THE ORGANISATION OF A REGIONAL CENTRAL STERILE SUPPLY SERVICE*

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The provision of a Regional Central Sterile Supply Service should not be undertaken lightly. A large number of people will be affected by the change and finance on a considerable scale will be required. It is essential therefore that a definite plan of action is prepared and followed. During the last few years while knowledge and experience have been limited it has been common practice to establish a small C.S.S.D. in one hospital and to allow it to expand its service to other hospitals until it has reached maximum production. This method has many defects and is no longer justifiable. The hospital initiating the service set its own standards. These are sometimes unacceptable to other users. Production methods planned on a "One Hospital" basis often cannot be adopted on a large scale. The most difficult customer to satisfy is the hospital which has had its own small, personal and costly C.S.S.D. and has then been compulsorily changed to a less personal and more standardised Regional Service. For these and for many other reasons a plan should be prepared and agreed before any action is taken.

One must first define one's aim. This could be "To provide suitably packaged sterile materials of acceptable standard at the lowest possible cost to an agreed number of hospitals". All the adjectives used are important. Packaging must be good. The articles must be guaranteed sterile. A limited range of standardised packs must be agreed. The cost must be acceptable to the user and the C.S.S.D. must know the number, location and estimated demand of its user hospitals.

At this stage one must discuss the factors which influence one in deciding the type of service to be provided.

Of these factors standardisation is probably the most important. Hospitals and the surgeons and nurses in the hospitals have individual preferences. The surgeon must be told clearly what he will lose in the process of standardisation in return for guaranteed sterility. He must for example agree to use a particular swab bundled in tens. He must use a drape of a particular size, material and colour. Experience has shown that the surgeon will readily accept these changes as long as he is not asked to use a standard range of theatre instruments. Theatre sisters are in general reluctant to change until they experience the advantages of removing the preparation and sterilisation of swabs and linen from the theatre. A large C.S.S.D. cannot produce packs for individual hospitals, surgeons or sisters. It is better to abandon the idea of a regional service than to attempt the impossible.

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The next factors to be considered are the numbers of hospitals and their distances from the proposed C.S.S.D. Experience in South Glasgow C.S.S.D. has shown that, provided standardisation is accepted, a large number of hospitals can be served with ward and theatre packs.

This C.S.S.D. is supplying theatre packs to 80 theatres and labour rooms and ward packs to 13,000 general beds. The service will be extended to 100 theatres and 20,000 beds. The most distant hospitals are at present 180 miles apart, but it is intended to extend the ward pack service to the Eastern Region of Scotland. Until recently one delivery van was able to supply 65 theatres and 10,000 beds during a 5½-day week. During the severe winter of 1962-63 all deliveries were made without delay. The cost of transport is 1½ per cent of total cost of C.S.S.D. products. Distance and numbers of hospitals do not in themselves limit the size of a C.S.S.D.

The availability of accommodation must be considered. New building inevitably means a delay of about two years. Changes in production methods are occurring so rapidly that it is probably wiser at present to use adapted accommodation. Experience would indicate that the fewer partitions there are within a C.S.S.D. the easier production becomes. An open area such as a ward, factory or laundry is ideal. Water, steam and electricity are required. Steam can economically be generated on site in an oil-fired boiler.

A C.S.S.D. serving 4,000 beds with ward instruments and ward packs and 50 theatres with operation packs would require an area of approximately 6,000 sq. ft. A C.S.S.D. serving 20,000 beds and 100 theatres would require an area of approximately 11,000 sq. ft. The C.S.S.D. should be sited in the area which has the highest density of hospital beds. It need not be sited in a hospital.

An important factor is the availability of finance for initial capital expenditure and continuing revenue expenditure. It is pointless to equip a large C.S.S.D. if money is not available to buy linen and instruments. It is useless to provide a de luxe service if the hospitals to be supplied find it too costly. The equipment in South Glasgow C.S.S.D. cost approximately £16,000. The cost of priming the pipeline with linen is £400 per theatre or labour room. The ward instrument cost is £3 10s. per general hospital bed. We now have accurate figures showing that the total cost of C.S.S.D. items including disposable items such as catheters and syringes from "trade" sources is approximately 3/6d. per bed per day for a Teaching Hospital and 2/- per bed per day for a District General Hospital. The cost of ward packs and ward instruments is twelve times higher in a surgical ward than in a medical ward.

Having reviewed the factors which influence one in deciding the size and scope of a C.S.S.D. one must assess the relative merits of different sterilising methods. A C.S.S.D. should employ methods which are cheap, reliable and safe. Boiling can be immediately dismissed. It is not reliable and is in any case useless for packaged materials. Gases such as ethylene oxide have been used to sterilise plastic materials. There are technical difficulties involved in its use. The method is slow and the gas is dangerous. There is no rapid check of the efficacy of sterilisation. This method cannot be recommended for C.S.S.D. use.