A STUDY OF MATERNITY OF INFANT WELFARE

WITH

SUGGESTIONS FOR A LOCAL COUNTY PROGRAM

XIX.

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Part I.

HISTORICAL BACKGROUND

> The position of women in any civilization is an index of advancement of that civilization; the position of women is gauged best by the care given her at the birth of her child (1)

History of motherhood, mother's care and that of her baby can be traced through the interesting chapters of time. We find many changes. Some of the ancient practices are surprisingly scientific and are comparable with our present day procedures. In other periods we see regression to a sad degree. History pictures religion, indifference, and knowledge, each striving to find a place on top.

We may be well pleased to find ourselves living in a period of conscientious effort toward advancement, rather than in the age of decline a few centuries ago. At the present time, we are slowly mounting another curve. We are becoming aware that much must be done to give our mothers and babies the peace, comfort, and safety, science affords. Our own nation, the proud country that believes herself to be the leader of the world, must hang her head in shame; because she makes her land the least safe,

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1. Haggard, H.W; "Devils, Drugs and Doctors P 1.

with the exception of South America, for mothers. In order to change such a low standing, we must turn to our state and inquire as to what she is doing. Since babies are born all over, rather than in controlled areas, we must examine our own country. Perhaps by building a sound program for this unit, we can lay a foundation for a sane program that will in time, protect and evaluate human life, quite as much if not more than farm animals, industry, and crops. We look hopefully toward Public Health as a promise that will mature into health and happiness -- an opportunity for man, that will rise to an everlasting plane rather than pass down again the tragic arc of history.

Since Eve tempted Adam, women have faced the problem of bearing children. We find by careful study and research that our primitive mothers faced child bearing as a severe task, though probably a more simple one physically, than do our mothers of today. Their medical care seems crude and their customs queer, but their problem was the same essentially as is ours today. The big difference as compared to ours is in their environment rather than how they met it.

Let us examine the physical aspect of the primitive woman. To begin with she usually lived in a warm climate. The sun poured over her body and was not shut out by clothing. Arachitic pelvis was extremely rare. (1) Since she ate whole foods rather than refined ones, she had good sources of body building material. Then too, her tribes were of average size. Since

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1. Ibid P. 10

her blood stock was not intermixed with other races, her baby was of a size to fit the passage way of her pelvis. She carried on with active work almost to the last hour, and her baby descended normally. Usually her baby was born normally and was accepted as a natural occurance. In her day she had one great danger, the fatal transverse position.

Her environment was less hazardous in that there were no epidemics of plague, typhoid fever; no problems of gonorrhea syphillis, tuberculosis or alcoholism; because these came with civiligation. Neither did she face child bed fever, because there were no contaminated medical students or accouchers attending her; nor was she crouded into unsanitary hospitals.

It is of interest to note some of the ancient practices and beliefs. The Sandwich Island (1) group held public births. Many natives crouded into one small hut, occasionally if the woman was of a very prominent family, her delivery was held outside so that more could attend. Usually the primitive mother was placed in a cold bath after delivery. She usually passed a period of cleaning in seclusion. The Siamese ancients exposed her, if she was a primipara, to a near by fire for thirty days. If she was a multipara, however, she suffered this treatment for a period of only five days. This practice seems crude to us, but at least it afforded the mother a period of recuperation.

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1. Ibid P. 12

The primitive people had methods of stimulating slow deliveries too. Their favorite one was the placing of a strap over the upper part of the abdomen and then applying tension. If this was not successful the expectant mother was shaken up and down by her heels. Frequently she was starved for a week preceeding her delivery. It was believed that the infant was born because the uterine space became to small for him or that he became hungry. Sometimes the baby was coaxed with a bowl of milk and threating cries. If the child still refused to come he was left to die and the mother too. The babe had an evil disposition and should die. The mother deserved the same fate for daring to bear such a child.

We find priest aid in a high state of development during the period of 3000 - 1500 B.C. among the Indians and Egyptians. The priest used surgery and manipulation. He was very much preferred to the physician of that day because he had a real knowledge of anatomy and physiology. He also preformed Caesarean Sections on the dead. In the Later part of this period we also find mention of the obstretical chair.

In 715 B.C. King Numra Pompilius formulated a law that mothers who died late in labor should have an operation performed so that she and her babe could be buried separately. This order became the Lex Cesare and thus the term Caesarean section. Formerly this operation was listed only under religous laws.

It would be natural to expect the development of the

midwife. In very early days women took care of each other. Certain women, in the group gained more expierence than others and became very skilled in the management of deliveries. Because of this skill they were called upon more frequently than others. Thus we find our first midwives.

There were certain old laws (1) that ordered expectant mothers to be attended by "four aged and knowing women with nails well trimed." In about the fifth century B.C., we find midwives well organized with duties clearly defined. Some of these duties were to knead or bump the patient's abdomen during labor to hasten delivery. Usually they sang sacred songs at this time too. Only in very obstinate cases did they call upon the physician for aid. After the birth of the child, one of them would present him to the father. If the father by chance, was not pleased the infant was left outside to die unless someone else assumed his care. Infant desertion was legitimate until the Christian Era. Some further duties of the midwife were giving advice as to marriage, treating women's deseases and preforming abortions if desired. Abortions were not illegal, but according to the oath of Hippocrates, not ethical proceedures for physicians.

Hospitals and Sanitoria were recognized about this time too. Aesculapius,(2) a doctor, was according to Greek mythology, the son of Coronis and Apollo. Because he did so

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1. Ibid P. 20

2. Ibid P. 21

much to decrease the hazards of man's life by carrying out sanitary measures; Pluto complained to Zeus that the doctor was unbalancing the swing of population. Thus the foresighted man was struck down by a thunderbolt. People never forgot Aesculapius and his ministrations to mankind. They erected temples in his memory. These temples were recognized later as early sanitoria and medical schools.

From 500 B.C. to 300 A.D. we find a very progressive period. The Greek doctors were well educated and used wise treatments. According to the writings of Soranus, we find the midwives sharing in this education. They had knowlege of the external genitalia, allowed labor to take a natural course, and used rational treatment.

Gradually we mark a change. The less successful Greek doctors went to Rome where superstition and quackery were easily practised. Confusion and misunderstanding of the Hippocratic Oath was manifested. Doctors soon placed themselves on a high plane above the masses. Since they were in this exalted state, they no longer soiled themselves with such common events as deliveries. Barbers or butchers preformed most of the obstretrical surgery. This period was a difficult one for women. In addition to not securing help from the doctors, the Roman church forbade escape through abortions. At this time, the church consils took over midwifery. We see it taking on a religious aspect rather than an improvement of techinique. Hippocrates and Soranus were apparently lost to western civilization.

In the fourth century we find definite religious influence on our hospitals and nursing service. We find both men and women belonging to religious orders, caring for patients. The service was of good quality, but the nurses were directly responsible to the clergy. Often they were sent to prayers while acutely ill patients were left alone to care for themselves as best they could. Naturally misunderstanding arose between the clergy and the medical proffession.

Again we find a change. Nurses or sisters had a hard time carrying out their many duties. Frequently we find them working long hours often underfed. Gradually attendants were added to the staff. Then too, the religious hospitals found it more and more difficult to meet the increasing demands for care, financially. The hospitals were taken over one at a time by municipalities.

Municipal hospitals developed on a larger scale, but the service declined in quality. Attendants of low type took over the care of the patients.

At least one man was aware of the coming disatrous changes, Ambrois Pare, (1) a barber by trade (1529), He was interested both in surgery and obstetrics. Perhaps his outstanding piece of work was developing of schools for midwives. Hotel Drew of Paris was a better type of hospital than the average because of Pare.

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1. Ibid P. 23

The"Savry Gamp" period began in the latter part of the seventeenth century (1) Nursing techniques were forgotten, only remnents were found among stray religious orders. Hospital conditions were unbelievable. Four to six patients without regard of sex or illness were crowded into one bed. The ward attendants were frequently drunk and disorderly on duty. A patient rarely escaped infection.

Maternity wards if possible fared worse than surgical divisions. Since the medical proffession knew little about aseptic techniques, puerperal infection was the lot of most new mothers. The death rate from this disease (2) was from ten to twenty-five per cent. Most families, unless they were very poor, avoided going to the hospitals.

Ignatz Phillipp Semmeliveis (3) did much in his studies of puerperal fever. At this time he was assistant physician in the Vienna Maternity. He observed that the death rates in the wards, which were delivered by midwives, was three per-cent; whereas those delivered by medical students had a twelve percent death rate. He discovered that the students were going directly to deliveries from dissecting rooms without even washing their hands. By having the young doctors scrub their hands thoroughly with a brush and chlorinated of lime solution, Semmeliveis effected a moderate rate of only one percent. His chief resented this splendid piece of work and would not support the new regime. Later Semmeliveis was driven

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(1) Goodman - N. Outlines of nursing history P. 50
(2) Ibid P. 178
(3) Ibid P. 179

out of Vienna and died a broken man. His sensitive high strung nature couldn't stand the disgrace of being driven away. This, with the brooding over the carelessness of physicians, resulting in so many needless deaths, caused him to loose his mind.

Before leaving this incident we should mention the interest in the matter shown by Oliver Wendale Homes. He wrote essays on puerperal fever from the standpoint of its contagious factor. Pasteur proved, though was not accepted by the medical proffession for years, that the streptococcus pyogenes was the causitive factor in this dread fever.

We find an interesting text book (1) by Charles Meigs M.D. a prominent doctor during the middle of the nineteenth century. The book is a series of lectures prepared for students. We are amused at the long discourse used in preparing the students for the delicate subject of femine sex.

Since the book is less than eighty years old, we are interested in some of the ideas not so far removed from our own time. In order to give a picture of the prenatal and postnatal care in that century, we will tabulate some of Meigs routines.

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(1) Meigs C - Women: Her diseases and remedies.

Signs of Pregnancy

1. Toothache
2. Styes on the eye
3. Pigmentation
4. Salivation
5. Increase in size of abdomen (not to be confused with tumor)
6. Obstetrical Auscultation.
7. Swelling of feet after four to six months

Treatment for Vomiting of Pregnancy

1. Champagne
2. Toast and coffee first thing in the morning
3. Cuping, leeching, bleeding, calomelizing are not satisfactory treatments

Care of Bowels

1. Rhubarb powder or Lady Webster pills
2. Senna and prunes

Treatment for Complications

1. Swelling of feet: Slash them open.
2. Heart failure: Bed rest with administration of Tr. digitalis

Management of delivery

1. If patient has history of fainting have ready 1 drachm of ergot, brandy and loudonum. This should be given ten to fifteen minutes before the delivery is concluded.
2. Do not force placenta, let it maserate if necessary.
3. Watch for hemorrhage
4. Bind patient securely if her stomach is weak.

Post Portum Care

1. Bathe parts with warm soapy water and wine or spirits - Red wine and water if patient should be preferred and can afford it.
2. If Lochia seems too heavy, bleed the patient so that the strain of the flow is removed from the pelvic organs.
3. Support breasts with adhesive swings or straps. Bathe them before nursing and apply arrow-root powder to keep the nipples from cracking.
4. In case of milk leg - apply hot packs (four or five hours) then rub well with a lotion of oil and laudinum - Keep on a bandage after swelling has subsided.

Puerperal Fever

1. If patient can draw leg up to abdomen without pain after four or five days after delivery, she has escaped the fever.
2. Metritis should not be confused with pheumatism of the womb.
3. The disease occurs in epidemics.
4. Medical men have been accused of carrying the disease to their patients. This isn't true because a doctor can go to his patient freshly bathed and in fresh linen yet his patient will still develope puerperal fever.
5. The mortality rate is fifty-sixty per cent.
6. If the patient is bled early she has a good chance of recovery.
7. The disease is due to congestion and packing of blood in the uterus.

We will notice that few of the examples given in the book are followed up to final results. Much of the material seems to be based on hearsay. In spite of the noticable change in treatment, we recognize some of our modern treatment. Nevertheless we see progress. Let us hope that we can develope and advance as much in the next hundred years as did the world in the last century.

PART II.

MATERNAL AND INFANT WELFARE IN THE UNITED STATES

In the past thirty years we have become increasingly aware that there is something wrong with our maternal and infant welfare program. Perhaps better statistical facilities and studies have shown us that the United States has failed particularly in her maternal program. It is true that her infant death rate has declined, as better milk supplies, understanding of baby care, and protection through immunization against contageous disease have been developed. We can not say this about her maternal death rate.

Table I. (1)

Maternal figures for the United States and certain Foreign Countries per 10,000 Live Births.

Uruguay	24	Spain	44
Sweden	27	Irish Free State	46
Norway	27	Belguim	48
Japan	27	Canada	50
France	28	Germany	51
Italy	28	Australia	56
Denmark	35	Scotland	63
New Zealand	41	United States	63
England and Wales	42	Chili	71

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1. Childrens Bureau United States Department of Labor: "Trend of Maternal Mortality in the United States and certain Foreign Countries "Washington D.C. July 11, 1934

We are impressed with an early twentieth century text book (1) as it outlines maternal and infant welfare programs of the day only thirty years ago. Among the changes we note, are the plates depicting techniques and so forth. We notice first of all that the operators hand is ungloved. Safety pins hold the sheets in place instead of clips.

Deliveries except in rare incidences were taken care of in the home. Even examinations were made in the home. The physician's office was little used by the patient.

The pre and post natal care of the patient at that time seems incomplete to us too. Usually the expectant mother called the doctor just before the delivery unless some serious complication developed. Her care and that of the babe was taken over by the neighbor or some one who did such work for the community. Her training was that which she gained through experience. We find the students warned not to rely altogether on the nursing service as she frequently infected the patient through carelessness. Because of the probability of infection, only severe lacerations were repaired.

Infants also had their mouth washed out daily with a bit of soft linen. If the mother had difficulty in feeding the infant because of lack of breast milk she could supplement with a formula of cows milk. The doctor advises the

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1. Williams M.D. J Whitridge- Obstetrics (1903)

recomendation of Sterilization of the formula during summer months. This proceedure was not thought neccessary in winter.

Hospitals are being used more and more for deliveries. Probably this is due to the new proceedures that can be carried out safely in a hospital and not in a home. Then too, both mother and doctor find it more convenient to use the hospital rather than the home.

Naturally new problems arise when such a movement begins. Some of these are seggregation, standardization and education. Now we have an outline of obstetrical care for hospitals. They are as follows:

STANDARDS OF AMERICAN COLLEGE OF SURGEONS FOR HOSPITALS TAKING OBSTETRIC PATIENTS (1)

(1) Segregation of obstetric patients from all others in the institution.

(2) Special facilities available for immediate segregation and isolation of all cases of infection, temperature, or other conditions inimical to the safety and welfare of patients within the department.

(3) Adequately trained personnel, the entire nursing staff to be chosen specially for work in this department and not permitted to attend other cases during time of obstetric service.

(4) Readily available, adquate laboratory and special-treatment facilities under competent supervision.

(5) Accurate and complete clinical records on all obstetric patients.

(6) Frequent consultations encouraged on obstetric service, a consultation made obligatory in all cases where major operative procedures may be indicated.

(7) Thorough analysis and rewiew of the clinical work of the department each month by the medical staff with particular considerations to deaths, infections, complications, or such conditions as are not conducive to the best end results.

(8) Adequate theoretical instruction and practical experience for student nurses in prenatal, parturient, and postpartum care of the patient as well as the care of the newborn.

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1. American College of Surgeions; Twentieth Year Book 1933 Pp. 68-69 Chicago.

Unfortunately, however, only about sixty per-
cent(1) of our hospitals reach even the minium of these standards.

Some new factors are being recognized as vital in maternal and infant welfare. Gradually the medical proffession as well as the lay people are recognizing the value of early prenatal care. This should include a wasserman and cervical smear with treatment as is indicated.

Now we know that the first tri mester is of great importance. By having early medical supervision, the expectant mother and father can plan for the delivery. The doctor is able early in pregnancy to determine the general condition of the mother as to her health and the shape of the pelvis. He can guide her health habits so as to avoid pit falls of albuminious, heart strain and such complications. If the pelvis should be too small and ceasearen section is indicated the family can plan for it.

If her condition, history and such is normal perhaps she will prefer a home delivery. If she consults the doctor early she has time to prepare for a home delivery. Minor defects that might lead to serious consequences can be cared for too. Early prenatal care assures her of a fine healthy infant with no or at least the minium damage to herself.

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1. Heaton C.E. The Role of the Fathers in Maternity care
Public Health Nursing Dec. 1935 - P. 652 (PHN)

We should considerthe problem of syphilis carefully. Fortunatly this dread disease can be cured today if the proper treatment is carried out persistantly. The true tradgy is the fact that the foetus may acquire the disease from the leuetic mother. This is the congenital type and is the most difficult to control. Acquired syphillis can be cured one hundred percent (1) by modern treatment, but we have no such assurance for the congenital type. If the expectant mother receives treatment by the fifth month (2) she can be reasonably sure that her baby will be free from the disease when born. Treatment later in pregnancy will help, even prevent transmission.

A true estimate as to the extent of leuetic infection of pregnant women is difficult to determine. By studies from clinics, we find and average of nine percent (3) infected. Probably one to three percent of the cases cared for by private physicians have syphilis.

Miscarriages and stillbirths are also hazards of syphlitic women. Twenty-five to forty (4) per cent of such pregnancies end in this manner, whereas another thirty

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1.Exner M.D., M.J. Preventions of Prenatal Syphillis Journal of Nursing Oct. 1935 P. 911

2.Ibid P. 912

3.Ibid P. 910

4.Ibid P. 910

to forty percent result in living but infected children. A woman untreated has about one chance in six of having a normal child. If she receives treatment she has nine chances out of ten. A blood test early in pregnancy is the right of every expectant mother.

Gonorrhea is another disease that plays a part in the welfare of our mother and babe. Many serious operations are the result of this disease. The baby runs the risk of eye infection and blindness. With the silver-nitrate treatment of the newborn child, some of this blindness is averted.

The public health nurse has a part in any health program. She has no less place in one conserning maternity and infant welfare. She has many opportunities to teach health in this field. There are many opportunities of contact through classes, clinics and home visits. Since she is a nurse, she has the advantage of easy entrance to the home, Most people are willing to have her call. If she is wise, she will use this privelige carefully, because it is her most valuable bit of equipment.

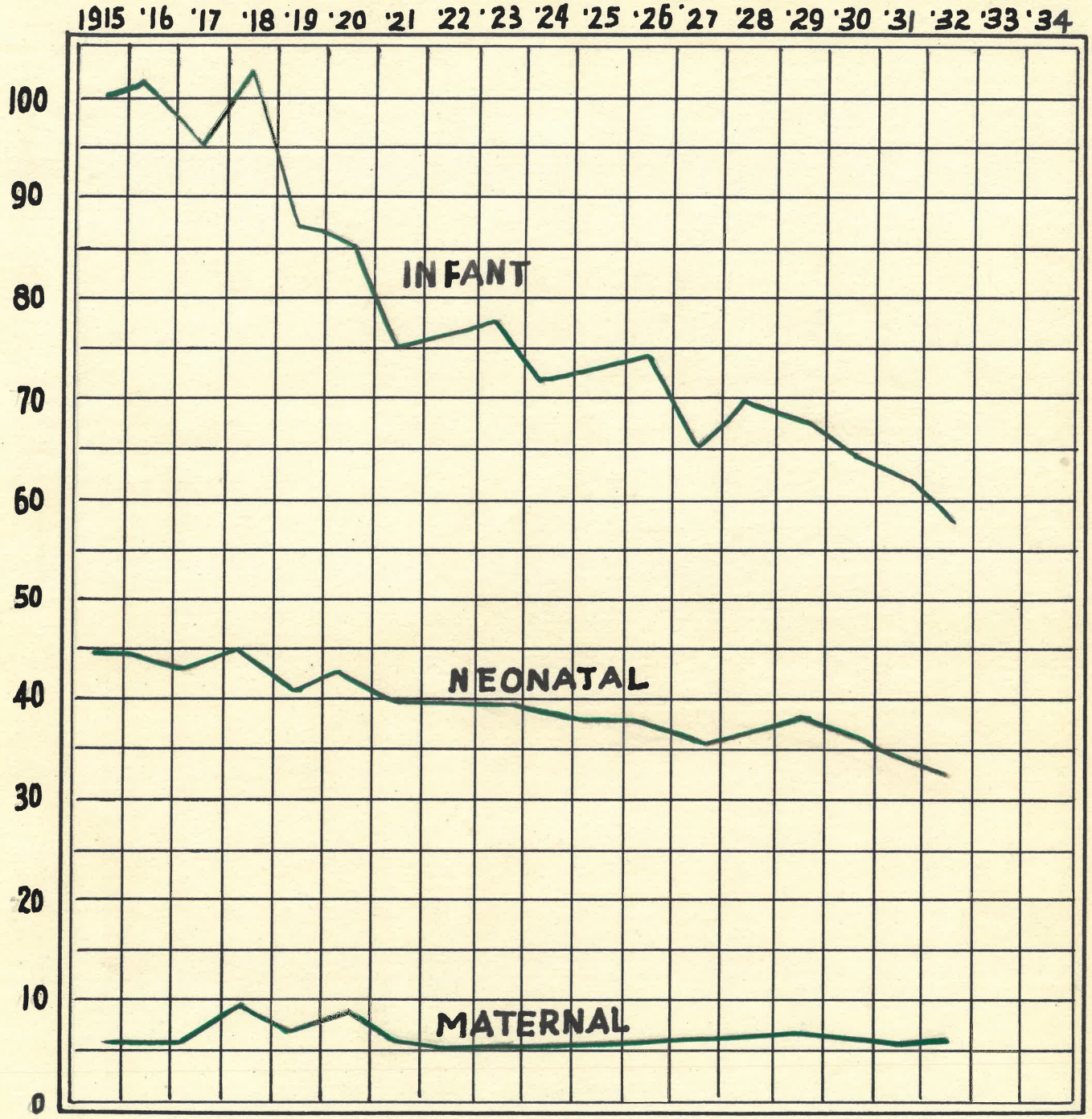
The public health nurse does much with her home visit. She sees the family situation and tries to work out the best plan for the family. She can help the expectant mother or father see the value of early prenatal care. With the aid of the medical proffession she can

carry out classes to teach these mothers the best way to care for the wee babe and themselves as well, during this trying period.

We find another duty fitted particularly to the public health nurses training. She acts as the doctors interpreter not only for the family but also for other agencies. She has the advantage of going into the home when others might have difficulty. She can go to the family doctor and explain a situation to him so that he can be of more help to the family. She is valuable in another way to the doctor in being able to teach the family or the expectant mother how to carry out certain instructions, the doctor might not have time to do this sort of thing. For example, the mother has never had to suppliment her baby's feedings before. The nurse teaches her a careful technique whereby she can prepare the formula so that it is just as clean and safe as a normal breast feeding.

She is of value to other persons such as relief workers or probation officers by helping them to understand the medical problems of certain cases. She can help a social case worker to understand that a normal expectant mother can do an average amount of work about the house, but that she should have plenty of rest, early medical supervision, and special dietary regime.

We see the public health nurse does have an



Death rates per 1,000 births for birth registration area which expanded from 10 states in 1915 to 48 states in 1933.

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important part in helping our nation to become a safe place for mothers and babies. Perhaps with the careful guidance of the medical proffession, she will soon be doing her part to the fullest extent of her capacity in carrying health teaching to every home.

In November 1921 Congress passed the Sheppard Towner Bill granting money to States for Maternity and Infant welfare. This was used in counties that were prepared to match the money with an equal sum. The money was used for educational purposed. In spite of this effort we see little change in our maternal death rate. We have made progress in removing some of the hazards for the baby as is shown by the graph.

Let us examine the statistical report so that we can see some of the reasons why the mortality rate is lower for our infants.

INFANT MORTALITY

Death rate (1) per 100,000 deaths New York State

Age 1-4 (Exclusive of New York City)

Cause of death	1901-1905	1926-1930
Pneumonia	184.1	108.5
Diarrhea Enteritis	176.9	55.1
Diphtheria	124.8	27.3
Meningitis	101.6	10.4
Accidents	61.6	69.8
T.B. (allforms)	55.5	30.9
Measles	46.5	21.3
Scarlet Fever	42.9	9.2
Whooping Caugh	40.3	23.3
Influenza	10.5	21.1
Disease of heart	8.6	10.8
Congential Malformation	7.2	10.1
Appendicitis	3.3	11.8
Other Causes	247.3	99.9

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1. Report New York State

The control of Enteritis and Diarrhea is a noticable factor. Better control of contagious disease has done its part too. Nevertheless we still have much too do.

Yes, we know that our death rate for mothers is 6.2 per 10,000 live births and that our rate is almost the lowest for civilized countries but do we really know what that means? Do we know that 16,500 (1) mothers die every year from puerperal causes in the United States, and that at least 10,000 of these deaths could have been prevented? When we preceive this tragic rating we know that we must do something more than just think about it.

In 1926 (2) the State directors of the Maternity and Infantry Act, and the chairman of the Childrens Bureau Obstetric Advisory committee, drew up a plan for a comprehensive study of Maternal Mortality. It was decided that only the states in the birth registration area and whose State Board of Health and Medical Society made requests for the study, would be used. The study included thirteen states in 1927 and these states plus two others in 1928. The following states were included in both studies: Alabama, Kentucky, Maryland, Michigan, Minnesota, Nebraska, New Hampshire, North Dakota, Oregon, Rhode Island, Virginia, Washington and Wisconsin. The two States that were included in the 1928 group were California and Oklahoma.

1.Mac Eachern M.D.-MT "what every Obstetrical Supervisor should know-Public Health Nurse --Feb 1936 P.97.

2. U.S. Dept of Labor "Maternal deaths Bureau Publications 221.

The study included 7,380 women who died from puerperal causes. Since there were 1,176,603 live births in these states, we find that the death rate was 64 per 10,000 live births.

TABLE II.

Cause of death as shown by interview and mortality rate among white and colored women dying from puerperal causes

ıse of death as shown by terview	Women dying from puerperal causes						
	White				Colored		
	Total	Number	Percent distribution	Rate per 10,000 live births	Number	percent distribution	Rate per 10,000 live births
. causes - - - p - - -	7,380	6,072	100	57.5	1,308	100	108.5
·idents of pregnancy - -	719	613	10	5.8	106	8	8.8
ıbortion premature labor	353	301	5	2.9	52	4	4.3
:ctopic gestation - - -	248	210	3	2.0	38	3	3.2
)thers- - - - - - - - -	118	102	2	1.0	16	1	1.3
·rperal hemorrhage- - -	791	670	11	6.3	121	9	10.0
ıer accidents of labor -	652	525	9	5.0	127	10	10.5
·esarean section - - - -	136	123	2	1.2	13	1	1.1
)ther surgical operations ınd instrumental delivery	109	97	2	.9	12	1	1.0
ıers - - - - - - - - - -	407	305	5	2.9	102	8	8.5
rperal septicemia - - -	2,948	2,437	40	23.1	511	39	42.4
rperal Phlegmasia alba ens, embolus, sudden th - - - - - - - - - -	344	314	5	3.0	30	2	2.5
rperal albuminuria and vulsions - - - - - - -	1,900	1,403	25	14.1	407	31	33.8
lowing childbirth t otherwise defined) -	23	17	(2)	.2	6	(2)	.5
rperal diseases of the ast - - - - - - - - -	3	3	(2)	(3)	- - - - - - - - - -		

less than 1 percent
less than one tenth per 10,000.

Ibid p.7

This table shows us several points.

1. The death rate is higher in the colored group.
2. Puerperal Septicemia is the leading cause of death both in the white and the colored group.
3. Puerperal Albuminuria and convulsions takes second place.

We also find in this study that the death rate (1) is higher in urban districts (75 per 10,000 live births) than in rural sections (55 per 10,000 live births) This is probably due to the larger number of septic abortions occurring in cities. Another interesting fact is that 9 percent of the women dying had no prenatal care at all or only at time of death. More than half of the deaths occurred in hospitals, but only 2,629 of the deliveries or obortions occurred there. There were 509 deaths of unmarried mothers. Forty-three percent died before the seventh month of gestation as compared to thirty-two per cent of the married mothers. Fifty-one percent died of Septicemia as did thirty-nine percent in the married group.

We find that prenatal care is often entirely lacking or of a very low standard. There were 1,154 pregnancies that terminated befofe the third month of gestation. Fifty-four percent of the cases that might expect to have care, had no prenatal examination before delivery. Only one percent had care measuring up to standard and seventy-eight

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1. Ibid P.9

percent had poor or no care at all.

In the summary of the report we find some startling facts. Puerperal Septicemia was the leading cause of death. One-fourth of the cases dying of puerperal septicemia was due to abortions, either criminal, induced, therapeutic or spontaneous. Another angle of the abortion problem was that seventy three percent of the cases dying from abortion developed septicemia. This group contributed forty-five percent of the total number of the deaths from septicemia. We can readily see that much is to be done in an educational way both in teaching the dangers of abortion and that many of our maternal deaths are preventable. We must turn to our medical profession for leadership rather than lay groups as we have done in the past.

Prenatal care has been recognized for some time as a part of the solution to our problem. Yet many expectant mothers receive little or no care. Our hospitals fall down in meeting the standards set up by the American College of Surgeons. With adequate prenatal, delivery and post-natal services for all women our maternal as well as our infant mortality would go down. The medical profession, health workers, hospital staff and general public must accept this new responsibility and help work out a solution to this very serious problem.

It has been said the reason the United States has a low maternal rate as compared to other countries is that our country includes all abortions. It is true that any statistical study is difficult to compare with another country because of the different methods used. Nevertheless the fact remains that in spite of all our prenatal supervision and clinics developed since 1915, we still have the same death rate with the exception of a few fluctuations.

Death rate per 1,000 live births (1)

1915 - - - - -6.07

1918 - - - - -9.16

1920 - - - - -8.00

1928 - - - - -6.40

Perhaps when the time comes that we can consentrate on the quality of service rather then the quanity, we will achieve results.

Since 1934 is the last year, completed (2)at the present time, let us see what the trend is for the United States and our local vicinity.

1934	Live Births	Infant Deaths (under 1 yr)	Mat Deaths	Deaths from all causes
United States	2,158,919	129,400	12,859	1,396,903
Oregon	13,071	520	79	10,539
Clackamas Co.	455	9	1	481
Portland, Ore.	4,092	146	26	3,687

1. Warner E F "Challenges in a Maternal Program" Oct. 1932 P.525 PHN

2. Taken from records of Oregon State Board of Health

We find in the United States that for ever 108 deaths we loose a mother or at least one woman dying from puerperal causes. In Oregon one woman dies from puerperal causes in every 133 deaths. Clackamas County was fortunate that year. Only one mother died. For Portland, Oregon, one mother dies in ever 141 deaths.

Let us examine the deaths of our infants. In every sixteen live births, one baby dies before the age of one year in the United States. Oregon looses one baby before the age of one year in every twenty-five live births. In Clackamas County one baby dies before the age of one year in every fifty live births. For Portland, Oregon we find the rate of one babe dying in every twenty-seven live births.

Since the States are the smaller units in our country, we turn to them in building a program for Maternal and Infant welfare. It is true that Oregon has a better rating than some of the other states. Nevertheless every mother and infant that dies from preventable causes, leaves a smudge on our modern civilization. As long as we have one mother or babe dying unnecessarily our work is not finished.

Causes of Maternal Death in Oregon 1926-1935 (1)

Toxemia	104	Embolism	38	Other Causes	5
Abortions	98	Accident during Pregnancy	24	Total Deaths	438
Septicemia	65				
Hemmorrhage	49				

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1. Statistics from records in Oregon State Board of Health

Since we are going to be interested in the quality of the work rather than quanity, we must examine and plan for a smaller unit. We choose a county because a program can be shaped and carried in this unit under careful supervision. We have some statistics for Clackamas County. Let us try to plan a workable program of Infant and Maternal welfare for this district that will supply quality service and at the same time be practical in a generalized health schedule.

Clackamas County Tabulation No. 1. (1)

	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
ve births - - - - - -	656	606	564	584	441	457	460	470	446	455
ill births - - - - - -	14	9	20	6	19	12	15	9	10	9
aths under 1 year - -	36	27	21	25	15	14	28	28	16	9
aths under 1 month - -	17	14	13	15	10	6	10	19	13	9
aths from all causes -	403	430	377	482	420	456	435	515	477	481

By examining the above chart we see that Clackamas County has achieved, as have other counties, a decrease in the number of infant deaths. Let us see how she stands in the past ten years in regards to her puerperal death rate.

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1. Statistics from records of Clackamas County Health Unit.

Clackamas County Tabulation No. 2 (1)

Statistical Death Study by Years

	1925-29	1930-34
Deaths from all causes	2112	2364
Live Births	2851	2729
Typhoid Fever	3	5
Small pox	0	0
Measles	4	1
Scarlet Fever	3	6
Whooping Cough	5	0
Diphtheria	9	0
Diarrhea Enteritis - U2	2	0
Combined Puerperal	5	10
Tuberculosis	73	58
Total	104	80

When the number of maternal deaths in the second group is compared with the number in the first group, we find it is exactly twice as high. We also note that along with adecline in infant mortality there has been a decrease in the number of deaths due to measles, whooping caugh, diphtheria and tuberculosis. Let us plan a well rounded program, perhaps with a smaller number of maternal cases at first, but with careful, complete service.

1. Statistics from Clackamas County Health Unit

Clackamas County Tabulation No. 3. (1)

1926-1935

Main Cause of Death		Age Group Distribution	
Toxemia	4		
Abortion	5	(10-14)	1
Septicemia	2	(15-19)	1
Hemmorrhage	2	(20-24)	6
Embolism	1	(25-29)	3
Heart	2	(30-34)	5
Accidents during Pregnancy	3	(35-39)	3
Others	2	(40-44)	2

Although eight abortions occurred only five were listed as being the direct cause of death. We found that three were listed on the death record as self induced. Six of the deaths occurred in a home, thirteen in the hospital and three had no information. Of the two hospitals in Oregon City we found that six deaths occurred in each and one in a Portland hospital.

In establishing a satisfactory plan we must make it fit into a general program without taking more than its share of time. In order to do this we must make a careful survey of the facilities and possibilities in the county. This survey should be a very careful one, because it is really the foundation and frequently the factor between success or failure.

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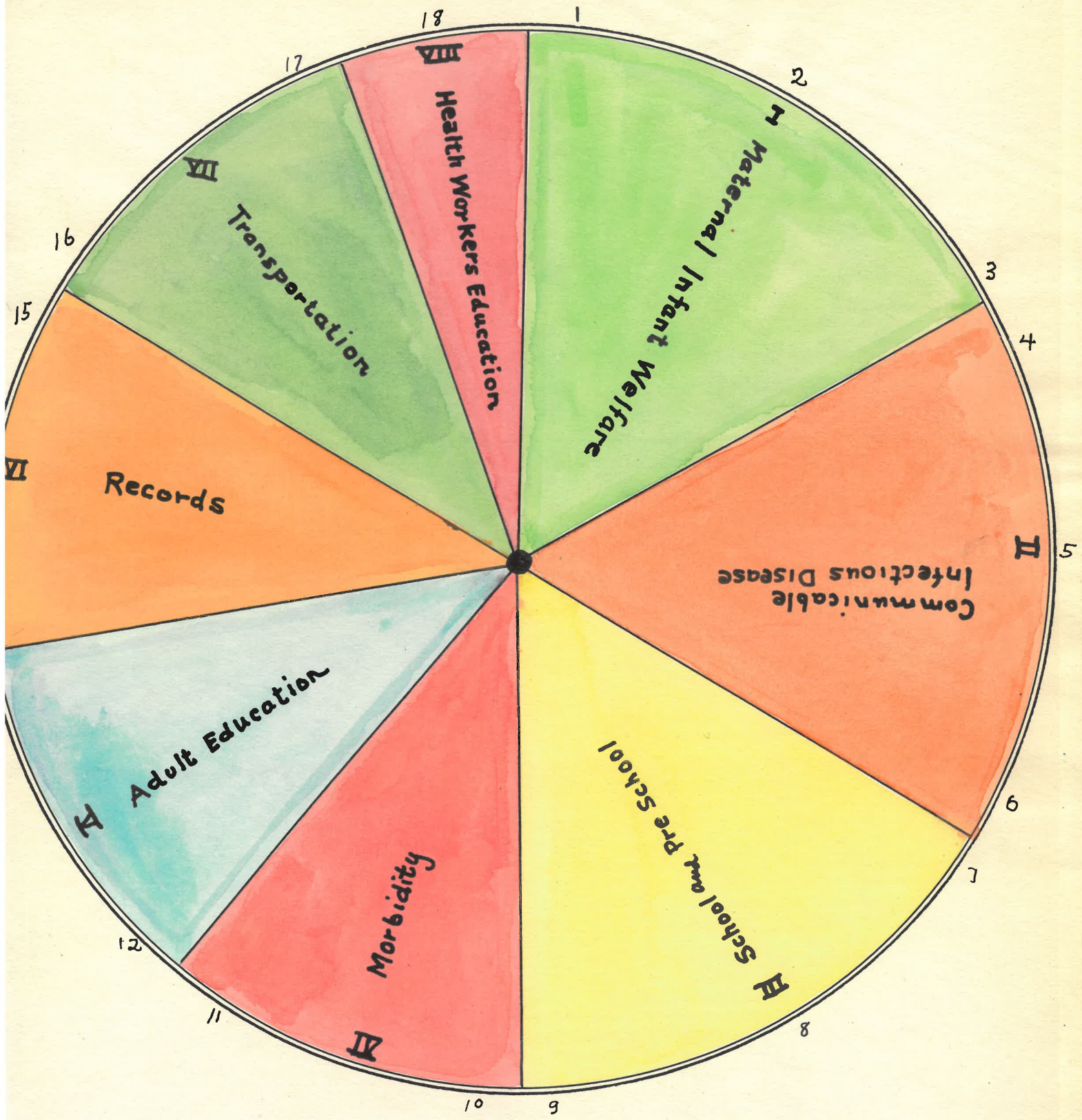
1. Statistics from Oregon State Board of health and Clackamas County Health Unit

PROPOSED Time Division for a Public Health Nursing Program.



TIME

I 1/6 (3/18) = 6 1/2 hrs.

II 1/6 (3/18 = 6 1/2 hrs.

III 1/6 (3/18) = 6 1/2 hrs.

IV 1/9 (2/18) = 4 1/2 hrs.

V 1/9 (2/18) = 4 1/2 hrs.

VI 1/9 (2/18) = 4 1/2 hrs.

VII 1/9 (2/18) = 4 1/2 hrs.

VIII 1/18 (1/18) = 2 1/2 hrs.

TOTAL (18/18) = 40 hrs. — PER WEEK

For the program itself, several points must be considered. The first step is the balancing of the general health program of the county. Certain types of service may be over emphacized, while others are almost ignored. Clackamas County has a reasonably well balanced program. The general nursing time according to visits and percentage has been worked out the following way.

Clackamas County Nursing Vists Tabulation No.4 (1)

Communicable Disease	650	18.3%
Venearal Disease	25	.71
Tuberculosis	533	15.2
Prenatal	201	5.7
Post Natal	119	3.4
Infant	334	9.5
Preschool	388	11.0
School	742	20.9
Morbidity	510	15.1
Social Service	(Not recorded less than 1%)	
Total	3502	99.8%

If a study of visits is made, there should be some standardization of visits. The enclosed wheel graph is one proposed for a balanced program as far as the time element is concerned. We will readily see that in a graph of this sort we have overlapping in our services. Since

1. Records of State Board of Health.

It is difficult sometimes to differenciate between types of work we must ignore definite lines. Nevertheless some sort of device is valuable to us in gaining a concrete picture of our work. According to the graph the three major activities would be Maternal and Infant Welfare, Communicable and Infectious Disease and School and Pre-school service. Records, Transportation, and Adult Education take the slices next in size. Records are of very great importance, as is transportation. If a careful check is not made, our work may fall below standard. If the county is large, time for travel must be planned very carefully. Some may say that the morbidity slice is too small. Once again we must make an allowance for over lapping. When this is done, we are sure the time is sufficient. Two and a half hours are allowed aweek for the nurse or health worker to keep up with the latest and most effecient methods in carrying out the work.

Perhaps the best way to co-ordinate and Infant and Maternal Welfare program with the general health plan is the use of a carefully organized schedule. This should be arranged at the beginning of the year or during the summer in preparation for the coming school year. With a schedule we can see our whole program in brief at one time. Then too, if the nurse has a plan in advance, she can accomplish more in her district. The secret of a good schedule is the building of it in rigid enough lines to follow

a program; but at the same time keeping it elastic enough to absorb the ever arising emergencies. The type of schedule varies. The choice of type must be based according to the district in which it is carried out.

No program is truly successful unless it has been planned out with the medical profession. In the case of Clackamas County we must consider the Health Unit. In this case the health officer would do the planning with the doctors. Since there are districts in which one or two physicians serve the local patient, he would not only contact the local Medical Society but also such local men. In this way he could be sure all the physidians understood the program and their part in it.

Some of the problems are the borderline cases. Perhaps the medical men would agree to take this small group of patients on a part fee basis. This would probably assure him of reimbursement for his expenses that would otherwise be lost. If this plan is used, great care must be taken in making the patient understand that the fee is not the regular one; but that it can sometimes be arranged in such a way. The part fee basis would not be used for relief cases, but for those cases that do not fall into any of the classifications, but are unable to pay regular rates. The patient would have the privelege of going to his family physician. The fee would be arranged between the doctor and the patient with the aid of the nurse in

regards to home and financial situations.

We have several facilities in our county, that could be used to advantage. A plan could be worked out whereby the graduate nurses not employed on a regular staff could give time or be paid on a fee basis. The nurses would be on call for home deliveries, and at the same time supply the doctors with assistants. Hospitalization could be arranged for this group in the same way. We have nursing homes that could be used with safety for many cases. The deliveries and lying in periods must be carefully supervised. These nursing homes should be forced to conform with certain standards.

Records, as we have mentioned before, are of very great importance. They are an index for the type of work being done in the county and should be used as automatic checks. A health unit or any other health service may be doing a fairly good piece of work. If, however, the visits are not important enough to record, they must be of little value. Either the nurse, health worker, or doctor is not doing a thorough piece of work or the program has not been well enough arranged to permit time for the recording of the visits. It is much better to carry one or two prenatal cases through their post portum examination with a complete record than to carry ten or twenty names with little or no actual constructive health teaching. Records also furnish a list of the steps taken in solving a problem and can be relied

on in time of stress or crisis. Records often seem to be burdens, but there are ways to make them easier. Parts of the form can be filled out before the first visit to the patient by consulting other agencies, birth certificates, and such sources. Often we can use records in teaching a patient how to care for himself. This is particularly true of the prenatal case. The expectant mother is just as interested in her progress as the nurse is. She has a much more hopeful prognosis then, than shall we say, the tuberculous patient.

Too often nurses make home calls on their patients, and fail to use all of their teaching opportunities. Indeed, some of the nurses drop in on their expectant mothers and ask her if she has made arrangement for her doctor yet. If she has well and good; if she hasn't, the nurse advises her to do so, and goes on her way. In orderto have real quality service, we should base our reports on completed cases or services rather than visits. If we would turn to the well cared for mother and babe rather than to the number of prenatal cases we are carrying, we might be able to see, someday a decline in our maternal mortality as well as our infant death rate.

Every good program has its aims or stars for the wagons. A real goal is seldom reached. If it is achieved, it probably wasn't high enough. We would like to have every expectant mother under good medical supervision by the

end of her first trimester. Every mother should have her baby in the hospital if she is a primipara, or more than a para four or has any suspicious history or condition. We want our expectant mothers to have a complete prenatal examination including a wasserman, a cervical smear, and pelvic measurements. She should have close supervision particularly during the first and third trimester. She should have a nurse as well as a physician attending during delivery. Her postportum care should be skilled and planned, so that she doesn't have to worry about the household for at least two weeks after the birth of the baby. Our babies should have a physical examination at least once a month for the first three months, an examination once every three months until they are a year old, and semi yearly until they reach school year.

Let us consider briefly a definite program for Clackamas County. Let us assume that the doctors have been willing to care for the expectant mother of the limited income group on a part pay basis and that the nurses have agreed to help out with the home deliveries. With this arrangement we would have one of our most difficult problems solved, namely, good care supplied to the cases of limited finances.

Along with this the health unit would develop a service whereby the doctor could secure sterile delivery

equipment for a low rate probably about two dollarss.

The first part of the program to be carried out would be the organization of prenatal classes in Oregon City and later extended into other larger communities. The doctors and nurses would refer the cases to classes. The outline of teaching would be submitted to the county medical association and local doctors for constructive criticism and suggestions.

The class in Oregon City would follow a course of lectures much the same as the outline of Maternity Center in New York. The group would meet once a month. There would be a section for the fathers too, so that they could have the opportunity of learning their part in the care of the new baby. The mothers section would meet in the afternoon and the fathers section would be held at night. It is not advisable to hold them together, because their problems are different. The mothers would learn how to care for themselves as to diet, rest and the proper clothing, the development of the baby in utero and preparation for him when he comes. The nurse would conduct the classes with the help of the doctors. The fathers' section would learn how the baby developes, why the expectant mothers need careful diet and rest, something about the right sort of arrangements for the delivery and about the baby's equipment that a father could prepare at home. A nurse could take care of this class or better still a doctor.

Both classes would be supplied with literature.

Care must be taken in choosing this material. Some of it is not authentic and crowded with advertisements. We can always rely on the Children Bureau Publications, Oregon State Board letters and Metropolitan Life Insurance literature.

We would stress individual cases rather than visits. Our prenatal and post natal visits would follow in sequence. For statistical reports only cases with standard visiting would count. Some of the requisites for a maternity case would be.-

1. At least one visit in the first trimester.
2. At least two visits in the last trimester.
3. Complete Prenatal examination.
4. Complete arrangement for the delivery.
5. Complete record.
6. At least one conference with the family.doctor and probably more.
7. Regestration of mother for Oregon State Board letters.
8. Arrangements for a six weeks post portum examination.
9. Supervision of the baby.

Stess would be placed not on the number of visits but rather the completeness of the supervision of the case.

Our educational program would be conducted

both for the medical profession and the lay group. All through out the medical men would be given the opportunity of leading such a program because they are the trained experts in the field. Among the many topics, we would plan education in regards to the dangers of abortions, standards for hospitals, adequate prenatal and post natal care, and supervision of the infant.

Public Health can no longer be classified as an entirely new adventure. In the past few years this field has passed through a very trying time, and has survived. There are still many adjustments to be made. In the past we have spent much time in demonstration on a large scale, primarily for the purpose of education. The time is near at hand for us to change our goal from quanity to quality of service. There is no better place to plan for such a concrete program of individual care and service than in the maternal and infant welfare field. Let us do our part in making our country a safer place for mothers and babies.

BIBLIOGRAPHY

Devils Drugs Doctors---Howard Haggard M.D. (1929)

Women: Her Disease and Remedies--Charles D. Meigs M.D. (1859)

Obstetrics---J.Whitridge Williams (1903)

Public Health in the United States---Harry H. Moore.

Public Health in New York---Report of the New York State Health Commission.

Outlines of Nursing History---Goodnou.

Board Member's Manual.

Maternal Mortality in New York City--The Commonwealth Fund.

An Appraisal of Public Health Activities in Portland, Oregon for the year 1928-1929.

Child Care in Oregon 8th Biennial repot 1934

White House Conference on Child Health and Protection--May 1932.

United States Department of Labor Childrens Bureau.

Publication No. 8

9

1

11

4

143

30

221 and others.

Vanta Literature and others.

Routines For Maternity Nursing and Briefs for Mother's Club Talks

Public Health Nursing.

"Community Responsibilities for Safeguarding Motherhood."

June 1934---George W. Kosmak. M. D.

"Challenges in the Maternity Program."

Oct. 1932---Estella Ford Warner, M.D.

"Preventing Blindness through Care of the New Baby and Young Child."

Nov. 1934---Mary E. Stibbins.

"An Adventure in Midwifery."

Dec. 1932---Frances Fell.

"Ophthalmia Meonatorum."

Dec. 1932---Ruth B. McCoy.

"Florida's First Institute for Midwives.

March 1934---Lolla Mary Goggans.

"The Post Portum Period-Teaching Points.

March 1934---Leslie Wentzel.

"Nurses Contribution to the Control of Syphilis and Gonorrhea"

January 1933---Evangeline H. Morris.

"Hospital Mothers' Classes."

January 1933---Hope Newell.

"Facts abut Gonorrhea."

January 1933---Gladys Crain.

"Preconceptional Care-Its Scope and Importance."

December 1935---F.L. Adair M. D. and Laura De Sef M.D.

"Some Thoughts on Breast Feeding."

December 1935---Lendon Snedeker. M. D.

Public Health Nursing Cont'd

"The Role of the Father in Maternity Care."

December 1935---Claude Edwin Heaton. M. D.

"The Mental Welfare of Normal Infants."

May 1934---Arnold Gesell M. D.

"A Baby Tent at the County Fair."

May 1934---Clara L. Craine.

"The Use of Records in Making a Visit More Productive."

October 1934---Marian G. Randall R.N.

"Classes for Prospective Fathers."

Eldred V Thiehoff M. D. December 1933

"Maternal Health."

P. 650 December 1933.

The American Journal of Nursing

"Taking Care of Triplets in the Country."

March 1935--Clara Scully R.N.

"What Every Obstetrical Supervisor Should Know."

February 1935---Malcolm T. MacEachern M. D. C.M.BS.

"Public Health Aspect of Obstetrical Nursing."

August 1933---Nell V. Beeby R.N.

"Acute Nutritional Disturbances in Infancy. "

September 1934--Lucies E. Echeles M. D

"Help Save Mothers' Lives."

May 1935

"The Prevention of Prenatal Syphilis."

October 1935--M. J. Exner M. D. --Louise Zabuskie R.N.

The American Journal Of Nursing, Contimued.

"The Technic of Infant Feeding"

October 1935--Isabelle Jordan R.N.

The Journal of the American Medical Society.

October 1935--September 1933