that observation of none of the following should be omitted: teeth, tonsils, thyroid, heart, lungs, nervous system, breasts, nipples, abdomen, genitalia and position of child. No effort was made to tabulate the completeness of the physical examination recorded upon patients' histories. It would be impossible to generalize in this respect upon the procedure of the whole group of prenatal stations. The physical examinations carried out by doctors, nurses and students vary from the most cursory to the most complete. Whether or not any physical examination was made, is the fact Column XV is designed to bring out.

It will be seen that seven institutions record physical examinations for 100% of the patients whose histories were read; eight institutions for from 90% to 98%; one institution for 72% of the patients; one for only 6.7%. The large number of institutions which make physical examinations for all their patients stand out for commendation. The larger number that do not have before them a goal of good practice quite within reach.

11. RECORD SYSTEMS

It is not of general importance to the layman to enter into a detailed discussion of just how these records are kept in the clinics and dispensaries of the city. The improvement of medical records and their standardization, particularly in hospitals, is a subject upon which medical groups are already at work. The American College of Surgeons, [a] for instance, has set forth the following as a minimum standard for medical records:

"That accurate and complete case records be written for all patients and filed in an accessible manner in the hospital, a complete case record being one, except in an emergency, which includes the personal history; the physical examination, with clinical, pathological, and X-ray findings when indicated; the working diagnosis; the treatment, medical and surgical; the medical progress, the condition on discharge with final diagnosis; and, in case of death, the autopsy findings when available."

The New York Academy of Medicine [b] has also defined "the principles upon which a record-keeping organization and system should be based:

"1. That in each institution there shall be someone charged with responsibility for seeing that records are completely and accurately kept.

"2. That all information necessary to the proper understanding and disposition of the patient's problems shall be required.

"3. That the information so required shall be entered legibly or in typewriting on the record, and that records be made readily available to those who should use them.

(a) Bulletin American College of Surgeons, Hospital Standardization Series, Vol. V, No. 1, Jan., 1921, "General Hospitals of 100 or More Beds," p. 5.

(b) See Report of Public Health Committee, 1920. Section on "New York Dispensaries; Book and Record Keeping," pp. 8, 10.

"4. That the information upon the record be in such form that it is capable of analysis and recapitulation for the advice and information of the administrative authority, medical research, and the public."

A medical history, it further points out, should call for:

"First, the identifying information regarding the patient, i. e., his age, sex, civil status, job, trade, address, habits, heredity;

"Second, the history, as given by the patient, of previous illness and present illness;

"Third, the findings on physical examination by the physician;

"Fourth, the results of laboratory tests, X-ray examination or other special tests;

"Fifth, the diagnosis or provisional diagnosis;

"Sixth, the treatment, including reference to hospital social service or other reference;

"Seventh, the progress of condition;

"Eighth, the result of treatment."

The student of medical record-keeping would likewise find instructive material upon the subject, in the report of the "Unit History System" of the Presbyterian Hospital of New York;[a] in an article entitled "The Soul and Body of a Hospital Statistical Department," written by the Superintendent of Mt. Sinai Hospital, Cleveland;[b] or in other scientific references included in the Bibliography of the American College of Surgeons,[c] and elsewhere.

It is of interest to the layman, however, to know in general, the type of record kept by the clinic, who is responsible for it, and whether it is easily consultable.

Type of Case Record

Every type of case record, from the small card, less than the standard 5x8, with handwritten headings as well as findings, to the detailed complete folding histories with carefully spaced printed headings, newly devised by the Infant Welfare Society, was found in use in the institutions where prenatal care is maintained.

One of the first conditions which strikes the case record reader is the fact that a large proportion of the institutions still use the same blank forms for all types of clinic cases. The medical findings in prenatal cases are naturally of very special significance. It is certainly not too much to expect that hospitals, dispensaries and other organizations, should differentiate their records, and that history sheets should contain specific spaces for the entry of facts pertaining to pregnancy. For, as Mr. Louis I. Dublin, of the Metropolitan Life Insurance Company, has pointed out, "The trouble with records has not

(a) See Medical and Surgical Report of the Presbyterian Hospital of the City of New York. Vol. X, Oct., 1918, pp. 30–72.

(b) See "The Modern Hospital," Nov., 1919, pp. 382–390.

(c) See "General Hospital of 100 or More Beds," Hospital Standardization Series, Vol. V, No. 1, Jan., 1921, pp. 15–19.

been the requirement that records be kept, but the existence of badly designed forms, with inept questions, and the lack of informing directions." [a]

A second fact which strikes one who consults prenatal records, is the frequent absence of the laboratory findings. Many forms offer no specific place for the entry of the results of urinalyses, blood pressure, Wassermann tests; or even for pelvic measurements or periodic physical examinations. Laboratory findings are in most cases returned to the clinic on a colored slip or sheet of paper, which may never be attached to the patient's history and is, therefore, frequently lost. The best prenatal records now carry entry space, under dated headings, for laboratory findings.

There is no reason, at this stage of medical record development, for poor forms. Excellent prenatal record forms are in existence. Model suggestions may be taken from such carefully worked out blanks as those used by the Chicago Lying-In Hospital or the Infant Welfare Society. The former, it may be said in passing, requires that complete Pregnancy Records shall be filled out by all private physicians who bring patients into that hospital for delivery. Such a requirement has a distinct educational value. Material for an exhibit of the record forms in use in the prenatal care stations of the city, has been collected in the course of this survey. It is hoped that it, together with such blanks as that of the American Child Hygiene Association, the Maternity Center Association of New York or the Infant Welfare Society of Minneapolis, may serve as a basis for prenatal record standardization by a joint group of the institutions concerned. Suggestions for model maternity records, drafted by Mr. Dublin, have just become available.[b] The reader will find on pp. 87–90 a reproduction of the folding Prenatal Care Record devised by the American Child Hygiene Association, discussed and adopted at its annual conferences. It is intended for just such an opening in record standardization as Chicago prenatal centers now present.

Responsibility for Records

Even with perfect blank forms, however, the problem of adequate records is not solved. That depends for completeness upon the fixing of responsibility for their upkeep. Parts of the record may be filled out by the clerk, clinic secretary, medical student, interne, nurse or physician. Too often, they seem to be the business of no one in particular. For that reason many serious omissions which range from dates to diagnosis are found by the reviewer. Information is sometimes so meager, that the condition of the patient could not be ascertained. One clinic stated that no entry whatever was made "if everything was all right at the time of examination." Possibly the largest single factor in the poor records of hospitals and dispensaries is the fact that they are written largely by the internes, or students, who are not a permanent adjunct of the institution, and do not grasp the importance of full and accurate reports of the daily treatments, although the Superintendents and members of the staff lay great emphasis on this duty, when internes are

(a) "Records of Public Health Nursing," Lecture I, Printed August, 1921, in "The Public Health Nurse," pp. 386–392.

(b) See Lecture IV, printed December, 1921, in "The Public Health Nurse," pp. 637–646.

PRENATAL CARE RECORD
Preliminary History

No.....

Name..... Address.....

Date.....M. S. W. D. White, Black, Nationality.....

Age.....years Date of Marriage..... Has had.....children

.....premature labors,.....miscarriages,.....now living

History of previous pregnancies:

1..... 4.....

2..... 5.....

3..... 6.....

(Give date of birth of children, kind of feeding, general health. If dead give date and cause)

1.....

2.....

3.....

4.....

5.....

6.....

(One line for each child, if more space is necessary use opposite side)

Medical history of patient.....

.....

Medical history of husband.....

.....

History of present pregnancy:

Date of menstruation..... Expected date of confinement.....

Severe vomiting....., Constipation....., Severe Headache.....,

Oedema....., Vision....., Bleeding....., Leucorrhoea.....,

General Health.....

.....

Medical examination. Height..... feet,.....inches; weight.....pounds

Duration pregnancy.....months, Presentation....., Foetal heart.....

Type of pelvis.....C. D....., T. I.....cm.

Vaginal examination.....

.....

Heart.....

Lungs.....

Urine..... B. P.....

Various.....

Syphilis....., Wassermann....., Gonorrhoea.....

Tuberculosis....., Rhachitis....., Deformities.....

.....

Suggestions for prenatal and obstetrical care.....

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American Child Hygiene Association—Formerly
American Association for Study and Prevention of Infant Mortality
Baltimore, Md.

Primary Report of Visiting Nurse

Occupation..... Occupation husband.....

Character of home..... Condition of home.....

Family income per month $..... Number supported by it....., Intelligence of family.....

Can be delivered at home; must enter hospital.....

.....

.....

.....

Subsequent Examinations

Date	Presentation	Engagement	Size of child	Disproportion	Foetal heart	Urine	B. P.

(If either parent has syphilis, insist upon prompt treatment. If urine presents more than a trace of albumen make daily Esbach readings and blood pressure observations. If no improvement, send to hospital at once. All patients with contracted pelvis, profuse bleeding or a history of previous difficult labors must be sent to hospital.)

Additional notes.....

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History of Labor

Delivered by.....

Date....., Duration.....hours, Presentation.....

Spontaneous, operative, complicated; easy, moderate, difficult.....

Operation....., Indication.....

Perineum not torn; torn, I, II, III: Repaired.....

Complications.....

History of Puerperium

Normal, abnormal. Highest temperature.....Got up.....th day

Discharged.....th day. General condition.....

Complications.....

.....

Birth certificate filed.....

History of Child

Term, premature, miscarriage. Normal, abnormal; Alive, dead, macerated.

Sex.....weight.....lbs.....ozs., Length...inches

Abnormalities.....

Feeding: Breast, bottle, bottle and breast. Eyes.....

If miscarriage, why?.....

If premature, why?.....

If stillborn, why?.....

Syphilis.....Wassermann.....

At the end of two weeks: Alive, Dead.....Weight.....lbs.....ozs.

General condition.....

If dead, give date and cause.....

Summary at End of Year

Child: Stillbirth, premature labor, miscarriage.....

Alive, weight.....lbs.....ozs. General condition.....

Died at.....months, from.....

Supervised by.....Feeding.....

Mother:

General and pelvic condition.....

Operations, if any.....

Condition compared with that before delivery.....

Main directions of prenatal care:

Syphilis. Toxæmia. Rest. Improved general condition. Dieting in contracted pelvis. Insistence on breast feeding. Hospital delivery. Postnatal care of baby. Hospital care for mother during year.

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Was prenatal care successful?.....

If not, why?.....

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Notes.....

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appointed. Until each institution can have a Registrar who will be responsible for all records, or, like Wesley Memorial Hospital, a Historian, the actual work done by the institution will not be shown on the records.

The first principle laid down by the New York Dispensary Report is that "there shall be someone charged with responsibility for seeing that records are completely and accurately kept." In several of Chicago's clinics, a nurse or the clinic executive is charged with that responsibility. Many, however, are poignantly in need of record supervision. "No matter how carefully the records are devised," the New York Report continues, "and no matter how earnest an effort is made to see that physicians keep records properly, the physician in a busy clinic must many times decide whether he will see few patients and make careful records of a few cases, or see a large number and give less consideration to the records. Where clinic physicians find it difficult to keep the records deemed necessary, the services of a clinic secretary or executive are highly desirable.

Under an ideal dispensary organization, all patients go through the social service department before they are distributed among the clinics. The identifying information and the social history of such patients as need it, are recorded in the social service department and forwarded to the clinic secretary to be presented to the physician, together with the patient." [a]

Method of Filing

Responsibility for record-making carries with it the corollary of record-filing. In this respect, also, there is great variety in the methods used. The repository for records may be a modern file, a box, or the dusty shelves of a vault or cupboard. They may or may not be sheathed in envelopes or folders. Some institutions file by number, some by date, some according to diagnosis. Chicago Lying-In Hospital has recently developed a remarkable cross file for Obstetric Conditions which will permit of quick selection, tabulation or scientific study of any complication or group of complications incidental to childbirth. A considerable number of institutions keep some form of cross index file. Some do not. In those clinics attached to hospitals, it is a common practice to send the pregnancy record into the hospital when the patient is delivered, where it may or may not become a part of the hospital history. From some hospitals it is returned to the clinic.

It is a striking fact in prenatal clinics, that social service records are seldom connected, even by reference, with the patients' medical records. "It is a mooted question," the New York Report states, "whether or not records of social service should be filed with the patient's medical history in the central file. The usual practice is to permit the social service workers to keep their own records separately from the medical history records, in view of the fact that the day's work does not concern only the patients of that day, but many others. But it is believed that the same principle should apply to social service records as to other records, and that these records should be subject to review in the same manner as the records of medical treatment. Records under current consideration could be furnished the social service department daily, and when a case is completed the record should come to rest in the central file,

(a) Section "Book and Record Keeping," pp. 9, 12.

with all other records of that particular case. If the records be typewritten, a special carbon copy file may be kept by the department." Certain it is, that correlation is much needed among dispensary, social service, and hospital records, within individual institutions, and a larger measure of that most desirable feature, accessibility.

For, to quote Mr. Dublin again, well kept records are "necessary (1) for the proper care of the case, (2) for its effective supervision, (3) for future research into the causes, prevention, treatment, description and social bearing of sickness.... There is no reason why there should be any cheapening of spiritual effort through either standardizing it or through making it more effective." The application of "scientific methods to public health work" is "to increase its value and to make it available to the large numbers of people who need it most."

12. FEES, FUNDS, AND COSTS OF PRENATAL CARE

Into the Costs of Prenatal Care, there might properly enter such considerations as the relation of the clinic to the private patient of the private physician alluded to in Section 4, the widely discussed pay clinic; or even the whole problem of state maternity benefits, in other words, whether the Cost of Prenatal Care should be met by the patient alone, by public provision or by private philanthropy. These points can only be touched upon in the following pages.

Costs

Little concrete material is available, as to the specific costs of this single service.

In Boston, when prenatal work began, it was found that the cost "was between $2.50 and $3.00 a patient." (a)

In New York City, Dr. Josephine Baker, Director Division of Child Hygiene of the City Department of Health, states that it has been "demonstrated that this supervision can be carried on at an approximate cost of $2.40 (per month) for each mother supervised, when the work is done entirely by nurses. If the assistance of physicians is required as part of the program of prenatal care, the total cost for each mother supervised is approximately $3.50 (per month)." (b) "Our cost figures for prenatal work," Dr. Baker further states, "are based upon the number of mothers that can be cared for by each nurse or seen by each doctor. The cost includes the salary of the doctor and nurse, the cost of whatever health center service is necessary, and the overhead for supervision and control. The figures, of course, refer only to New York City. It is possible that the work could be done for a much less amount. A good deal would depend upon the number of mothers cared for by each nurse and doctor."

The Illinois Health Insurance Commission found that in Chicago's dispensaries "the average cost per patient's visit" varied "from 11 cents in institutions

(a) "The Most Efficient Means of Preventing Infant Mortality," Mrs. W. L. Putnam, American Journal of Obstetrics, July, 1918, p. 105.

(b) Statement at the Hearing on S. 3259 before the Committee on Public Health and National Quarantine of the U. S. Senate, May 12, 1920, p. 48.

in which costs of heat, light, rent, etc., were not included, to 78 cents in the case of one Chicago dispensary with all such expenses included. It must be borne in mind, however, that practically all of the medical service in dispensaries is given free of charge by the attending physicians." [a]

The Infant Welfare Society of Chicago has found that prenatal work, introduced as an addition to an established infant welfare station, "costs less than a thousand dollars a year per clinic." [b] Its Milton Avenue Station alone, it may be remembered, cares for more than 300 women a year.

Actual cost of maintenance was in general impossible to obtain in the case of the prenatal clinics, as it was in the earlier dispensary study, because "frequently dispensary accounts are not separated from accounts of the affiliated institutions." [a] Nor is prenatal care, generally speaking, separated in the account books, from allied kinds of medical care.

As time goes on, from an efficiency standpoint, more explicit systems of hospital, dispensary and clinic accounting will be imperative. There are already in existence, for guidance, "rules of procedure" drafted by the Committee on Dispensary Account, of the Associated Out-Patient Clinics of the City of New York.[c]

Private Patients

Policy as to the private patient in the prenatal clinic, is one which can only be definitely worked out by joint conferences of private physicians and of all groups involved. Questions which arise in that connection could, in such conference, find common ground. It would be pointed out, for instance, that private physicians will not understand or enjoy having their patients supervised during the prenatal period by any one; they will be afraid, and justly so, that the service offering care during pregnancy, will offer care during delivery also and that their patients will be lost. Midwives will have the same general suspicions as the private physicians. The institutions offering care, in their turn, will strongly question the reason for rendering this service to the cases of either midwives or private physicians. Why should reputable obstetricians conducting clinics, countenance the practice of midwives? Why should they provide prenatal care for the cases of private physicians, for whom the latter are too careless to provide such care? As a matter of fact, although there is no sharply defined policy on this point, very few of Chicago's present prenatal clinics, as has been noted earlier, admit private patients. There is, on the other hand, no adequate method of proving that the patient is not already under private care. It is to be hoped that the value of prenatal supervision will, through institutional provision, be convincingly demonstrated, not only to the patient unable to pay for care, but to the private patient as well. The interest of larger numbers of private physicians will therefore be aroused. For, as Dr. Meigs pointed out, "if women demand better care, physicians will provide it, medical colleges will furnish better training in obstetrics, and communities will realize the vital importance of community measures to insure good care for all classes of women." [d]

(a) Illinois Health Insurance Commission Report, pp. 354, 355, 357.
(b) Annual Report, 1920–1921, p. 15.
(c) See Anuual Report 1914 and ff.
(d) "Maternal Mortality," 1917, U. S. Children's Bureau Publication 19, p. 8.

Fees

General

The Illinois Health Insurance Commission is specific upon the actual fees charged by institutions of the type under consideration. "Dispensaries vary considerably in the charge patients are asked to pay, either for service, drugs or appliances. Some institutions make no charge whatever, while others request patients to pay fees approximating the cost of private service. In practically all cases those who cannot pay admission or other fees are treated free. Most dispensaries act on the principle that small payments on the part of patients make for better co-operation between patient and institution.

"Admission fees: Some dispensaries have no admission fee; some charge 10 cents to cover cost of registration; some make a flat rate of 25 cents to cover both admission and prescription fee. The accounts of most dispensaries were found to be so kept that it is impossible to obtain the proportion of patients paying these fees." (a)

Dispensary regulations as to fees have made little change in the last two years since that report was written. One prenatal clinic, observed in this Study, stated that it sometimes charges an admission fee of 50 cents. In the majority visited, no admission or registration fee whatever is charged, though several stated that such is under consideration.

Special Fees

More often than not, there is a charge for medicines, or special tests such as urinalysis, blood pressure, or Wassermann. Occasionally the patient is advised of this requirement of payment, by means of a clinic sign, such as the following, posted on the drug window of one of the large medical school dispensaries: "A small charge is made for analysis of all kinds, also for special treatments, dressings, tampons, etc., partly to cover cost of medicines." Charges for urinalyses or blood pressures, when collected at all, are usually less than $1.00; for Wassermann tests, they are somewhat larger, a common charge being $1.00, but they range in amount to $2.75 or even to the so-called "regular" charge of $5.00. "If patients cannot pay, such tests are made free of charge in some dispensaries." (a) One clinic charges the irregular sum of 16 cents for a Wassermann, which is the postage rate to and from Springfield, Illinois, where the specimen is analyzed. No facts as to the charge for X-rays were gathered in this study. It is understood that the following paragraph from the above mentioned Health Commission Report covers this item: "The charges for X-ray service vary from one dollar up to the regular rate charged by X-ray laboratories. Some dispensaries charge simply the cost of service; one charges cost, plus 10 per cent, while in another patients are given a 25 per cent discount from the regular commercial price. Some dispensaries give X-ray service to patients who cannot pay." (a)

One point as to special fees, is of particular social interest. Some clinics, when the patient's co-operation as to the making of special tests is being won, unfortunately emphasize costs instead of treatment. Upon the basis of expense, with no clear understanding of their importance, she may decide against

(a) Report, 1919, Illinois Health Insurance Commission, pp. 348, 349, 356.

individual tests. Particularly is this true in the case of patients still holding superstitious beliefs regarding the "taking of blood," or a reluctance to know whether or not they are afflicted with the long unmentionable venereal disease. The effect of these omissions upon effective diagnosis is clear. The patient should not be placed in a position in which the special fee leads her to agree to or refuse these most indicative laboratory tests.

Delivery Fees

Being somewhat outside the field of prenatal care, no effort was made to collect extensive data as to charges for delivery. It did come to the attention of the observer, however, that for hospital or out-patient service at the time of childbirth, the clinic patient pays sums ranging from nothing, to $40.00. How much she is able to pay is determined by questions, at the time of application and by visits to her home. The nurse often fixes the amount. One large Dispensary and Out-Patient Department, requires a signed certificate to which the patient swears that "I am ill and in need of medical attention and hospital care, and further affirm that at the present time I am unable to pay ordinary physician's fees and hospital charges. In consideration of free medical treatment and hospital care, I do hereby covenant and agree with the———— to abide by all rules and regulations of that institution."

Uniform Fees

It is seen from the foregoing, that "no effort has been made to standardize charges." As in New York, "There is an evident need of an equalization policy in the manner of charges for treatment, as well as for medicine, dressings, etc., and an attempt along these lines should be made jointly by all the institutions.

"At least three considerations must be borne in mind when the problem of fixing dispensary charges is undertaken. First, all the institutions are in need of additional income for the purpose of improving the services; second, the majority of the wage-earners are able to pay part of the cost for skilled medical service, and third, there exists a class of patients, chronic invalids and the unemployed, who will be deprived of treatment altogether if the admission fee is demanded in every case." [a] A Dispensary Council could quite simply work out a policy upon the question of fees.

Dispensary Abuse

A discussion of fees rarely fails to introduce the much mooted question of "dispensary abuse," or "the use of medical service of dispensaries by those able to pay for treatment." Here again the Illinois Health Commission Report has adequate comments: "As dispensaries have increased in number and as their work has increased in volume, there has been the not infrequent criticism on the part of individual physicians and medical societies, that dispensaries bestow medical charity upon people who have no valid claim to it and who can well afford to pay for medical service. As long as dispensaries are primarily charitable institutions in which doctors receive no financial compensation for their

(a) "The Dispensary Situation in New York City, Summary and Recommendations," 1920. Report by Public Health Committee of the New York Academy of Medicine, p. 5.

services, they should be careful, as should other charitable agencies, to see that only those who need such free service, receive it. Dispensaries differ greatly from each other as to the care they exercise in limiting their service to bona fide members of the charity group. Some admit every applicant; others make financial investigations of practically all their patients and exclude all whose incomes are above a fixed standard; still others fall between these two extremes, taking what seem to them to be reasonable precautions to keep out the financially ineligible.

"Careful investigations have been made at different times in Boston, New York, St. Louis and other cities of a considerable number of dispensary patients, to ascertain their claim to free medical service. These investigations have shown that only a small percentage, from two to five, of dispensary patients are really able to pay for the medical service they seek to obtain free or at nominal cost.

"If pay clinics are established and with them a system of compensating dispensary physicians for their services, the question of dispensary abuse will tend to disappear."

It is highly improbable that even the small proportion of patients indicated above, exploit the services of the prenatal clinics. On the contrary, their potential patients for the most part do not know of their existence or value. Antenatal examination and care involve too much that is intimate and personal to make clinics sought unless needed. Until long past the time when the present number of prenatal clinics in Chicago are used to their capacity limit, there will be no real problem of their abuse by prospective mothers.

Pay Clinics

This subject, alluded to in the above paragraphs, is one Chicago is just beginning to recognize. It is now discussed in and out of medical magazines, focused by the recent opening, in New York City, of the so-called "Dollar Clinic," by Cornell University College of Medicine. That clinic aims "to co-operate, not to compete, with the general practitioner." [a] Its obstetrical department numbers at present, four attending physicians. For ordinary examination or treatment, patients pay $1.00; for health examinations, $2.50, and for special diagnoses $10.00.

That many of Chicago's prenatal centers have acquired certain features of the pay clinic, has appeared in the foregoing pages.

Public Provision

It is believed by many in the community, by physicians and laymen alike, that since many of the present difficulties in the way of all women obtaining sufficient care are economic, some form of a state maternity benefit may be necessary. This should be carried out, of course, through the medical profession in co-operation with the State.

Certain foreign countries, notably England, Australia, New Zealand, Italy, have for some time had public provision for assistance to mothers at the time of childbirth. The Ministry of Health for England and Wales, for instance, reports that (January 1, 1921) there are in those countries 1923 Infant Wel-

(a) "Cornell Opens Pay Clinic," The Nation's Health, Dec., 1921, pp. 679, 680.

fare and Maternity Centers, of which 209 are in London alone. [a] The Commonwealth of Massachusetts recently issued a report, through its "Special Commission to Investigate Maternity Benefits," in which were recommended State co-operation and supervision in maternity aid. [b]

Five separate bills, designed to bring about some state provision for the medical and nursing care of women during pregnancy and confinement, were introduced into the Illinois Legislature of 1921. All five failed of passage.[c] Since that time, the Federal "Maternity Bill" has passed Congress. It provides for the public protection of maternity and infancy, and a method of co-operation between the Government of the United States and the several States. What it may mean for Illinois and for Chicago in the stimulation of more adequate care of mothers and infants, now that it has become a law, is open for experiment and trial.

The Chicago Department of Health, through its division of Child Hygiene of the Bureau of Medical Inspection, maintains at present, four infant welfare stations, three on the South, one on the West Side. So far, there has not been developed in them, any regular prenatal work.[d] They represent a logical organization for a large program of prenatal work. They have for precedent, the far-sighted and effective prenatal work of the Bureau of Child Hygiene of New York City's Department of Health.

Private Philanthropy

The foregoing pages have shown that clinic patients contribute toward the costs of their care, and that such contribution may increase in the future. It is self-evident that additional provision must be made for the poor and less well-to-do, as well as for those who do not yet recognize the benefits of prenatal care. Public provision is halting and slow. It is rarely available for leadership in public health measures. The spectacle of Chicago's unnecessary deaths of mothers and babies at childbirth presents a most appealing opening for private philanthropy. Upon a basis of individual mothers and infants, the cost of prenatal care per patient, is not great. Stated as general needs, this preventive measure may take the form of improved quarters, larger equipment, and more doctors, nurses and social workers. Or it may be even more fundamentally represented by the endowment of chairs of obstetrics, by other provision for better medical schools, and for post graduate training of doctors in obstetrics; as well as the endowment of maternity hospitals with free beds and modern teaching facilities. The returns upon an investment in prenatal care are great in proportion to the amount expended. For they are measured in terms of protection of mothers and infants at their point of greatest hazard, in terms of the conservation of life itself.

(a) See "Mother and Child," June, 1921, p. 283.

(b) Report, December, 1920, p. 29.

(c) Final Legislative Digest No. 19. Fifty-second General Assembly, State of Illinois, pp. 11, 40, 62, 107, 111.

(d) Facts furnished by the Chief of the Bureau of Medical Inspection, Chicago Dept. of Health.

PART III
CONCLUSIONS AND RECOMMENDATIONS

1. SUMMARY AND CONCLUSIONS

The conclusions hereafter drawn, are aimed to bring out the opportunity for an improved and expanded program for prenatal care in Chicago. They seek not to offer praises of the excellent care afforded by a number of the agencies and institutions described. They seek rather to open the way to a larger participation in that care, by the community as a whole.

Part I. Importance of the Problem

1. Deaths of mothers in Chicago, from diseases caused by pregnancy and confinement, are apparently within the five most prevalent causes of death among women of childbearing age. (Sec. 1.)
2. New York City has forced its rate for such deaths far below that for Chicago. (Sec. 1.)
3. There is undoubtedly in Chicago, as in the country in general, a death rate for colored mothers, far higher than that for white mothers. (Sec. 1.)
4. In Chicago in 1919 (the last year for which printed figures are available), more babies under one year of age lost their lives because of "congenital debility and malformations" than from any other disease or group of diseases except diarrhea and enteritis. (Sec. 2.)
5. The number of babies who die from "congenital debility and malformations" is approximately one fourth of the entire number of those who die under one and under two years of age. (Sec. 2.)
6. No evidence can be gathered to show that there has been any considerable decrease in maternal mortality in Chicago, during the last eight years. (Sec. 3.)
7. Leading obstetricians believe that diseases and deaths caused by pregnancy and confinement are largely preventable. (Sec. 4.)
8. Analyzed experiments in Boston, St. Louis, Minneapolis, Detroit, Brooklyn, New York City, and Chicago apparently show, within small groups of patients, that prenatal care is a preventive measure and brings a resulting decrease in maternal and infant mortality. (Sec. 6.)

Part II. Chicago's Prenatal Stations

1. Prenatal stations are not located with a view to reaching as many parts of the city as possible. (Sec. 1.)
2. Where, in the city at present, maternal and infant death rates are highest, prenatal stations are fewest. (Sec. 1.)
3. There is no general agreement among the prenatal stations maintained by different agencies in Chicago, as to districts of service. (Sec. 1.)
4. Fourteen out of twenty-eight active stations, exactly half, make no use of the confidential Clearing House at their disposal, and not all those

dealing with Jewish cases, use the Registration Division of the Research Bureau of the Jewish Charities. (Sec. 1.)

5. There is therefore possible, great duplication in the handling of individual cases. (Sec. 1.)

6. Chicago's prenatal clinics are a comparatively new adventure in her field of preventive medicine. (Sec. 3.)

7. Complete use of their present material equipment, exclusive of personnel, involves a far more intensive weekly schedule than is at present maintained in the city. In other words, except for the need of more staff members, the majority of these stations run far below capacity limit. (Sec. 4.)

8. Not more than 6,000, or little more than 10% of the women delivered each year in Chicago, receive prenatal care by clinics or similar organization. It is safe to assume that a large proportion of the remaining numbers, have no prenatal care. (Sec. 4.)

9. Chicago has no publicly conducted prenatal stations. All are so-called "private institutions" which have been developed by five types of organizations. (Sec. 5.)

10. Several prenatal centers still make the fundamental mistake of attempting to maintain prenatal care, with no regular delivery affiliation. (Sec. 6.)

11. Nine, or almost one-third of the active prenatal centers, have no social service departments. (Sec. 7.)

12. There is great variation in the adequacy of the clinics' equipment. In a number, it is not sufficient for standard work. (Sec. 8.)

13. Very few of the prenatal centers make any attempt to utilize patients' waiting time. (Sec. 8.)

14. Except for the frequent lack of privacy, and the occasional presence of too large a number of medical students, patients are, to all appearances, treated with great courtesy and kindness. (Sections 8 and 9.)

15. In a considerable number of the centers, ordinary sanitary and antiseptic precautions are not observed. (Sec. 9.)

16. There are, in prenatal clinic practice in Chicago, comparatively low averages of patients' clinic visits, and comparatively brief periods of months during which patients are under prenatal supervision. (Sec. 10.)

17. A large number of these institutions have not yet adopted a system of procedures which follow the standard routine of urinalyses, blood pressures, Wassermann tests, pelvic measurements and physical examinations. (Sec. 10.)

18. Types of individual case records used in prenatal stations vary from a small card, with no printed headings, to a carefully devised folding history. (Sec. 11.)

19. Correlation is much needed in certain prenatal institutions, among dispensary, social service and hospital records. (Sec. 11.)

20. A larger measure of accessibility of records is highly desirable, particularly in the instance of those institutions which still file cases in packages in vault or closet. (Sec. 11.)

21. To estimate the exact costs of prenatal care, more explicit systems of hospital and clinic accounting are required. As far as can be ascertained, the cost per patient is small. (Sec. 12.)

22. There is no agreement among the physicians, agencies, and other

groups involved, as to the policy of admitting private pay patients to clinic prenatal care. (Sec. 12.)

23. There is need for an equalization policy among prenatal centers, in the matter of charges to patients. (Sec. 12.)

24. Provisions for Prenatal Care present an attractive opening for private philanthropy.

2. RECOMMENDATIONS AND STANDARDS

In view of Chicago's losses of mothers and infants, by death and disease, from causes connected with childbirth, and in view of the saving results of prenatal care, it is recommended:

I. That prenatal care be extended to all prospective mothers whom at present it does not reach, by:

1. Education of the public to the perils of childbirth, and their easy avoidance through proper foresight and care; such methods as proved effective in the campaign against tuberculosis being used: magazines, the press, pulpit, paid public lectures, propaganda by Health Officials, personal contacts of home visitors, etc.;
2. A direct educational campaign among the physicians, through a series of papers on prenatal care and obstetric subjects, in medical circles;
3. Persuasion of the Hospitals to insist upon adequate prenatal care of all patients enrolling on their books for future confinement;
4. The endowment of chairs of obstetrics and of free maternity beds;
5. The establishment of many more prenatal centers, through existing as well as new channels, paying particular regard to such neglected groups as colored patients;
6. The adequate material equipment of all such centers;
7. The maintenance of staffs, medical, nursing, social service, and clerical, sufficient in size to adminster them.

II. That the prenatal care afforded by Chicago's agencies and institutions be co-ordinated and standardized through a permanent prenatal or maternity council, to consist of obstetricians, pediatricians, social service workers, nurses and other public-spirited citizens,—a council which shall give consideration to the following phases of the program:

1. A comprehensive "Chicago Plan" for the location of prenatal centers;
2. The prevention of duplication and overlapping of effort, through such systems as complete registration with the two social service clearing houses, and by trial agreements as to districts or types of cases;
3. The maintenance of continuity of individual maternity care, through its antenatal, delivery, and postnatal stages, by a closer co-operation among all physicians, hospitals, clinics and other institutions involved.
4. The acceptance of every sanitary and antiseptic precaution known to science, and the adoption of standardized medical routine in all prenatal work;

5. The establishment of improved systems of record forms and record keeping;
6. The fixing of a definite policy as to fees;
7. The determination of the clinic's relation to private patients.

Standards

A minimum standard for prenatal work has been drafted by a local committee representing physicians and nurses, and is here presented for discussion and possible adoption by all persons or groups concerned in this field:—

(1) As soon as pregnancy is suspected, every woman should place herself under competent care.
(2) Monthly visits should be made at the clinic up to the seventh month, then every two weeks.
(3) Bi-monthly visits should be made by the Trained Nurse or Social Worker, at which time the social conditions and the hygienic aspects of the patient are studied.
(4) At the Clinics, the Examination should comprise:—
  (a) General Physical.
  (b) Local.
  (c) History of Previous Diseases, Operations, etc.
  (d) History of Previous Labors, etc.
  (e) Blood Pressure.
  (f) Urinalysis for Sugar and Albumin, complete if suspicious.
  (g) Pelvic Measurements, as complete as possible.
  (h) Wassermann, if possible.
(5) After delivery, the child and mother should report for postnatal supervision.

It is to be hoped that all private physicians will recognize the benefits resulting from this careful work, and will in time adopt similar standards. They may be regarded as a guide to the time when, in the words of Sir George Newman of the British Ministry of Health, civilization shall mean "that no child-bearing woman is without adequate and skilled assistance, and no infant without a birthright of health." [a]

(a) Annual Report of the Chief Medical Officer, 1919–1920.