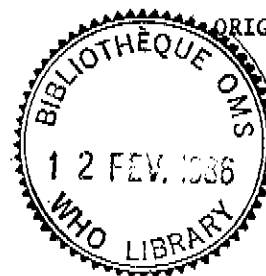




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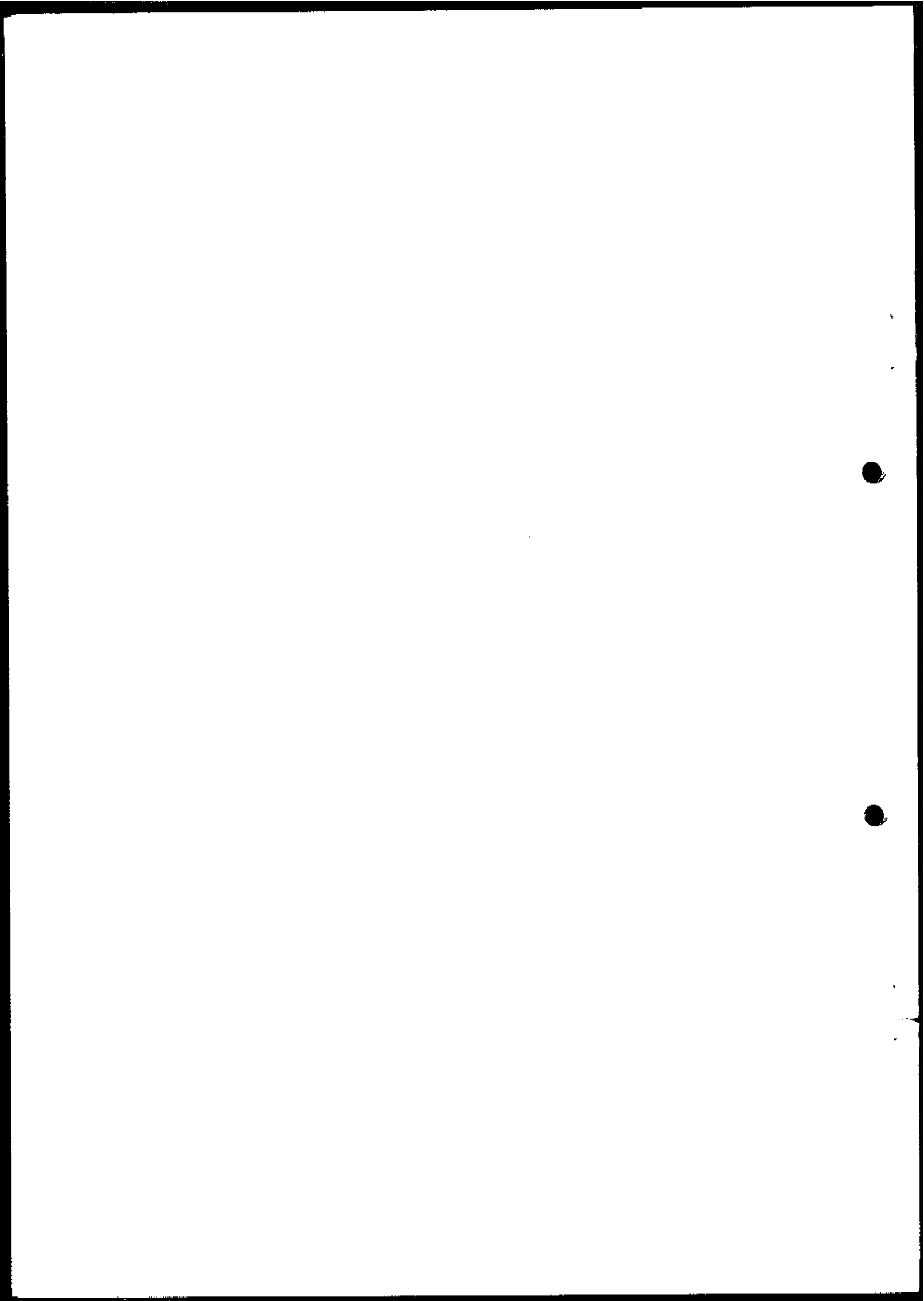
TRAINING IN LEPROSY

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This book has been written for people engaged in the day-to-day training of health personnel; for those who are preparing teaching learning material, and for programme managers and administrators, who have to formulate plans and make budgetary provision for staff training and health education.

Throughout the book a health worker is understood to be an individual recognized by society as having a publicly exercised role in health care.

This book is the result of collaborative effort between:

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SECTION 1

1. INTRODUCTION

A health service is expected to cater for the health needs of the population it serves - from wounds to broken bones, from malaria to tetanus. All categories of health staff - from the medical officer to the peripheral health worker - are trained with this in mind. Therefore, the curricula of medical schools and other health training institutes should reflect the health problems of the country in which they are situated.

However, health training curricula in many countries have little or no provision for training in leprosy. The historical reasons for this include the attitude of the general population toward the disease, based on unreasonable fear of contracting it.

In the past in the absence of effective therapy the only public health measure considered useful in leprosy control was to isolate the source of infection from the general population and this led to the segregation of known cases. This in turn increased the fear of contracting the disease, as nobody wants to be ostracized by society.

The discovery of the effectiveness of dapsone in treating leprosy led to the mass campaigns of the 1950s and 1960s in several endemic countries. The frequent lack of widespread fully staffed general health services covering the entire population in these countries at that time resulted in the organization of vertical single purpose programmes for the control of leprosy, just as the same reasons produced the vertical programmes for malaria and yaws. These leprosy control programmes were carried out by government health services assisted in many countries by WHO and UNICEF and nongovernmental agencies.

The programmes had the following important results:

- (a) In some countries, e.g. Upper Volta, Burma and Thailand, prevalence of leprosy was significantly reduced.
- (b) A strong cadre of health personnel, experienced in leprosy patient care and leprosy control was created in each of the countries in which control programmes were implemented.
- (c) General population and medical interest was aroused by the realisation that a therapy existed for leprosy and was being applied on a large scale.
- (d) The operational difficulties encountered in implementing mass campaigns against a disease requiring longterm treatment began to emerge, and underlined the importance of operational research as an essential ingredient of field programmes.

(e) The emergence of dapsone resistance was a reminder of the biological facts of life and underlined the absolute necessity for continuous intensive medical research into leprosy.

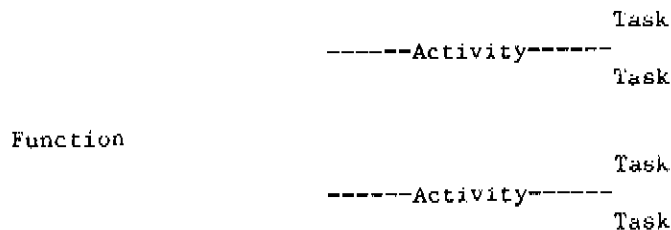
WHO, realizing the basic importance of organizing methodical, strategically-planned research on leprosy, began to stimulate and organize this in the early 1970s. This effort was strengthened by the inclusion of leprosy as one of the six tropical diseases selected under the Programme for Research and Training in Tropical Diseases when it began in 1975. Progress since then in research into immunology and chemotherapy is very promising and together with the development of new epidemiological tools, gives rise to the hope that these developments will lead to improved and strengthened field operations. All of this coincides with a new emphasis in providing total health service coverage in each country by the end of this century. Since care of leprosy patients and the control of the disease will form a normal part of the functions of such a comprehensive health service it is essential that adequate training in leprosy form a part of the curricula of all health training institutions. One of the difficulties for the teaching staff in such institutions will be to design courses which will ensure that the various categories of health staff will be able to carry out their functions in leprosy effectively.

It is, therefore, against this background that this present book has been prepared, so that the functions, activities and tasks of the various categories of health personnel will be clear to the teachers. It is to be hoped that the result of these training courses will be the emergence of health personnel fully capable of effectively discharging their functions in leprosy control. Ensuring effective application of the skills they will have acquired will depend on effective supervision, that indispensable companion of formal training, which would hone these skills in implementing a practical, well-managed control programme backed by proper logistics and in-depth research.

1.1 Functions, activities and tasks

Functions are broad areas of professional responsibility; each function is comprised of a series of activities or groups of professional tasks.

In this handbook eight functions are identified. Two activities are identified within each function, namely problem identification and problem solving. Each function, in its turn is comprised of a varying number of professional tasks. A professional task is defined as a unit of responsibility or work which can be measured with a single criterion or set of criteria.



For instance, one of the designated functions, or broad area of professional responsibility, is "to provide curative and rehabilitative care". The first activity within this function is "problem identification" and an important professional task within this activity is "to diagnose and classify leprosy".

The functions are further described as follows:

- (i) To provide curative and rehabilitative care
- (ii) To manage the services
- (iii) To organize health education activities
- (iv) To collaborate with other services in community development
- (v) To train other health personnel
- (vi) To evaluate the services
- (vii) To organize social services
- (viii) To participate in research

(i) Curative and rehabilitative care

All the activities which result in the direct provision of medical or rehabilitation services to patients.

(ii) Management of the services

All the activities which result in management of health services including goal setting, planning, leading, organizing, and controlling the service.

(iii) Health education

All the activities which result in helping people identify their own health problems and assisting them to develop willingness and capability to contribute to the maintenance of their own health.

(iv) Collaboration with other services

All the activities which result in working together with other services, agencies, and people groups so as to promote patient care, rehabilitation and leprosy control

(v) Training of health personnel

All the activities which result in increasing the competence of health personnel to do their jobs.

(vi) Evaluation of the services

Consideration of all the activities which result in value judgements based on predetermined goals and appropriate data relevant to the results of the services.

(vii) Social services

Activities which result in provision of social services to leprosy patients.

(viii) Research

Activities primarily directed towards the acquisition of new understanding of medical and social aspects of leprosy and additional means of controlling the disease.

Throughout the book a health worker is understood to be an individual recognized by society as having a publicly exercised role in health care.

1.2 People involved in leprosy control and their functions,
activities and tasks

The people involved in leprosy are the leprosy patients themselves, the community in which they live and the health personnel who are responsible for dealing with the health need of the community. Seven different categories of people have been defined in leprosy control and patient care.

The community

The leprosy patients themselves

Five different health workers:

- Health Worker I
- Health Worker II
- Health Worker III
- The supervisor
- The programme leader

These health personnel are not identified by the commonly used professional titles, e.g. doctor, nurse or paramedical worker for three reasons. Firstly, in actual practice the tasks fulfilled in regard to leprosy by people with the same professional title vary greatly.

For instance, in many countries doctors in general practice may be expected to recognize leprosy but possibly not make a definite diagnosis of leprosy and almost certainly not undertake the management of a case in reaction. Whereas, in those same countries, leprosy paramedical workers will be expected, not only to make a definite diagnosis of the case, but also to classify the patient and to actually manage severe reactive phenomena.

Secondly, the identification of the work to be done by the trainee is an essential first step in the planning of his training. The usual professional class designation does little to help the teacher to identify that work. A list of tasks, on the other hand, should describe the work with sufficient specificity to enable teacher and learner to identify what the learner is required to be able to do.

The third reason for using alternative titles for categorizing people involved in health work is simply to emphasize the fact that the old professional models which worked well in the past no longer apply.

A man should be recognized for what he does and not for what he was once trained to do. Effectiveness in any professional task is not the result of training alone, it is compounded of competence, authority and personal commitment to the task.

There is considerable overlap between these categories. They are models which should be adapted to meet local needs. They all have their part to play in the effort to control leprosy. The tasks designated for each category are shown in two tables.

Table I gives the nine tasks identified for the patients and the community in which they live, while Table II gives forty tasks for the health personnel. The tasks follow the strategy of leprosy control developed by the WHO Expert Committee (1,2,3,4,5) and the more general principles of health care as exemplified by the WHO/UNICEF publication on primary health care (6).

Tasks* in Leprosy Control and Patient Care

Table 1 The Community and the Patients

	Community	Patients
1. Seek medical advice if leprosy is suspected	X	
2. Accept known cases who are under regular treatment or released from control	X	
3. Recognize signs and symptoms indicative of possible leprosy	X	X
4. Encourage those who think they have leprosy to go for examination	X	X
5. Recognize patients with social or economic problems beyond the norm	X	X
6. Support patients socially and psychologically	X	X
7. Take treatment		X
8. Recognize complications of leprosy		X
9. Practise self care		X

*Tasks can be measured with a single criterion or a unique set of criteria

Table 2 Health Personnel

	HW 1	HW 2	HW 3	Super- visor	Programme Leader
I. TO PROVIDE CURATIVE AND REHABILITATIVE CARE					
<u>Problem Identification</u>					
1. Recognize signs and symptoms of leprosy	X				
2. Recognize complications of leprosy	X				
3. Diagnose and classify leprosy		X	X	X	X
4. Diagnose complications of leprosy		X	X	X	X
5. Undertake case finding surveys		X	X	X	X
6. Classify deformity		X	X	X	X
7. Recognize signs of relapse	X				X
8. Diagnose relapse		X	X	X	X
9. Identify cases with possible drug resistance		X	X	X	X

	HW 1	HW 2	HW 3	Super- visor	Programme Leader
<u>Patient Care</u>					
10. Receive diagnosed patients	X				
11. Administer leprosy treatment	X				
12. Prescribe and administer leprosy treatment		X	X	X	X
13. Prescribe and administer treatment for complications		X	X	X	X
14. Recognize patients suitable for surgery		X	X	X	X
15. Declare cases inactive			X	X	X
16. Declare cases released from control			X	X	X
17. Teach patients to take treatment regularly and to practise self care	X	X	X	X	X
18. Keep patients records	X	X	X	X	X
II. TO MANAGE THE SERVICES					
Problem Identification					
1. Assess local contextual factors (geographic, demographic, social, economic, health and social services) which impinge on measures to control leprosy and care for leprosy patients		X	X	X	X
2. Estimate the need for leprosy control and patient care activities				X	X
Problem Solving					
3. Recognize personal and organizational problems				X	X
4. Set objectives for leprosy control and leprosy patient care programmes		X	X	X	X
5. Plan leprosy control and leprosy patient care programmes		X	X	X	X
6. Implement leprosy control and leprosy patient care activities		X	X	X	X
7. Evaluate leprosy control and leprosy patient care programmes		X	X	X	X

	HW 1	HW 2	HW 3	Super- visor	Programme Leader
III. TO ORGANIZE HEALTH EDUCATION ACTIVITIES					
Problem Identification					
1. Identify and define problems which can be alleviated by health education		X	X	X	X
2. Describe and characterize aspects of the cultural norms and social practices which must be taken into account in health education		X	X	X	X
Problem Solving					
3. Define objectives for health education		X	X	X	X
4. Plan and implement health education programmes		X	X	X	X
5. Evaluate health education programmes		X	X	X	X
IV. TO COLLABORATE WITH OTHERS					
Problem Identification					
1. Describe and characterize aspects of the local cultural norms and social practices which are relevant to collaboration		X	X	X	X
2. Identify services, agencies and people whose collaboration is desirable	X	X	X	X	X
Problem Solving					
3. Define goals for collaboration		X	X	X	X
4. Plan and implement collaboration	X	X	X	X	X
5. Evaluate collaboration		X	X	X	X
V. TO TRAIN HEALTH PERSONNEL					
Problem Identification					
1. Determine training needs in the light of defined tasks and existing competencies		X	X	X	X
Problem Solving					
2. Set objective for training		X	X	X	X
3. Plan and implement training		X	X	X	X
4. Evaluate training		X	X	X	X

	HW 1	HW 2	HW 3	Super- visor	Programme Leader
VI. TO EVALUATE THE SERVICES					
Problem Identification					
1. Delineate the data needed for evaluation of programme results in the light of stated goals		X	X	X	
Problem Solving					
2. Collect data as defined above		X	X	X	X
3. Present data appropriately		X	X	X	X
4. Make value judgements and take appropriate action			X	X	X
VII. TO PROVIDE SOCIAL SERVICES					
Problem Identification					
1. Define the characteristics of patients eligible for social and psychological support in that particular context					X
2. Define the desired nature and level of such support				X	X
3. Identify and tabulate patients eligible for support		X	X	X	X
4. Estimate resources needed to provide the desired support				X	X
Problem Solving					
5. Set goals for social and psychological support		X	X	X	X
6. Plan and implement social and psychological support	X	X	X	X	X
7. Evaluate social and psychological support programmes		X	X	X	X
VIII. TO PARTICIPATE IN RESEARCH					
Problem Identification					
1. Define significant problems in leprosy which the proposed research is designed to solve			X	X	X

	HW 1	HW 2	HW 3	Super- visor	Programme Leader
Problem Solving					
2. Set objectives for research			X	X	X
3. Plan research			X	X	X
4. Implement research	X	X	X	X	X
5. Evaluate the results achieved by research			X	X	X

1.3 Instructional objectives

Instructional objectives should be derived directly from the functions, activities and tasks outlined in the previous section. General objectives correspond to functions of the different types of staff; Intermediate objectives correspond to activities which are the components of these functions; and Specific objectives correspond to the professional tasks, which are components of activities, and which will be described in more detail in the following pages.

1.4 Teaching and Training Considerations

Section 3, most of which is based on Teaching for Better Learning by F.R. Abbatt (7), attempts to focus on a systematic approach to training in leprosy. The importance of intellectual skills, communication skills and practical skills in producing health workers competent in leprosy patient care and the control of leprosy is discussed, and methods for assessing training are explained and commented on.

1.5 Teaching Materials

In many parts of the world it is difficult for the teachers of health personnel to keep up to date on the production of suitable teaching learning materials, while textbooks and periodicals may not also be readily available. Section 4 is intended to assist such teachers by giving details of educational materials available for learning about leprosy, and from where they may be ordered. Information on some training courses in leprosy is also given in Section 4.

SECTION 2

2. TRAINING HEALTH PERSONNEL IN LEPROSY

2.1 Objective of the training

The objective of the training is to make health personnel competent to carry out designated tasks in caring for leprosy patients and in controlling the disease in the community.

2.2 The community

People in this group include: voluntary collaborators, health committees, family members of patients (especially women), school children, and traditional medical practitioners, as well as the community at large.

It is incumbent on the community to recognize the importance of seeking medical advice as soon as signs of symptoms of leprosy appear in themselves or in others for whom they are responsible. All known patients are to be accepted provided they are under regular treatment, or released from control. The social and psychological support of patients in taking treatment and practising self care is an important responsibility of the community. Assistance by the community would also be given to patients with social and economic problems beyond those considered normal in the community.

2.3 The patient

A leprosy patient is a person who has been diagnosed by a competent health worker as having leprosy. Effective leprosy control and patient care are entirely dependent upon the voluntary cooperation of the patients. The health services generally have a great responsibility to obtain and retain their confidence and cooperation. Most patients are willing to follow medical advice, but they must be given instructions with which they are able to comply.

The ingestion of adequate treatment on a regular basis by the patients is crucial to the control of leprosy in the community. It is a prerequisite that each patient should recognize and admit that he has leprosy and that he needs treatment. During treatment it is necessary for him to be able to recognize complications as they occur, and then seek and follow the medical instructions given in this regard. As part of his social obligations as a member of the community he should be in a position to recognize other leprosy cases in the community and encourage them to seek treatment. It is also incumbent on him to recognize patients who may have social and economic problems beyond the norm in the community and do whatever he can to assist them. By 'beyond the norm' is meant what is beyond the norm for a non-patient in the community. Thus a leprosy patient may have social and economic problems beyond the norm just because he is a leprosy case.

2.4 Educational methodology - old and new

How can training be made more relevant to the job and more effective?

A traditional method of developing training programmes is for senior staff to review existing programmes and course materials in order to decide what should be taught and what new material must be added in the light of new knowledge. Discussion centres around the priority which each subject is to be given in the curriculum, who will teach each topic, and how much material can be covered in the allotted time. The result often is the overloading of students with material not directly relevant to their jobs.

Learning, however, is a dynamic and interactive process in which the behaviour and experience of the student are vital components. The student must not only receive but also contribute; his perception of what is happening is just as important as the perception of his teachers. The aim of training is to bring expected changes in the behaviour of the student. An educational programme is more likely to be effective if its purposes have been clearly expressed. This means that its objectives have to be defined (8).

An educational objective is a statement which describes the expected results of learning experiences as they manifest themselves in the performance or behaviour of the learner. When an educational programme ends the student should have the competences he needs to do his job. Statements that describe the performance or behaviour of the

student expected to result from a specific unit of teaching and/or learning, are called functions, activities or tasks, depending on their level or specificity; together they are the job profile of a given health worker. Educational objectives are derived directly from this profile.

A very important activity in training programmes is the definition of educational objectives derived from job descriptions and task analysis, and the use of these objectives in training courses. This approach ensures that teaching is relevant to the job and makes it more possible to modify courses, and to appraise the effectiveness of the training course. Most important of all, the students benefit when they know exactly what is expected of them; they find it an incentive to learn.

The process of course design, including writing educational objectives is dealt with in detail in the Educational Handbook for Health Personnel (8).

The rest of this section sets out the educational objectives for Health Workers Level 1, Level 2 and Level 3 (HW 1-3), the Supervisor and the Programme Leader. The task summaries that appear at the beginning of the part dealing with each level of health worker have been extracted from Table 2. They are followed by more detailed statements of tasks, and for convenience, the task summaries are repeated just before the detailed statement related to them. It is hoped that this arrangement will reduce to a minimum the necessity for checking back to previous lists and tables.

HEALTH WORKER - LEVEL 1

A health worker at village level, whether voluntary or supported by the local community, possessing a minimum level of health care competence. Responsible to fulfill the tasks described in the following pages.

TASKS FOR HEALTH WORKER - LEVEL 1 - SUMMARIZED

At the end of his training course the Health Worker Level 1 should be able to:

1. Recognize the signs and symptoms of leprosy, and refer suspects for diagnosis.
2. Recognize the complications of leprosy and refer the cases for treatment
3. Recognize signs of relapse and refer suspects for diagnosis.
4. Receive diagnosed patients.
5. Administer the treatment prescribed.
6. Teach patients to take treatment regularly and to practise self care.
7. Keep appropriate records.
8. Promote awareness of the signs and symptoms of leprosy amongst the community; and promote acceptance by the community of known cases who are under regular treatment or have been released from control.
9. Collaborate with other appropriate people.
10. Support patients socially and psychologically.
11. Participate in clinical, epidemiological and operational research.

TASKS FOR HEALTH WORKER - LEVEL 1 - DETAILED

1. Recognize the following as signs and symptoms of leprosy whenever they are present in an individual who seeks help:
 - Skin patches with sensory loss
 - Infiltration and nodules on the head or extremities
 - Painless wounds
 - Characteristic deformities of hands, feet or face
 - Refer all suspects for diagnosis, and follow-up the referral to ensure that it was effective

2. Recognize the following complications of leprosy and their treatment:
 - Reactive phenomena
Swelling and redness in skin patches, pain in nerves, increasing weakness and sensory loss, redness, pain and diminution of visual acuity in the eyes.
 - Complications of therapy
 - Dermatitis, anaemia and psychosis
 - Refer all cases suspected of having these complications for further treatment, and follow up the referral to ensure that it is effective.

3. Recognize the following signs of relapse:
 - New skin lesions
 - Appearance of redness, swelling or increasing size in old skin lesions
 - New evidence of nerve damage or increasing damage to nerves already damaged
 - Refer all such cases to the supervisor for management, and follow up the referral to ensure that it is effective.

4. Receive diagnosed cases sent to him by reading their transfer letter and entering the patient's name, address and other appropriate information into the record system.

5. Administer the treatment prescribed for the patients by:
 - Reading the statement of diagnosis, the prescription and other instructions given on the transfer letter.
 - Using the drug stock control system applicable to the clinic.
 - Demonstrating the respect for patients as people by using customary greetings and insisting on their personal cleanliness, for instance.
 - Recognizing evidence of the practice or neglect of self care, i.e. presence or absence of wounds or infection, and the use or neglect of footwear, dressings or splints.
 - Issuing appropriate medicines and other supplies to the patients.
 - Giving proper instructions to the patients regarding the use of the medicine and other supplies, and the timing of return visits.

6. Teach patients to take treatment regularly and to practise self care, using various methods, including demonstration, role play, question and answer, and where appropriate through the use of literature. All patients should be able to repeat the instructions given regarding dose and frequency and give two reasons for the necessity of regular treatment.

Teach all patients recognition of complications of leprosy and its treatment and explain the necessity of seeking help immediately if any of these complications occur.

7. Keep the records which are appropriate for the clinic in a legible hand.
8. Promote awareness of the signs and symptoms of leprosy among the community and promote acceptance by the community of known cases who are under regular treatment or who have been released from treatment by means of the following action:
 - Explain the cause of leprosy in local terms which accurately convey the concept that leprosy is due to a microorganism.
 - Explain that patients who are regularly undergoing treatment are not infectious.
 - Explain that leprosy can be arrested if recognized early and treated regularly.
 - Explain that leprosy is a slow disease, taking years to develop and years to treat.
 - Explain that it is necessary for leprosy patients to take treatment regularly and practise self care.
 - Explain that loss of parts of the body in leprosy patients is usually due to injury following loss of feeling and not due to the disease itself.
 - Explain that as a result of loss of feeling and damage to the skin due to leprosy, patients have to take special care to avoid injury, especially to hands, feet and eyes, and may have to wear special shoes and use special tools and avoid certain occupations.
 - Explain that deformity is not a sign of infectiousness.
9. Collaborate with other community workers and with the people of the community generally, by respecting cultural and social norms in such a way as to promote understanding of leprosy and acceptance of leprosy patients.
10. Support patients socially and psychologically by showing personal respect for them as individuals, and by explaining that no moral guilt is attached to leprosy, and that a patient is in no sense deprived of human rights because of the disease, and should accept full responsibility for his/her own conduct as a person.
11. Participate in clinical epidemiological and operational research by acting on specific instructions from the supervisor.

HEALTH WORKER - LEVEL 2

A formally trained worker, employed as a member of a health team and personally responsible for delivering one or more services in a circumscribed area, and to fulfill the tasks described in the following pages.

TASKS FOR HEALTH WORKER LEVEL 2 - SUMMARIZED

At the end of training, health worker level 2 should be able to:

1. CURATIVE AND REHABILITATIVE

Problem Identification

1. Diagnose and classify leprosy.
2. Diagnose complications of leprosy.
3. Undertake case finding surveys.
4. Classify deformity.
5. Diagnose relapse.
6. Suspect resistance to treatment.

Patient Care

7. Prescribe and administer leprosy treatment.
8. Prescribe and administer treatment for complications.
9. Recognize patients suitable for surgery.
10. Teach patients to take treatment regularly and to practise self care.
11. Keep clinical records.

11. MANAGEMENT

Problem Identification

1. Be aware of important aspects of the local culture which have an impact on leprosy control and leprosy patient care.

Problem Solving

2. Set objectives for leprosy control and leprosy patient care.
3. Plan and organize leprosy control and leprosy care activities.
4. Supervise the health workers responsible to him.
5. Collect and collate statistics and prepare reports.

III. HEALTH EDUCATION

Problem Identification

1. Identify and define problems which can be alleviated by health education.
2. Describe and characterize aspects of the cultural norms and social practices which must be taken into account in health education.

Problem Solving

3. Set objectives for health education.
4. Plan and implement a health education programme.
5. Evaluate the effectiveness of the health education programme.

IV. COLLABORATION

Problem Identification

1. Describe and characterize aspects of the cultural norms and social practices which are relevant to collaboration.
2. Identify individuals, services, and agencies whose collaboration is desirable

Problem Solving

3. Define goals for collaboration.
4. Plan and implement collaboration.
5. Evaluate collaboration.

V. TRAINING OF HEALTH PERSONNEL

Problem Identification

1. Determine the training needs of his/her subordinates and collaborators.
2. Determine his/her own training needs.

Problem Solving

3. Set objectives for training him/herself, his/her subordinates and his/her collaborators.
4. Plan and implement, or make arrangements for others to implement, appropriate training.
5. Evaluate the training which has been given.

VI. EVALUATION

Problem Solving

1. Collect and present to his/her supervisor the data needed for evaluation of the programmes.

VII. SOCIAL SERVICES

Problem Identification

1. Identify and tabulate patients in the district eligible for social support.

Problem Solving

2. Set goals for social and psychological support.
3. Plan and implement social and psychological support.
4. Evaluate social and psychological support programmes.

VIII. RESEARCH

1. Participate in clinical, epidemiological, operational research.

TASKS FOR HEALTH WORKER LEVEL 2 - DETAILED

At the end of the training course, health worker level 2 should be able to:

1. CURATIVE AND REHABILITATIVE

Problem Identification

1. Diagnose and classify leprosy by clinical methods, using the classification system in force locally, with the following actions:
 - Take and record a case history including all the data specifically applicable to leprosy as given in "A Guide to Leprosy Control" (WHO 1980, pp. 83-87) and the OMSLEP recording and reporting system for leprosy patients (9).
 - Use a systematic method of physical examination to elicit signs in the skin, including sensory impairment, nerve trunks, and in other organs, which are specific to leprosy.
 - Use a systematic method of recording the findings.
2. Diagnose complications of leprosy by clinical methods with the following actions:
 - Take and record a case history including all the data specifically applicable to leprosy complications in "A Guide to Leprosy Control" (WHO 1980, pp. 83-87).
 - Use a systematic method of physical examination to elicit signs of complications.
 - Use a systematic method of recording findings.
3. Undertake case finding surveys.
 - Find facilities appropriate for examination of cases in homes, schools or other non-medical buildings.
 - Explain to teachers and other members of the public their roles in case finding surveys and enlist their help.
 - Plan, implement and evaluate case finding surveys.

4. Classify deformity by clinical methods using the criteria given in "A Guide to Leprosy Control" (WHO 1980, pp. 77-81).
5. Diagnose relapse by clinical methods using the criteria for activity found in "A Guide to Leprosy Control" (WHO 1980, page 27).
6. Suspect resistance to treatment by clinical methods by means of regular clinical review of patients, and assessment of activity as described in "A Guide to Leprosy Control" (WHO 1980, pp. 26-28).

Patient Care

7. Prescribe and administer leprosy treatment using the treatment schedule in force in the programme.
8. Prescribe and administer treatment for complications of leprosy using the treatment schedule in force in the programme.
9. Recognize patients suitable for surgery according to the criteria laid down in the programme.
10. Teach patients to take treatment regularly and to practise self care in such a way that the majority of patients can describe the importance of regular treatment and demonstrate self care practices appropriate for them.
11. Keep clinical records in accordance with local instructions, accurately recording in a legible hand at least 90 percent of the information required.

II. MANAGEMENT

Problem Identification

1. Identify important aspects of the local culture which have an impact on leprosy control and patient care.

Problem Solving

2. Set objectives for leprosy control and leprosy patient care activities carried out by him/herself, and any staff responsible to him/her, in consultation with his/her supervisor.
3. Plan and organize leprosy control and leprosy care activities and that of any staff responsible to him/her, in consultation with the supervisor.
4. Supervise the leprosy patient care and leprosy control activities of staff responsible to him/her according to the criteria and instructions given by the supervisor.
5. Collect and collate statistics and make reports in accord with the instructions laid down.

III. HEALTH EDUCATION

Problem Identification

1. Identify and define problems which can be alleviated by health education by observing and questioning the patients with the aid of a checklist.

2. Describe and characterize aspects of the culture and social practices which must be taken into account in health education by observation and inquiry of the society in which the patients live with the aid of a checklist.

Problem Solving

3. Set objectives for health education in the district in consultation with his/her supervisor.
4. Plan and implement a health education programme in the district in consultation with his/her supervisor.
5. Evaluate the effectiveness of the health education programme using methods worked out with his/her supervisor.

IV. COLLABORATION

Problem Identification

1. Describe and characterize aspects of the cultural norms and social practices which are relevant to collaboration in the district by means of a checklist.
2. Identify individuals, services and agencies whose collaboration is desirable through personal knowledge of the locality, making use of a checklist and in collaboration with the supervisor.

Problem Solving

3. Define goals for collaboration with the aid of his/her supervisor.
4. Plan and implement collaboration.
5. Evaluate the effectiveness of the collaboration using the criteria provided by the supervisor.

V. TRAINING OF HEALTH PERSONNEL

Problem Identification

1. Determine the training needs of his/her subordinates and collaborators by means of:
 - Job descriptions
 - Observations of their work
 - Identification of performance discrepancies due to lack of training
2. Determine personal training needs in consultation with the supervisor.

Problem Solving

3. Set objectives for training himself, his/her subordinates and collaborators in consultation with those involved and with the supervisor.
4. Plan and implement appropriate training to reach the objectives chosen with the assistance of the supervisor.
5. Evaluate the training which has been undertaken in the light of the objectives set for it.

VI. EVALUATION

Problem Solving

1. Collect and present to the supervisor the data needed for the evaluation of the programme, in accordance with the checklist given, by means of the methods laid down.

VII. SOCIAL SERVICES

Problem Identification

1. Given a checklist of the characteristics of patients eligible for social and psychological support in the district, identify and tabulate these patients.

Problem Solving

2. Set appropriate goals for social and psychological support of patients who need such assistance in collaboration with the supervisor and appropriate agencies.
3. Plan and implement social and psychological support for the patients in co-operation with the appropriate agencies.
4. Evaluate the effectiveness of the social and psychological support given to the patients in the light of the goals set.

VIII. RESEARCH

1. Participate in clinical, epidemiological and operational research in accordance with the instructions given by the supervisor.

HEALTH WORKER - LEVEL 3

A health worker with professional training able to deal directly with clinical and other problems beyond the competence of health worker level 2 and responsible to fulfill the tasks described in the following section. This individual is primarily a clinician but he often has managerial responsibilities also. Managerial tasks at this level are described under tasks for Supervisors and Programme Leaders, respectively.

TASKS FOR HEALTH WORKER - LEVEL 3 - SUMMARIZED

At the end of training health worker level 3 will be able to:

I. CURATIVE AND REHABILITATIVE

Problem Identification

1. Diagnose and classify leprosy.
2. Diagnose complications of leprosy.
3. Undertake case finding surveys.

4. Classify deformity.
5. Diagnose relapse.
6. Diagnose resistance to therapy.

Patient Care

7. Prescribe and administer treatment for leprosy.
8. Prescribe and administer treatment for complications.
9. Recognize patients suitable for surgery.
10. Declare cases inactive.
11. Declare cases released from control.
12. Teach patients to take treatment regularly and to practise self care.
13. Keep clinical records.

II. MANAGEMENT

Problem Identification

1. Be aware of the local contextual factors which impinge on measures to control leprosy and care for leprosy patients.

Problem Solving

2. Set objectives for leprosy control and leprosy patient care.
3. Plan leprosy control and leprosy patient care activities.
4. Implement and supervise leprosy control and leprosy patient care activities.
5. Evaluate the effectiveness of the leprosy control and leprosy patient care activities in the clinics.

III. HEALTH EDUCATION

Problem Identification

1. Identify individual problems which can be alleviated by health education.
2. Take into account in health education the effects of the cultural norms and social practices.

Problem Solving

3. Define objectives for health education in the clinics.
4. Make specific plans for health education in the clinics.
5. Practice health education personally and ensure appropriate health education is undertaken by the staff.
6. Evaluate the effectiveness of health education undertaken in the clinics.

IV. COLLABORATION

Problem Identification

1. Take account of the aspects of the cultural norms and social practices in the area where he/she works which are relevant to collaboration.
2. Utilize the services, agencies and people whose collaboration is desirable.

Problem Solving

3. Define goals for collaboration with respect to the clinics under his/her care.
4. Plan and implement collaboration with appropriate groups.
5. Evaluate the effectiveness of collaboration.

V. TRAINING

Problem Identification

1. Identify the training needs of the staff, collaborators and him/herself.

Problem Solving

2. Set objectives for training.
3. Plan training.
4. Plan and implement, or make arrangements for others to implement appropriate training.
5. Evaluate the training which has been given.

VI. EVALUATION

Problem Identification

1. Delineate the data needed for evaluation of the results of the programmes for which he/she is responsible.

Problem Solving

2. Ensure that the data needed for evaluation of the programme is collected.
3. Ensure that the appropriate presentations of data for evaluation of the programme is presented.
4. Make decisions and implement changes in the programme in the light of the results of the evaluation.

VII. SOCIAL SERVICES

Problem Identification

1. Take account of the characteristics of patients eligible for social and psychological support in the programme.

Problem Solving

2. Set goals for social and psychological support of the individuals who come under his/her care.
3. Make appropriate arrangements for social and psychological support of individuals who come under his/her care.
4. Evaluate the effectiveness of the support given.

VIII. RESEARCH

Problem Identification

1. Identify and define significant problems in leprosy which could be investigated through research in the programme.

Problem Solving

2. Set objectives for research
3. Plan and implement research in the programmes.
3. Evaluate the results achieved by research.

TASKS FOR HEALTH WORKER LEVEL 3 - DETAILED

The health worker at level 3 must be fully conversant with, and skilled in the tasks carried out by health worker 2. The tasks are outlined in the previous sections, tasks for health worker level 2. He/she will also be expected to undertake certain additional tasks which are specified in the following sections.

I. CURATIVE AND REHABILITATIVE

Problem Identification

1-5 These tasks have already been given on those listed for health worker level 2.

6. Diagnose resistance to treatment by clinical and laboratory methods described in "A Guide to Leprosy Control" (WHO 1980, pp. 26-28).

Patient Care

7-13 These tasks have already been described among those given for health worker 2.

II. MANAGEMENT

Problem Identification

1. Identify the local contextual factors which impinge on measures to control leprosy and care for leprosy patients.

Problem Solving

2-5 These tasks have already been described under the relevant section for health worker level 2. However, a health worker at level 3 may reasonably be expected to fulfill these tasks independently and without having to refer to a superior for assistance or advice.

III. HEALTH EDUCATION

Problem Identification

1-2 These tasks have already been described under the relevant section for health worker level 2.

Problem Solving

3-6 These tasks have already been described under the relevant section for health worker level 2. However, health worker level 3 may be expected to carry out these tasks without close supervision.

IV. COLLABORATION

Problem Identification

1-2 These tasks have already been described under the relevant section for health worker level 2. However, health worker level 3 may be expected to carry out these tasks without supervision.

V. TRAINING

Problem Identification

1. These tasks have already been described under the relevant section for health worker level 2. He may be expected to take greater responsibility for training and in particular for his/her own self development and training than health worker level 2.

Problem Solving

2-5 These tasks have already been described under the relevant section for health worker level 2.

VI. EVALUATION

Problem Identification

1-2 Set up an appropriate system for data collection for evaluation of the programme as described in the OMSLEP System and ensure that this data is collected.

3. Set up an appropriate system for the presentation of data for the evaluation of the programme as described in the OMSLEP system and ensure this data is presented.

4. Make decisions and implement changes in the programme.

VII. SOCIAL SERVICES

Problem Identification

1. Develop a checklist descriptive of the characteristics of patients eligible for social and psychological support in the programme if not given such a list by the programme leader, and arrange for these patients to be identified and recorded.

Problem Solving

2-4 These tasks have been described under the relevant section for health worker level 2.

VIII. RESEARCH

Problem Identification

1. Identify and define significant problems in leprosy which could reasonably be investigated through research in his programme in the light of the resources available to him/her.

Problem Solving

2. Set specific and measurable objectives for research in the programme.
3. Plan and make a budgetary provision for reaching the research objectives which he has defined and implement these plans.
4. Evaluate the results achieved by research in the light of the objectives set.

THE SUPERVISOR

The health worker who has clinical competence at least at the level of health worker 2 and preferably of health worker 3. He/she is in addition competent to manage part or the whole of the operations of a leprosy control service in a specified area and will be able to fulfill the supervisory tasks given in the following pages. Clinical tasks will be presented in outline form only.

TASKS FOR SUPERVISORS - SUMMARIZED

At the end of training the supervisor will be able to:

1. CURATIVE AND REHABILITATIVE

Problem Identification

1. Diagnose and classify leprosy.
2. Diagnose complications of leprosy.
3. Undertake case finding surveys.
4. Classify deformity.
5. Recognize relapse.
6. Identify cases with possible drug resistance.

Patient Care

7. Prescribe and administer leprosy treatment.
8. Prescribe and administer treatment for complications.
9. Recognize patients suitable for surgery.

10. Declare cases inactive.
11. Declare cases released from control.
12. Teach patients to take treatment regularly and to practise self care.
13. Keep patient records.

II. MANAGEMENT

Problem Identification

1. Assess local contextual factors (geographic, demographic, economic, health and social services) which impinge on measures to control leprosy and care for leprosy patients.
2. Estimate the need for leprosy control and patient care activities.
3. Recognize personal and organizational problems.

Problem Solving

4. Set objectives for leprosy control and leprosy patient care programmes.
5. Plan and implement leprosy control and leprosy patient care programmes.

III. HEALTH EDUCATION

Problem Identification

1. Identify and define problems which can be alleviated by health education.
2. Describe and characterize aspects of the cultural norms and social practices which must be taken into account in health education.

Problem Solving

3. Define objectives for health education.
4. Plan and implement health education programmes and practise health education.
5. Evaluate health education programmes.

IV. COLLABORATION

Problem Identification

1. Describe and characterize aspects of the cultural norms and social practices which are relevant to collaboration.
2. Identify services, agencies and people whose collaboration is desirable.

Problem Solving

3. Define goals for collaboration.
4. Plan and implement collaboration.
5. Evaluate the effectiveness of collaboration.

V. TRAINING

Problem Identification

1. Determine training needs in the light of defined tasks and existing competencies.

Problem Solving

2. Set objectives for training.
3. Plan and implement planned training.
4. Evaluate training.

VI. EVALUATION

Problem Identification

1. Delineate the data needed for evaluation of programme results in the light of stated goals.

Problem Solving

2. Collect data as defined above.
3. Present the data appropriately.
4. Make value judgements and take appropriate action.

VII. SOCIAL SERVICES

Problem Identification

1. Identify and tabulate patients eligible for social and economic support.
2. Estimate the resources needed to provide the desired support.

Problem Solving

3. Set goals for social and psychological support of individuals in the programmes.
4. Plan and implement social and psychological support.
5. Evaluate social and psychological support given to the patients.

VIII. RESEARCH

Problem Identification

1. Define significant problems in leprosy and design research to solve these problems.

Problem Solving

2. Set objectives for research.
3. Plan and implement research.
4. Evaluate the results achieved by research.

TASKS FOR SUPERVISORS - DETAILED

A supervisor must be fully conversant with, and may be skilled, in the tasks which must be carried out by the staff supervised. Normally, one would expect that a supervisor would come from those already engaged in leprosy control. He would, therefore, be fully competent in the skills needed for the fulfilment of the tasks 1-13 given below. If exceptionally the supervisor selected does not have previous operational experience of leprosy control, then he must be fully trained in this area also. These tasks have already been detailed under "Tasks for Health Workers Levels 1,2, and 3".

I. CURATIVE AND REHABILITATIVE

1-13 The specific tasks in these areas have already been given in the relevant sections for health workers 1,2 and 3.

II. MANAGEMENT

Problem Identification

1. Assess local contextual factors (geographic, demographic, sociological, economic, health and social services); which impinge on measures to control leprosy and care for leprosy patients. (A Guide to Leprosy Control, WHO, 1980, pp. 52-54; On Being in Charge, WHO, 1980, pp.269-285).
2. Estimate the need for leprosy control and patient care activities. (A Guide to Leprosy Control, WHO,1980, p.51).
3. Recognize personal problems of the staff and organizational problems (On being in Charge, WHO, 1980, pp.121-124).

Problem Solving

4. Set objectives for leprosy control and leprosy patient care programmes (A Guide to Leprosy Control, WHO 1980, pp. 53-54; On Being in Charge, WHO, 1980, pp.20-21 and 71-74).
5. Plan leprosy control and leprosy patient care programmes. (A Guide to Leprosy Control, WHO, 1980, pp.38-39; On Being in Charge, WHO, 1980, pp.37-40 and 261-310).
6. Implement leprosy control and leprosy patient care activities (A Guide to Leprosy Control, WHO 1980 pp.38-44; On Being in Charge, WHO, 1980, pp.41-46 and principles given in Part I, Part II and Part IV).

III. HEALTH EDUCATION

Problem Identification

1. Identify and define problems which can be alleviated by health education including matters which are the result of ignorance concerning leprosy, public attitudes towards the disease and patients, and behaviour which can be changed making use of check lists and public opinion surveys.
2. Describe and characterize aspects of the cultural norms and social practices which must be taken into account in health education, including common structures in society, means of identification of opinion leaders, recognition of culturally sensitive behaviours and of illness behaviour generally.

Problem Solving

3. Define objectives for health education (A Guide to Leprosy Control WHO 1980, pp.44-46).
4. Plan health education programmes.
5. Implement health education programmes and practise health education in such a way as to set an effective example to his staff.
6. Evaluate health education programmes informally by means of discussion and observation of behaviour and by use of public opinion surveys and collection of anecdotal evidence concerning public behaviours towards leprosy patients.

IV. COLLABORATION

Problem Identification

1. Describe and characterize aspects of the cultural norms and social practices which are relevant to co-operation. Identify services, agencies and people whose collaboration is desirable including agencies involved in provision of health services, social services and rehabilitation, both governmental and voluntary agencies (A Guide to Leprosy Control WHO 1980, pp.55-56).

Problem Solving

2. Define goals for collaboration.
3. Plan and implement collaboration.
4. Evaluate the effectiveness of collaboration in the light of the goals previously determined.

V. TRAINING

Problem Identification

1. Determine the training needs of his staff, himself and his collaborators in the light of defined tasks and existing competencies (A Guide to Leprosy Control WHO 1980, p.47-48).

Problem Solving

2. Set objectives for training (A Guide to Leprosy Control, WHO, 1980, p.47-48).
3. Plan and implement training.
4. Evaluate training (A Guide to Leprosy Control, WHO, 1980 p.50).

VI. EVALUATION

Problem Identification

1. Delineate the data needed for evaluation of programme results in the light of stated goals and instructions given by his programme leader (A Guide to Leprosy Control, WHO, 1980, pp.58-61).

Problem Solving

2. Collect data as defined above using the OMSLEP system if requested by his programme leader (A Guide to Leprosy Control, WHO, 1980, p.62 and pp. 83-91).
3. Present the data as required by his programme leader.
4. Make value judgements and take appropriate action within the limit of his authority.

VII. SOCIAL SERVICES

Problem Identification

1. Identify and tabulate patients eligible for social and economic support according to the instructions given by his programme leader (A Guide to Leprosy Control WHO 1980, p.46).
2. Estimate the resources needed to provide the desired support.

Problem Solving

3. Set goals for social and psychological support of individuals in his programme. (On Being in Charge, WHO, 1980, pp.20-21 and 71-74).
4. Plan and implement social and psychological support for patients within his programme. (A Guide to Leprosy Control, WHO, 1980, p.46; On Being in Charge, WHO, 1980, pp.37-46, 261-310 and principles outlined in Parts II, III and IV).
5. Evaluate the effectiveness of social and psychological support given to his patients in the light of the goals set and the resources available.

VIII. RESEARCH

Problem Identification

1. In co-operation with the programme leader, define significant problems in leprosy which can be researched within the limits of the programme (A Guide to Leprosy Control, WHO, 1980, pp. 62-64).

Problem Solving

2. Set objectives for research in collaboration with the programme leader.
3. Plan and implement research.
4. Evaluate the results achieved by his research in collaboration with the programme leader.

THE PROGRAMME LEADER

The programme leader will, in most cases, be a medical practitioner who has clinical and managerial competence to direct leprosy control operations in a particular health service area.

He/she will have managerial responsibility for leprosy patient care and leprosy control services. In an integrated programme he may be primarily a manager with responsibility for managing a number of different services or for health care programmes overall.

In a specialized programme he/she is likely to combine clinical with managerial functions. He/she may not be responsible personally for actually implementing all of the tasks on the following lists but will certainly be responsible to ensure that they are undertaken by members of the health team.

TASKS FOR THE PROGRAMME LEADER - SUMMARIZED

At the end of his training the programme leader will be able to:

1. CURATIVE AND REHABILITATIVE

Problem Identification

1. Diagnose and classify leprosy.
2. Diagnose complications of leprosy.
3. Undertake case finding surveys.
4. Classify deformity.
5. Diagnose relapse.
6. Identify cases with drug resistance.

Patient care

7. Prescribe and administer leprosy treatment.
8. Prescribe and administer treatment for complications.
9. Recognize patients requiring reconstructive surgery.
10. Declare cases inactive.
11. Declare cases released from control.
12. Teach patients to take treatment regularly and to practise self care.
13. Keep patient records.

II. MANAGEMENT

Problem Identification

1. Assess local contextual factors (geographic, demographic, economic, health and social services) which impinge on measures to control leprosy and care for leprosy patients.
2. Estimate the need for leprosy control and patient care activities.
3. Recognize personnel and organizational problems.

Problem Solving

4. Set objectives for leprosy control and leprosy patient care programmes.
5. Plan and implement leprosy control and leprosy patient care programmes.
6. Evaluate leprosy control and leprosy patient care programmes.

III. HEALTH EDUCATION

Problem Identification

1. Identify and define problems which can be alleviated by health education.
2. Describe and characterize aspects of the cultural norms and social practices which must be taken into account in health education.

Problem Solving

3. Define objectives for health education.
4. Plan and implement health education programmes.
5. Evaluate health education programmes.

IV. COLLABORATION

Problem Identification

1. Describe and characterize aspects of the cultural norms and social practices which are relevant to collaboration.
2. Identify services, agencies, groups and individuals whose collaboration is desirable.

Problem Solving

3. Define goals for collaboration.
4. Plan and implement collaboration.
5. Evaluate the effectiveness of collaboration.

V. TRAINING

Problem Identification

1. Determine training needs in the light of defined tasks and existing competencies.

Problem Solving

2. Set objectives for training.
3. Plan training.
4. Implement training.
5. Evaluate training.

VI. EVALUATION

Problem Identification

1. Delineate the data needed for evaluation of programme results in the light of stated goals.

Problem Solving

2. Collect data as defined above.
3. Present data appropriately.
4. Make value judgements and take appropriate action.

VII. SOCIAL SERVICES

Problem Identification

1. Define the characteristics of patients eligible for social and psychological support in that particular context.
2. Define the desired nature and level of such support.
3. Identify and tabulate patients eligible for support.
4. Estimate resources needed to provide the desired support.

Problem Solving

5. Set goals for social and psychological support.
6. Plan social and psychological support.
7. Implement social and psychological support.
8. Evaluate social and psychological support programmes.

VIII. RESEARCH

Problem Identification

1. Define significant problems in leprosy and design research to solve these problems.

Problem solving

2. Set objectives for research.
3. Plan and implement research.
4. Evaluate the results achieved by research.

TASKS FOR THE PROGRAMME LEADER - DETAILED

The programme leader must be fully conversant with the tasks carried out by the health personnel who are under his direction. He must possess the clinical, epidemiological and managerial competence required for leading the control programme.

As will be clear from a comparison of the list of tasks already given for supervisors and for the programme leaders, the majority of these tasks are common to the programme leader and the supervisor, and there is no need to repeat them in detail at this stage. The difference between the programme leader and the supervisor is largely one of the scale of his operations and the level of sophistication at which he operates rather than in the categories of work which both are involved in.

The programme leader will be expected to give direction and supervision to a number of supervisors in addition to practitioners operating at worker level 3. He may be expected to advise State and National Governments at a high level on strategies for the eradication of leprosy and detail planning and budgeting for the implementation for these strategies.

In the following section the tasks which are specific to the programme leader are further identified and clarified.

II. MANAGEMENT

Problem Identification

1. Provide supervisors with instruction which will enable them to assess local contextual factors which impinge on measures to control leprosy and care for leprosy patients.
2. Provide supervisors with the necessary instruction and documentation to enable them to estimate the need for leprosy control and patient care activities.
3. Collate and present the above information at a national level.

Problem Solving

4. Recommend policies for leprosy control and leprosy patient care programmes at a national level.
5. Adopt an appropriate strategy for leprosy control and leprosy patient care.
6. Set objectives for leprosy control and leprosy patient care.
7. Plan and implement leprosy control and leprosy patient care programmes in the light of the strategy adopted.
8. Evaluate leprosy control and leprosy patient care programme at a national level.

V. TRAINING

Problem Identification

1. Determine training needs of staff at a national level whether indirectly engaged in the campaign against leprosy or not in the light of defined tasks and existing competencies.

Problem Solving

2. Recommend national policies for training in leprosy.
3. Set objectives for training in leprosy at a national level.
4. Plan and implement training in leprosy in the light of the objectives set.
5. Evaluate the results achieved by training.

VI. EVALUATION

1. Delineate the data needed for evaluation.

Problem Solving

2. Prescribe methods of data collection and presentation for the supervisory staff.
3. Evaluate the programme.

VII. SOCIAL SERVICES

1. Define categories of patients eligible for social and economic support.
2. Determine levels of social and economic support.

VIII. RESEARCH

Problem Identification

1. Define significant problems in leprosy which can be solved within the context of the programmes.

Problem Solving

2. Set objectives for research
3. Plan research.
4. Implement research.
5. Evaluate the results achieved by research.

SECTION 3

3. TEACHING AND TRAINING CONSIDERATIONS

3.1 Leprosy training strategy (10)

The effective implementation of leprosy patient care and leprosy control in the community by general health service personnel, requires the strengthening of leprosy training within the training programmes for general health staff. There are three broad groups of actions which would facilitate the attainment of such strengthening. They are: the adoption of clear and relevant objectives for training in leprosy; the provision of teachers competent to assist the students to reach the objectives; the allocation of appropriate teaching material resources and performance assessment instruments.

(a) The adoption of clear and relevant objectives for training in leprosy

The importance and far-reaching effects of the adoption of this principle can scarcely be over-emphasized. The use of learning objectives in the training process can result in:

- (i) the development of a cadre of individuals competent to meet real needs;
- (ii) the most effective use of human resources;
- (iii) a training process which is personally rewarding to both teachers and students;
- (iv) substantial economies in training.

Section 2 of this book has set out learning objectives in leprosy relevant to the skills needed by health personnel in dealing with the health care needs of leprosy patients and in dealing with the control of leprosy in the community. The relevance of these objectives to any given situation must be determined by local training staff who are fully familiar with the local circumstances.

(b) The provision of valid instruments for assessment of performance

(c) The provision of teachers competent to assist the students to reach the objectives

There are four practical steps which may be taken:

- (i) provide the teaching staff in health training institutions with clear and relevant objectives and train them to use them properly;
- (ii) provide appropriate teaching materials and teaching manuals;
- (iii) arrange for in-service training in leprosy for key teachers;
- (iv) engage leprosy control staff and clinicians with expertise in leprosy as supplementary teachers and give them appropriate training in teaching methods.

(d) The allocation of appropriate teaching material resources

There are four broad types of teaching resources useful in leprosy:

- (i) Printed material - some is available more is needed. It is relatively cheap, flexible and very effective for certain purposes.
- (ii) Audio-visual aids, slides and film strips with printed or magnetic tape commentaries; some are available, more are needed.

(iii) Motion pictures on film or video tape.

(iv) Real situations - actual patients and programmes for observation and interaction.

Section 4 of this book lists some of the training material available.

(e) The provision of valid instruments for assessment of learning:

The purpose of assessment is to determine the extent to which the objectives have been reached during and after training and so enable changes to be made in training.

Validity is the most important of several important characteristics of assessment instruments.

An instrument is valid only when it really assesses what it purports to assess. For instance, essay type questions on methods of leprosy control will tend to assess ability to write an essay on leprosy and give very little guidance concerning the writer's ability to apply the methods he writes about.

3.2 Teaching for better learning (7)

The objective of training students in leprosy is to produce health workers skilled in caring for leprosy patients and in controlling the disease in the community. Skill may be defined as a practised ability to carry out a task, and this concept is important from the teaching point of view. The student has to become competent for practice, therefore he should not be treated as a passive recipient of knowledge conveyed by the lectures of his teacher, which he will later feed back on paper in answer to examination questions, pass his exams, collect his diploma and go out into the real world. Knowledge alone is not enough. He must also have the correct attitudes and the relevant practical and intellectual skills to have an impact on the problems presented by leprosy.

The need for the described basic attributes of a trained leprosy worker may be illustrated by considering the task which is basic to effective leprosy control, namely case detection. To detect cases of leprosy the health worker must be competent to carry out a clinical examination. He must have the knowledge of the visible signs of leprosy so that he knows what he is looking for, he must know for instance that he must examine as much of the skin surface as possible. He must also have the correct attitudes so that he will be able to obtain the patient's cooperation and not cause any community resistance to the case finding activities. He must also have the practical skills necessary to be able to check for sensory changes which are diagnostic of leprosy, and for the taking of skin smears which are important in determining the infectivity of the patient and so of basic importance in the task of controlling the disease in the community.

A trained health worker, therefore, is a person with the correct attitude towards patients and the community, has the knowledge required for the tasks which are his responsibility and possesses the necessary practical and intellectual skills to do these tasks. From this we can also conclude that the teacher in his turn, must be a person knowledgeable, skilful and with the correct attitude; and his job of course, is the production of skilled health personnel able to meet the health needs of the community. What happens, or should happen, when these two meet - the student and the teacher? What do they bring with them into the training situation? The students bring with them competencies resulting from the education they have already received and which is of the standard required for entrance to the training course they are beginning, whether it will lead to qualification as a sanitarian, a laboratory technician, a nurse or a medical doctor. They also bring with them the knowledge of their respective communities, how life is lived there and how their people behave in certain situations. The students also have certain attitudes formed from a variety of influences in the home, the schools they have attended, the community they lived in, the literature they have read and the religion they practise. They also have different practical and

intellectual skills and possess certain aptitudes. The students have come to the medical school or the health training institute for different motives, some may come with a desire to help their fellow men, others are attracted by the rewards and social status a career in the health field can bring, some are there because it is a family tradition to work in the health field.

But all of the students have one aim in common, they are all there to learn. They are there to learn their profession, in which most of them will expect to spend their entire working lives. They do not have much idea of what to expect; they most likely will go where the teachers lead. If the teachers present leprosy in a cursory fashion, if by their attitude the teachers indicate that it is a disease of little medical interest and unrewarding from the career point of view, then of course the students may not have much interest in the disease. If, however, leprosy is taught as a normal part of the curriculum, getting the amount of time needed for proper presentation, if clinical training is given in the environment normal for clinical training in other diseases and if its control in the community is presented in a dynamic fashion as a task of importance, then there is a good chance that the students will look on leprosy as a disease to be dealt with when met just as they would deal with tuberculosis, or malaria or venereal disease.

3.2.1 Teachers as models

So we see that teachers have a great influence as models on the students during their studies, and it is incumbent on the teachers to ensure, as far as possible, that the trainees develop the right approach towards leprosy.

Teachers are very powerful models for many of the students, giving them the example of how work should be done. If teachers are cursory in their examinations for leprosy, not courteous to the patients and showing some repugnance in their attitude, then their trainees are likely to be the same. Care must also be taken to ensure that the health personnel with whom the trainees come in contact are good models, as a good example is a powerful shaper of good attitudes towards work, just as a bad example is a powerful shaper of bad attitudes towards work.

3.2.2 Providing the background information

Information alone is not always enough to change attitudes but it helps. The student will be able to check his previous knowledge of leprosy against what he is now taught. This may very well lead to a change in his thinking if his previous information was wrong. The correct facts on leprosy and on prevailing community attitudes on leprosy may be conveyed by written texts, lectures, books or by motion pictures. Films are often very effective as they provide a more intense experience.

3.2.3 Providing experiences

Throughout the students' training they will need experiences which will help them learn. They will see early cases of leprosy being diagnosed and treated. They will also see advanced cases showing the results of not having been treated. The case of wounds and the training of the patients in taking care of themselves to prevent septic sores due to neglect will also be seen by them, as well as the disabling effects of neglect in self care. Teachers should provide as much as possible of this experience and guide their trainees in drawing the appropriate lessons from their experiences.

3.2.4 Organizing discussions amongst the students

Discussion in small groups is important as it helps to make other learning methods more effective. It is probable that in leprosy endemic areas many of the trainees will have some experience of leprosy in the community. They will know the attitudes of the community towards leprosy patients and may have seen the effects of rejection by society

of leprosy cases in communities. Discussion could, for instance, be on how one could set about changing the attitude of a community towards leprosy; how to create a climate in which patients would be encouraged to present themselves for treatment and in which the community would accept known cases as long as they were under treatment, or released from control; how one could convince the community that social ostracism of leprosy patients not only causes much human suffering for patients and their families, but also tends to perpetuate the disease in the community.

These and other subjects can be discussed in small groups of 3 or 5, but never more than 7. It is important that every student contributes to the discussion. The teacher's participation in the discussion should be minimal. He would give his own opinions and take an active part only in exceptional circumstances. It is what each student says that has the greatest effect.

3.2.5 Using role playing exercises

Attitudes are very important when communicating with people. Respect, or lack of respect, is shown by the way a person deals with another. When a leprosy patient is dealt with by a health service as any other ill human being should be, i.e. in a skilful, compassionate way, it is likely that he will be attracted to treatment and well disposed to receiving and following medical advice. It is, therefore, important for the trainees to realise that their attitudes are important when communicating with patients. In a role playing situation, a student plays the part of a health worker, another plays the role of a patient. The teacher outlines the situation they have to enact. It may be letting a person know after a clinical examination that he has leprosy; it may be persuading a patient to be more regular in coming for treatment. When the role playing has ended, the rest of the students discuss the enactment and express the feelings aroused in them by the attitudes portrayed by the role players. Thus the importance of proper interpersonal communication may be made clear to the trainees.

This is also a useful way of practising various necessary skills, e.g. conducting a clinic, teaching patients self care, persuading patients to come regularly for treatment. Students act the roles of health workers and patients. It is important that the students realise that it is a learning experience and not an assessment. Some of the students may be shy and should not be forced to take part in the actual role playing until they have seen other trainees in action. The mood should be relaxed and light hearted, and the very important stage will come after the role playing, i.e. the discussion. The impact of the method depends on the discussion at the end in which each student should participate. For this the reason group size should not be more than about 25 students.

The trainees, of course, are only acting and so should also be exposed to real life situations similar to those which they have enacted. Thus they could be taken to see leprosy clinics in action. While it might not be feasible to have a large group attend a clinic, small groups could attend, and their experiences could later be presented to, and discussed by, the entire group.

3.2.6 Knowledge

It is obvious that health personnel must have knowledge to do their jobs. The amount and level of knowledge required will be different for the different levels of health workers. What is important is that health workers are not burdened with knowledge that is irrelevant to their jobs; that precious learning time is not frittered away by irrelevant teaching. Thus while health worker level 2 must know how to examine a person for leprosy he does not need to know the details of cell mediated immunity. It is the responsibility of the teacher to ensure that time is not spent on irrelevant detail. In this respect the learning objectives in section 3 should be of great use when deciding what is relevant and what is not. That section will also be of value to the teacher in planning the courses to be given as the learning objectives are in accordance with the tasks to be done by each category of worker. These tasks appear as the general objectives for each category in section 3.

There are many ways of presenting knowledge and a skilful teacher uses a mixture of these ways while at all times trying to create an active, dynamic learning situation in which the students actively participate in the learning process. A teacher lectures and uses visual aids which he explains; he uses sound movies which the students watch, listen to and later discuss. It is essential that the knowledge imparted is pertinent, presented clearly and is understood. Ensuring that knowledge is understood may be done by discussions, questions and regular tests.

Knowledge, however, is useless unless it is applied. Thus knowledge that an effective treatment for leprosy exists is of no value unless cases are found and placed under regular treatment. The practice of the knowledge imparted leads to the ability to do the job, i.e. practice leads to skill.

3.2.7 Practical and intellectual skills

A skill may be defined as the practised ability to carry out a task, and the degree of skill depends, to a great extent on the amount of practice done. Thus a surgeon who has carried out 500 appendectomies is more skilful than one who is facing his third. An effective training course produces people who are competent to do the job they are employed to do. If they come out of a course full of theoretical knowledge, but without any ability to apply the knowledge, then the course has failed. The skills needed by health workers in dealing with leprosy include use of the hands in using equipment properly (practical skills), explaining or persuading (communication skills) and making decisions (intellectual skills).

It is therefore essential that in a training course the knowledge acquired be practised to produce the necessary skills. Thus in teaching trainees the method of clinical examination for leprosy, the teacher explains how the examination is conducted; the importance of the earliest possible diagnosis of the disease, not only for the benefit of the patient but also for the prevention of a new source of infection arising in the community. Then the stages involved in the examination are explained and practised. Thus the teacher will explain that it is basic for the trainees to be able to perceive changes on the skin. One way of training their eyes for this perception is by having the trainees examine one another and chart on a patient record card all the "lesions" they see, i.e. birth marks, freckles, pimples, scars, abrasions, etc. Their work is immediately checked by the teacher who points out what they have missed and this serves to sharpen their powers of observation. The signs of leprosy will be shown on colour slides, pictures, and on patients. The means for checking sensory changes diagnostic of leprosy will be taught to, and practised by, the students. Signs of skin conditions which resemble leprosy will also be shown and the means of differentiation taught and practised.

3.2.8 Projects

Projects are an important part of any course, however, they require time. The trainees work in groups of 3 or 4 and have a specific task, e.g. to find out, in a designated community, the attitude towards leprosy. When students do projects they increase their skills. The exact skills will depend on the projects chosen. Projects can be very valuable learning experiences, but they can also go wrong. The help and encouragement of the teachers is very important, but care must be taken to ensure that most of the work is done by the trainees and not by the teachers. Reports of the projects should be presented to, and discussed by, the entire class so that all can share the experiences.

3.2.9 Job experience

Working with experienced staff is a most powerful method of helping students to learn skills. Ideally one or two trainees would work with an experienced health worker engaged in leprosy control. The health worker would have the students do most of the work under his close supervision. Teachers will make sure that the health workers realise that the aim is to provide supervised practice for the students.

3.2.10 Time needed for learning skills

While it is not easy to determine how much time is needed to learn skills, experience has shown that students take two to four times longer to master skills than to learn the necessary facts. It may thus be that at least two thirds of a course should be spent in learning skills.

3.3 Assessment of the results of learning

One of the most important parts of any teacher's job is to find out how much the students have learned. Assessment can be done by using a variety of performance assessment instruments.

3.3.1 Why assess students?

It is extremely important that students are assessed for job competence. If they come out of the course incompetent, then the patients and the community will suffer. Students who know they are being assessed work harder and assessments often show the areas they need to study and practise more. Teachers also learn which parts of the course had the desired impact and which parts need improvement.

3.3.2 What makes a good assessment?

A good assessment should:

- test important skills
- be reliable
- be economical in the use of materials and time
- help students to learn better and help teachers to improve their teaching
- fit the regulations for the course.

(i) Test important skills

It is essential to test all those skills which are necessary for the job the students must do when they have completed the course. Thus a health worker must be able, for example, to examine for leprosy, to treat the patients and to teach them self-care. Students want to do well in examinations and so they learn what they think will be asked in the examinations. Therefore the solution is to test only those skills which are important.

(ii) Be reliable

Ideally, when the same performance assessment instrument is used by two teachers independently, the results should be the same. In such a case the assessment system would be reliable. When there are wide variations, unreliability is likely. The answer to this is to try to cut out errors right through the assessment process, by choosing methods which are less likely to lead to errors. Techniques which help markers to work according to a uniform standard, e.g. checklists, are also useful. The following techniques are helpful in the endeavour to attain reliability.

(a) Frequent assessment for certifying purpose

There are frequent (but not too frequent) tests and assessments throughout the course instead of having one final examination at the end. The advantages are:

- since there are several assessments a marking error in one is less liable to have a strong influence on the overall assessment;
- the tensions and worries of a final exam are diminished;
- the students work more evenly throughout the course, as they are motivated to be ready for the frequent assessments;
- if a student gets a poor result in one test he has the time to correct his errors before the end of the training. Thus he is more likely to emerge more competent than from a course having only a single final exam;
- students are shown the expected standard right through the course;
- teachers and students have a better chance to notice their errors and weaknesses and take corrective action.

Frequent assessment takes time and effort to organize. Teachers may use a series of written tests or observe the students at work, or a mixture of both. The system offers important advantages in helping students to learn and in helping the teachers in making more reliable judgements of the students' competence.

(b) Self assessment for formative purpose

In this method, the student assesses himself whenever he feels a need to. It must not be used to score points in a certifying exam. The student measures himself against a required standard. He carries out an allotted task and then compares his work with a 'correct answer'. This shows him if his work is satisfactory. For example he may be asked to examine a leprosy patient and enter all required data on a patient record card. He would then compare his card with a correct card, note his mistakes (if any) and then examine the patient again if he has missed any significant signs of leprosy. This method also serves to inculcate a certain sense of responsibility into the students and is important as some health workers will work in the field with little supervision and need to have some experience of self assessment.

The provision of such self assessment instruments strongly diminishes tensions and worries resulting from the certifying examination system.

(iii) Be economical in the use of materials and time

Assessments must not take up too much time and effort of teachers, students and administration. Financial cost should also be kept to a minimum.

(iv) Help students to learn better and help teachers to improve their teaching

Assessment can indicate to students exactly what they need to spend their learning time on. In courses where teachers provide self assessment tests which inform students what parts have been done badly, the students become aware of the quality of their work and so can improve.

A teacher may also note certain aspects not properly done by many of the class. This could indicate a weakness in his presentation. Thus teachers can also improve their teaching.

Much of what has been said above about assessment implies individual guidance by the teacher. It takes a lot of time, but it is one of the most valuable things a teacher can do. One way of gaining time for individual guidance is to spend less time lecturing, and let the students learn directly from manuals, handouts and practical experience. What has been written on frequent testing and guidance applies equally well to both knowledge and skills.

(v) Fit the regulations for the course

Sometimes there are regulations about the kinds of exams which must be used and these regulations must be observed. However, these regulations quite often are concerned only with the final exams and so leave a lot of freedom for teachers during a course. If teachers feel that the regulations inhibit satisfactory assessment, then they should initiate action to have the regulations changed to enable satisfactory assessment.

SECTION 4

4. TEACHING/LEARNING MATERIALS ON LEPROSY

Many books and documents have appeared during the last few years on leprosy. There has also been a marked increase in the production of teaching aids in the form of colour slides, film strips etc. It is not easy for teaching staff in many parts of the world to keep abreast of what is available for teaching leprosy and where to get the materials.

4.1 Publications and documents issued by the World Health Organization (1211 Geneva 27, Switzerland) recommended for use with this book:

- (i) A Guide to Leprosy Control. WHO 1980.
- (ii) WHO Expert Committee on Leprosy. Fourth Report, Technical Report Series No. 459, 1970.
- (iii) WHO Expert Committee on Leprosy. Fifth Report, Technical Report Series No. 607, 1977.
- (iv) Chemotherapy of Leprosy for Control Programmes. Report of a WHO Study Group. Technical Report Series 675, 1982.
- (v) Epidemiology of Leprosy in Relation to Control. Report of a WHO Study Group. Technical Report Series 716 (1985).
- (vi) Educational Handbook for Health Personnel, by J.J. Guilbert, WHO Offset Publication No. 35, revised edition 1981
- (vii) Teaching for Better Learning. A guide for teachers of primary health care staff, by F.R. Abbatt, WHO, Geneva 1980, (now available from the African Medical and Research Foundation International (AMRF), P.O. box 30125, Wilson Airport, Nairobi, Kenya).
- (viii) On Being in Charge. A guide for middle-level management in primary health care, by R. McMahon et al. WHO, Geneva 1980.
- (ix) The Primary Health Worker. Working Guide. Guidelines for Training. Guidelines for Adaptation. WHO, Geneva, revised edition 1980. A new edition entitled "The Community Health Worker" is in preparation.

- (x) Sample Surveys in Leprosy. An Introductory Manual by T.K. Sundaesan et al., WHO document WHO/CDS/LEP/86.1 (1986)
- (xi) Handbook of Laboratory Techniques in Leprosy. WHO Document WHO/CDS/LEP/86.3 (in preparation).

4.2 Teaching/learning materials available from other sources

Although some of the teaching/learning materials made available are suitable only for one country, or part of a country, others have an almost universal application. Many are available free or at a low price. For details the readers are requested to refer to the publication by INFOLEP entitled Teaching and Learning in Leprosy. Printed Material Leprosy Documentation Service, Amsterdam, Netherlands. A loose-leaf folder distributed by the German Leprosy Relief Association, P.O. Box 348, D-8700 Würzburg, Federal Republic of Germany.

ILEP Catalogue on Training. Catalogue presenting training courses in leprosy; issued yearly by the International Federation of Anti-Leprosy Associations (ILEP), 234 Blythe Road, London W14 OHJ, England.

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7. Teaching for Better Learning. A guide for teachers of primary health care staff, F.R. Abbatt, WHO Geneva 1980 (now available from the African Medical and Research Foundation International (AMRF) Nairobi, Kenya).
8. Educational Handbook for Health Personnel, J.-J. Guilbert, WHO Offset Publication No. 35, revised edition, 1981.
9. OMSLEP Recording and Reporting System for Leprosy Patients, by M.F. Lechat et al., Epidemiology Unit. Catholic University of Louvain, Brussels, Belgium (WHO Collaborating Centre for the Epidemiology of Leprosy), 2nd ed., 1983.
10. The Management of Learning. I.K. Davies, McGraw-Hill, London, 1971.
11. Chemotherapy of Leprosy for Control Programmes. Report of a WHO Study Group. Technical Report Series 675 (1982).