IV.

PRENATAL CARE IN THE UNITED STATES

Comparing Maternity Center Association, New York City, with the Maternity Center in Portland, Oregon

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Throughout the centuries of the world's history, the status of women has been an index to the height of civilization which was extant at the time. Likewise childbirth and the care of mothers during the prenatal and postnatal periods has been a gauge of the advancement of society. Childbearing was a natural process among primitive peoples and therefore was attended with indifference and often with brutality. The cross breeding and urbanization which comes with civilization had not yet occurred. Thus all the people were mostly of one size. Neither was the pelvis of the primitive mother deformed or contracted by rickets, which we now know to be one of the greatest causes of difficult labors in our day. She led a very active life, carrying on her heavy work until the very day of childbirth. This kind of life tended to make her child small and actually shook it into the normal head-down position for birth. Sometimes the primitive woman retired to a lonely spot, set aside for the purpose, with some older, experienced woman of the tribe as her time of childbearing drew near. Labor was assisted by trying to coax the child out with promises of food delicacies and the like. All difficulties were blamed upon the evil disposition of the child, because if it was so wicked as not to want to be born it deserved punishment or destruction. If the labor was extremely difficult the mother was picked up by the feet and shaken, head down, or rolled and bounced on a mat on the ground. Sometimes she was left on an open plain where a horseman would ride at her, swerving aside only at the last second, so that through fear she would be forced to expel the child. Music, which consisted of the beating of drums and a monotonous chanting accompanied the labor. Women who had borne children themselves helped their neighbors.

Thus arose the midwife, at first a blessing, but later the greatest obstacle to the obstetric art. The mother usually bathed in a cold stream immediately after birth and returned to her work, or after the custom of some tribes went aside to go through a period of isolation or purification.

At the height of the Egyptian, Greek and Roman cultures the art of caring for the child bearing woman was well developed, but it deteriorated as did every other product of the time with the decline of these civilizations, and was lost for thirteen centuries. During the dark ages due to the influence of Medieval Christianity childbirth was believed to be the result of sin. Woman was to bring forth her children in sorrow and suffering, therefore her treatment was worse than the neglect of the primitive peoples. Due to ignorance and lack of understanding maternal mortality rose higher throughout the centuries. The progress of society was marked, however, by the development of regulations to control the practise of the midwives. Among the ancient Jews more attention was given to the hygiene of pregnancy and childbirth than to active assistance to the lying-in woman. Delivery took place on a stool or in the lap of another woman.(1) The "obstetrical chair" lasted from this time until the nineteenth century, A. D. In Hippocrates' time midwives were well organized and had clearly defined duties. A physician might be called in to assist at difficult deliveries. At this time the Romans were without systematized medicine and their early experiences with Greek physicians was discouraging. Greek medicine continued to develop in Rome, however, and culminated in the ancient practise of midwifery as told in the writings of Soranus of Ephesus in the second century A.D. He practised midwifery himself and his teachings brought the childbearing woman a kindness of

(1) Exodus 1: 15 - 21.

treatment never before recieved. He thought that the midwife should be "no believer in spirits" and his rational care was based on a knowledge of the anatomy of the femal reproductive tract gained from the dissection of animals.

The worst period for women in the whole history of the world was that of the Middle Ages. Ignorance was rampant and lacked even the intuitive skill of the primitive as well as the knowledge of previous civilizations. Urbanization was making delivery more difficult all the time. As Haggard says "Woman paid for the mythical fall of man under her temptation of him in the coin of blood and death". Primitive woman had resorted to abortion when she thought childbirth might be too difficult or while yet nursing. From Soranus' writings we find that the Greek physicians looked upon abortion as an operation to be performed only when the life or health of the mother was in danger. This habit was barred by the medieval church and Caesarean section was offered in its place. Without anesthesia or any knowledge of antisepsis and in a crude and barbaric way this operation was performed by barbers or executioners. It was beneath the dignity of the physician. In normal labor a woman had an even chance if she did not succomb to puerperal fever or eclampsia. In difficult labor she was either left to die or was butchered to death by a "Sairey Gamp" type of midwife or by a vagabond surgeon or hog-gelder. Up to the fifteenth century, A.D. there had been no book written for the direction of midwives. At that time Eucharius Roslin of Worms wrote a book which he called "The Garden of Roses for Pregnant Women and for Midwives". The sarcasm of this title implies that despite the ignorance of the time some people were well aware of the risk and discomfort involved in childbearing. This book brought to light the work

of the Greeks and although the author had never seen a child born he made bold to give directions for the procedure to be carried out. Men had been excluded fanatically from the birth room so that one Dr. Wertt of Hamburg, who dressed as a woman in order to attend and study a case of labor, was apprehended and burned to death for his impiety.

The first advances in the cause for mother and child came in the sixteenth century with the advent of Ambroise Paré of France. His was the highest medical mind of the time. He was gentle as well as great, as we can see from his attention to the childbearing woman and the child also. He was first a rustic barber's assistant, then had his surgical training as a dresser at the Hotel Dieu, like all hospitals of the time, a filthy, disease spreading place in Paris. He came to fame while an army surgeon after having dressed the wounds of one of the Captains, who had recovered completely. Paré's remark concerning this incident was that he had dressed the wounds and God had healed them. Ten years later Henry II became king of France. Because of Paré's excellent work the king made him chief surgion. After the king's death, Paré became chief surgeon to Francis II, Charles IX and Henry III, the three sons of Catherine de Medeci, the Queen. Paré was the first to break away from the pseudo-Hippocratic and Galenic laws that bound the medical profession of his time. This took a man of courage and patience. He was the one who brought back to civilization and described podalic version--as great a discovery for the child, as that of the infectious nature of childbed fever for the mother, three centuries later. It was to be used in those cases wherein the child was not in the normal position to be born. It consisted of manual manipulation so that the child was put in a natural position for birth. The

child was usually extracted manually at the same time. This seems to us an obvious method which might have occurred to the midwives of the Middle Ages, but its use waited for centuries for a man who had a kindly interest in humanity and was willing and humble enough to stoop to the aid of lowly woman and her child. In Paré's time a school for midwives was started at the Hotel Dieu in Paris. The status of the childbearing woman was improving. Physicians even began to take an interest in her. The graduate midwives were of a much superior type to the careless old hags who had formerly carted their obstetrical chairs from house to house. Louise Bourgeois, a "sworn midwife" of Paris was among the first graduates. She officiated at the birth of the Dauphin (Louis XIII), and later at the births of Marie de Medeci's other children. Julian Clement, male midwife of Paris, delivered the Dauphin in 1682. At this time he received the title of "accoucher" to replace the more derisive one of "he-grandmother" or "midman". Soon male midwifery became the fashion among the ladies of the court and all the princesses began to place themselves under the care of accoucheurs.

By the year 1588, in England, the two Chamberlen brothers, Peter, the younger and Peter, the older, were devoting all of their attention to midwifery and had invented the obstetrical forceps. They kept their invention a secret and tried to assume absolute control over the instruction of midwives. They passed this secret along to the next generation represented by Peter, son of the younger brother. He was a man of some ability but was a religious enthusiast as well as somewhat of a quack. He handed the secret on down to his son, Hugh. Hugh dabbled in politics and soon found himself in trouble, so he retired to Paris for the quieter reign of Louis XIV. While there he attempt-

ed to sell his precious family secret to Mauriceau, the leading obstetrician of France at the time. Mauriceau had just dispensed with the old obstetrical chair which had been used ever since Bible times, because he found that it was easier to deliver his patients in bed. Nevertheless the chair was still favored by the majority and the brides of Holland provided them with their trousseaux until the nineteenth century. Mauriceau had a patient , deformed and dwarfed by rickets, whose labor was so difficult that all efforts to deliver her seemed hopeless. He offered Hugh Chamberlen the opportunity to prove whether or not his "secret device" might be effective in this case. Hugh had claimed that he could deliver any patient, no matter what caused her difficulty. He worked for three hours and finally admitted that he could not deliver the patient who soon died due to his manipulations. Such behavior from the standpoint of medical ethics, let alone from the humanitarian aspect was most culpable. The tenets of medical ethics handed down from the time of Aesculapius forbad such practises. Any physician who found a means of alleviating human suffering or prolonging lives made his discoveries public that all his profession might see and profit thereby without any financial obligation to him. Many of the surgions of this age were not recognized as physicians. They had come up from barbers and hog-gelders, so that they came into their positions at this time without the ethical ideas which had bound the medical profession from the beginning. Chamberlen was forced to flee from France because of this incident and because of his political views. Through the intervention of Mauriceau he had failed to sell his secret. He fled to Holland and there he sold it, but the stench of this unethical procedure spread throughout all of

Europe. The Medico-Pharmaceutical College of Amsterdam was the purchaser of the secret and since they had the sole privilege to license practicing physicians in Holland they sold this secret to each of those who would pay a large enough sum for it. This despicable practice continued until a group of men finally purchased the secret and made it public. Then it was found that the purchasers had been swindled, for only one-half of the forceps comprised the device which they had bought. Hugh Chamberlen, Junior, who was a prominent physician in England and an intimate friend of the Duke of Buckingham, allowed the family secret to leak out during the later years of his life. Because of the terrible breach in ethics which the Chamberlens had made, the credit for the discovery of the obstetrical forceps is not always given to them, but to Jean Palfyne, instead, who developed an instrument which he presented to the Paris Academy in 1721. The purpose of the forceps is to assist in the extraction of the child when the mother is unable to expel it and because of her condition or that of the child it is advisable to terminate labor shortly. They did not take the place of Paré's podalic version, nor did either take the place of Caesarean section. Each had its own use and was welcomed as an additional aid to the childbearing woman.

Although it was known in the sixteenth century that the child must pass through the ring made by the pelvic bones, they did not know the exact structure and relation of these bones. Even Paré believed that the pelvis separated in front and spread apart to make room for the child's head to pass through. It was Andreas Vesalius, in 1543, who first crudely showed the true relation of the pelvic bones. Thus the study of Anatomy begun by Vesalius showed the fallacy of the separation of these bones

during childbirth. It was in England in the eighteenth century that the measurement of the size of the pelvis was established so that the physician could recognize the abnormality, if any was present. In such cases the pregnancy was terminated in the seventh month or early in the eighth month before the child had reached its full development. With good care the premature child could be reared even in those days. The French physicians did not follow the example of the English physicians, probably because of the influence of the Catholic Church. Yet in spite of this and the attitude taken by the medical profession, abortion was practised extensively by the great ladies of the day, not for medical reasons but to hide their sexual irregularities. There was a large class of men and women who made a business of producing abortions. The women were usually midwives too. At the time the English physicians had revived the induction of premature labor, midwifery had not been separated from surgery. Physicians were only called in when labor was difficult. So quite naturally the surgeon tended to make childbearing a surgical operation and used instruments whenever possible. The reaction against surgical interference became so strong that the practise of surgery then began to be withdrawn from obstetrics. This division was carried greatly to the extreme. Even beneficial surgical procedures at childbirth were discarded for a time. William Hunter, in the middle of the eighteenth century, to emphasize his views about interference at childbirth, had the habit of showing his obstetrical forceps covered with rust, as evidence that he never used them. He was the leading consultant in midwifery in London and had been trained at the University of Glasgow. The obstetrical art was no longer taught as a branch of surgery so that in the nineteenth century obstetrics

became a recognized part of medical education and practise. The reasonable use of forceps and other operative procedures returned, but were no longer used as the main instruments for delivery, only as necessary aids in difficult cases.

By the nineteenth century obstetrics was well developed from the mechanical side. Some of the advantages from the gradual development of the obstetrical art had been offset by the increasing prevalence of a disease called childbed or puerperal fever. During the seventeenth, eighteenth and nineteenth centuries this disease became a real pestilence. In 1773 a great epidemic of puerperal fever struck the lying-in hospitals of Europe more than decimating them and after three years finally culminated in Lombardy where, it is said, that for a year not one woman lived after bearing a child. These great charity institutions would have been abolished had there been any other means of caring for destitute women who had nowhere else to go. A means for controlling puerperal infection was developed in the nineteenth century, but before that time childbirth ranked in mortality with some of the more serious infectious diseases.

The first definite statement concerning the cause of childbed fever came from the United States. For the first time the conquest of death at birth had turned to this country. In the colonies obstetrics did not receive the attention that it had abroad. It was considered only a simple physiological function to be carried out in secrecy with a friend or midwife. Forty-six years after Julian Clement delivered the Dauphin of France and thus made male midwifery popular among the ladies of the court, New York City passed the first ordinance in America to control the activities of midwives. In 1739 a special department of obstetrics was created at the University of Glasgow,

While in America, six years later we have the first record of a "male midwife". The "grannies" with their two and three dollar fees were still preferred by the modest women of New York in 1762, while at the same time Dr. William Shippen, Jr. was opening a school for midwifery in the less modest but more progressive city of Philadelphia. Dr. Shippen had studied abroad with John and William Hunter and had completed his medical studies at the University of Glasgow. He also provided "convenient lodgings" for the accommodation of poor women during their confinement and may thus be said to have established the first lying-in hospital in America. The American Revolution interrupted the teaching of Obstetrics at the newly founded medical school of Pennsylvania. Just about one hundred years after Mr. John Dupuy, M.D., man midwife, of New York died, Oliver Wendell Holmes read before the Boston Society for Medical Improvement a paper entitled, "The Contagiousness of Puerperal Fever". In this paper he showed clearly that the disease which ravaged the women in the lying-in hospitals of Europe, and which in America also, took its toll of lives, was an infectious disease, and that the infection was carried by the physician or midwife from one patient to another through lack of cleanliness. This paper was received with indifference in Boston, and with heated condemnation in Philadelphia by Dr. Meigs, who had succeeded Shippen in the chair of Obstetrics. Holmes' papers were not even heard of in Europe until the time they were resurrected as historical curiosities over fifty years later. Holmes, in one of his treatises spoke of one physician in Vienna who had been having better success because he had washed his hands in chloride of lime solution between patients suffering from puerperal fever. This was the great Semmelweis. Childbed fever did not usually occur in

private practise, except in a few consecutive cases of one physician, perhaps, soon dying out, but it was so prevalent in the hospitals of the time that they became veritable charnel houses. The lesser death rate outside of hospitals was due to the ideal conditions for the spread of disease which existed in the hospitals. In Germany autopsies were beginning to be performed on every patient who expired. The medics would go from the dissecting room straight to the delivery room, and without washing their hands would proceed to examine the patient. There was no knowledge of antiseptics so that they were not used. Semmelweis had noted the difference in the maternal death rates in the the two divisions of the lying-in hospital in Vienna where he was working and was determined to find the cause. He noticed that one division was adjacent to the dissecting rooms and that was the wing wherein the greatest number of deaths occurred. So he decided to experiment. He insisted that all the students and doctors who took care of any of the patients in this one wing wash their hands very thoroughly in a solution of chloride of lime before examination, delivery or any other contact with the patients. This procedure brought the death rate down and when the attention of the chief physicians was finally brought to the work of young Semmelweis, they advised that this technique be used throughout the entire hospital. In the next seven months the death rate fell from 120 in one thousand deliveries to 12.

In the United States 6.8 women die in every thousand deliveries and forty per cent of these die of puerperal fever. Seven thousand deaths occur from this cause every year and twenty thousand are left who suffer various degrees of invalidism. In Sweden the rate is only 2.3 deaths in one thousand deliveries. This seems to be due to the fact that in Sweden the midwives are

chosen from high grade women who are specially trained and are allowed to practise only under medical supervision. In our country there are twenty-eight thousand licensed and eighteen thousand unlicensed midwives. They have no standing and are not supervised at all, yet 500,000 women are entrusted to their care annually.

In order to meet the need of the expectant mother, we now have some wonderful institutions called Maternity Centers which are scattered over the country to help the prenatal mother to learn to prepare for the great event. These women who are under the care of competent doctors and graduate nurses in these well conducted centers avoid most of the hazards and anxieties of prospective motherhood. The mothers are urged to register as early as possible with the private doctor or hospital physician who will deliver her so that he may direct her care during pregnancy and know all about her when the time of her delivery comes. Each mother is helped to select the best facilities available suited to her condition. The nurses work with the doctors and report to them every time they visit a mother. They see every mother at her home or at the Maternity Center at regular intervals during her prenatal period. They seek to aid her in any problem or question which might disturb her peace of mind or happiness or interfere with the health of the other members of the family. The nurses try to detect any discomforts, complications or abnormalities in time to have them corrected before they can harm either the mother or the baby. It is part of the nurse's duty to teach the mother and father about the mother's hygiene, which includes her diet, rest, exercise, elimination, bathing, clothing, care of the breasts and care of the teeth and how this routine may be fitted into the daily regime of

the home. The nurse also instructs the mother concerning the necessary preparation for the baby, including its clothing, bed, toilet supplies and care of them; the preparation of the delivery supplies and some plan for the mother's care when the baby comes and during the first few weeks following; the care of the baby, its bath, rest, exercise, food and habit training and how best its daily routine may be followed without disrupting the family life.

Classes are conducted at the centers at which the mothers can see the model clothing and supplies for the babies and themselves and where they can practise bathing and dressing a life size baby doll. These classes can often be organized into a social club for the mothers. This type of club is very helpful, especially at this time when the mothers are not going out as before. They come to the center for their class and stay to have refreshments and a social visit.

The nurses sometimes even help the doctor or midwife during the delivery and always make regular visits afterward to give or to teach some responsible person how to give the necessary care to mother and baby. They inquire as to whether or not the household is running smoothly so that the mother can rest as long as necessary, and gradually as the doctor advises go back to her usual duties and increased activities. When the mother begins to care for the baby herself the nurse goes in to explain again all the points that the mother learned in the classes at the center. She also helps the mother plan her work so that she can have time for rest and recreation and still give her baby the best care. Before the nurse stops making her visits she makes sure that the mother has seen her doctor for the last examination, which is so necessary to detect and correct at

once any bad effects of the pregnancy; to see that the baby is registered with a doctor or a clinic for regular health supervision and instruction until he goes to school; and finally that the father and mother recognize that the regular annual health examination for the whole family is the ounce of prevention which will reduce sickness to a minimum.

The Maternity Center Association, New York City, is at the present time the best example of a Maternity Center which we have in the United States. It is considered the standard to which other centers in various parts of the country strive to attain. This Maternity Center Association was organized in 1918 through the efforts of Dr. Haven Emerson, health commissioner of the city at that time. He had been cognizant of the fact that maternal and infant mortality rates in this country were too high, a disgrace shared by the medical and nursing professions alike. He had the courage and foresight to believe that this high rate was preventable, therefore he resolved to do something about it. He called together a small group of eminent obstetricians and pediatricians who attempted to make a plan whereby they could champion the cause of the mother and make childbearing safe. Through the cooperation of the Women's Clubs, who agreed to finance this initial movement, these men formed a medical advisory board. Their aim was to meet the needs of the pregnant mother with medical and nursing supervision, care and instruction from the beginning of the prenatal period, skilled obstetrical care at delivery and medical and nursing care, supervision and instruction during the puerperium.

A group of interested nurses, well trained in obstetrics formed a nurses' board. The actual working nucleus of the Maternity Center Association was composed of these nurses.

They made prenatal home visits and assisted at the ambulatory doctor's clinics as well as at the clinics held at the Center. The Henry Street Visiting Nurses gave the delivery service and post partum care. In 1922 it was found that it was not practical to have representatives from two different nursing organizations going into the same home on the same case. Thereafter the work of the Maternity Center was limited to a small portion of the city where a complete obstetrical service was given, namely, prenatal care, delivery service, post partum care and follow-up work. This district was largely unworked heretofore and needed semi-charity. They usually could have afforded calling a doctor in case of sickness, but could not afford prenatal supervision or hospital care at the time of delivery. There were about 200,000 people of twenty-seven different nationalities in this area so that it was large enough for study. The aim was to demonstrate to these people that the best care possible for every mother is her right and that she should have it at any cost. They also sought to educate the public to the need of such a service. In order to get the voter to appropriate taxes and the taxpayers to be willing to pay for a service of this type it was necessary to uproot the idea that "suffering in childbirth is the will of God", and to substitute instead the fact that maternal suffering and death are preventable by proper care. The idea that childbearing is not a disease, but a natural process had to be taught by precept and example in this demonstration. Yet they dared not forget to add that during pregnancy the margin between health and disease is very narrow and the balance can only be maintained by constant medical and nursing supervision and care.

The best advertisement for the Maternity Center seemed to

be the direct contact between the health worker and the family. At the outset the nurses canvassed for mothers from door to door, leaving pamphlets on prenatal care, telling about the services of Maternity Center and asking one patient about her neighbors until everyone knew about the center. They visited every social worker and association and explained their mission and the need for prenatal care and asked them to refer prenatal mothers to the health center. They also visited all the doctors in the district explaining their work and offering their help and co-operation as well as soliciting that of the doctors.

The program which developed included medical and nursing supervision, instruction and care during the prenatal period, nursing assistance to the doctor at delivery, nursing care, supervision and instruction during the post partum period, post partum medical examination six weeks after delivery and continuous supervision for the baby. The objective was to study a technique which would give the least mental and physical discomfort and the best fitness at term with a well baby and the knowledge as to how to keep both mother and baby well, to teach this technique to nurses and medical students and to teach the community its value and need. As the work grew and the news spread about the district the mothers began coming to the center voluntarily as well as by the reference of doctors and social workers.

The Maternity Center Association has been a nursing organization from the beginning even though instigated by physicians and constantly under their direction. It soon became affiliated with the maternity hospitals in this area as well as with private physicians. Graduate nurses from all over the world came there to learn how to carry on a complete obstetrical service and were taught by the staff nurses who were pioneering in this work them-

selves. A few student nurses came to the center to observe and the original aim was to teach internes as well, but that has never been carried out.

Maternity Center is now combined with New York Lying-In Hospital as the first unit of the East Side Medical Center. Cornell University Medical School is the educational center with Bellevue, Manhattan Maternity, Old New York Lying-In Hospitals and the Cornell Clinics as the affiliated laboratories. Just as Columbia University Medical School on the West Side is the center with Sloan and the New Lying-In Hospitals affiliated.

Home and office visits were both found to be necessary. All the patients were seen by a doctor or nurse every two weeks till the seventh month, and every week after that. The same routine was followed at each nurse's visit which was as follows: Recording of temperature, pulse and respirations, blood pressure and fetal heart beat; inspection of breasts and inspection of ankles to see if there was any evidence of edema or varicose veins; questions about the patient's health habits, hygiene and diet; urinalysis and a summary of the whole teaching.

Group instruction of the mothers was begun and found to be very valuable in that it reduced the overhead cost and socialized the mothers to a great extent. The mothers formed a little social club of their own which met at the center and featured the series of talks by the nurses, as well as the business meeting and refreshments. In this way six to ten nurses could see thirty to sixty patients in one day, give a demonstration and talk and the routine physical inspection plus the check-up by the physician. The organization of a mother's club of this type is important because it binds the mothers together and makes them more interested in each other and gives them valuable

social contacts which otherwise would have been dropped during this prenatal period.

In order to estimate the good that any organization has done, concrete facts such as those gathered by statistics are really most worthwhile. To quote a report of the study of records of the Maternity Center Association of New York which was made in 1930 by Louis I. Dublin, Ph.D., Statistician of the Metropolitan Life Insurance Company and Hazel Corbin, Director of the Maternity Center Association seems to be the best method to indicate the effective results of prenatal care. "This study included the records of 4,726 women cared for and dismissed from January 1, 1922 to December 31, 1929, inclusive, except those who were found to be "not pregnant", "had moved" or "transferred to other agencies". During this whole period only 28 per cent of the patients came under observation before the fifth month of pregnancy; 24 per cent in the fifth or sixth month; and the remaining 38 per cent in the last three months of pregnancy. Two per cent received their first care in the ninth month. Those who received no care prior to the seventh month cannot be considered as having received adequate prenatal care. Thus 85 per cent had registered before the seventh month of pregnancy.

During the entire period of eight years no woman under care died before delivery; eleven mothers died within one month after delivery from puerperal causes; there were 4,596 live born babies, 123 stillbirths, and 132 of the live babies died before they were one month old and there were 274 premature deliveries, 61 of which were miscarriages.

One fundamental purpose of prenatal service is to conserve the health of mothers during pregnancy by keeping constant watch for the development of any symptoms that suggest conditions

which may unfavorably affect their health. Albuminuria, edema, and high blood pressure are some of these symptoms. In all, 1,604 women or one-third of the total, had one or more of these symptoms of abnormality, at one time or another during pregnancy. In every instance the patients were referred for medical advice or were temporarily cared for by means authorized by the Medical Board of the Association. It is interesting that not one of these women died before delivery. These complications of pregnancy apparently play an important part in the welfare of mother and child. Among the women who showed complications during pregnancy, the ratio delivered before term was 74 in 1,000 or about 50 per cent higher than among those with no complications. Thirty-nine in one thousand had stillborn babies as compared with only nineteen per thousand among women with no complications. That shows that the chances for stillbirth are doubled when mothers have complications during pregnancy.

The maternal mortality rate based on live births was 2.4 per 1,000 which may be compared with the rate of 5.3 maternal deaths among white women in New York City (1922 to 1926). Comparisons with a group of mothers in the same district, none of whom received the care of the Maternity Center Association were available and were made for the six-year period from 1923 to 1928 which is extensive enough to give reliable results. In the Bellevue-Yorkville District the mothers who did not have the care of the Maternity Center showed a maternal mortality rate of 6.2, nearly two times as high as the rate of the mothers who had that care. This reduction in the deaths of mothers is very gratifying and is indicative of the saving of lives that might be accomplished in the general population were every pregnant mother to receive the benefits of a specialized maternity

service.

The number of still births was 42 per cent lower in the Maternity Center Association group than in the rest of the district, the rates being 27.2 as against 46.8 respectively. Very little is known of the physiologic and pathologic conditions of the fetus and we are therefore at sea when it comes to a study of the causes of stillbirths. Many of these deaths are unavoidable, particularly those due to congenital defects, but a reduction of stillbirths has resulted from improved care of mothers during pregnancy.

This study demonstrates that prenatal care as conducted by the Maternity Center Association produces definite results. The mortality of the mothers was reduced to about a third of the mortality occurring in the same area among women not receiving the intensive care offered by the Maternity Center. Infant deaths were also reduced 32 per cent as compared with the control group in the same area. But it is only too true that in spite of these gains, the irreducible minimum has not yet been reached in the mortality of mothers, in the diminution of stillbirths or in the deaths of babies under one month. There are still too many misfortunes to mothers and babies under the present regime. A combination of such a service as the Maternity Center Association gives with a well-controlled Medical delivery service preferably under a hospital's supervision, would more than likely eliminate many of these misfortunes.

For the country as a whole, the results already achieved in the Maternity Center experiment reported in this study, have very definite implications. If the same type of service could be rendered universally and the same results obtained, 10,000 of the 16,500 women who die annually could be saved; many still-

births could be prevented and some 30,000 babies that annually now die, under one month would be living."

Our attention may now be shifted to the prenatal work which is being done in Portland, Oregon. The Visiting Nurses Association of Portland, which was organized in 1903, made calls on expectant mothers to see if they had layettes ready and if not, supplied them. It was not until about 1920, however, that the visiting nurses began to make real prenatal calls. At this time the value of prenatal care was being more fully realized and was emphasized in the training of public health nurses. Thereafter when they made prenatal visits they were more able to teach the mothers the necessity of a medical examination early in pregnancy, supervision throughout the whole time and preparation for the delivery. They not only taught this but showed the mothers how to prepare the supplies and helped them in every way possible. In 1925 the Bureau of Child Hygiene of the Oregon State Board of Health began to send out monthly prenatal letters to any expectant mothers in the state whose names were referred to them. These are advisory letters incorporating the essential points of prenatal care.

In 1918 the Portland Free Dispensary began to hold prenatal clinics at the instigation of Dr. C.J. McCusker, head of the department of Obstetrics at the University of Oregon Medical School at that time. By 1919 the work had grown slightly and was enlarged with the establishment of two district clinics, one at the Arleta Library in the Southeast part of the city and the other at Killingsworth Library in the Northeast section. One of the nurses from the Dispensary had charge of these clinics, going out to assist the physician with his examinations.

In February, 1931, the Portland Free Dispensary was moved

into the new clinic building on Marquam Hill and affiliated with the University of Oregon Medical School. It was thenceforth known as the Medical School Clinic. A more complete maternity program was then launched. This program is built upon the same principles as that of the Maternity Center Asscciation, but is carried out on a smaller scale. The director is the head of the department of Obstetrics at the University of Oregon Medical School. The nurse director is one who has been trained at the Maternity Center in New York City.

The district which is covered includes the whole city, while anyone from Multnomah County or any other county in the State is eligible for care, since the institution is statewide in its scope. The primary object was to benefit indigent families, although other families are also reached through the teaching that this service includes. This clinic is also used for the teaching of undergraduate medical students and public health nursing students. The medical care is supervised by the resident obstetricians at the Multnomah County Hospital with which the clinic is affiliated for a delivery service, both in the hospital and in the homes.

The routine procedure is much the same as that at the Maternity Center Association, New York City, with the exception that the home work is less intensive due to the lack of sufficient personnel, while the clinic work is stressed. The type of people reached are more homogeneous as to nationality and customs. The district is very widespread and outlying due to the fact that the people are homemakers and do not live in tenements and flats to any great extent as they do in New York City. For this reason many of the homes cannot be reached. On the other hand, the patients can usually find some way to come in to the clinic so they are urged to do that.

Prenatal clinics and classes are held at the two libraries in two different sections of the city for those who cannot come to the center. Prenatal clinics are also held at the center twice a week with the medical students making the examinations under the supervision of the resident obstetricians from the Multnomah County Hospital. The nurse director confers with the physician and the patient as to whether a hospital or a home delivery is expedient and then makes arrangements for which ever has been agreed upon. The resident who goes out on the home deliveries is accompanied by a Senior medical student and an assisting nurse. The visiting nurses give the post partum care to those patients who live within the city limits and the Multnomah County Public Health nurses give postnatal care to those who live outside the city and within Multnomah County. Both of these nursing organizations do follow up work and conduct Infant Welfare Clinics for well babies up to two years of age. The mothers are advised to come back to the center for their postpartum examinations at six weeks after delivery and also bring their babies back for a checkup.

Although we are proud of the setup in maternity care which we have and are thankful for the results which have been thus far produced, nevertheless there is always a higher goal to strive for. With several different organizations participating in the maternity service rendered by this community there is a great need for better understanding and cooperation between them. At the present time, each organization is doing its work well, but each does not have an adequate staff to carry on the work in the most efficient and concurrent manner. The Medical School Clinic needs a larger nursing staff in the obstetrical department in order to make home visits and to take care of the

large number of patients who come to the clinics. They have only two nurses now, one of whom is the director. She makes all the prenatal home calls and has charge of the outlying clinics as well as the one at the center. The other nurse has charge of the out-patient delivery service.

The home visit is one of the most important aspects of the whole prenatal program in that the nurse can gain more from the condition of the home and surroundings than she could ever find out from only questioning the patient. This aids the nurse greatly in her report to the doctor as to the advisability of home delivery. There are many homes which are not fit for delivery. In such cases it would be much better to have the mother confined in the hospital where she could have adequate post partum care, free from the worry and cares of the household. She would be so much benefitted by her two weeks rest with the proper nourishment that she could go back home with a reasonable chance to recuperate gradually without the usual stress and strain. Adequate postnatal care with the proper technique cannot be given in a home which is filthy, which does not have sufficient linen and supplies and is overrun by children. Standards of public health nursing cannot be kept up or raised when one is forced to give post partum care with makeshift supplies in the midst of a dirty, unkempt household. The welfare of the mother is at stake and in order to reduce the maternal death rate we must use sterile technique and supplies during delivery and post partum care.

We are also facing the great need of the middle class mother. The wealthy and the very poor are well taken care of as far as sickness goes, which is also true for prenatal and maternity care, but the middle class cannot afford medical supervision during pregnancy neither are they offered clinic care. If our service

could be on a pay basis with service which is sometimes free for those who are indigent, both classes will be better taken care of. The very poor would not be altogether pauperized with that type of program, neither would the middle class be neglected.

The need of the future is obviously to put into operation the methods which, through the years of past history and present enlightenment have been demonstrated to be effective. The aim of prenatal service is embodied in the following quotation by Ralph W. Lobenstine,

"Rarely does a more severe test come to the average woman than in child birth. To pass through this experience with health unimpaired, or perhaps even improved, with a healthy infant to compensate for the unavoidable trials and with one's outlook as a result greatly broadened, is a blessing all have a right to expect who ordinarily enjoy a reasonable degree of health and are not overwhelmed with poverty."

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