This memorandum has been prepared by the Joint Standing Committee on Prematurity of the Royal College of Obstetricians and Gynaecologists and the British Paediatric Association.

A complete programme should include a preventive section as well as a care section. This memorandum only deals with the latter. Before good care for the premature baby can be expected the standard of care for mature infants must be raised, but this important aspect is not dealt with here.

A complete care programme for each region or agreed area should include the following: (1) assessment of requirements; (2) hospital care; (3) home care; (4) transport; (5) follow-up care; (6) integration with other health services; (7) education of (a) professional personnel and (b) parents; (8) research; (9) regular appraisal of results.

The initial steps in the development of a premature baby care programme should be related to the pattern of maternity care in the area concerned, depending on whether the larger proportion of births is in hospitals or at home, and the initial programme, whether it be one of hospital or home care, should be expanded as facilities become available.

Assessment of Requirements

The needs of any area can be estimated if the following data are available: (1) live birth rate; (2) incidence of liveborn premature infants; (3) weight distribution of premature infants; (4) percentage of premature babies born (a) in hospital and (b) at home; (5) length of care required for premature babies (a) in hospital and (b) at home.

In case these data are not available for any particular area the following general statements may be used.

Incidence of Prematurity. The incidence of liveborn prematures is usually 5%-7% of the total births, being higher in urban than in rural areas.

Weight Distribution. Twenty to twenty-five per cent. of all premature infants weighs less than 4 lb. at birth and should have the benefit of hospital care if this be possible. (Babies under this birth weight have no cough reflex and may die from regurgitation and inhalation if not kept under constant expert supervision.)

Length of Care Required. The average duration of stay in a hospital unit which deals with a high proportion of the smaller babies is five weeks, and one hospital cot should be provided for every ten babies to be treated annually.

The average duration of domiciliary care required for infants weighing 4 lb. or more at birth is four weeks, and equipment and nurses should be provided on this basis (allowing extra time for sterilization of equipment between cases).

Percentage Born in Hospital and at Home. The incidence of premature births is lower in home deliveries (approximately 4%) than in hospital deliveries. The incidence in hospital increases with the number of abnormal cases.

Generally speaking, if 50% of all births occur in hospital, approximately 60% of the premature live births occur in hospital and 40% at home.

Hospital Care

The provision needed for premature infants in maternity hospitals will vary with the size and type of hospital. Hospitals may be divided into three types: large, medium, and small.

Large Hospitals. These should have a special unit for the smaller babies born in the hospital (under 5 lb. at birth). One hospital in each area should have extra cots in this unit for (a) very small or sick premature infants from smaller hospitals, and (b) premature infants admitted from home.

Medium-Sized Hospitals. These should each have a small nursery set aside for premature babies, with a specially trained nurse available at all times (day and night). In special circumstances (such as temporary lack of suitable staff) the smaller babies might have to be transferred to the main unit in the region.

Small Hospitals (including Private Nursing Homes). Hospitals and nursing homes with less than 600 deliveries a year have insufficient premature babies and insufficient staff to justify a separate nursery and nursing staff for premature babies, but whenever possible one nurse with experience in the care of
the premature baby should be on the staff, however small the hospital. In small hospitals babies weighing over 4 lb. at birth may be nursed in the ordinary newborn nurseries (or in single wards with their mothers, to reduce the risk of infection) but smaller babies should be transferred as soon as possible to the main unit in the region.

**Size of Premature Baby Unit.** The large and medium sized hospitals accommodating only their own premature babies require one premature cot for every ten lying-in beds.

The main premature unit for the area requires in addition (a) for admitting cases from the home, one and a half to two cots per 1,000 domiciliary births in the area (one and a half if housing is good, two if housing is poor); (b) for admitting infants under 4 lb. from the small hospitals, two cots per 1,000 annual deliveries in these hospitals.

The small hospitals which keep only their larger premature infants require one premature cot to every 12 lying-in beds.

**Medical Staff.** Large units should have regular visits from a consultant paediatrician. This consultant should be responsible for the general plan of care and be available at all times for consultation. He or she should be assisted by other members of the paediatric staff (or junior obstetric staff) who should visit the unit daily, examine each infant on admission and before discharge, and answer emergency calls to the unit and attend the labour ward when a premature baby is being delivered.

Small units often lack expert paediatric advice and arrangements should be made to ensure the services of a consultant paediatrician, whenever one is required.

**Nursing Staff.** With a high proportion of very small infants the ideal ratio of nurses to infants is three nurses to four infants, but a good nursing technique can be maintained with a ratio of two nurses to three infants.

The ratio of nurses specially trained in the care of the premature baby to nurses in training (pupil midwives, postgraduate midwives, health visitors, etc.) must be kept as high as possible; ideally one to one. At least one nurse with special training must be on duty at all times (day and night) to supervise the nursing.

**Accommodation.** A premature baby unit is usually part of a maternity hospital, and this arrangement allows easy access to the mothers and encourages a more normal mother-baby relationship.

Elaborate new buildings are not necessary. Simple conversion of existing buildings often gives very satisfactory results.

In medium sized hospitals at least one room should be set aside for premature infants. The maximum number of cots in one room should be four and if more than this number are required, two rooms should be provided, one warm (70-75° F. and humidified) and one cool (60-65° F.): a floor space of 50 sq. ft. per cot should be allowed.

Large hospitals should set up a special premature baby unit. Ideally such a unit should include:

1. **Warm humidified rooms for 50° of the required number of cots (maximum number of cots per room = 4).**
2. **Cool rooms** for the remainder of cots (maximum number of cots per room = 4).
3. **Suspect room.** One extra cot is required for every five cots in unit (maximum number of cots per room = 2).
4. **Single rooms for mothers.** Number required = one mother's room to every three cots.
5. **Day room for mothers.**
6. **Bathrooms and W.Cs. for mothers** (one of each for every six mothers).
7. **Demonstration room.** In this room mothers who are living at home, can (a) breast-feed their infants, (b) be shown how to bath and care for their infants before taking them home. (In a large unit more than one room will be required.)
8. **Milk kitchen.** This room should be divided into two sections: one for the reception and sterilization of used bottles and teats, and one for the preparation and storage of feeds.
9. **Ward kitchen.**
10. **Sluice room.**
11. **Sterilizing room.**
12. **Linen room.**
13. **Duty room for nursing staff.**

Elaborate air conditioning is not necessary as long as the heating is adequate and some simple method of humidification is available. A supply of oxygen is essential, as also are wash basins.

Incubators are useful for babies under 3 lb. at birth because they save nursing time, but they are expensive, and British incubators are still in the experimental stage. It should be recognized that there are two main types of baby incubators: (1) the type which opens up and should only be used in a room heated to the temperature of the incubator; and (2) the closed type which is supplied with 'sleeves' through which the infant is handled, so that this latter type can be used in a cool room. Rooms used for incubators need not be humidified.

It is probably unwise to put very small infants into separate rooms because the danger of death from unnoticed regurgitation and inhalation is
greater than the danger of death from infection. When the baby has developed a cough reflex and the danger of suffocation is no longer serious then isolation becomes safer. With good barrier nursing, good cot spacing, the wearing of adequate masks, and the prevention of infection by dust, isolation is not necessary except in cases of infants with respiratory, intestinal, and skin infections. Such infants should be placed in the suspect room.

Domiciliary Care

Approximately 4% of all live births occurring at home are premature. Approximately 25% of these will require removal to hospital on account of low birth weight (under 4 lb.) or illness. If the housing conditions are bad 50% will benefit from hospital care.

In an ideal service the midwife who delivers a premature baby should be relieved of all other duties so that she can give special care to the baby and his mother. In such a service all midwives should have had a special training in the care of the premature baby. In practice this special training may not always be possible, and in addition, all midwives are not interested in this work. The most practical method is to have a team of specially interested and trained midwives working in association with their colleagues, available to take over the special care of premature infants born at home. The chief function of these nurses is to educate the family and help them care for their own infant.

Domiciliary care must be augmented by: (1) facilities for admission to hospital of sick infants, of infants of low birth weight, and of infants with poor home conditions; (2) medical care by the general practitioners; (3) facilities for advice from a consultant paediatrician (a rota of paediatricians available for the premature baby) home care service might be circulated to all general practitioners by the medical officer of health. In the few areas where no consultant paediatrician is available suitable members of the public health staff, maternity and child welfare medical staff, might attend special courses in the care of the premature baby and be available to give advice to general practitioners; (4) adequate equipment for home care; (5) domestic help, if required; (6) transport facilities for staff and special ambulances for infants requiring removal to hospital.

Transport

Special ambulances should be available for moving infants from one hospital to another and from home to hospital. A nurse, some form of heated carrier, and facilities for the administration of oxygen are required.

Follow-up Care

Arrangements should be made for the follow-up of all premature babies and the assessment of their physical and mental status at various ages. The health visitor should take over the care of the infant when he is discharged from hospital or when special home care ceases. Full cooperation between the hospital or the midwife and the health visitor is essential.

Infants treated in hospital may be followed up by the hospital concerned but the local authority should make arrangements for the follow-up of babies treated at home, and for babies treated in hospital for whom no such arrangements have been made by the hospital.

Integration with Other Health Services

The care of the premature baby must be integrated with other health services such as the Maternity and Child Welfare Services, supply of breast milk (breast milk bank), Home Help Service.

Educational Programmes

Personnel. Each local authority should make arrangements for the training of its midwives and health visitors in the care of the premature baby.

Certain premature baby hospital units should provide courses of instruction for doctors, midwives and health visitors in hospital and domiciliary care, the latter by arrangement with the local authority.

Parents. Teaching the mother how to look after her infant should be begun in the hospital or by the premature baby nurse in the home, and should be continued in the home by the health visitor.

Research

There is need for research into the causes and prevention of prematurity and into the value of various methods of treatment.

Appraisal of Results

Regular appraisal of results is of great importance and accurate statistics are required. It is most important that the birth weight should be recorded on all notifications of birth (not only on those of babies with a birth weight of 5½ lb. or less, as recommended in the Ministry of Health Circular 20/44). Further, the birth weight of all stillborn infants and of infants dying during the neonatal period should be recorded; indeed it would be of value if the death certificate for all infant deaths recorded the birth weight.