The Evolution of Prenatal Care in the United States: The Formative Years

Cristina M. Thomsen

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THE EVOLUTION OF PRENATAL CARE IN THE UNITED STATES
THE FORMATIVE YEARS
by Cristina M. Thomsen

In the early decades of the twentieth century prenatal care became an accepted part of routine obstetrical care. This thesis is a description of the evolution of the prenatal care idea in the United States during these years. Two approaches are used in this description. An internal approach to prenatal care notes the maturation of procedure and technique. An external approach notes the inpatient and outpatient suggestions for providing prenatal care, the suggestions for educating the public to value and expect prenatal care and the medical profession to provide such care, and the varied promoters of such care, with their equally varied reasons for promoting prenatal care.

By 1930 several hundred clinics and hospitals around the country provided prenatal care for pregnant women. Physicians were exposed to prenatal care by journal articles that explained the basics of such care. Some medical students were given lectures on prenatal care, followed by a short rotation in a maternity clinic. Nurses, social
workers and midwives received some training in minimal prenatal care. Some women's groups felt that the government should provide protection of maternity and infancy, and pressured legislatures to pass funding measures for such protection. Organized medicine provided little active support for prenatal care, except through an Association organized by the American Academy of Medicine. The procedures to be included in prenatal care had become well-defined by 1930.

Initially the lowering of maternal and infant mortality rates was the raison d'être of prenatal care. Scattered studies on the effects of prenatal care on mortality rates did indicate a decrease in perinatal and maternal mortality rates with exposure to prenatal supervision. Though these studies became more statistically sophisticated as the twentieth century progressed, the early studies were too unsophisticated to indicate that similar results might occur in the entire population, under like circumstances.

Within the first quarter of the twentieth century prenatal care evolved from a suggestion to a multipurpose reality. The expansion of prenatal care's utility during its evolution gave it the necessary legitimacy to become an accepted part of obstetrics.
LOMA LINDA UNIVERSITY
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THE EVOLUTION OF PRENATAL CARE IN THE UNITED STATES
THE FORMATIVE YEARS
by
Cristina M. Thomsen

A Thesis in Partial Fulfillment
of the Requirements for the Degree Master of Arts
in History

June 1981
Each person whose signature appears below certifies that this thesis in his opinion is adequate, in scope and quality, as a thesis for the degree Master of Arts.

Walter C. Mackett, Chairman
Walter C. Mackett, Professor of History

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Lawrence D. Longo, Professor of Physiology and of Obstetrics and Gynecology
PREFACE

In another form and under the joint authorship of Lawrence D. Longo, M.D. (Division of Perinatal Biology, Departments of Physiology and of Obstetrics and Gynecology, School of Medicine, Loma Linda University), and Cristina M. Thomsen (Department of History, College of Arts and Sciences) much of the material in this thesis was presented by Dr. Lawrence Longo to participants in the Symposium on Childbirth: The Beginning of Motherhood at the University of Wisconsin-Madison on April 10, 1981. The project was supported in part by funds from USPHS Grant HD 03807 from the National Institute of Child Health and Human Development.

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TABLE OF CONTENTS

PREFACE .................................................. iii

Chapter

I. INTRODUCTION AND HISTORY .......................... 1

II. THE EXTERNAL APPROACH: INPATIENT AND OUTPATIENT CARE ............................................. 9

  Hospital Based Prenatal Care
  Clinic Based Prenatal Care

III. THE EXTERNAL APPROACH: EDUCATIONAL ENDEAVORS .......................................................... 27

  Education of the Professionals
  Education of the Public

IV. THE EXTERNAL APPROACH: THE PROMOTERS .......... 42

  The Government
  Organized Medicine
  Women's Groups

V. THE INTERNAL APPROACH ................................ 52

  Journal Recommendations
  Textbook Recommendations

VI. THE RESULTS OF PRENATAL CARE ....................... 61

  The Availability of Prenatal Care
  Perinatal Mortality
  Maternal Mortality

VII. SUMMARY AND CONCLUSIONS .......................... 81

SELECTED BIBLIOGRAPHY .................................... 84
CHAPTER I
INTRODUCTION AND HISTORY

In giving advice to a mother regarding the treatment of one of her children, Oliver Wendell Holmes is credited with saying: "Madame, the treatment for this child should have been commenced two hundred years ago." 1

Prior to the beginning of the twentieth century, obstetrical practitioners paid scant attention to the antenatal needs of the pregnant woman and her unborn child. Although a body of knowledge had been collected, based in part on traditionally beneficial remedies, and in part on laboratory experiments, no organized care for women soon to give birth existed. During the first part of the twentieth century social concern developed for the astonishingly high rates of infant and maternal mortality. Professional concern grew for raising the level of competence of obstetricians beyond that of an accoucheur. In addition, the idea gradually gained acceptance that pregnancy was some sort of disease, rather than a natural function during which women could take care of themselves. This intersection of

ideas and goals resulted in the evolution of organized care during the prenatal period. During this time medical practitioners joined public health workers and women's groups to promote prenatal care programs in urban and rural areas.

Prenatal care arose from a milieu of public health reform which included the infant welfare movement, milk and meat sanitation, worker protection, and numerous other areas of health and welfare. These were of intense interest to the country at large, and became subject to legislation. This new aspect of preventive medicine was endorsed by obstetricians, pediatricians, and other physicians, public health workers and social workers. A spate of papers on the topic appeared in professional journals. Preachers, educators and eugenicists included the topic in their presentations. A shrewd use of the press to spread word of the benefits of prenatal care was advocated. With such a variety of supporters, and no supervisory body to define what constituted appropriate care, a variety of theories of minimum care was bound to exist. Some workers applied prenatal care chiefly to the fetus in order to ensure safe delivery with a consequent lowering of infant mortality. Other individuals applied the term prenatal (or antenatal) care chiefly to the mother, with particular concern for avoiding the hypertensive disorders of pregnancy, bleeding, and infection. Promoters of prenatal care referred to it as
one of the most important advances in obstetrics and the most significant contribution to the field by Americans.

This thesis will explore the following as a way of tracing the evolution of the prenatal care idea in the United States: the historical antecedents of organized prenatal care; the inpatient and outpatient methods of providing that care; the education of lay and professional men and women to the need for prenatal care; the participation of the government, organized medicine, and women's groups in providing and promoting prenatal care; the changes in the basic care provided; and, the results of prenatal care as expressed in mortality rates.

The anecdotal history of prenatal care reaches back to Greece when Lycurgus, a Spartan statesman,

... made the maidens exercise their bodies in running, wrestling, casting the discus, and hurling the javelin, in order that the fruit of their wombs might have vigorous root in vigorous bodies and come to better maturity, and that they themselves might come with vigor to the fullness of their times, and struggle successfully and easily with the pangs of childbirth.2

Lycurgus' interest was pragmatic rather than altruistic. Healthy women produced healthy children, which built up Sparta's population and defenses.

The next example of prenatal care offered by early

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twentieth century authors was that provided by the Hotel Dieu, a Paris infirmary begun in medieval times. From the thirteenth century on pregnant women who were sick were allowed space in the maternity ward of the Hotel Dieu, located in the building's basement. Women were placed four per bed, with no separation made between patients who were pregnant and delivered, or between patients who were sick and well.\(^3\)

In a 1936 address Fred J. Taussig reported the contributions of several physicians to the prenatal care idea. In 1584 a French physician, Scevol de Saint-Marthe, wrote a poem, entitled "Paedotrophia" (the nurture of children), which included some advice on prenatal care. Taussig quoted these lines:

Don't till 'tis born defer thy Pious care
Begin betime and for its birth prepare.

Refresh thy weary limbs with sweet repose
And when fatigued thy heavy eyelids close.
Be careful how your meats you choose
And chosen well, with moderation use.

A century later Mauriceau, another French physician, published a book, entitled *Maladies des Femmes Grosses*, that included a chapter on the "hygiene of pregnancy." As quoted

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\(^3\)John Whitridge Williams, "The Functions of a Woman's Clinic," *Science* 64 (1926): 582-83.

in Taussig the chapter begins: "The pregnant woman is like a ship upon a stormy sea full of white-caps, and the good pilot who is in charge must guide her with prudence if he is to avoid shipwreck." The chapter continues

Fresh air, avoidance of extreme heat or cold, and freedom from smoke and foul odors are essential to her health. She should eat well-cooked wholesome food in small amounts at intervals rather than at one large meal. Forbidden are highly spiced pastries, for they create gas. Fresh fish caught in streams are better than lake fish. And with this food a bit of good old wine, tempered with water, rather red wine than white wine, aids digestion. Beware of cold drinks, for did not the Empress of Austria in July, 1677, take strawberries and ice, and abort at the fourth month of her pregnancy?5

Taussig summarized Mauriceau's further instructions for pregnant women. Mauriceau provided a recipe that he said would clear constipation. He suggested that women wear "low-heeled shoes" to avoid tripping, and that women avoid stooping as either action might cause a malposition of the fetus with a subsequent difficult delivery. Women were to avoid the wearing of corsets for they would cause the abdomen to distend. "When the mother finds her abdominal walls wrinkled and pendulous like a bag," he writes, "the poor midwife is accused of not having used the proper ointment, when the real cause lay in the prolonged wearing of the corset."6

5Ibid., pp. 732-733.
6Ibid., p. 733.
In the mid-eighteenth century two German physicians developed the idea of women's clinics, associated with universities, which provided training for midwives and student physicians, and obstetrical care for women. Such clinics proliferated following the Franco-Prussian War in 1870.  

Taussig claimed that the first prenatal clinic in the world developed by accident at the Dublin Maternity Hospital in 1858. Because of overcrowding at the Hospital, pregnant women who wished to be delivered there were required to register with the Hospital several weeks or months prior to the expected delivery date. Part of the registration process included the taking of a short history and the giving of a cursory physical to the women. Untoward symptoms were noted and treated by repeated visits with the dispensary physicians or by admission to the hospital. Two hospital physicians, E. B. Sinclair and C. Johnston, reported that the incidence of eclampsia in women who had received a bit of prenatal care at the time of registration was much less frequent than in those who had not registered, and had not received any prenatal supervision.  

In 1876 Pierre Budin (1846-1907) organized the Société de l'Allaitement Maternal and the Société  

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7Williams, "The Functions of a Woman's Clinic," pp. 582-83.
8Taussig, "Prenatal Care," p. 736.
Protectrice de l'Enfance to provide the women of Paris with instruction and supervision during pregnancy, and postnatal observation of infants in an effort to decrease mortality rates.  

With the January 1, 1866, opening of the Preston Retreat in Philadelphia antenatal care became available in America. Dedicated to serving "the pregnant, deserving poor," this lying-in hospital, under the direction of Dr. William Goodell, encouraged women to admit themselves sixteen days before delivery. Following a bath and the issuance of clean clothing, the women were required to rest (especially if they were in poor health), eat well, and take two baths per week. 

Dr. Anna E. Broomall's clinic in Philadelphia also provided prenatal care for maternity patients. An alumnus recalled that Broomall, a Professor of Obstetrics at the Woman's Medical College of Pennsylvania, established in 1888

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... and for years maintained at her own expense a dispensary in the lower part of the city of Philadelphia, where students could go and personally care for a definite number of obstetrical cases in their homes. For some years previous to this an obstetrical clinic was held at the Woman's Hospital, where Dr. Broomall taught the importance of frequent observation of the expectant mother, frequent urinalysis with special attention to excretion of urea along with other ante-partum examinations and care.11

A history of pre-twentieth century prenatal care is necessarily sketchy because there was no widespread recognition of its value, or even its existence. This anecdotal history provides a brief introduction to the idea of prenatal care which evolved during the early twentieth century. The abundance of material produced during the idea's formative years makes possible a description of the evolution of the prenatal care idea.

11 Lida Stewart-Cogill, "The Importance of Prenatal Care as Demonstrated at the Woman's Medical College, Its Hospital, the Woman's Hospital of Philadelphia and the West Philadelphia Hospital for Women," Transactions of the American Association for Study and Prevention of Infant Mortality 9 (1919):139-40.
CHAPTER II

THE EXTERNAL APPROACH: INPATIENT AND OUTPATIENT CARE

A descriptive study of the evolution of the idea of prenatal care requires both an external and an internal approach. An internal approach to prenatal care notes the maturation of procedure and technique in the care which was given. What was advocated, when, and by whom, are the major concerns. It is limited, essentially, to the physicians' recommendations. Because nurses, laymen, philanthropists and legislators affected the evolution of the idea in a profound way, a truly descriptive study should include an external approach also. Of concern to the promoters of prenatal care was the discovery of a way to make that care available to the women who needed it. Then, some way of informing the public of the value of prenatal care, and the medical profession of their need to give that care, had to be developed. Various members of the public and private sectors contributed their time and money in unique ways to the evolution of the concept of prenatal care.

Hospital Based Prenatal Care

As interest in child welfare and infant mortality developed at the turn of the century, two ideas helped shift
some of the emphasis from care of the children to care of their mothers. The first concept grew out of the appreciation that to a great extent diseases of the newborn infant had their origin during fetal development. The second--an outgrowth of the first--was that the fetus could be treated only by correcting any underlying pathology in the pregnant mother, and this necessitated her hospitalization during the last weeks or months of gestation.

Credit for these ideas and for their popularization must be given to John William Ballantyne (1861-1923), a Scottish obstetrician. Upon graduating from the University of Edinburgh in 1883 he was awarded the Buchan Scholarship in midwifery and gynecology, which gave him the privilege to act as house surgeon in the University Ward for the Diseases of Women. He then studied pathology at Berlin, Munich, and Göttingen, receiving a Doctor of Medicine degree, and a gold medal for his thesis, "Some Anatomical and Pathological Conditions of the Newborn Infant in Their Relation to Obstetrics." This research determined the course of his lifework.

Upon his appointment as assistant physician to the Edinburgh Royal Maternity Hospital in 1900 he devoted his energies to studying antenatal pathology and to advocating prenatal care. During the years 1894 and 1895 he edited, and contributed many papers to, Teratology: A Quarterly
Journal of Antenate Pathology. Over the next three decades he published ten books and over four hundred scientific papers, many devoted to antenatal therapeutics.¹

He was influenced by the "Sanitoria de Grossesse" of Paris. The first of these was the "Refuge de l'Avenue du Maine," founded in 1892 to accommodate working women who needed rest during the last month of pregnancy. In addition, he was influenced by the work of Paul Bar of Paris that suggested a "harmonious symbiosis" existed between mother and fetus. Ballantyne recognized that on one hand the relation of mother and unborn child is similar to that of "a hostess and paying guest," while on the other hand pregnancy is the "... marathon race of the mother's reproductive life; it is physiology working under high pressure of all kinds."²

In 1901 he published his "A Plea for a Pro-Maternity Hospital." This ballon d'essai, as he termed it, suggested that a facility be provided in connection with a maternity hospital which would be reserved for the supervision and treatment of pregnant women suffering complications of pregnancy or who had had such complications in a previous pregnancy. Ballantyne hoped that "antenatal therapeutics"


²Ibid., pp. 51-52, 61.
would optimize fetal development by applying the methods available in such a hospital, "... on a large scale and in a systematized fashion." He viewed the pro-maternity hospital as a locus for the conduct of clinical investigation with "the adoption of a more scientific method of management" and "the continuance of the pregnancy with safety to the mother," should the life of either mother or fetus be in danger. He saw an "economic value" attached to such a hospital, for working women would be able to admit themselves to the hospital for one to two months of rest prior to delivery and thus produce larger and healthier offspring.3

Though hospitals existed which served as shelters for women who were illegitimately pregnant, providing them with a minimum of prenatal care, Ballantyne insisted that his suggested institution was novel, for it would treat the medical needs of pregnant women irrespective of their social status. Ballantyne claimed that he developed the idea of a pro-maternity hospital in response to

... communications which I have received from medical men in various parts of this country and the United States. In these communications the particulars of cases of antenatal disease and deformity were stated and an opinion asked for with regard to possible plans of treatment. In some I was able to give advice, in others I had to confess

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that I had little or nothing to propose, but in all I could not help wishing that I knew of a hospital where the case could be placed and scientifically investigated.  

He predicted the idea might be regarded as visionary but published anyway in the hope that, "... in the infancy of the twentieth century it is permissible to suggest schemes which in the old age of the nineteenth might have been characterized as vain or stigmatized as chimerical." This article so impressed one reader that he donated £1,000 to the Edinburgh Royal Maternity Hospital to endow one bed—the Hamilton bed, named in honor of the founder of the hospital—which was first occupied in November of 1901.  

In 1901 Ballantyne published an allegorical vision of the perfect "pro-maternity hospital." This hospital, situated in the town of Weissnichstadt somewhere on neutral ground between France and Germany, was built by the munificence of an American millionaire and staffed by an international group which included Drs. Geburtsmal, Mondkalb, Loeufmalade, Embryonowsky, Patholog, Feto, and Teratos. Over the large iron gateway was the inscription,

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4Ibid.

"Teach us what we shall do unto the child that shall be born," in English, German, French, and Hebrew. The newest equipment and procedures were used in research, the care of patients, and the training of student physicians. In "La Salle des Innocents" mothers with syphilis underwent treatment. Another ward was devoted to the prevention of spontaneous abortion and premature labor. In the ward named "Heredity" a woman six months pregnant, and her infant hemophiliac son, were undergoing treatment. In the Röntgen Room the art of antenatal diagnosis was being perfected. As Ballantyne departed from this dream institution, Dr. Geburtsmal's parting words were, "In this twentieth century . . . we prevent everything, war, disease, hurricanes--everything except the doing of good to others." 6

Later the same year, in a lecture on "Maternities and Pre-Maternities," Ballantyne noted that his concept remained the same, but because of confusion in terminology he changed the name to pre-maternity, a hospital with "two patients in one bed." He recognized that because of space constraints only one ward might be available initially for pre-maternity cases, but ultimately a separate pavilion

would be more desirable to minimize the possible spread of infection.  

In 1902 the first volume appeared of Ballantyne's *Manual of Antenatal Pathology and Hygiene, The Foetus*, followed two years later by the second volume on *The Embryo*. Ballantyne wrote in the first volume:

> I am fully convinced that the only way to establish, on a sure foundation, the preventive treatment of the diseases of pregnancy and of the unborn infant, is by the institution of pre-maternity hospitals or pre-maternity wards in maternity hospitals.

A reviewer in the *Boston Medical and Surgical Journal* noted in 1903 that the "... pre-maternity hospital ... is fast coming into favor and is undoubtedly bound to have a place in connection with lying-in hospitals in the near future." 

In recognition of the financial and time constraints on the building of a separate pre-maternity pavillion, Ballantyne recommended in 1907 that perhaps "one or two wards, or one or two beds" be set aside for prematernity patients within the maternity hospital. As of 1910, four pre-maternity beds were under Ballantyne's supervision.

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10Ballantyne, "Valedictory Address," p. 65; John
In 1908 Ballantyne reported on some of the patients treated in the Hamilton bed at the Edinburgh Royal Maternity Hospital, including hydramnios with vomiting, hyperemesis gravidarum, epilepsy in pregnancy, three cases of eclampsia, a case of severe albuminuria, and about forty other cases. He emphasized the need to treat these conditions prenatally, noting that scarlet fever, typhoid fever, and other infectious diseases should be treated in a fever hospital, while cases of mania or melancholia during pregnancy should properly receive care in an asylum. Ballantyne concluded by detailing the aspects of the ideal pre-maternity ward or hospital. In particular he urged:

There should be a resident physician whose business it would be to take charge of the pre-maternity hospital. . . . It would be of immense advantage if young graduates, such as Carnegie Fellows or Scholars, would take up the investigation of problems of metabolism, of excretion, of circulation, etc., in pregnancy.11

By 1919 the single Hamilton bed had grown into a twenty-three bed ward for antenatal care.12

An American professor, John Whitridge Williams (1866-1931) of the John Hopkins Medical School, presented


his vision of what was required to provide prenatal care at the 1913 meeting of the American Association for Study and Prevention of Infant Mortality. He stated that the need was

... not mere lying-in hospitals, but institutions based upon much broader lines, which may be designated as woman's clinics. In the former, care is provided for the woman in childbirth and for her newly-born child, ... obstetrics has suffered greatly from the so-called maternity hospital, with its narrow ideals and its restricted opportunities.13

Williams proposed that "university woman's clinics" be established, in affiliation with universities and directed by a clinician competent in both obstetrics and gynecology. Facilities would include one hundred beds and "... provision for social service work, prenatal and post-operative care."14

The clinics' goals were to be three: exceptional care of the patient for all the problems of womanhood, the training of student physicians and specialists, and productive research. Williams stressed the latter goal, noting that such a facility would differ from a lying-in hospital:

... first by affording opportunity for the connected study of the physiology and pathology of the entire reproductive process in women, ... and


14 Ibid., p. 357.
secondly, by training young physicians to realize that progress can be attained only by discovering the fundamental laws which underlie the entire process.  

This emphasis on the role of research in prenatal care was unique for its time. He even suggested lines of inquiry, noting, "... we know as little as did Adam and Eve's first children as to why labor comes on at a definite time after conception ... ." Williams viewed the prenatal dispensary in connection with each hospital's obstetric department as, "the portal of entry for all prospective patients"; however, his ideal centered on the university, the training of academicians and productive research.  

In Boston, at about the same time, Arthur Brewster Emmons, II, an obstetrician, was deeply concerned about the needless loss of at least half of the infants who died, and the inadequate obstetrical care received by the women of Boston. Not only were the dispensaries too few to reach the majority of eligible women, but a stigma of charity lingered about them which discouraged middle class women from attending. Emmons set forth his ideal for obstetrical care for Boston:  

\[\text{15 Ibid.}\]  

\[\text{16 Ibid., p. 358; John Whitridge Williams, "The Limitations and Possibilities of Prenatal Care Based on the Study of 705 Fetal Deaths Occurring in 10,000 Consecutive Admissions to the Obstetrical Department of the Johns Hopkins Hospital," Journal of the American Medical Association 64 (January 9, 1915):100.}\]
I dreamed that an Oliver Wendell Holmes Hospital, offering all the modern methods of safety to the women of the world, had been established as a fitting monument to commemorate Boston's greatest benefactor of women.\footnote{Arthur B. Emmons, "The Resources for Giving Prenatal Care," American Journal of Obstetrics and Diseases of Women and Children 71 (March 1915):395-96.}

He suggested that the hospital should be supported by public subscription, and would be affiliated with the basic science laboratories at Harvard University to promote medical research, and thus give to Boston women, "the safest and most efficient prenatal and obstetric service."\footnote{Ibid.}

**Clinic Based Prenatal Care**

The same years during which antenatal care developed within a hospital setting saw the establishment of out-patient or clinic based antepartum care. In Boston in 1901, nurses with the Instructive District Nursing Association began to visit pregnant women registered in the outpatient department of the Boston Lying-In Hospital. This care slowly spread, and by 1906 all women who had registered were visited at least once before their confinement. In 1909 Mrs. William Lowell Putnam of the Infant Social Service Department of Boston's Women's Municipal League,

\ldots began the experiment of intensive prenatal care of the patients registered at the Boston Lying-In Hospital \cite{Emmons1915} \ldots. These patients were
visited by the nurse every ten days and were questioned not only as to the proper care of their bodies, but were reassured and encouraged as well. This work was so successful and the need for this work so clearly demonstrated that in May, 1911, the pregnancy clinic of the Boston Lying-in Hospital was opened for patients.19

Dr. James Lincoln Huntington, of the pregnancy clinic, explained "... all who apply for confinement in the hospital are referred to the pregnancy clinic for examination and treatment unless within four weeks of term." Even patients who planned to deliver at home, "... remain under the care of this department until they start in labor, unless some serious complication arises which makes treatment in the hospital desirable." Thus, there was, ... some supervision of the hygiene of pregnancy of all the 2,000 patients now delivered annually in the out-patient department of the Lying-in Hospital and of nearly all the 900 patients that apply to the hospital for confinement within the institution.20

Women were urged to register for care "as early in their pregnancy as is possible"; however, few applied before the fifth month, and most during the sixth or seventh months. Evaluation included a thorough history, "both social and clinical, careful stress being laid on the previous obstetrical history." Physical examination included


20Ibid.
measurement of blood pressure, the patient's abdomen, and pelvis, with estimation of the expected date of confinement. The urine was examined for albumin, and the patient instructed with regard to symptoms or signs which indicated the onset of toxemia or eclampsia. 21

Of the first one thousand patients registered, 230 were delivered in the Lying-in Hospital, and 609 were delivered in their homes by the hospital staff. Three of the mothers died, one of pulmonary embolism, one of postpartum hemorrhage, and one of eclampsia. Although the total perinatal mortality was not recorded, there were thirty stillbirths. 22

Huntington attempted to estimate the cost of such services:

... the total cost of such an institution caring for 2,000 cases annually would be $2,321.55 for the first year and $2,221.55 for subsequent years, as the wear and tear of office fittings is slight. Thus with each patient paying $1.16 the thing could be accomplished. ... the hygiene of pregnancy could be supervised intelligently in any community offering over 500 pregnancies for observation annually. 23

The Boston experiment proved so satisfactory that Mrs. Putnam's group hoped to persuade other societies to begin a similar work. She assured those interested:

21 Ibid., pp. 763-64.
22 Ibid., p. 764.
23 Ibid., p. 765.
... the Committee has a nurse, a woman of large experience, whose salary they pay, whom they are ready to send anywhere to help any organization to establish this work, and they will be very glad if anyone will let them know if they can help in this or in any other way to bring about prenatal care for our future citizens.24

Nine years later, in an attempt to credit Mrs. Putnam with providing a major impetus to the American prenatal care movement, John Whitridge Williams recalled:

... the propaganda for the development and extension of prenatal care, which has been conducted during the past few years in this country, constitutes one of the most important advances in practical obstetrics ... .

Years ago Budin instituted consultations for pregnant women in Paris, and Ballantyne of Edinburgh did important pioneer work concerning the production of foetal abnormalities and insisted upon the benefits which might follow intelligent antenatal care, yet real interest in the prophylactic supervision of pregnant women originated with laymen. Indeed, I do not think that I shall go far wrong when I state that the greatest credit in this respect belongs to Mrs. William Lowell Putnam.

. . . 25

In Boston, during 1913 and 1914, two other prenatal clinics opened under the supervision of the Committee on Infant Social Services of the Women's Municipal League: one at the Peter Bent Brigham Hospital, the other at the


25 John Whitridge Williams, "The Significance of Syphilis in Prenatal Care and in the Causation of Fetal Death," Bulletin of the Johns Hopkins Hospital 31 (May 1920): 141.
Maverick Dispensary. In addition, nurses of the Instructive District Nursing Association, who did most of the home visits, encouraged local physicians to make use of their visitation program for their private obstetrical patients. On the basis of correspondence with Mrs. Putnam, in 1913 Ballantyne induced the Edinburgh Royal Maternity Hospital to hire a trained nurse to visit pregnant women of the district and give them simple hygiene instructions. Two years later that service was expanded to include a weekly clinic, "The Infant and Pregnancy Consultation for Expectant Mothers," at the hospital under the direction of an obstetrician. The city of Edinburgh assumed administration of the consultation in 1917, although Ballantyne continued to direct it.

From 1912 the women of New York City had available an array of clinics and dispensaries which offered prenatal care. Some hospitals sent their social workers to visit pre- and postnatal cases over the entire city, "from the Bronx to the Battery and Manhattan," in "... a terrible


waste of time, of energy, of shoe leather and of infant lives." In an effort to correct some of the problems associated with this system, physicians from each obstetrical department in Manhattan met in 1915 and agreed to participate in a Maternity Service Association which divided the Borough into ten zones and limited each hospital's clientele to patients who lived within its specified area. The action provided a way to systematize prenatal care, for the care had to be equivalent in each district if women were to be limited to the institution within their district. The formation of one or more maternity centers within each district was encouraged. Nurses, social workers and laymen from organizations such as the New York Milk Committee and the Women's City Club staffed the clinics, providing simple health care and instruction of patients.28

The general inaccessibility of prenatal care in rural areas and small towns presented a distinctly different set of problems. At the 1916 meeting of the American Association for Study and Prevention of Infant Mortality, Dr. Grace L. Meigs, of the Federal Children's Bureau, presented

a major report on "Rural Obstetrics," based on a survey of fifty mothers in each of one Southern and two Midwestern townships. All problems of the districts studied seemed to revolve around two major themes: "... first, general ignorance of the need of good care during pregnancy and labor; second, inaccessibility of such care." 29

Dr. Meigs outlined a plan which would, she felt, make minimal obstetrical care available to each rural woman. The four-part plan recommended that a hospital or a cottage facility and a physician's care be established in each county seat; a visiting nursing service be provided for the entire county for routine supervision and instruction; provision for skilled assistance at time of labor and delivery be available; and, temporary household help be arranged, post-delivery, at a minimal cost. Dr. Meigs considered rural obstetrical care on a par with the best available urban care to be economically unfeasible. Simply to detect complications of pregnancy, and provide hospital care in response, while providing home supervision of normal cases, would be sufficient. 30

Dr. Meig's plan was restated by Miss Elizabeth G. Fox at the Children's Bureau Conference of 1919. Miss Fox


30 Meigs, "Rural Obstetrics," pp. 46-75.
shared her personal hope that many of the doctors and nurses who had been drawn into the war would become available for rural and public health positions. A respondent to Miss Fox's presentation stated that traveling clinics, or perhaps motor cars hired by the county to bring patients to the county seat for medical assistance, were two further possibilities for providing rural prenatal care.31

Physicians had been exhorted to provide some sort of prenatal care for their private patients from the 1890's on, and particularly after 1910. Dozens of articles on the management and hygiene of pregnancy appeared in medical journals during this time. The number of papers indicates that prenatal care was thought to be desirable and beneficial for all women during the course of gestation, but only slowly did the general public and the professions perceive its importance.

CHAPTER III
THE EXTERNAL APPROACH: EDUCATIONAL ENDEAVORS

Education of the Professionals

The value of prenatal care as a preventive and therapeutic measure depended critically upon the acceptance by pregnant women and the providers of health care that such care was a necessary, desirable addition to familiar obstetrical procedures. Through education that value might be perceived. The need for education was manifest; the specific content and methods of education were not obvious.

At the turn of the century, physicians who cared for pregnant women saw only an occasional paper devoted to the hygiene of pregnancy. In 1900, Edward P. Davis recommended that attention be given to the progress of the parturient, for:

The later weeks of pregnancy give opportunity for a most useful study of the pregnant patient, by which the possibilities for spontaneous labor may be ascertained, abnormalities detected, complications foreseen and such measures taken as to conduct the woman and her child safely through the perils of parturition. A physician loses a great opportunity not only to enhance the welfare of his patient, but to increase his own knowledge and skill if he neglects this period of gestation.1

1Edward P. Davis, "Treatment of the Patient During the Weeks Previous to Expected Confinement," Medical Record of New York 58 (1900):609.

27
Reuben Peterson, in 1907, encouraged physicians to engage in prenatal care as a necessary part of obstetrical work. The physician should take time for several office visits, and be willing to charge extra for his work. Peterson stated that the probable reason so few physicians gave sufficient attention to pregnant women was that they feared charging for the extra time involved, and could not give the care without increasing their fee. In order that "the laborer might be worthy of his hire," Peterson recommended higher fees with a commensurate increase in the quality of work.²

J. Whitridge Williams was not only America's foremost professor of obstetrics, but he was one of the first academicians to add his voice to the growing chorus of pleas for the acceptance of prenatal care. In his 1914 presidential address to the American Gynecological Society ("Has the American Gynecological Society Done Its Part in the Advancement of Obstetrical Knowledge?") Williams categorized the 1,010 papers presented to the society during its thirty-eight years of existence, rating each paper as poor, creditable or excellent. Of the papers contributed one-third (346) dealt with obstetrics. Pregnancy, eclampsia and abortion accounted for seventy-six papers, of which Williams

classed nine as creditable and seven as excellent. He concluded that indeed the Society had not done its part "in the advancement of obstetrical knowledge." Rather than blame the individual members for the dearth of contributions, he blamed certain "factors peculiar to American conditions." The major factors involved were, "... the tendency to regard the practice of medicine as an engrossing financial pursuit, defective goals in medical education, and the divorce in this country of gynecology from obstetrics."

Williams prompted fellow members to do their part in the advancement of obstetrics by including such important subjects as "the biologic and biochemical aspects of pregnancy" and "normal metabolism" in their studies.3

Practical recommendations on the conduct and value of prenatal care continued to appear. In a 1920 address to the Medical Society of the State of Pennsylvania, entitled "Obstetrics and the General Practitioner," Williams devoted more space to the importance of prenatal care than he did to the conduct of labor and postnatal care combined, suggesting the greater need for discussion of prenatal care. Fred L. Adair, in 1920, asked his readers to remember that with prenatal care, "one is dealing with a person who has as many

3John Whitridge Williams, "Has the American Gynecological Society Done Its Part in the Advancement of Obstetrical Knowledge?" Journal of the American Medical Association 62 (June 6, 1914):1770.
or more human rights than any other person, and that there is always potentially a second individual whose rights cannot be ignored from any point of view."  

Education of medical students in the importance of prenatal care was needed if those students were to incorporate such care in their practices. Evidence that prenatal care was included in the students' obstetrical curriculum prior to 1915 is limited. Anna E. Broomall's work with the Woman's Medical College of Pennsylvania, from 1888, was a notable exception. In a 1900 report, entitled "Teaching Obstetrics," Williams stated that students should learn to examine pregnant women, take their histories, and perform urinalysis.  

Ten years later, the American Gynecological Society published a "Report of the Committee of the American Gynecological Society on the Present Status of Obstetrical Education in Europe and America and on Recommendations for  


the Improvement of Obstetrical Teaching in America." The Committee presented reports from six foreign countries and seven of the best medical schools in the United States. Again, only the most elementary instruction of prenatal care was indicated in the survey or in the recommendations. The terms "prenatal" and "antenatal" are absent from the entire report.6

In a 1911 paper on "Medical Education and the Midwife Problem in the United States," J. W. Williams made no specific mention of the importance of prenatal care, or the need to educate physicians in the specifics of such care. The paper, based on a fifty-question survey sent to the professors of obstetrics in the 120 American schools that gave four-year medical degrees, conceded that medical education was poor in general, and that the public should be educated to demand medical supervision of pregnancy (among other suggestions), and that "visiting obstetric nurses" and "helpers trained to work under them" should be developed.7


By the end of the decade the situation was starting to change. Dr. Lida Stewart-Cogill of Woman's Medical College in Philadelphia presented the first evidence of the inclusion of special lectures for medical students in an address at the 1918 American Association for Study and Prevention of Infant Mortality. She reported on a questionnaire distributed to several medical colleges in the United States, requesting information on the time spent teaching prenatal care within the obstetrics classes:

... it would seem that while in a number of colleges stress is laid during the course of regular lectures and clinics upon the need of prenatal care, there is no definite or special lecture devoted to this subject with the exception of one college--The Woman's Medical College of Pennsylvania--which gives two definite lectures, thus many students may leave college with knowledge of how to care properly for the pregnant woman but without the sense of his own responsibility toward his community. When we do have a greater amount of attention paid to this subject in colleges, the effort of the country to reduce infant mortality will meet greater results, for this is the day of preventive measures.8

In 1921 J. W. Williams outlined "a well organized service," the ideal obstetrical training department at a university hospital that taught medical students the theory and practice of obstetrics by combining classroom and clinical experience. In this communication he spoke specifically of prenatal care:

... every student, as soon as he has learned

Students of nursing, midwifery and social work were exposed to prenatal care as part of their academic work in some schools. Miss Alice L. Higgins spoke of "Co-operation in Nursing and Social Work" at the 1911 meeting of the American Association for Study and Prevention of Infant Mortality. As social workers in her district of Boston assiduously sent all pregnant women to the nursing association for care, but provided instructions on household sanitation and desirable health habits, Higgins suggested that a formal cooperation among medical and social services could begin in the classroom. She hoped lecturers from the nursing and medical schools might visit the "schools of philanthropy" and vice versa.

... so that in the early stages we may detect more medical situations and you more social ones. ... But I look forward to cooperation on a larger side, more important even than diagnosis, treatment and after-care; the prevention of some of the ills we work so hard to remedy.10


Two papers from the 1916 American Association for Study and Prevention of Infant Mortality sessions discussed prenatal care as a part of the nursing schools' curricula. Henry Schwarz, of St. Louis' Washington University, described the undergraduate and graduate nurse's training in obstetrics as "very thorough." In particular, a six-month course was available to six graduate nurses, who would be trained "to do missionary work in some of these rural sections." They would learn to "instruct expectant mothers ... to take care of obstetrical emergencies ... and to influence the public toward establishing county hospitals." 11

Mary Jones, author of "Standards of Infant Welfare Work," agreed that a graduate nurse, with a positive attitude toward maternal and infant welfare work, was a desirable person for such an endeavor. Because of time constraints, the undergraduate nurse would probably not receive more than elementary instruction regarding the importance of prenatal care. After graduation, the nurse could take a six-month course on public health nursing which would include prenatal care instruction. On-the-job training for prenatal work was sufficient, provided the nurse was of the right temperament and could "get the vision." So that her readers might learn how prenatal care visits could

11 "Round Table Conference on Obstetrics," Transactions of the American Association for Study and Prevention of Infant Mortality 7 (1917):77.
be conducted, Jones included in her paper the directions
given to the staff of Boston's Instructive District Nursing
Association on prenatal visits. 12

As early as 1912 the school of midwifery affiliated
with New York's Bellevue Hospital reported a six-month
course that included a "... special effort ... to train
these midwives in the fundamental points of nursing pregnant
women"; however, it is unclear to what extent this included
lectures on prenatal care. Few schools for midwives existed
in America at this time, and of those that did exist, not
many were sanctioned by local hospitals or municipal govern-
ments. Because a midwife, by definition, was engaged at the
time of labor, very little attention was given to her as a
participant in prenatal care. Any mention of the midwife,
in the early twentieth century, was accompanied by debate on
whether her services should be abolished or regulated. The
Bellevue school represented an experiment in the education
of midwives, begun because of the recognition of their
importance in obstetrical care for the immigrants. 13

12 Mary A. Jones, "Standards of Infant Welfare Work,"
Transactions of the American Association for Study and

13 S. Josephine Baker, "Schools for Midwives,"
Transactions of the American Association for Study and
Education of the Public

The Transactions of the American Association for Study and Prevention of Infant Mortality provide the greatest source of material on the education of the public to accept and request prenatal care during this period, as the Association's membership included laymen in addition to physicians and nurses. The papers presented at the annual meetings reflect the Association's shifts in interests.

Organized in 1909 to "study infant mortality in all its relations," to disseminate "knowledge concerning the causes and prevention of infant mortality," and to encourage "methods for the prevention of infant mortality," the Association published papers on the topics of infant mortality and its prevention from 1909 to 1916. In 1917 and 1918 war and its effect on women, children, and population growth offered an additional subject for concern. In 1919, as infant mortality decreased and as the interests of the organization shifted to other activities relating to children, the name was changed to the American Child Hygiene Association. In 1923, in recognition of common interests, this group joined the Child Health Organization of America, to be called the American Child Health Association, which in 1935 split to merge in part with the National Education Association and in part with the American Public Health...
Education of the layman proceeded at different levels. For the young girls, Little Mothers Leagues were formed in several Eastern cities. The Leagues worked in connection with public elementary schools to instill proper hygiene, nutrition and infant care habits in the minds of future mothers. Dr. Florence Richards, Medical Director of the William Penn High School in Philadelphia, sketched a two-semester course in "Eugenics for the High School Girl" at the 1915 meetings of the American Association for Study and Prevention of Infant Mortality. Taught by a female physician, one lecture was devoted to prenatal care, in which it was stated that "the beauty and sacredness of motherhood should be emphasized, and we should try to eradicate the idea so prevalent in so-called polite society that is is a shameful condition."15

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Formal schooling provided a vehicle for reaching college women, and those able to enroll only by correspondence or through extension courses. At the 1916 American Association for Study and Prevention of Infant Mortality sessions, two women from the University of Wisconsin at Madison spoke on college and extension work. Miss Abby Marlatt described a composite course, based on the offerings of several colleges, which could be taught in the home economics department of a university. Neighboring hospital personnel would give guest lectures on prenatal care, infant feeding, care and diseases, and the development of the normal child. She noted that the courses at Simmons College in Boston and the University of Wisconsin were structured most closely to the ideal she presented. Dr. Dorothy Reed Mendenhall commented on the correspondence courses offered by the Home Economics Department of the University of Wisconsin Extension Division. Mendenhall stated the prenatal care course, entitled "The Care of the Prospective Mother,"

... aims to give the mother the necessary knowledge presented in a simple, usable way to enable her to keep herself in good physical condition while she is carrying her child, to safeguard her against miscarriage, and kidney complications. The question of confinement is reviewed, the selection of the physician and nurse discussed, as well as the unnecessary frequency of puerperal sepsis, and the need of rest during the lying-in period. Questions to be answered accompany each one of the eight assignments and the pupil is encouraged to
present her personal problems.\textsuperscript{16}

The general public was exposed to prenatal care propaganda through a variety of channels. The 1916 meetings of the Association included a report from the Propaganda Committee. Henry Shaw, of the New York State Department of Health, recommended a state-wide campaign that included traveling exhibits, popular lectures and demonstrations, four films, newspaper and pamphlet descriptions and Well Baby Sundays and Weeks. Prenatal care was a part of the greater infant welfare campaign he described. It was to be included as one very good way of reducing infant mortality, and therefore necessary to infant welfare.\textsuperscript{17}

Henry Helmholz, of the Chicago Infant Welfare Society, indicated that the class of women his organization reached would remain unaffected by the campaign activities Shaw proposed. Many could not read or write. Only personal contact between the prospective patient and the nurse or physician would persuade those women to accept the Society's


\textsuperscript{17}Shaw, "Propaganda Work," pp. 143-47.
care. One respondent to Helmholz’s paper spoke of the newspaper as a "powerful machine" for promoting such concerns as prenatal care and infant welfare. Another respondent suggested the concerns of the American Association for Study and Prevention of Infant Mortality could very well be aired in conjunction with propaganda from the Anti-Saloon League and the National Association for the Study and Prevention of Tuberculosis. The joint effort would benefit both parties for the prenatal care people were concerned about the effects of alcohol on the fetus, and the infant welfare people were concerned about the effects of tuberculosis on the infant. 18

J. H. Larson, in "Prenatal Care Propaganda," told readers of the 1919 American Journal of Obstetrics:

When you are discoursing on your favorite theme--prenatal care--in the intimate circle of your professional friends, be academic to your heart’s content. When you are educating the public on this or any other subject--be human. Remember you are telling it to the world--tell it so the world can understand. 19

Larson encouraged the use of bright posters and simple slogans for their immediate appeal to the public. He also noted the successful example of Dr. Truby King of New


Zealand, who persuaded pregnant women to attend maternity clinics by enlisting the attendance of some high society ladies, thus making prenatal care "fashionable." 20

Lida Stewart-Cogill stated that properly trained physicians would be attuned to their duties within a community, which included

\[\ldots\] the educating of these people to their need of prenatal care—thereby creating a demand for such care. For we acknowledge that just as a public demands so it will receive—and so it is a child's inherent birthright to be properly born. 21

From about 1920 onwards increasing numbers of articles intended to awaken the public to the possibilities of prenatal care appeared in periodicals such as Good Housekeeping, Ladies Home Journal and Saturday Evening Post.

20 Ibid.

CHAPTER IV

THE EXTERNAL APPROACH: THE PROMOTERS

The Government

Prenatal care became a political and economic issue as those who campaigned for it worked to set up clinics and programs. Questions of funding and standardization of care accompanied each new program. Public agencies were blamed for not putting more of their efforts into prenatal care. Critics placed the responsibility for a sluggish governmental response on public apathy, claiming that "... the government, in most instances, is interested only when forced to be so by public opinion."¹

At the federal level two executive actions favored the development of prenatal care. President Theodore Roosevelt authorized a White House Conference on Child Welfare Standards in 1909. The United States Children's Bureau was created in 1912 for the purpose of "... investigating and reporting on all matters pertaining to the welfare of

children and child life among all classes of people." Under the leadership of Miss Julia Lathrop this Bureau, in the Department of Labor, conducted numerous studies relating to infant and maternal welfare and mortality. One of these studies disclosed that 80 per cent of expectant mothers in America received no prenatal advice or trained care.2

The federal government funded prenatal care through two Acts: the Smith-Lever Act of 1914 and the Sheppard-Towner Act of 1921. Under the Smith-Lever Act the United States Department of Agriculture provided monies to State Departments of Agriculture so that health education would be available in rural areas with an extension program from the state universities.3

Jeanette Rankin, the first woman to serve in Congress, introduced a measure in 1918 to provide public protection of maternity and infancy. This legislation was sponsored by Miss Julia Lathrop and the Children's Bureau. In the following session the bill was reintroduced by


3Dorothy Reed Mendenhall, "Work of the Extension Department in Educating the Mother Along the Lines of Prenatal Care and Infant Hygiene," Transactions of the American Association for Study and Prevention of Infant Mortality 7 (1917):217.
Democratic Senator Morris Sheppard of Texas and Republican Congressman Horace Towner of Iowa. Unfortunately little progress was made towards its passage until the full enfranchisement of women in 1920. The Sheppard-Towner Act of 1921 constituted the federal government's first venture into social security legislation. The Act provided federal funds, on a matching basis, to states that established a board of "maternity aid and infant hygiene" which would provide nursing care and health education for women and children in rural areas.4

At the state level funding for prenatal care took a variety of forms, depending on local concerns. A representative from California's State Board of Health reported that the Board's Bureau of Child Hygiene would initiate a program in 1922 in which the state would employ several public health nurses. The large rural sections of the state were divided among the nurses, who were to survey the needs and resources of each section, propose a plan for providing prenatal care to each section, and form an organization based on the plans proposed. Each nurse was to improvise her activities to fit the needs and resources of her area:

Given such a territory to cover, without any authority, for who can grant authority in a state-

wide program, it will be a test first of the nurse's training, tact and native ability and secondly a test of the feasibility and desireability [sic] of a prenatal program.\(^5\)

Wisconsin emphasized health education through correspondence courses offered by the University and through seminars and lectures presented in each community. The state hired a team of lecturers for the seminars and equipped them with exhibits and pamphlets. The instructors encouraged women to ask personal questions at private consultations following the lecture. Occasionally women needed continued medical supervision, which was provided by correspondence with a state physician, as no private physician was nearby.\(^6\)

New York State did not initiate a program for providing systematic prenatal care state-wide until the passage of the Davenport-Moore Act in 1922. In 1914 the Division of Child Hygiene of the State Department of Health reported that its representatives devoted part of their instructional time to prenatal care in the thirty-two cities served with infant welfare clinics. With some prenatal care being given, and with the state divided into "sanitary districts" ruled collectively by a Sanitary Council, the


foundation for a state program seemed ready. The Davenport-Moore Act allotted funds to pay the salaries of nurses and field representatives who would develop, and participate in, a state-wide prenatal care program. The Act was designed to stimulate community plans which would continue to function after state aid was removed because monetary support systems would have developed within each community. Thus, the Act allowed the funding of manpower, but not direct financial grants for any or all operating expenses.7

At the municipal level, local government had the opportunity to donate money to existing programs and clinics, to accept full financial responsibility for proven programs, or to establish programs of their own. The Division of Child Hygiene in New York City, established in August 1908, was the first municipal program concerned entirely with child welfare to be established at that level. Under the direction of Dr. S. Josephine Baker, New York City saw a decrease in infant mortality (deaths under one year of age) from 144 per 1,000 births in 1908 to 85 per 1,000 births in

1920. This Division became a model for municipal and state programs organized later. Several proponents of prenatal care voiced a desire for municipally-operated programs. They printed suggestions of ways to cajole or persuade local health authorities to take over the private organizations' work, for such was thought to be government's responsibility.

Organized Medicine

Organized medicine promoted prenatal care in an irregular pattern, if at all. In 1908 the American Academy of Medicine, meeting in Chicago, formed a committee to study infant mortality and the possible benefits of prenatal care in decreasing mortality rates. That committee sponsored a conference on the Prevention of Infant Mortality which met in New Haven, Connecticut, November 11-12, 1909. The group formally organized, and adopted the name American Association for Study and Prevention of Infant Mortality. Anyone,


professional or layman, concerned about the high infant mortality rate, and willing to pay membership dues, was invited to join. The purpose of the Association was:

"... primarily to direct public attention to this problem [infant mortality] by bringing together the experience of various social agencies dealing with it." The Association functioned as a repository for reports of local efforts, and as a forum in which ideas could be shared and suggestions made. Unknowingly, the American Academy of Medicine created the organization which was to give prenatal care its biggest boost. 10

The American Medical Association commented on prenatal care with an occasional article in its Journal. During 1921 and 1922 a series of editorials appeared in JAMA that condemned the Sheppard-Towner Act as a denial of states' rights, and a meddling by the government which was akin to Bolshevism. The supposed need for maternal and infant care was said to be based on emotionalism, not facts; hence, the appropriations provided for in the Act were considered unnecessary, and likely to set an unfortunate precedent for federal involvement in local affairs. 11

(1922): 256-57; W. E. Welz, "Prenatal Care Benefits Cause of Public Health," Nation's Health 7 (February 1925): 92-95, 156.

11 "Federal Care of Maternity and Infancy: The Sheppard-Towner Bill," Journal of the American Medical
JAMA reacted strongly against appeals for health
insurance, another plan promoted by several prenatal care
supporters. State legislatures had the power to regulate a
woman's work day, which influenced her health during the
pre-confinement period. In 1914 four western states allowed
a maximum eight-hour work-day for women, and four eastern
states prohibited the employment of pregnant women one
month prior to, and one month after, confinement. As
employment was forbidden during part or all of these two
months, women often went without income; thus, a measure
designed to ease hardship increased it instead. The work
restriction laws were based on legislation in Britain and
several European countries. Although successful elsewhere,
the American legislation was deficient because it did not
include provision for "maternity insurance" which would pay
the basic expenses of pregnant women. 12

Association 76 (1921): 383; "House Debate on the Sheppard-
Towner Bill," Journal of the American Medical Association
77 (1921): 1913-15; "The Sheppard-Towner Bill--Public Health
or Politics?" Journal of the American Medical Association
78 (1922): 435; "Resolution on Sheppard-Towner Law," Journal
of the American Medical Association 78 (1922): 1709; James
G. Burrow, AMA: Voice of American Medicine (Baltimore: The
Johns Hopkins Press, 1963), pp. 157-58, 160-64, 194; J.
Stanley Lemons, "The Sheppard-Towner Act: Progressivism in

12 West, "Prenatal Care," pp. 74-79; Burrow, AMA,
pp. 132-52.
Women's Groups

A number of women's organizations, of political, social or medical orientation, supported prenatal care. Most references to women's groups were to women's social clubs that concerned themselves with the "civic and social betterment of the country." For a number of years the Women's Municipal League of Boston, primarily a women's social group, organized, financed, and staffed a prenatal clinic and home visitation service. As early as 1912 J. W. Williams pointed out that if the clubs could be persuaded to take up the cause of prenatal care, and demand such care for themselves from their own obstetricians, then the medical profession would be forced to provide it for them. The following year Williams claimed that ideal maternity hospitals would not

. . . be forthcoming until women interest themselves in the matter. . . . I commend agitation of this character to the women who are particularly interested in the welfare of their sex and feel sure that it will accomplish far more good than many of the movements which they are now fostering.¹³

Williams reported in 1917 that he had been asked to write the first of a series of one-page articles to be printed in a journal sent out by the Mothers' Congress and

the Federated Women of America. He gave notice that he planned to report on studies which indicated the value of prenatal care. That meant that "the average woman of the country is going to have this information put in her hands" and that should be "a matter of considerable importance to the average doctor."  

From California, Ethel Watters suggested that women's organizations were an integral part of a successful prenatal program such as that state was developing: "A plan which does not include every possible point of contact with organized groups of women must not be considered." Walter Dickie, also of California, commended women's organizations for providing the "most forceful demand for public health." He stated that, as, "Woman's interest is largely centered in the home . . . it is not surprising that she has devoted herself to the betterment of the health and welfare of the mother and child." Florence McKay reported that New York State took advantage of women's clubs by preparing a program which used the clubs as community educational centers.  

The Sheppard-Towner Act gave women, with their national enfranchisement, a great opportunity to apply

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political pressure to legislators. The debate over the Act was vigorous and heated. A 1922 JAMA editorial called the women's lobby for the Act, "... the most powerful and persistent that had ever invaded Washington." Both democratic and Republican parties endorsed the Act, which passed the House with a vote of 279 to 39. JAMA claimed:

The Sheppard-Towner bill was passed, not for public health reasons but on account of political exigencies ... all members of Congress were told again and again that the women of the country demanded the measure and that each congressman's future depended on his vote on this bill.16


16 The Sheppard-Towner Bill--Public Health or Politics?" p. 435.
CHAPTER V

THE INTERNAL APPROACH: THE DETAILS OF PRENATAL CARE

Journal Recommendations

An internal approach to the description of the evolution of prenatal care traces the specific recommendations physicians made about the content of prenatal care. The details to be considered in the patient's history, physical examination, and laboratory studies changed as the objectives of prenatal care enlarged. Initially prenatal care was offered to make delivery safer and lessen the chance of infant death. It was noted that such care could help prevent abortion also. Gradually prenatal care became acceptable as prophylaxis against the development of eclampsia and the hypertensive disorders of pregnancy, and as providing for the detection of syphilis and prevention of its ravages in the newborn. Although a major impetus to the work of Ballantyne was his concern for prevention of ill effects on the fetus and newborn infant, only recently did measures for the diagnosis of deviations from normal development become a routine part of prenatal care, aside from a general concern for the fetus.¹

In 1900 pregnant women were treated in rather the same fashion as their counterparts had been treated for the previous two centuries. The initial examination was usually a few weeks or days before delivery. Only in the instance of some complication or intercurrent disease did a woman seek out a physician earlier. The initial visit might include a history of previous pregnancies and their complications and an examination of the abdomen. Because of the mores of the age, a pelvic examination with evaluation of

the pelvic dimensions and state of the cervix was by no means uniform but fairly common.

The chief contribution of the physician, midwife, or nurse consisted of instruction in the "hygiene of pregnancy," and imparting an amalgam of old remedies from the rich heritage of mothers and midwives. Advice was given regarding the diet: it should be abundant and nourishing, and it should not include highly seasoned or indigestible foods. Women who had given birth previously to excessively large children or had experienced difficulties with delivery were placed on a so-called Prochownik diet (one low in carbohydrates and fluids) in an effort to lessen the likelihood of a large infant. The free use of water for drinking was encouraged for avoidance of constipation and nephritis. Clothing was to be loose and suspended from the shoulder rather than from the hips or waist. Frequent bathing, fresh air, and sunshine were advised.²

Breast-feeding was to be prepared for by twice daily bathing the nipples with a lotion of borax or boric acid in 50 per cent alcohol. In instances of "small" nipples, application of a wooden shield with traction on the nipples was advised. Moderate exercise--but not to the point of exhaustion--was encouraged. Long journeys were not to be

taken unless absolutely necessary; driving over rough roads was to be avoided. Sexual intercourse following impregna-
tion was described as a "physiologic absurdity" but was
noted to usually occur despite contrary advice. Krusen
observed, in 1901, that, "... animals other than human
seem superior in this respect ... ." and, "... shall our
present day civilization be less advanced than that of the
ancient Irans, who severely punished cohabitation with
pregnant women?" Pregnant women were also encouraged to
maintain an even temperament so that the child would not be
irritable due to the mother's anxiety and depression. 3

Textbook Recommendations

To trace the development of the idea of what constituted adequate prenatal care during this period the
writings of John Whitridge Williams will be examined.
Williams was not only the foremost obstetrical exponent in
this campaign, but was the author of the leading textbook
used by medical students and practitioners during this
period. The first edition (1903) of Williams' Obstetrics

Walling, "The Treatment of Children Before Birth," Medical
Council of Philadelphia 1 (1896):286-87; John William
Ballantyne, "The Pathology of Ante-natal Life," Glasgow
Medical Journal 49 (April 1898):241-58; "Diet in Pregnancy,"
British Medical Journal 2 (1901):1187-88; quotes from Wilmer
Krusen, "Points in Ante-partum Hygiene," International
Medical Magazine 10 (1901):465.
presented the program outlined above essentially, except that he advocated a careful physical examination, preferably in the patient's home and on her bed about six weeks before expected confinement, to include measurement of the external and internal pelvic dimensions. He observed: "Unless it be found upon inquiry that the patient has been leading an ill-ordered existence, very little change should be made in her mode of living..."\textsuperscript{4}

Williams advocated that the patient should submit a sample of urine for measurement of albumin, sugar, and microscopic examination at monthly intervals until seven months, and twice a month or weekly thereafter. The presence of albumin in the urine of women with eclampsia was first recorded by Lever in 1843. Although confirmed by several other workers, routine urinalysis as a screening measure for toxemia of pregnancy had to await the development of prenatal care. This regimen for prenatal care remained unchanged in the second (1907), third (1912), and fourth (1917) editions of Williams' text.\textsuperscript{5}

As chairman of the Committee on Prenatal Care of the 1915 American Association for Study and Prevention of Infant Mortality, Williams, with Mrs. William Lowell Putnam and Dr.

\textsuperscript{4}Williams, Obstetrics (1903), p. 175.

Cressy L. Wilbur, presented a model prenatal care record form and a card with hygiene advice for the pregnant woman. These forms detailed many particulars of prenatal care, including the history of previous pregnancies and the history of the present pregnancy. The section on medical examination asked for information on blood pressure, pelvic measurements, fetal heart sounds, and the Wassermann test for syphilis. In addition, the form requested comments from the visiting nurse on the patient's home environment and subsequent antenatal examinations, details of the course of labor and the puerperium, and a history of the child to one year of age. The card of instructions for the expectant mothers included advice regarding symptoms and signs requiring hospitalization.

In the same year Williams reported that of 705 fetal deaths among 10,000 consecutive admissions to the obstetric department of the Johns Hopkins Hospital, syphilis was the single most important cause, accounting for 186 (26 percent) deaths. Despite this enormous incidence of syphilis, he failed to recommend a routine Wassermann test as part of antepartum management, stating:

"... the procedure is out of the question on account of its expense... the best that we can

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do is to bear the possibility of syphilis constantly in mind, and to teach those engaged in practical work to be always on the lookout for it. 7

Subsequently, Williams embarked on a study of the next 4,000 patients delivered at the Johns Hopkins. This time he did perform the Wassermann test on all patients during their first visit, and initiated treatment in the Syphilis Clinic for those patients with a positive reaction. In addition, he performed a serologic test on the fetal blood at time of delivery, and examined the placenta histologically. In this series there were 302 fetal deaths, 104 (34 per cent) of which had syphilis. As a result of this study Williams recommended that "... a routine Wassermann should be made at the first visit, and in case the result is positive, intensive treatment should be started immediately." He included this recommendation in the fifth edition of his textbook in 1923. 8

It was also in this fifth edition that he recommended for the first time that patients be seen in a clinic at monthly intervals during the first seven months of pregnancy, and every two weeks thereafter. It was not until this 1923 edition that he recommended regular measurements

7 John Whitridge Williams, "The Limitations and Possibilities of Prenatal Care Based on the Study of 705 Fetal Deaths Occurring in 10,000 Consecutive Admissions to the Obstetrical Department of the Johns Hopkins Hospital," Journal of the American Medical Association 64 (January 9, 1915):98.

8 Williams, "The Significance of Syphilis," p. 144.
of blood pressure as a prophylaxis for the development of toxemia or the hypertensive disorders of pregnancy. Vinay in 1894 first associated systolic blood pressure elevation of 180 to 200 mm Hg with eclampsia. Fürth and Kroenig reported elevated pressures in pre-eclamptic patients in 1901, a few years later. Cook and Briggs, working at Williams' own institution, noted in 1903:

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\ldots \text{it is especially with regard to the early recognition of the onset of eclamptic features} \ldots \text{and the possibility of instituting prompt and vigorous treatment for their relief that systematic blood pressure records may be of value to the obstetrician.}\]

Despite these observations, obstetricians tended to ignore the utility of routine blood pressure measurements until the 1920's.

As noted above, the recording of patients' weight was advised by Williams in 1915 on his prenatal card form, but there was no indication that the patients should be weighed on a regular basis. Apparently Zangemeiste, in 1916, was the first advocate of this procedure as a routine measurement. Subsequently several American authors grasped the importance of this simple measure, but such a recommendation did not appear in Williams until 1930, the sixth, and last, edition Williams was to write himself.¹⁰

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CHAPTER VI

THE RESULTS OF PRENATAL CARE

The Availability of Prenatal Care

"The education of the public and the physician on this subject is still to be accomplished," Henry Koplik noted in 1914.1 The same year Henry Schwarz of St. Louis observed that less than 10 per cent of mothers received any prenatal care.2 Four years later F. V. Beitler of the Maryland State Department of Health inquired of each state and major municipal health department regarding its activities in the reduction of maternal and infant mortality due to prenatal and obstetrical conditions, and reported that

Only twenty-three of forty-eight states and one hundred and thirty-seven of six hundred and forty-eight cities circularized, were interested enough or had time to answer. This is sufficient proof of the lack of interest of state and municipal authorities regarding this situation.3


Of the twenty-three responding states, only two indicated that they operated prenatal clinics, and three that they supported obstetrical clinics. Only four of the states reported devoting any of their budget to these activities. Of the 137 cities that replied, twenty-six supported prenatal clinics and eighteen supported obstetrical clinics. In 1917 Michael M. Davis, Jr., calculated that only 10 per cent of women giving birth in Boston received prenatal care and that 96 per cent of all women delivered at home. Three years later, C. Henry Davis estimated that 50 per cent of women in the United States received some prenatal care.

Perinatal Mortality

A major objective of prenatal care was to make childbirth safer for mother and child. One would assume, therefore, that as prenatal care gained acceptance by pregnant women, the general public, and the medical and nursing professions, the morbidity and mortality rates for mothers and infants would sharply decline. Although the

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4 Ibid., pp. 481-82.

infant and perinatal mortality did fall, the maternal mortality did not.

To a great extent, the campaign for prenatal care developed as one aspect of the infant welfare movement. With the tabulation of infant deaths it was quickly appreciated, if it had not been before, that deaths during the first month of life accounted for a significant fraction of the infant deaths, and that late fetal deaths or stillbirths constituted an almost equally large loss of life.

As a caveat it must be noted that any figures quoted must be only estimates because the United States was relatively backward in developing adequate statistics of births and deaths. Although the United States Bureau of the Census began its annual publication of vital statistics in 1900, not until 1915 did a national registration system begin, and then with only ten states and 31 per cent of the population. By 1921, twenty-one states and 60 per cent of the population were included; in 1933 all states were included. Even then the reporting of births and deaths in certain states within the registration area was incomplete.

Although such figures are available in England from 1838, and in Sweden from 1749, those for the United States as a whole are available only since 1933. Nonetheless, figures for the ten-state registration area date from 1915, and those from some states, such as Massachusetts and Rhode Island, date from the mid-nineteenth century.\textsuperscript{7}

In a 1914 report of infant mortality in Manhattan during the first four weeks of life, Henry Koplik noted that he had inquired about similar statistics of all the boards of health in the United States, but, "it was impossible to obtain any reliable information, except from two or three sources . . . ."\textsuperscript{8}

To what extent infant or perinatal mortality rates are a sensitive index of the quality of professional medical care and hospitals, and to what extent they reflect social, economic or general environmental conditions, has been argued for some time. Apparently the issue remains unsettled today; however, changes over given periods of time may prove useful to monitor the outcome of childbirth and


\textsuperscript{8}Koplik, "Infant Mortality," p. 87.
new born existence.9

Presently, the perinatal mortality rate includes both stillbirths (i.e., fetal deaths of 28 weeks or more gestation, calculated per 1,000 infants born) and neonatal deaths (i.e., those infant deaths occurring up to and including 28 days after birth, calculated per 1,000 live births). Again, the caveat must be given that comparisons must be taken with some degree of caution, because of complicating factors such as incomplete registration and changing definitions. In former times some deaths during the first few hours after birth were classified as stillbirths, and some stillbirths were included in the neonatal deaths. Several workers have suggested that the sum of these two rates has been a fairly accurate measure of perinatal mortality despite less than ideal records. In 1977 the fetal and neonatal mortality rates were 9.8 and 9.9, respectively, for a total perinatal mortality of 19.6.10


In 1876 the neonatal death rate in England was 35 but had climbed to 44 by 1901. It remained at about 40 during the years 1906 to 1910, falling to 32 in 1933. This relatively constant rate of neonatal deaths contrasts with the decline in infant deaths under one year of age during this period, from 152 in 1876 to 64 in 1933.11

In New York City the neonatal death rate was 38 to 41 in 1911, 33 in 1933, and 21 in 1948. Again, this relatively small change contrasts with the fall in infant deaths (those under one year) from about 114 in 1911 to 28 in 1948. As late as 1952, Yerushalmy and Bierman observed: "... there is a striking parallelism between the present status of the problem of fetal mortality in the United States and that of infant mortality around the turn of the century."12

In 1913 Dr. S. Josephine Baker wrote: "... approximately 35 per cent of the deaths under one year of age are due to causes mainly dependent on the health of the mother during her pregnancy and confinement ...." At that time, however, there was little data upon which to determine to

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what extent improved obstetrical care could alter the figures. 13

Statistics are few on decreases in neonatal mortality which can be attributed to prenatal care. In 1913 Mrs. Putnam reviewed the results for Boston, reporting that among women supervised by her committee the stillbirth rate had not exceeded 18.6 per 1,000 births, in contrast to the rate for Boston as a whole which varied from 33.1 to 44.7. She also reported significant decreases in the number of miscarriages, premature births, and cases of eclampsia, and a marked increase in the incidence of breast feeding. 14

The following year, Mrs. Max West of the Federal Children's Bureau compared the results in three major cities, although she cautioned that

... we cannot, in justice, expect to find statistical results of any great importance. Owing to the small number of mothers thus far under supervision, and the frequent lack of comparable city figures, there are only a few instances in which the figures given furnish any adequate measure of the possible results of prenatal care. 15


In St. Louis for a one-year experimental period of prenatal supervision among 334 pregnant women the rate of stillbirths decreased 13.1 per 1,000 births, while the neonatal mortality rate was down 6.3 per 1,000 live births. In New York City, the stillbirths dropped 7.7 per 1,000 live births, while the neonatal mortality dropped 12.1, with 93 per cent of the infants being breast fed. Dr. Mary Lee Edward noted that of two New York City hospitals, the New York Infirmary for Women and Children had operated "a regular prenatal clinic for over twenty years," and that for the years 1907 to 1914, of 3,416 infants born the rate of stillbirths was 36 as compared with 43 at the Sloane Hospital which offered less prenatal supervision, and deaths of infants less than 14 days old was 27 rather than 31.16

Subsequently, M. M. Davis reported that for the two-year period of 1914 and 1915 among Boston mothers who had received some prenatal care the death rates of infants less than one month of age averaged 22 per 1,000 live births. In contrast, among those women who had received no prenatal care the rate averaged 43. Davis also reported that for both these years the rate of stillbirths was one-half as frequent among the women who received prenatal care (i.e., 20

and 40 per 1,000 births, respectively). 17

Dr. S. Josephine Baker reported that for New York City in 1914, the stillbirth and neonatal mortality rates were 17 and 16, respectively, for women who received prenatal care; in contrast, for those who did not the rates were 50 and 37, respectively. 18

In his 1914 presidential address before the American Association for Study and Prevention of Infant Mortality, J. W. Williams commented on the statistical results thus far achieved:

Definite statements cannot be made until numerous series of thousands of cases each have been adduced, in which all of the mothers had been the recipients of intelligent prenatal care. Such statistics are not yet available, and I fear that some time will elapse before they are. 19

Writing in 1921 Alfred C. Beck reported stillbirth and neonatal mortality rates from the Long Island College Hospital. Among 1,000 women who received "well supervised" prenatal care there were 19 stillbirths and 6 deaths of infants less than 14 days old. Beck compared the rates of

17 M. M. Davis, "Beneficial Results," p. 5.


19 John Whitridge Williams, "The Limitations and Possibilities of Prenatal Care Based on the Study of 705 Fetal Deaths Occurring in 10,000 Consecutive Admissions to the Obstetric Department of the Johns Hopkins Hospital," Journal of the American Medical Association 64 (January 9, 1915): 98.
this group with two other groups of women. A comparable
series of 1,000 women who received no prenatal care produced
rates of 35 and 41, respectively. Among another 1,000 women
who received some care by the Visiting Nurses Association,
but no systematic medical supervision, the Nurses Associa-
tion reported that the rates were 25 and 22, respectively.
Thus, in the three groups, the total infant deaths were 25,
76 and 47. Baker and Sobel reported that in New York City
as a whole prenatal care had decreased the neonatal mortal-
ity by 50 per cent. Beck, Polak and others emphasized that
adequate prenatal care decreased the perinatal loss 50 to 67
per cent.\textsuperscript{20}

In Detroit Dr. W. E. Welz, Director of the Division
of Prenatal Clinics of the Department of Health, compared
the stillbirth and neonatal death rates of patients who
received prenatal care with the results of the entire city
for the years 1922-1923. The stillbirth rates were 39 and
50.6 in the two groups, while the neonatal death rates were
40.6 and 43.7, respectively. When considered by racial
groups the differences were even more striking. Among

\textsuperscript{20}Alfred C. Beck, "End-results of Prenatal Care,"
\textit{Journal of the American Medical Association} 77 (1921):457;
Baker, "Lines of Progress," p. 1170; Jacob Sobel,
"Instruction and Supervision of Expectant Mothers in New
York City, part I," \textit{New York Medical Journal} 107 (January 12,
1918):49-55; John Osborn Polak, "Practical Value of Prenatal
Care," \textit{Nation's Health} 7 (October 1925):675.
whites the stillbirth rates were 26.5 and 48.5, respectively, while among blacks they were 42.2 and 121.5, respectively. Large differences in the neonatal death rates between the two groups depended on whether they had had prenatal care: 27.2 versus 42.9 for whites and 44 versus 67.9 for blacks.21

Maternal Mortality

The Committee on Maternal Mortality of the International Federation of Gynecologists and Obstetricians defined maternal mortality as the death of any woman from any cause while pregnant or within 42 days of termination of pregnancy, irrespective of the duration or site of pregnancy. Currently, the rate is calculated per 100,000 live births. In 1978 the maternal mortality rate in the United States was 9.9, or 0.01 per cent.22

In contrast, during the second half of the nineteenth century the rate equaled about 1,470 per 100,000 live births, or 1.5 per cent, a rate not much lower than the 2 per cent generally calculated during the previous three and


one-half centuries. In some of the obstetrical wards of Europe the rate reached 7 to 9 per cent before the reforms of Semmelweis were accepted, when the rates dropped to a range of 0.3 to 0.6 per cent.\textsuperscript{23}

For the decade 1915 to 1925 the maternal mortality rate plateaued at about 600 for whites and 1,100 for blacks, except in 1918-1920 when it increased a further 20 to 30 per cent due to the influenza epidemic. In terms of the total number of American women who died during childbirth, the number was estimated to be 15,000 in 1917 and 20,000 in 1927. Then as now, infection, hemorrhage and toxemia were the captains of the men of death, to paraphrase John Bunyan. By 1930 the mortality rate had risen slightly, to 673.\textsuperscript{24}

Any exact figures on maternal mortality are difficult to give with certainty, as the rate may or may not have remained stationary during the early twentieth century. Adjustments should be made for more exact certification of

\textsuperscript{23}Peller, "Studies on Mortality," pp. 442-43; Semmelweis and Holmes discovered the infectious nature of puerperal septicemia in the mid-nineteenth century, and suggested reforms to prevent the spread of the infection from patient to patient.

deaths, a falling birth-rate, later age of marriage, limitation of family size and increase in the abortion rate. In addition, the classification and definition of maternal deaths changed during this time. For instance, these statistics do not include deaths from "non-puerperal" causes such as tuberculosis, syphilis, heart disease, or complications arising from induced abortion, though these are included currently.

During this period the United States had the distinction of having one of the worst maternal mortality records in the civilized world. Writing in 1917 Dr. Grace Meigs observed: "... childbirth is even now in this country and this age a greater hazard to women of childbearing age than any disease except tuberculosis." A decade later Dr. Josephine Baker commented that the United States, "... comes perilously near to being the most unsafe country in the world for pregnant women as far as her chance of living through childbirth is concerned." In England also, Sir George Newman noted that since the beginning of the century both the general death rate and the mortality from tuberculosis had decreased one-third, but maternal mortality had remained stationary. J. M. Munro Kerr, writing in 1933 of Britain, recorded:

... it is cause for no surprise that all concerned with or interested in maternal welfare are weighed down with disappointment that so little has been accomplished in spite of the advances in the theory
and practice of obstetrics. . . .

The death rate persists at the present unsatisfactory level chiefly because the essential factors prejudicial to betterment are permitted to continue—not because we are ignorant of them but because we have not sufficient determination to remove them.25

It was not until after the establishment of maternal mortality committees in the early 1930's that the maternal mortality rate began to decline significantly. The relation of several of these committees to the campaign for prenatal care should be noted. The U. S. Census Bureau published its first statistics on maternal and infant mortality in 1906. In her first report on maternal mortality, in 1917, Grace Meigs of the Children's Bureau helped awaken the medical profession to the magnitude of the problem of puerperal death which she said resulted from "... unconscious neglect due to age-long ignorance and fatalism . . . ."26


In 1917, the same year the Committee on Public Health Relations of the New York Academy of Medicine "began to interest itself in the problem of puerperal mortality," Dr. George W. Kosmak, a leader in American obstetrics and editor of the American Journal of Obstetrics and Gynecology, reported to the Committee that while death rates from other preventable causes had been steadily declining, deaths from puerperal causes had remained stationary. He emphasized the lack of statistical data on maternal deaths. In an attempt to calculate such figures, the Committee then obtained data from a number of New York hospitals, but when they were analyzed, "... it became apparent that the records ... were not only incomplete, but, in many instances, inaccurate, and any conclusions arising from them would be valueless." Accordingly, the study was not completed.

Several years later, in 1923, W. W. Keene of Philadelphia requested that the New York Academy of Medicine undertake a study of puerperal infection in collaboration with the Philadelphia County Medical Society. However, this suggestion also was dropped. In 1927 another attempt to collect data on puerperal deaths in New York, this time by the Movement Toward a Safe Maternity: Physician Accountability in New York City, 1915-1940," Bulletin of the History of Medicine 59 (1976):591-92.
Bureau of Vital Statistics, yielded "nothing of signifi-
cance" and was abandoned.27

Finally, in 1928, the Committee on Public Health
Relations decided to study in depth "... the phases of the
public health problems of obstetrics as they affect New York
City." They appointed a sub-committee consisting of Dr.
Frederic E. Sondern, Chairman, and Drs. Philip Van Ingen,
Benjamin P. Watson, and Ransom S. Hooker, which investigated
all maternal deaths for a three-year period beginning
January 1, 1930. An Obstetrical Advisory Committee chaired
by Dr. Watson, included Drs. Kosmak, Harry Aranow, Charles
A. Gordon, and John O. Polak. Dr. Hooker served as director
of the study. Financial support was received from the
Commonwealth Fund and the Obstetrical Society of New York.
In 1930 the Philadelphia County Medical Society established
a similar maternal mortality Welfare Committee chaired by
Dr. Philip F. Williams.28

The reports of these committees and that of a
corresponding British study constitute one of the earliest
forms of physician peer review. They assigned responsibil-
ity to the birth attendant--physician or midwife--or to the

27 Ransom S. Hooker, Maternal Mortality in New York
City: A Study of All Puerperal Deaths, 1930-1932 (New York: The
Commonwealth Fund, 1933), p. IX.

28 Ibid., p. X.
patient herself for the possible preventability of the maternal deaths. For instance a New York City Department of Health study ascertained that, of the 2,041 maternal deaths during the three years 1930-1932, 1,343 (or two-thirds) were preventable. 29

From their findings the Committee concluded that the death rates were excessive because of several factors, principally inadequate and improper prenatal care. In almost 60 per cent of the cases, the patient either failed to seek prenatal care or, where it was sought, it had not been adequate. Other reasons for the high mortality included: excessive operative interference during labor, inadequate skill or judgment by the attendant, inadequate hospital standards and incompetence of the midwife. These conclusions had been drawn by various workers and studies for the previous 20 to 30 years. One of the Committee's chief recommendations was the necessity of prenatal care:

First, a prospective mother must have further instruction in the necessity for prenatal care. . . . Furthermore, some information must be made

available to the patients as to the standards of such prenatal care.  

There are several possible explanations why maternal mortality showed no appreciable decrease during the 1920's. Dr. Bertha Van Hoosen, Head of the Obstetrics Department of Loyola University, attributed high mortality rates in different regions of the country to differing circumstances, as reported by Rosina Wistein in 1932. For instance, Van Hoosen believed the excessive mortality in the southern United States was due to ignorance and superstition; in the western part of the country it was due to the relative isolation and long distances; and in the urban centers of the northeast it was due to crowding, inadequate sanitation and poorly trained attendants. She suggested that the high mortality rates of the groups listed above were offset by lower rates among "the remaining classes" of the population. Van Hoosen reported that the maternal mortality rate of patients she cared for was less than 0.1 per cent. She attributed this remarkable difference to the fact that women physicians remained with their patients in labor, and displayed greater patience with less operative

interference.  

Only fragmentary reports are available on the effect of prenatal care on maternal mortality. Dr. S. Josephine Baker, Director of the Bureau of Child Hygiene for the New York Department of Health, reported no maternal deaths among 500 mothers under observation during 1914. W. E. Welz reported that in Detroit for the years 1922-1923 the maternal deaths equaled 310 per 100,000 births among the prenatal clinic group, as compared with about 670 for the city as a whole. Dr. Mathias Nicoll, Jr., of the New York State Commission of Health, also reported dramatic reductions in maternal mortality as a result of prenatal care in 1929. Among 1,000 mothers attending clinics held by the New York State Department of Health during the previous five years, the rate was 14.6 per cent lower than the general rate. He correctly noted, however, that the number of patients was so small that the difference was not necessarily statistically significant. He also reported a pilot study of 5,000 women in Clark County, Georgia, and Rutherford County, Tennessee, in which the overall mortality rate decreased to 390 per 100,000 live births for those receiving prenatal care from

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1,120 among those receiving no care.\textsuperscript{32}

Scattered studies on the effects of prenatal care on mortality rates do indicate a decrease in perinatal and maternal mortality rates with exposure to prenatal supervision. Though these studies became more statistically sophisticated as the twentieth century progressed, the early studies were too simplistic to indicate that similar results might occur under similar conditions in the entire population. Among the groups who received prenatal care, it did make some difference in the mortality and morbidity of the groups.

CHAPTER VII

SUMMARY AND CONCLUSION

Organized prenatal care became an accepted part of obstetrical practice in a checkered fashion during the first part of this century. The campaign for the acceptance of prenatal care developed as part of an overall public health movement which included campaigns for infant welfare, eugenics, tuberculosis cures, clean milk, meat sanitation, and school health services. The campaigners for prenatal care drew on the intersection of both the shared and competing interests of obstetricians, pediatricians, nurses, midwives, public health workers, and social workers. Various women's groups provided the necessary stimulus to press physicians to offer such care, to encourage expectant mothers to avail themselves of the care, and to prod municipal, state, and federal governments to pass legislation supporting prenatal care programs.

Prenatal obstetrical care developed simultaneously along two fronts. On one front it grew from a hospital-based, inpatient approach which primarily provided treatment of existing maternal or fetal pathology. Prophylaxis was a secondary objective. On the other front it evolved as a
clinic-based, outpatient encounter which stressed preventive measures. Curative measures were of secondary importance. The clinic-based approach to prenatal care has increased in demand over the years; the hospital-based approach has dwindled. Details of the prenatal care given changed slowly in the first part of this century.

During the early decades of the twentieth century the infant death rate dropped rapidly from approximately 140 deaths under one year of age per 1,000 live births in 1900 to approximately 64 deaths per 1,000 live births by 1930. The fetal and neonatal death rates fell also, but not as rapidly, from about 40 each in 1900 to approximately 33 each in 1930. The overall maternal mortality rate remained essentially unchanged at about 600 deaths per 100,000 births.

It would be tempting to conclude that infant and perinatal death rates fell as a result of the increased availability of prenatal care. This conclusion is not justifiable for it is impossible to isolate the effects of prenatal care on mortality rates from any other arbitrarily chosen influence with the figures given in the early studies. It would also be tempting to draw the opposite conclusion, that prenatal care made no difference on maternal mortality rates. Again, because of the many influences on the mortality rates, and because of the many complications with statistics from that time, this conclusion is equally
fallacious.

Initially the lowering of infant and maternal mortality rates was the raison d'etre of prenatal care. As prenatal care was gradually perceived to be of greater value than simply a means to decrease mortality rates, so the probability of its incorporation into routine obstetrical practice increased. By 1930 prenatal care had become a legitimate part of obstetrics due to the expansion of its utility.
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