

## CHAPTER 5

## Managing space

## Learning objectives

**After studying this chapter and doing Exercises 56–59 on pages 255–259, the health-worker manager should be able to:**

- **arrange working space in such a way that work flows smoothly and for the convenience of the patients and others who use it**
- **show on a map the catchment area of a health service**
- **use maps in district health work**
- **make a sketch map of a health district.**

This chapter is concerned with two kinds of working space and how to make the best use of them in providing health care:

- the buildings or other settings where health care is given
- the geographical or ‘catchment’ area served by a health centre.

### 5.1 Arranging work-space

Good management takes care in arranging the space where staff work. Because of the small size of the building or of individual rooms, or their awkward shape, or often because no one has given the matter any thought, many health units have unsuitable space arrangements.

There are no complex rules about the arrangement of working space. Only two simple questions need to be answered:

- What work has to be done here?
- Could this space be arranged in another way that would make the work easier and suit the patients better?

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### Example

A medical assistant examined adult patients at one end of a room containing a table and a chair. A nurse examined children at the other end of the room.

There was no examination couch. For a full examination adults had to cross the corridor to another room. This took time, with the result that the medical assistant rarely had time to examine anybody.

A good supervisor came and placed two screens beside the medical assistant's table, with a narrow bed behind them. Patients could now undress in privacy, while the medical assistant continued with the next patient. This made his work much easier, suited the patients better and avoided waiting and delays.

*Note:* Simple screens, consisting of a timber frame covered with cloth, are a very easy way of making extra rooms.

A common problem is lack of storage space. Stores are often much too small and become over-full, so that it is difficult to find things.

There are several possible solutions to this. One is to place lockable cupboards along a corridor. Another is to turn the office into a large store and use the store as a small office.

## 5.2 Arranging work-flow

One of the features of many health units is a lack of order in the way people are dealt with. In the same space there may be people sitting waiting, while others are standing in queues; people get in one another's way or impede the work of the staff. Most of these problems can be improved by attention to 'work-flow'.

Work-flow is an arrangement in which a series of work functions are coordinated in space and time so that delays are minimal. The greatest obstacle to the organization of work-flow is one of attitude. Congestion and queues are now so common in health services that most people regard them as normal or inevitable and make no effort to prevent them. Some people think that long queues show how busy and hard-working they are.

Most factories or production units provide good examples of work-flow. Whether a factory is automated or operated by human labour, procedures always follow each other in a space/time order.

In a bottling factory, for example, used bottles are received and washed, then move to the next area where they are sterilized and dried. They move to another area and are filled, then to the next stage where the caps are fixed on.

If something were to go wrong with the filling stage, for instance stocks of fruit juice were to run out, the clean and dry bottles would keep coming and pile up together in the filling room. Meanwhile the workers in the subsequent stages would have nothing to do.

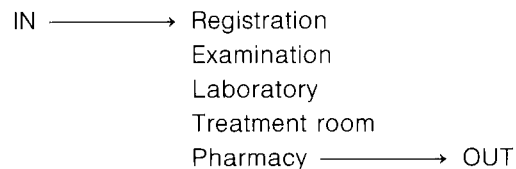
This is what happens when there is a queue in a health centre: there is a delay or a blockage in one stage of a work-flow.

However, moving people like bottles in a factory is not the best way to help them. The alternatives are considered below.

### Work-flow in an outpatient department

To organize work-flow in an outpatient department each stage must be examined separately. If there is a queue, it is a sign that work speed or work efficiency must be improved or that work distribution must be changed.

The usual flow in an outpatients unit is as follows:



It is essential to examine the whole process. Removing a queue from one stage may result only in creating a queue at another; for instance, if registration is speeded up so that patients get their cards quickly, a queue may form outside the examination room. If the position at the examination room is improved, patients may have to wait at the pharmacy for their drugs.

**EXAMINE THE WHOLE WORK-FLOW**

### Improving work-flow

Good work-flow has been achieved when each patient can go through each stage with only a very short waiting time. The following are some ways to avoid delays:

- Every door should be labelled so that patients know where to go.
- At registration:
  - there should be separate systems for returning and new patients;
  - returning patients should be allowed to keep their cards, or be given numbers by which their cards can be found rapidly
  - a workable filing system should be established by which record cards can be found rapidly.
- For the best use of the examination room:
  - an orderly or junior nurse should be trained to screen<sup>1</sup> patients in a different area, e.g. to take the history, to take the temperature, and, if there is fever, to make a blood slide;
  - patients returning daily for a course of treatment should go directly to the treatment room;
  - printed or duplicated prescriptions should be kept ready for all routine minor complaints;
  - clinic days should be established for special conditions that require more time, e.g. tuberculosis, leprosy, malnutrition;
  - appointments with busy officials should be made for less busy times.
- In the pharmacy:
  - a stock of written instructions to patients on how to take routine courses of drugs should be kept;
  - routine courses of drugs should be prepackaged (see Section 2.4).
- A *family health service* should be organized, which would be concerned with care for whole families, and with contacts between the families and the health centre staff. In such a system, a number of families from a district, a village, a number of hamlets or several streets, are assigned to a health-centre worker who is responsible for their health care. As a result, a woman need not make several visits to the health centre, say for antenatal care one day and for children's immunization another day. Instead, her own and her family's needs can be met in one visit. The

<sup>1</sup> In this context 'screening' means to assess everyone briefly (e.g. by interview and a quick examination) to ensure that those who do not need to see the doctor or another senior health worker are dealt with by other members of the staff instead. The doctor can then give sufficient time and attention to the patients who need a level of medical care that a medical assistant alone cannot give.

health worker receives and examines the family and advises or prescribes for them at one time, and then sees them at home in the course of visits to the community. For convenience, or because each health worker cannot have a separate treatment area, it is usually necessary to maintain a clinical area for dressings, injections, fitting of contraceptives, etc. to which people are referred, returning to their own health worker before leaving the health centre.

Such a family health service has several advantages:

- Unnecessary journeys are avoided, especially for mothers with several children. Families visit the centre less often, apart from special visits for treatment for a particular member (e.g. to collect drugs for leprosy or tuberculosis). Women attending antenatal clinics can bring their children at the same time.
- Staff have much more job satisfaction. The varied activities and sense of responsibility stimulate interest. Families feel they have a friend at the health centre.
- The family is seen as a total unit, and a health problem can be seen in its entirety. The history obtained is the family history; the same information is not requested several times.
- Less skilled health workers are better able to screen patients so that only those with problems that need more skilled medical or nursing care take up the time and effort of a supervising nurse or doctor. Usually most people can be cared for by the less skilled health workers, and only the more serious problems have to be referred to the more highly qualified staff.
- Work is more efficient because time and other resources are used better. Training programmes can be set up to enable health workers to deal with their expanded role as family health workers. Staff can be rotated in 'family duty' so that those working in the treatment area may become family health workers for a time.

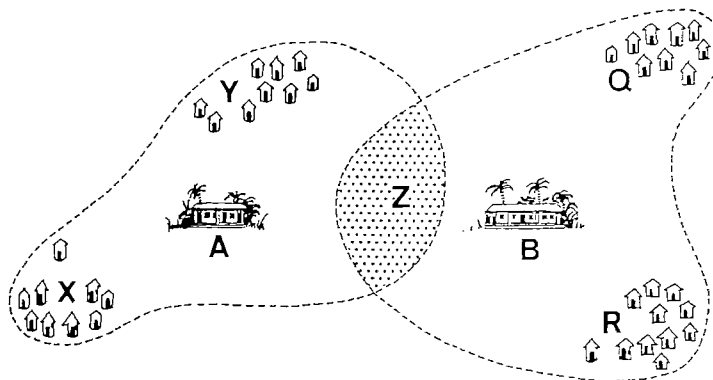
### 5.3 Defining the catchment area

'Catchment area' is a term borrowed from geography, where it means that part of a land surface from which rain water is collected and flows into a river or lake.

When the term is applied to a health unit, it means the area from which patients come to the health service. In the case of a regional or district hospital the catchment area is the whole region or district; for a health

centre it would be the villages around the health centre, and for a small treatment post or aid-post it might be only one village.

When there are several health centres in a district their catchment areas may overlap, as shown in the following diagram.



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**People living in the shaded area Z could go to health centre A or B**

**People in villages X and Y go to health centre A, and people in Q and R go to B.**

### IDENTIFY THE CATCHMENT AREA

The idea of the catchment area is most important because it defines the area of responsibility of a health unit. A health unit is meant to give a complete health service to all the people and communities in its catchment area. This means that all matters affecting health within the catchment area are management responsibilities of the health unit. To know what these responsibilities are, the catchment area must be defined.

## 5.4 Using maps in district health work

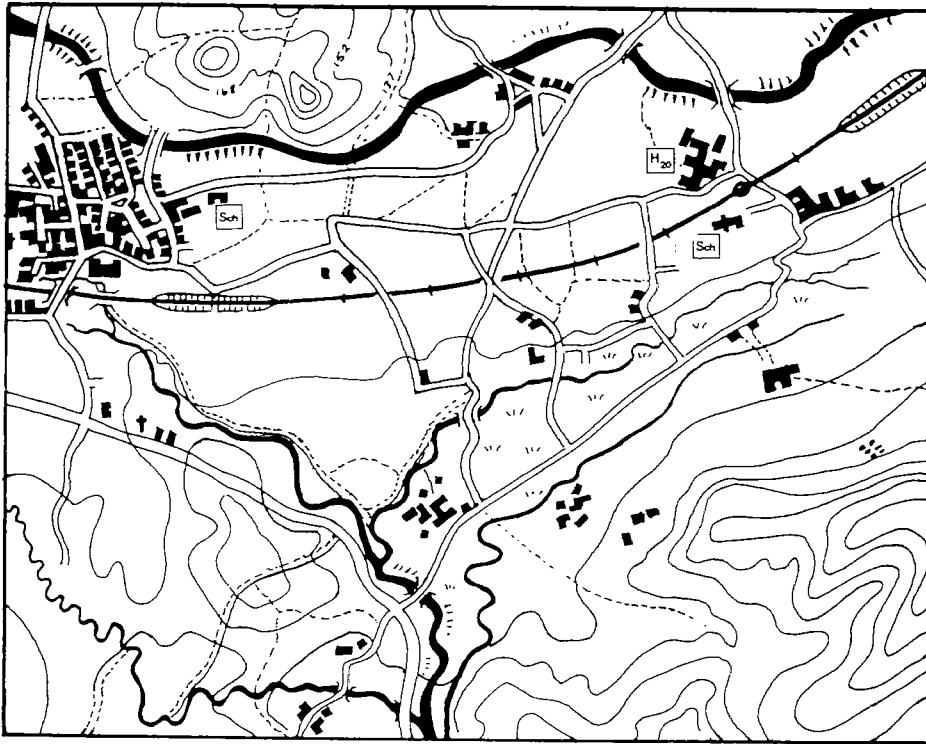
A district health centre without maps is like a physician without a clinical record: it is missing an important guideline. The following are some of the many uses of maps in health work:

- To show distances to various health units and villages. Distance can be measured in kilometres or in travelling-time. Travelling-time is the more important for health work.

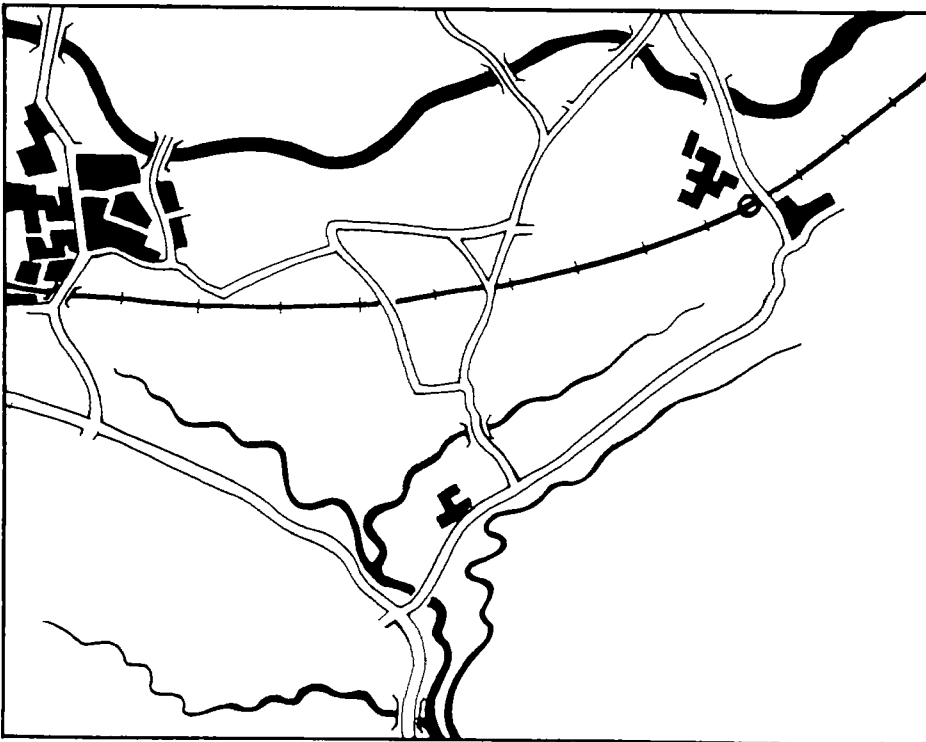
With the aid of a map that shows bad roads, winding roads, mountains or ferries, the travelling-time to each place should be calculated and listed.

- To plan routes. In district health work it may be convenient and time-saving to visit two or three places on the same day. Suitable routes can be planned with the help of a map.
- To decide on travelling methods. Some routes may be covered by regular bus services; these can be marked on the map. Other roads may be impassable except by jeep, or impassable during certain seasons.
- To learn the population distribution and density of an area. The main centres of population are shown on the map. The density of population (number of people per square kilometre) can also be shown. This helps in deciding how long a clinic session or health campaign is likely to take.
- To learn of the different types of community in an area. There may be villages of different types — for instance, the standardized housing of plantation workers, or semi-urban communities in large villages, or very scattered farms.
- To obtain information about the community environment. Maps can give a great deal of information about the environmental features that influence health; for instance, a map can show all the main water sources such as rivers, wells and springs and whether they are dammed or piped. A detailed map could also show the number and distribution of sanitary facilities in an area.
- To show the topography of an area, i.e. its physical features — mountains, rivers and vegetation, and whether the vegetation is forest, bush or cultivated land.
- To show public buildings, particularly those that can be used for health work such as clinics or meetings. Schools, community halls, administration offices or large warehouses may be borrowed when necessary for different types of health work.
- Information obtained from health surveys is sometimes shown on maps by means of coloured pins; for example, one pin for every 10 or 20 patients with a certain disease, such as leprosy, may be stuck in the part of the map that shows where these patients live. The distribution of pins will then indicate the distribution of leprosy in the area. This, in turn, will show the most convenient places for mobile clinics.

Not all features can be recorded on one map. Usually several are needed, each giving a different kind of information.



Topography and rivers



Population density and water supplies










On the previous page are two maps of the same place, one showing topography and rivers, and the other showing population density and water supplies. Many of the symbols used on maps are identified in Section 5.5.

## 5.5 Making a health-district sketch map

Geographical mapping is difficult and time-consuming. Each feature must be in exact proportion. A health worker does not have the skill or the time to make accurate, in-scale, geographical maps.

Maps may often be obtained from the local government office or land department. They may be unnecessarily detailed, but the main features needed for health work may be traced from the map on transparent paper and then transferred to a large card and hung on a wall. If there is no official map, a rough sketch-map of the whole area is better than none.

A code of signs should be prepared to use on the map, for the features that must be shown, such as those indicated with the examples below.

<b>+++++</b>	District boundary
+++++	Subdistrict boundary
=====	Road suitable for motor traffic
-----	Cart road
—————	Cycle track
-----	Footpath
	River
	Town
	Village
•	Hamlet
	Hospital (20 beds)
	Health Centre
	Dispensary
	Village pharmacy
	School
	Post office
T	Telephone