A County Program for the Care of Prematures*

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IN 1936 Cattaraugus County† mapped out a new program for mothers and infants. The infant mortality and neonatal mortality rates for the years 1931–1935 had been 64.6 and 43.5 respectively, with 28.6 per cent of all infant deaths associated with premature birth. The problem of the premature infant, as in other communities, thus seemed to be a major one, and the special program outlined below was initiated.

FINDING THE PREMATURE INFANT

How are premature babies located? If one is to be delivered at home, the physician may call the nurse to accompany him. Or he may telephone the nurse soon after the baby has come, telling her the baby has arrived prematurely, and asking her help in caring for it. The more this service is known and understood among physicians, the oftener the district nurse is called.

Our county health office also locates premature infants via birth certificates. For two years and a half we had a special form, bound with the birth certificate, but sent by the physician direct to us, on which was indicated, among other items, at just which month of gestation the baby was born. Notice of a premature stirred us to immediate action. We telephoned the physician to learn if the baby were still alive, and if so, what we could do to help. These special slips were discontinued on December 31, 1939. Since that time the state has provided special birth certificates, on the back of which is a similar special report. These are sent in by the local registrars, three or four days after birth possibly, but still frequently in time for us to be of some service.

EDUCATIONAL ACTIVITIES

Having found the prematures, the next task is educational. We ourselves must learn the best modern ideas for caring for prematures, consider how those methods can best be adapted to our local conditions, and expose to those ideas, one after the other, the people in our community, doctors, nurses, and others who take care of prematures.

We began with our own staff. Our supervising nurse on a vacation trip visited the Sarah Morris Unit of Michael Reese Hospital in Chicago and later, through the courtesy of the Massachusetts State Department of Public Health, took a 2 week course in care of prematures at the Boston Lying-in Hospital. Our medical consultant was sent to Chicago for a few

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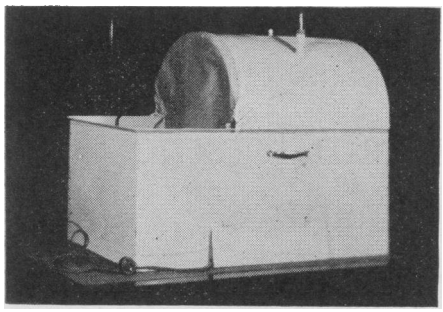

Portable home incubator devised in Cattaraugus County

days. At various times our commissioners visited other hospitals with special facilities for the care of premature infants. The literature in the field was reviewed by local staff members. Through formal programs in staff meetings and through consultation by the supervising nurse in dealing with individual cases, the information gathered was passed on to our nurses in the field.

For the practising physicians, we planned an institute under the auspices of the Maternal Welfare Committee of the County Medical Society. An able young pediatrician of Rochester was invited to speak on medical problems, and our supervisor spoke on nursing care. The meeting was held at night in a local hospital and was well attended. We took advantage of the presence of the out-of-town speaker to hold a meeting for nurses that same afternoon, when much the same program was presented. Twenty-eight hospital, 8 private duty, and 18 public health nurses attended in the afternoon, and 40 practitioners in the evening.

But education must be a continuing process. Our consultant is called on by the physicians in individual cases—we would like to have this done even more extensively. Our assistant commissioner was appointed Consultant on Maternal and Infant Hygiene on the staff of one of our hospitals. Here he is in a logical position to promote modern ideas on care within the hospital, and to arrange for care by public health nurses when prematures are discharged from the hospital. We have in mind the preparation of a pamphlet on premature care under local conditions. Perhaps it should be in three editions—for doctors, for nurses, and for parents.

THE PORTABLE INCUBATOR

We have made rather a point of providing portable incubators for home use. A local metal products plant was induced to make incubators similar to those used in Chicago. Various improvements were suggested—a hinged top by a nurse, a thermostat by a doctor, a painted finish, and so on. Finding suitable thermometers and thermostats took time. Most of our incubators are used in homes with electricity, but several are built to employ hot water bottles or heated bricks, for use in homes without electricity. We now have 14 incubators, located in 8 district nursing stations over the county.

We have found various advantages in providing incubators. Here is tangible evidence that work for prematures is not just a vague program. The incubator provides much needed heat for the tiny baby. It is also a solid reminder that this baby needs special care. An incubator makes it easier to keep visitors away, thus helping prevent infection, and easier to hold to an unusual and strenuous feeding schedule.

Every physician in the county knows that he can get an incubator by calling the district nursing station. Such a call receives immediate attention, day or night. A record is kept in the central office of the wherabouts of each incubator, enabling us to supply an additional one or a special model on demand. If a nurse is called for home delivery ahead of scheduled time, she takes an

Equipment used in care of premature infants:
1. *Doll (for demonstration)*
2. *Catheter for aspirating throat*
3. *Rubber syringe for aspirating throat*
4. *Medicine dropper with rubber tip*
5. *Gavage equipment*
6. *Small nursing bottle (1 oz.) with soft rubber nipple*
7. *Feeder of the Breck type*
8. *Improvised oxygen tent for use in crib.*

(reading from left to right)

incubator along. Every hour saved helps.

While our hospitals usually have more elaborate incubators, our portable ones are frequently a help. If a second baby is born underweight, the newcomer goes into the hospital incubator, the older premature graduates into one of ours. Frequently, too, a premature is going home—he is doing well, the family needs to save money, home conditions are promising, but he will be better off with special provision a while longer. One of our incubators is sent to the hospital and he goes home in it.

RÔLE OF THE PUBLIC HEALTH NURSE

Our own public health nurses naturally play a special part in our program for care of prematures. Nursing care is based on three main principles: (1) maintenance of a stable body temperature, (2) assistance with proper feeding, (3) prevention of infection.

In addition to the heat supplied by the incubator, a double flannel jacket with a hood is used. This was adapted from a model at Boston Lying-in Hospital and a supply was made up for each District Health Station by the local nursing committee. Recently each incubator was supplied with a roll of sterile cotton about 33″ long in which a new-born premature might be enveloped immediately after birth to prevent initial heat loss. We have found that in most home deliveries of premature infants the home is not too well prepared and the room in which

the birth takes place may be chilly. Help is limited, and at best a blanket or diaper is loosely wrapped around the baby while necessary care is given the mother. Or it may take considerable time to heat the incubator—in either of these events, the baby will be warmer in the cotton.

One of the most important functions of the public health nurse is to stress the importance of breast milk from another mother in the community until such a time as the mother's own supply is adequate. Village or rural people are apt to be unusually interested and willing to help in such an emergency. The nurse also has a responsibility in assisting the mother of the premature to establish and maintain a supply of breast milk. Not enough nurses are convinced of the value of breast milk or know how to teach manual expression—a nursing job and one which cannot be shirked if good care is the goal.

Feeding apparatus for home cases is necessarily simple. Most widely used is the medicine dropper with rubber tip and medicine glass. A 1 oz. bottle with a special small soft nipple has also been found an invaluable aid not only to the infant but also in showing the family how very small an amount of feeding is adequate at one time. The medicine droppers and small bottles which we use are the type in use at Sarah Morris Hospital, Chicago.

Occasionally a doctor suggests a feeder of the Breck type. We have one in the department which has been loaned and demonstrated several times. The small bottles mentioned before are also loaned out to families since it is usually impossible to purchase such equipment locally. Gavage feeding has not seemed practical for home cases unless a special nurse is available.

Hand washing is the keynote in our campaign against infection. Masks seem risky unless very carefully handled, and are not commonly used. Careful boiling of feeding equipment is stressed, but is the most difficult procedure to carry out in some rural homes. It takes so long to boil bottles, nipples, etc. over a wood fire that the value is not always appreciated by the family. One family startled the nurse the day following a careful demonstration when they said, " Nurse, did you you say to boil the bottle or just dip it in hot water? "

Home care of premature infants cannot help being time consuming. Careful detailed demonstration and discussion of each point is necessary. Someone in the home must be definitely responsible for the infant at all times. Upon the public health nurse falls the responsibility of interesting her doctors, patients, and committees in better care for prematures and, most important, of always being on hand to offer her own services.

Such is our program, and when new ways are found of helping prematures, we want to know about them and pass them on to our doctors, nurses, and parents.