

MANAGEMENT COURSE  
FOR  
PRIMARY HEALTH CENTRE  
MEDICAL OFFICERS

# **RESOURCE BOOK**

DEVELOPED BY  
THE RURAL HEALTH CENTRE  
JAGATSINGHPUR, CUTTACK

IN COLLABORATION WITH  
THE LIVERPOOL SCHOOL OF TROPICAL MEDICINE

UNDER THE  
AREA DEVELOPMENT PROGRAMME  
GOVERNMENT OF ORISSA

**Management Course for Primary Health Centre  
Medical Officers**

**resource book**

Rural Health Centre  
Jagatsinghpur  
Cuttack District  
Orissa  
India

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## Foreword

The Area Development Project in Orissa is a part of a country-wide programme undertaken by the Government of India in 45 selected districts of different states. All area projects are guided by a model plan developed by Government of India. Following this model Government of Orissa had identified 5 districts and worked out a five-year project which in turn was implemented in the State since the year 1980-81. The long-term objectives of the Area Development Programme were to reduce birth rates and infant and child mortality rates by improving the health status of the people through extensive provision of health and nutritional care, along with other Family Welfare services. In order to achieve these objectives, it was necessary to strengthen the available infrastructure, and develop human resources by provision of management training to the Medical Officers and job-oriented skills to all categories of health personnel engaged in the delivery of Primary Health Care in the State.

Though a formal training programme for health workers was continuing in the State long before implementation of the Area Development Programme, soon after mid-term review in the year 1983 the need of a special input in the area was felt necessary. In order to develop a suitable training programme for Medical Officers and key health workers through the health training institutions of the State, Government of India, British Aid Agency (ODA) and the Government of Orissa took a joint decision for collaboration with an external agency with expertise in the field. Accordingly the Liverpool School of Tropical Medicine (UK) was identified, and with their consultancy service, work has been going on in the State to develop and implement training courses for Medical Officers in charge of Primary Health Centres, Health Assistants (male and female) and Block Extension Educators. The institutions identified for training programmes are Rural Health Centre, Jagatsinghpur and Health and Family Welfare Training Centre, Sambalpur. While the former institution is devoted to the training of Medical Officers and Health Assistants, the latter is solely engaged for course development and training of Block Extension Educators.

Over the last 18 months, the courses have been implemented, evaluated, revised, modified and improved and taught to many Medical Officers, Block Extension Educators and Health Assistants. One of the fruitful achievements of this training programme has been the production of training manuals for each course. These manuals are primarily intended for use by the staff of the Training Centres for the training of the Primary Health Care Staff in Orissa. The manual for in-service training of Medical Officers is a valuable and essential document for the training institutes as a guide and reference manual. However, much of the material contained in this manual may be of use to others who may recognise the need for pre-service and continuous training of field staff in management and communications.

During the process of preparation of this manual willing help and assistance have been extended by many institutions and individuals to whom the undersigned is grateful. Lastly, I also convey my gratitude to Government of India, ODA and Professors and Consultants of Liverpool School of Tropical Medicine for their support and participation in the success of this venture.

*Signed*

Director, Family Welfare, Orissa  
6 September 1986



# Preface

The process of developing management courses for both Medical Officers and Health Assistants began at the Rural Health Centre, Jagatsinghpur in November 1984. This project was part of the Area Development Programme jointly financed by the Government of India, Government of Orissa and the Government of UK (Overseas Development Administration).

This volume is intended to be a RESOURCE BOOK for trainers intending to prepare and teach a practical management course for Medical Officers in Charge of Primary Health Centres (PHCs). As such it is considerably more than just a syllabus as the teaching methods and materials for some subjects have been recorded in detail but it is somewhat less than a comprehensive manual: as it does not take the prospective trainer step by step through every session. We hope that the present volume will serve two purposes. Firstly it is intended to describe the course which is presently being taught to Medical Officers at the RHC Jagatsinghpur and secondly it is designed to provide others with a basic course which has been actually taught and tested. Prospective users can take either the whole course or some of its constituent parts. These may be used either as they stand or, alternatively, they can be adapted to slightly different training needs or particular local circumstances.

The process of developing the course, which has been designed for a maximum of 20 participants, has continued over a period of one year during which time 5 groups of medical officers have been through the training. Training needs were originally defined following discussions with State level officers of the Directorate of Health and Family Welfare and a series of field visits to PHCs and sub-centres. In addition, the course that was developed owed a great deal to the experience of the course development team members. Subsequently, experience gained in actually teaching medical officers; the comments, criticisms and suggestions of early participants; follow-up visits to past trainees in their PHCs and discussions with Chief District Medical Officers (CDMOs), have all been useful in improving the course and making it more relevant to trainees' actual needs. As part of the process of revision the course has also been shortened from 28 to 22 working days. Making a management course taught in a training centre relevant to the working experience of participants is always difficult. The present course, however, aims to be as practical as possible and active methods of learning are stressed throughout. Participants are encouraged to take part in group projects both in the field and in the training centre. Video simulations of work situations are used and practical demonstrations relevant to programme management are arranged in the training centre and elsewhere. In addition to teaching by the core team some outside speakers with in-depth knowledge and experience have also been asked to participate on the courses. This has been found to be particularly useful in sessions on financial and medico-legal management. It is also valuable if State level programme officers are available to conduct sessions and discuss problems in programme management with the participants. In a short course such as this it is not possible to conduct detailed sessions on every health programme. The choice as to which particular programmes should be included in any course might be determined by local, seasonal or other needs and by the availability of speakers.

The material contained in this volume results from a collaborative effort on the part of many people and it is thus appropriate that it should reflect a number of styles and approaches to management. In preparing this resource book, however, we have tried, throughout to adopt a reasonably uniform lay-out. Each part represents a self-contained and conceptually separate 'module'. These are arranged in the approximate order that they are taught and a sample course timetable is included in Appendix A. Each module contains the following sections:

## **Introduction**

Gives a broad overview of content and, where appropriate, teaching methods used.

## **Learning objectives**

Specifies what participants should be able to do having completed the module.

## **Schedule**

Divides each module into specific sessions and lists the content of each.



### **Activities**

The activities section may just describe the way the session is taught (for example: 'lecture/discussion followed by an opportunity to answer questions'). In other modules this section describes the conduct of the session in much more detail and lists discussion points or questions asked by the trainer to trainees in the order in which they are covered. In these modules the 'activities' section is similar to a 'lesson plan'.

### **Reference Material**

Where the 'activities' section does not cover the subject matter in detail, the reference section contains either references to source material useful for conducting the session or, in most cases, a detailed account of material to be covered in the session. In some modules the whole of the reference section can be used as a 'handout'. In others appropriate parts have been annotated for use as handouts. The reference section also contains copies of prepared illustrations for use on an overhead projector.

### **Trainers Notes**

In a few of the modules a separate note for trainers is included. These appear in those modules where we feel that observations on how the session was conducted may be of use to others wishing to adopt a similar approach. Including trainers' notes as a separate section acknowledges that if these were removed, the whole text could be used as a study guide by participants attending the course.

Many people have contributed to this work both directly and indirectly. Where individuals have contributed written material it is acknowledged in the relevant module. The preparation and editing of individual contributions into the present volume has been the responsibility of the Medical Officers Course Development Team at the Rural Health Centre, Jagatsinghpur.

The first draft of this text was produced at the RHC Jagatsinghpur and was typed by Sri Ramesh Chandra Swain and duplicated by Sri Pirendra Kumar Patra. The illustrations are by Suresh Kumar Chowdhury.

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# Management Course for PHC Medical Officers

## Course Summary

The course is designed to run over 22 working days (a sample timetable is given in Appendix A) and consists of the following modules:

### **Introduction**

In this session some important general points about the role of the MO as a manager are discussed as a prelude to giving an overview of the course. Participants also have a chance to discuss some of their expectations of the management course.

### **The use of Health Information**

This module covers the use of health information in PHC management. The emphasis is on making use of available sources of data and improving them rather than teaching about the conduct of more formal surveys. Participants carry out a practical exercise using mortality data as part of the module.

### **Management of PHC Staff**

One of the most difficult problems faced by Medical Officers is how to manage their field staff. "My staff will not work properly or sincerely" is perhaps the most frequently heard complaint from the officer in charge. This module introduces principles of organisation relevant to the PHC MO; this is followed by a detailed discussion of the administrative controls and procedures available to the MO. Techniques of supervision are examined and the use of an analytic approach to direct field supervision (using check-lists) is illustrated using video simulation. The module includes discussion sessions on the role of VHGs and TBAs and techniques of assessing the effectiveness of their work are illustrated. One half day is devoted to a workshop on personnel problems using case material from the participants themselves. Finally a field visit to a PHC is arranged where groups of participants carry out a supervision exercise based on sector records; observe and assess the work of supervisors conducting health programmes; and assess the effectiveness of the work of the VHG and TBA in a selected village.

### **Materials Management**

This module is taught in two parts. In the first the principles of materials management are reviewed and the procedural aspects of indenting, stock and store keeping, issue, distribution and condemnation are covered in some detail. The second part of the module is a practical exercise in which participants are given a variety of information which they use in drawing up a rational indent for PHC drugs.

### **Financial Management**

The aim of this module is to ensure that participants are familiar with aspects of financial management relevant to their work as Drawing and Disbursing Officers in the PHC. The teaching highlights essential points that they should be able to deal with correctly and participants are given the opportunity to discuss particular problems that they have encountered.

### **Management of Medico-Legal Cases**

Medical Officers have to deal with a wide variety of medico-legal problems in the course of their work. This module aims to cover some of the more important aspects in lecture form but many additional topics are covered in an extended question and answer session.

### **Communication/Health Education and Motivation**

This module is primarily concerned with communication between PHC field staff and the community with a view to both improving compliance with public health and particularly Family Welfare measures and increasing the effectiveness of health education. A variety of case material is discussed during the module. In addition, one session, taught at the very beginning of the course, is devoted to a practical exercise on group dynamics designed to facilitate group work which will be carried out during the rest of the course.



### **Training**

In this module the importance of in-service refresher training for PHC staff and its links with supervision are discussed. After an introductory session in which training methods and aids are explained, participants critically review video film of other medical officers conducting training sessions. They are asked to then select a topic and prepare a short training session for either MPWs or VHGs. The material prepared by the participants is reviewed by trainers at a practice session and after necessary improvements have been made the participants conduct a training session themselves for a group of VHGs or MPWs in a nearby PHC.

### **Programme Planning**

This module aims to define the Medical Officer's role in programme planning; to introduce a systematic approach to programming and implementation of health activities; to familiarise participants with important issues in the programming of PHC level activities and to give practical experience, by means of a group programming project, in making realistic programmes for the work of PHC staff.

### **Management of the PHC Vehicle and Cold Chain Equipment**

This module has been arranged in collaboration with the State Health Transport Organisation (SHTO). A day is spent on practical demonstrations organised by the staff of this unit.

### **Management of Epidemics, Floods and other Disasters**

This module is taught in two parts. In the first the investigation and management of common epidemics is discussed using several case studies. The second session emphasises the role of PHC staff in the event of severe flooding but comparisons are also made with other disaster situations.

In addition to these modules sessions on the management of specific health programmes, usually conducted by State level programme officers have been conducted. In this volume modules on the following programmes have been included:

- . **MALARIA**
- . **LEPROSY**
- . **TB**
- . **IMMUNISATION**
- . **INTEGRATED CHILD DEVELOPMENT SERVICES (ICDS)**

As well as being an opportunity to explain the role of the MO in the ICDS programme the latter module is used to discuss the importance of and problems involved in interdepartmental coordination -- particularly in the field of health and nutrition.

### **Project Planning**

The overall aim of the course is to improve health programme implementation by better management in the field. In order to encourage participants to put into practice some of the ideas discussed on the course, they are asked to plan out one project, in detail, to be implemented on their return. Participants are free to choose the subject of their project but they are encouraged to make a detailed plan which will be discussed with their colleagues and with the trainers and of which one copy will remain with the training team for use on follow up visits to the PHC.



# 1 Introduction to the Course: The Medical Officer as a manager

## Introduction

In this session some important general points about the role of the MO as a manager are discussed as a prelude to giving an overview of the course. Participants also have a chance to discuss some of their expectations of the management course.

## Learning objectives

- 1 Participants will understand the role of the MO as a manager. Specifically they will be able to:
  - . define the meaning of management
  - . distinguish between management and administration
  - . appreciate how the role of manager is different from that of clinician and how their primary training only prepared them for the latter
  - . identify some of the management skills that an MO needs in order to manage health programmes in the PHC
  - . appreciate that he will need to be able to teach others how to exercise these skills -- particularly supervisors and the BEE
  - . be able to identify and categorise managerial and administrative problems that may be responsible for poor programme implementation.
- 2 Participants will be able to understand how the various aspects of PHC management will be covered during the course.

## Schedule

One half day is allowed for this session. It may be preceded by the administration of the pre-course questionnaire (see Appendix B) in the same session.

## Activities

The session is run as a guided discussion. If the questionnaire has been used this will provide a good starting point for the proceedings.

### Discussion Points

- 1 Does medical training prepare someone to be a manager? The time given to management training in the medical curriculum is very limited and most medical officers have to learn 'on the job' from others on their staff. This dependency often continues and prevents them from managing effectively. Although they still have much clinical work the majority of an MO in charge's duties are managerial. This can be easily demonstrated by making a list of activities carried out in a normal working week.
- 2 Can the implementation of health programmes be improved? With reference to the answers given to the questionnaire (particularly questions 4 and 24) it is probable that the participants will agree that the implementation of programmes could improve with better management at PHC level.

Most of the participants will be professionals with many years experience in the field. They will realise that there are some problems in implementing health programmes that are not going to be easily overcome. Many courses in management assume a 'clean slate' and teach about 'what should be done': this course is more concerned with identifying areas where limited improvements are possible. To be successful it is necessary that participants share their experience in the discussions both to suggest methods that they know to be effective and to be critical of methods that are taught on the course. As well as saying 'that won't work' it is also helpful to make suggestions of what will!
- 3 Definitions of management Management is traditionally defined as making the best use of available (ie scarce) resources: money, materials and manpower, in order to reach a specified goal.



This is very general and not all that helpful. Particularly it does not say anything about what managers do or do not do.

Alternatively we can say that: Management is getting things done through people. The emphasis though is on the manager who does not do things himself or herself but is responsible for getting things done. The manager in a factory doesn't make cars: he makes sure that other people do.

4 The professional as a manager. The role of a professional (ie: an expert in a technical field such as an MO) as a manager is a bit more complicated.

Consider the statements:

a) The MO is responsible for implementing state health programmes throughout the block

OR

The MO is responsible for improving the health status of people in his area.

AND

b) The MO is responsible for the treatment of patients in the OPD and IPD.

In the first case we are talking about PUBLIC HEALTH activities and, for the most part, the MO is responsible for the work of others. He is given a target and has the authority to get others to fulfill it in various ways. Perhaps with the exception of FW Camps, he does not actually carry out the tasks himself.

In the second case we are concerned with the PERSONAL HEALTH of individuals. The MO does not work alone but he is responsible for the tasks and carries them out to his own standards. He manages and directs assistants but it is he who shapes the final product: the assistants just take and fulfill orders exactly (eg prescriptions). Also the MO can see and have contact with what is going on all the time.

Most professionals are much happier in the second role. The management course however is much more concerned with the first. It is difficult as an experienced professional to put up with 'second best' that others may produce. The responsibility of a manager of people, however, is not just to tell them to do it but to explain how. Workers need guidelines, and training and advice. This is difficult and time consuming work and one of the greatest problems facing MOs is that there is little time to give to the often unrewarding business of public health management.

At more senior levels in the health department doctors are working purely as managers and they do not have the dual role that PHC MOs have. In the PHC there is often considerable pressure from the public for the doctor as clinician: whereas the need is for the doctor as manager if improvements in health services to the community as a whole are to be brought about. These conflicts can be very difficult to deal with and the temptation is to withdraw to a purely clinical role.

5 Management and Administration. There are many differences of opinion as to what constitutes administration and what constitutes management. Some people would say that all public servants are just administrators.

What is the difference?

**Administration** on the whole is concerned with the application of fixed rules and procedures toward a given end (eg: finance or indenting). The goal is given or set, as are the precise methods of reaching it. Training therefore will mean ensuring that participants are familiar with a large number of rules and procedures. A large part of the course will be devoted to this and it is the experience of the trainers that it is one of the most popular parts:

1 It enables the MO to exert authority over staff (Knowledge is power).

2 It enables MOs to fulfill their obligations to higher authority more efficiently (ie. it keeps you out of trouble!)

BUT it is a means to an end and not an end in itself. Neat and complete accounting and well kept registers are important but only if they contribute to performance in the field in some way.

**Management** may also be dealing with goals given from above but it usually means deciding, amongst alternatives how to achieve them using the power and resources you are given (eg: getting staff to work, communicating health education messages or trying to involve the community in health programmes).

Training in management is more concerned with discussing available alternatives for action, it has to bring in personal experience of how different problems have been overcome: it is less clear cut and prescriptive (and harder to do in a class room).

We will return to this distinction again in describing how the course is made up.

6 Skills exercised by managers. The manager will have to exercise many different skills in getting the work of a PHC done. In addition to those he uses himself directly there are skills that he may not use but with which he must be familiar in order to pass them on and get others to do the work they have been assigned as well as they can. For example, supervision will be discussed in detail on the course, also the need to communicate with villagers. It is not enough to say to someone you must 'supervise' or 'give health education' without explaining and demonstrating

OHP 2

OHP 3



how it should be done, periodically seeing if it is being done well and helping out if problems arise. MOs do not have to supervise workers directly themselves or give training to others very often but it is important to be able to demonstrate to others effective ways of doing so.

7 Accountability and authority. We have seen that the manager is accountable or responsible to higher authority for work done by others. We have also seen that it is part of the MO's responsibility to be able to direct and instruct others in a clear way as to what work has to be done and how. Similarly the MO has a right to be given the same clear instructions from those in authority. But what if people don't want to work? If you are accountable for work done by someone else it can be an uncomfortable position: what if they don't do it or do it wrong? You are responsible and thus it is you who gets the blame. It can be worse if you suspect that someone is not doing the work so that you get the blame! How to get round this? If the MO is accountable he has to have some authority over those who do the work. This is an extremely difficult area and one which will be discussed a great deal on the course. Knowing precisely what authority is available to you, however, can make things easier. This is concerned partly with administration (knowing the rules) and partly with management (choosing which ones to apply, in what way, when and to what effect).

8 Management Problems. There are several examples of technology that exist and are known to work but are not applied in the field in the way that was intended. The gap between invention and application can, excepting the effect of policy, be filled by what we are referring to as mananagement.

eg: ORS ---- deaths from diarrhoea

TT ----- deaths from neonatal tetanus

Penicillin to treat pneumonia ----- deaths due to respiratory disease in young children.

Let us now try and take one example in order to look at the nature of some of the management problems with which an MO has to deal.

This survey was done some time ago and the situation has now almost certainly improved. What were the management problems that had to be overcome in order to increase immunisation coverage?

Responses should be listed in three columns:

<b>Administrative/ Procedural Problems</b>	<b>Management Problems</b>	<b>Communications Problems</b>
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The problems listed come under the three general headings. On the left we are concerned with mostly administrative knowledge: as we go to the right the problems are more 'managerial'. In the middle and right hand columns we are more concerned with the problem of getting people to work and communicating with others effectively: there are fewer 'correct' methods and more choice (and difficulty) in achieving the desired result.

The management problems faced by an MO in charge of a PHC might be summarised in three questions.

1 How can I know all the necessary rules and procedures so that I can exert my authority more effectively and satisfy my superiors?

2 How can I get my staff to work more sincerely?

3 How can I convince people in the community that the health programmes that I am running are for their benefit and that they should cooperate with them?

These three themes correspond to the way that management problems were categorised (above) and they run through the course as can be seen from the diagram.

OHPs 6a/6b are then used to explain how the course is arranged (see reference section overleaf).

OHP 4

OHP 5

OHP 6a/6b

# Reference Material

OHP slides for use during the introductory lecture/discussion.

OHP 1 Management is concerned with making the best use of available resources: money, materials and manpower -- in order to attain a specified goal.

Management is getting things done through people.

OHP 2 The MO is responsible for implementing National Health Programmes throughout the block  
OR  
The MO is responsible for improving the health status of people in his or her area.

AND  
The MO is responsible for the treatment of patients in the OPD and IPD.

OHP 3 Administration is concerned with the application of fixed rules and procedures towards a given end.  
  
Management also deals with goals given from above but it is more concerned with deciding, amongst different available means, how to achieve them given certain resources and authority.

OHP 4 **Immunisation in Orissa**  
% Coverage

AGE (yrs)	BCG	DPT	POLIO
<1	8	<1	<1
1-2	15	1	<1
2-3	18	1	<1
3-4	23	2	<1
4-5	22	2	<1
5-6	26	3	<1
6-7	14	4	<1

Source: Survey on Infant and Child Mortality 1979 Office of the Registrar General, Ministry of Home Affairs, New Delhi 1981.

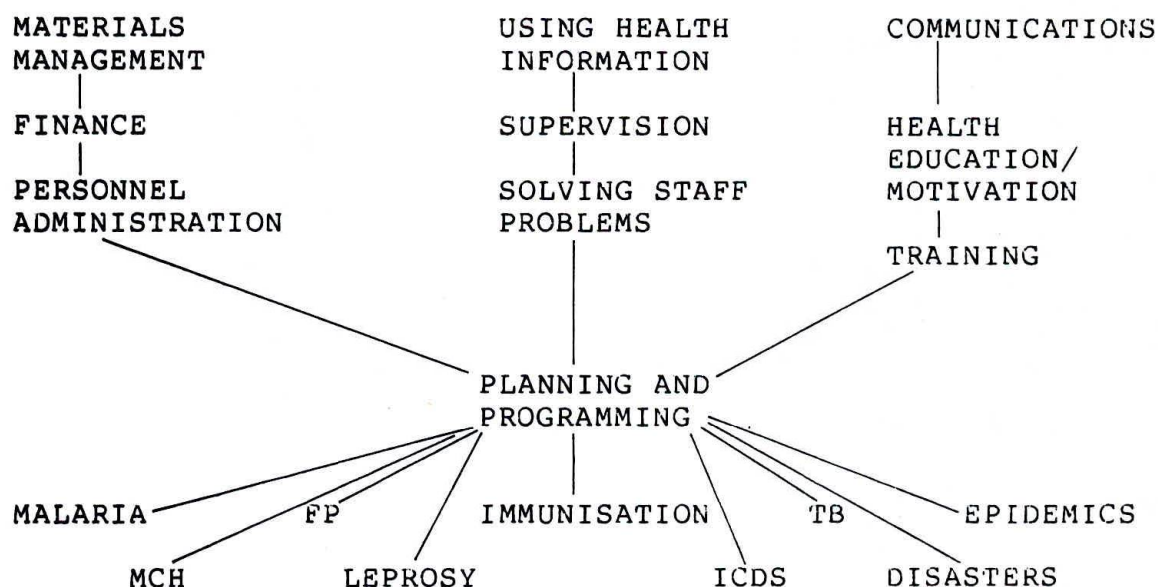
OHP 5 1 How can I know all the necessary rules and procedures so that I can exert my authority more effectively and satisfy my superiors?  
2 How can I get my subordinate staff to work more sincerely?  
3 How can I convince people in the community that the health programmes I am asked to run are for their benefit and that they should co-operate with them?

Note: To make the idea of three themes clear three different colours should be used for writing each question. These colours should correspond to colours used in categorising the management problems (see Discussion Point 8). The same colours should be used in the top half of the following OHP.



OHP 6a/6b

# MANAGEMENT OF THE PHC





## 2 The Use of Health Information

### Introduction

This module covers the use of health information for PHC management. The emphasis is on using available sources of data and improving them rather than teaching about the conduct of more formal surveys.

### Learning Objectives

- 1 To be able to describe three different sources of information which can help in understanding the health problems of an area; and to be able to discuss the advantages and disadvantages of each.
- 2 To understand the need to critically review and cross check data compiled at PHC level.
- 3 To be able to describe the different managerial uses to which routine data can be put.
- 4 To be able to understand common problems in displaying and interpreting data collected by PHC staff.
- 5 To understand and be able to implement an improved system for collecting and recording data at sub-centre level.
- 6 To understand the problems associated with collecting mortality data and to be able to make specific improvements in the quality of mortality data collected.
- 7 To be able to analyse mortality data; present the results to others in a comprehensible way and to make recommendations for the management of programmes based on the results of the analysis.

### Schedule

#### DAY 1

- Session 1: Uses and problems in health information
- Session 2: Problems and improvements in vital statistics
- Session 3/4: Group exercise on mortality data

#### DAY 2

- Session 5: Presentation and discussion of results
- Session 6: Village health registers

### Activities

#### Session 1

This session is conducted as a class discussion using data and examples presented on the OHP [See Reference Material]

#### Discussion points:

- 1 Sources of information. A manager cannot work in a vacuum; he or she needs information. In the case of a PHC this information concerns the health problems of an area. What sources of information are available to the MOi/c?  
Participants are asked to list all the sources of information available to them. These are recorded in three columns on the OHP.
  - a) Routine data collected by staff of the PHC. This list should include all the data that are collected and compiled in the PHC concerning attendance and services performed.
  - b) 'Informal sources'. Includes information usually not recorded but gained from colleagues and others which help in understanding the problems of an area.
  - c) Surveys and screening. Apart from the annual survey to update the Eligible Couple register most MOs are not in a position to conduct formal surveys. Information is however available from screening which takes place, for example, as part of the school health programme. Surveys are time consuming, expensive to conduct and can only answer a limited number of questions. There are many problems in the interpretation of routine data and data from informal sources but it is these that the MO usually has to rely on. It is useful to compare how the MO



often has to rely on a good history when diagnosing an individual patient and hasn't the time or facilities for a complete examination: similarly the MO i/c often has to rely on asking informed questions and critically reviewing the information that is routinely available in order to 'diagnose' community health problems.

2 Uses of data. The session concentrates on routine data collected in the PHC. To what uses can these data be put by the PHC manager. Again the answers are listed in 3 columns: planning and evaluation; supervision of staff; administration.

It is important to stress that the MO in charge of a PHC is not in a position to choose, on the basis of data collected, which health programmes should be implemented. The data collected can however be used to improve the way in which those programmes are conducted (for example: finding out areas of poor coverage in the block; particular at risk groups etc). Data collected at PHCs is useful for planning at higher levels.

It should be noted that reviewing data collected is one of the most important ways in which staff can be supervised and training needs determined. Finally the administrative uses of data should be noted. This will be referred to again in the exercise on indenting for drugs. Participants will then be asked what is the common element in all the uses that have been listed. Common to all activities is DECISION MAKING. In other words if data are not used there is little point in collecting it.

#### OHP 1

3 Unreliability of routine data. Participants are shown the data on OHP 1. They are asked to comment on their interpretation of the figures shown. It should become clear that, although the data are genuine in as much as they have been collected from an actual PHC, the person(s) responsible for collecting them have almost certainly made them up. This is evidenced by the repetition of numbers in the 4 villages. This point can be reinforced by showing the data on vaccinations performed in the lower part of the OHP.

Reasons for unreliable data can then be discussed. As well as the need for closer supervision it is important to emphasise that two other factors are important: firstly that a common reason for inaccurate or falsified data is that MOs do not review it critically (and therefore do not spot the faults) and secondly that those responsible for collecting it do not see it being used and thus do not see the need for accuracy or completeness.

#### OHP 2

A vicious circle is set up whereby MOs do not use the data because it is inaccurate and those collecting it do not care about the quality because they do not get any feedback.

One way of breaking this circle is to start using data that might be of use in management.

4 Problems of interpretation of data routinely collected. A series of examples of data, in a form often seen in PHCs, is used to illustrate three important points about interpretation and use of figures.

#### OHP 3

a) Eligible couples. Participants are shown the top half of the OHP and asked which worker (in village A,B,C,D or E) has achieved the best performance in motivating couples to be sterilised. They are asked to jot down their opinion on a piece of paper.

The need to know the number of eligible couples in each village is then discussed and when these numbers are given (lower part of the OHP) it is realised that proportionately the workers in village D have done better.

Thus when comparing achievements it is necessary to know from what population the cases came.

#### OHP 4a/4b

b) TB Cases. Participants are asked whether there are more TB cases in one sector than the other. Clearly, they are the same. If the data were collected in order to know how many drugs to order: this would be all that was necessary -- the absolute number of cases. If, however, the need was to compare the extent of the problem in the two sectors then the population of each would be necessary.

#### OHPs 5a/b/c

c) Cases of diarrhoea seen at the PHC. This kind of histogram is quite commonly constructed in PHCs. Participants are asked to comment on the graph in 5a. The bottom half of the figure should remain covered. Questions should include whether this graph shows that diarrhoea is more common in adults or whether the prevalence rate increases with age. It should be pointed out that the age intervals are unequal and that all the graph shows is the absolute numbers of people attending. The graph does not show anything about risk of the disease. It does however show that: of all cases attending the minority are under 5 (300) compared to those over 5 (800). If we knew something about the risk of disease in each group this information might be useful in seeing how resources were allocated.

Participants are then asked how they would compare the risk of disease in each age group. For this they need to know the population. A rule of thumb for dividing the population in any block (3% <1yr; 9% 1-5yrs; 28% 6-15yrs and 60% >15yrs) should be explained.

Participants are then asked to comment on the graph in 5b which shows the number of cases per 1000 population and a reverse of the pattern in 5a. Thus the risk of diarrhoeal illness is seen to be



greater in young children; but much time in the PHC has been devoted to treating cases in older age groups.

OHP 5c shows the same data divided by sex. Participants are asked to comment on the differences between the sexes in each age group. Questions should include: does the graph show that diarrhoea is more common in girls than boys? Discussion will centre on why male children are more often brought for treatment than female children. Also the point should be made that because there are factors that affect whether or not people come for treatment and these operate differentially in different sexes and age groups; data collected in PHCs is selective or biased. To find out the true situation a survey would be necessary. It is necessary to bear in mind factors such as this when critically reviewing data.

## OHP 6

### Summary points

- 1 To compare performance or the extent of disease in one area with another it is necessary to know the population from which the cases etc came.
- 2 Knowing the absolute number of cases presented or services given is useful for knowing how resources are used or which resources are needed.
- 3 Data collected in PHCs about the risk of disease is selective or biased and may not necessarily reflect what happens in the community as a whole. Data should always be looked at critically to detect these problems. To get a truer picture a survey or screening procedure will be necessary.

## Session 2

### Vital statistics:

In this session the example of mortality data is taken in order to discuss practical ways in which its quality can be improved. It leads on to the group exercise in the next session. The session is conducted as a class discussion using data and examples presented on the OHP. It focusses on the collection of causes of death rather than vital statistics as a whole.

### Discussion points:

- 1 The uses of mortality data. Particular emphasis in the discussion should be directed toward the need to monitor mortality from diseases which are preventable.
- 2 Problems with determining cause of death.
  - a) It is necessary to rely on information from people who are not medically trained and often do not have a formal education (VHGs). It is frequently difficult to interpret what is meant by a cause of death originally given in a local language and then interpreted by one or more people before it is recorded in the VS register. To illustrate this discussion the participants are asked what they would record for the examples given in Oriya on OHP 7. It is likely that there will be considerable disagreement!
  - b) Medically trained people also frequently have difficulty as they are constrained to record (at PHC level) a single cause. To illustrate this problem participants are asked to consider the case history on OHP 8 and write on a piece of paper the single cause of death they would record. The trainer will record and show the different opinions that are given.
- 3 Classification of causes of death. It is inevitable that many causes of death will not be classified accurately and will show up on VS registers as 'unknown' or 'other'. Participants are asked how they normally classify causes of death. The difficulty of using either the traditional list of infectious; traumatic; congenital; neoplastic; degenerative etc or a systems-based approach (Gastro-intestinal; cardiovascular; respiratory etc) should be demonstrated with reference to particular problems. For example: 'Infectious diseases' would include many of the common causes of death in children. If, say, we were trying to assess the effect of TT immunisation on the number of deaths from neo-natal tetanus in one year when, although the effect was appreciable, many children died of post-measles complications, the impact would not be noticed. Similarly if all gastro-intestinal disease are put together a fall in the mortality rate due to the promotion of ORS would be lost. It is thus useful to consider two factors in deciding the categories under which to classify causes of death:
  - a) The category should include a disease or group of diseases, the mortality rate from which, is likely to change as a result of programmes being implemented. Thus, for example, we are concerned to see whether the number of children dying from diarrhoeal disease (including acute diarrhoea, chronic diarrhoea, dysentery etc) is increasing or decreasing.
  - b) The second factor is that the categories of interest should be such that peripheral staff can be trained to recognise all cases which fall into this category. This approach recognises that it might be necessary to adopt say: 'diarrhoeal disease' and 'other gastro intestinal diseases' or 'tetanus', 'measles', 'polio', 'respiratory infections' and 'other infectious diseases'. The advantage of this system is that if staff can be guided to classify the diseases of interest correctly then one can be



more certain that the 'other' group or groups should exclude the diseases whose impact might be affected by programmes being implemented.

The methods and criteria for training peripheral staff and the diseases of interest can be discussed in the class.

The group exercise that follows is directly related to this discussion as participants will be given a set of data collected from a nearby PHC which show the causes of death by age recorded in the VS register for one year.

## Session 3/4

### **Group exercise on interpretation of mortality data:**

After an explanation of the nature of the exercise the class is divided into two or three working groups (depending on numbers present). Each group is asked to examine the data pertaining to a different age group: <1yr; 1-4yr; 5-14yr. Each individual is given an instruction sheet [Handout 1] and one set of data is given to each group [Handout 2].

## Trainers notes

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Groups will need to be provided with graph paper and a calculator to carry out the exercise. In allocating time to the exercise it is important to stress that participants should devote time to discussing the questions based on their results rather than just producing graphs for the class presentation.

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## Session 5

### **Presentation and discussion of results:**

Each group will be given 15-20 minutes to present both their findings and recommendations for action.

Suggested order for presentations:

- . Method and rationale for categorising causes of death
- . Major causes of mortality in age group
- . Specific suggestions to decrease mortality in age group
- . Suggestions for improving data quality
- . Other uses for data

The audience should be allowed to discuss each presentation.

After the discussions one of the trainers should summarise the work that has been carried out and emphasise any points that have been omitted.

### **Discussion points:**

#### **a) General**

- . Clarity of presentation of data: if data is presented clearly and in an interesting way it is more likely to be understood and therefore used.
- . Data from children <1yr: note that number of live births in the year was not given. In fact it was 2,527 which gives an IMR of 124/1000 live births. Note the discrepancy between the number of live births and the number of children under 1yr. Also note in the same age group the big discrepancy between the number of males and females. Why should this have occurred? If groups have not noticed these discrepancies the need to critically look at figures should be re-emphasised.

#### **b) Causes of mortality**

- . Diarrhoeal and respiratory infections will be found to be the major causes of death in the younger age groups. It is useful to contrast the suggestions made to decrease deaths from diarrhoea (increased home treatment, teaching ORS by VHGs etc) with the measures to control deaths due to respiratory causes (more rapid referral to PHC; antibiotic treatment; need for recognising earliest signs).
- . Difficulties posed by recording deaths due to malnutrition: should this be a category on its own?
- . How much does the 'fever' group represent deaths due to malaria? Can MPWs/VHGs be trained to recognise this cause?
- . What measures can be taken to prevent accidents in the 5-14 yr age group?
- . Despite the probable inaccuracies in recording the number of females in the population there is still an excess of female deaths (see reference material). If this excess was to be reduced even only to male levels the mortality rates would be, overall, much lower. What can be done to improve the chances of survival of female children?



c) Improvement of data quality

- . Legislation exists to levy fines for non-reporting. Should this be exercised? If not, how can public co-operation be improved?
- . If those collecting the data are to perform better how and by whom should they be trained?
- Participants might like to consider the use of a simple form or guide to assist in classifying more accurately the commoner causes of death.
- . What should be the role of supervisors in improving VS collection?

d) Other uses of data

- . If staff see it is being used; they are more likely to improve collection.
- . Data such as that used here is a useful starting point for running technical training sessions particularly if it is data collected by the staff themselves.

## **Trainers' notes**

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OHPs 9-12 which are derived from the same data, can be used to illustrate points about the presentation if necessary. The reference section of this module also contains a summary of the age-and-cause specific data for the use of trainers in the final sessions. The categories used in these summaries are not necessarily the only 'correct' ones.

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## **Session 6**

### **Village health registers**

In an attempt to improve the records kept at sub-centre level a system of village health registers has been introduced in the 3 PHC blocks around the training centre. For the purpose of programme implementation the area has been divided into 'Health Villages' (see Programming Module) each with a population of about 1000. Thus each sub-centre will serve 5 health villages. The village health register is a record of all services performed by the MPWs in the village. In addition it contains a summary of data from the annual survey as a village profile.

In this session the layout of the village register is demonstrated. Participants will have to use these registers to extract data in the field visit held as part of Module 3.

The advantages of a single village register are discussed in the session:

- . It minimises the number of records maintained
- . Records from separate service programmes are kept together
- . It is easy to carry the register to the village
- . Easier to maintain records in the village itself
- . Enables supervisors to review all work rapidly
- . Advice of supervisors is found in one place
- . It helps economise on paper
- . Deficiencies in programme coverage can be spotted easily

## Reference material

[Handout 1]

**Instruction sheet for group exercise:**

- 1 Using the data provided, group the causes of death according to the criteria which you think will be most useful (as discussed in the last class).
- 2 Calculate the number of deaths from each category per thousand population.
- 3 Decide how to display the data so that it can easily be understood and presented.
- 4 Study your results and decide on the basis of your particular findings:
  - a) What measures can feasibly be undertaken by the PHC and its staff which will help reduce the major causes of mortality in the age group you have studied? Please try and make specific rather than general suggestions.
  - b) What suggestions would you make to improve the recording and the quality of the data in future? Again, please try and be specific.
  - c) How else could these data be put to use at PHC level?



[Handout 2]

Data from the Deaths Register Jan 1st - Dec 31st 1984

AGE (years)	<1		1-4		5-14		15-24		25-54		>55	
SEX	M	F	M	F	M	F	M	F	M	F	M	F
Old age									2	2	87	82
Cancer					1				5	3	5	2
TB							2		4			
Weakness	4	3			1					1	3	3
No cause recorded	51	32	9	10	1	4	3	3	11	11	22	20
Dysentery	6	6	8	6					1		9	8
Fever	18	23	5	9	3	3	1	2	2	1	11	15
Rickets	4	6	2	3								
Normal Death	3	6		2		1		1		2	39	42
Cough	4	1	1	3	2			1			3	1
Asphyxia	7	12										
Asthma	2	3	1	2							16	5
Paralysis					1			1			11	6
Tetanus	3	1	1									
Anaemia	2	5	3	3				1			5	
Heart failure	1	1					1				1	2
Cold	4	2	1	1								1
Sickness		3									19	15
Cardio-respiratory failure	14	11		3		1		2				1
Filaria											1	
Vomiting	2	9				1						1
Fits	6	1				1						2
Convulsions	2	1										
Suicide							1		2	3	1	
Swelling			1	1	1					1	1	3
Abdominal disturbance	5	1				2			1			
Drowning					1	3			2	1	2	1

[Handout 2] *continued*

**Data from the Deaths Register Jan 1st - Dec 31st 1984**

AGE (years)	<1		1-4		5-14		15-24		25-54		>55	
SEX	M	F	M	F	M	F	M	F	M	F	M	F
Dropsy									1	1	1	2
Diarrhoea	2	8	5	5	1	1			2	2	7	3
Colic	1				1	2	1	2		1	3	3
Oedema											1	1
Measles			1	1	1	1						
Inflammation of scrotum	1											
Premature delivery	2											
Encephalitis	3	1	1	2								
BP									1		3	3
Accident	2				1	1			3		1	1
Tumour												1
Diabetes												2
Epilepsy	3	3		2						1		
Neonatal death	1	4										
Snake bite						1		1	1			
Colitis	6	4	4	2				2	4			
Polio			1									
Malnutrition		1										
Ulcer	3	3		2				1				
Worms			1									
Maternal death								1		1		
Rheumatism										1		
Madness					1							
Leprosy											1	1



Total population		
Age Group (Yrs)	Male	Female
<1	3,251	2,421
1-4	5,240	4,292
5-14	10,289	9,246
15-24	11,686	10,603
25-54	26,641	23,936
>55	1,164	998
Total	58,271	51,496

[For trainers' reference]

**Cause specific death rates (Children <1 year)**

Cause of death	Male		Female	
	No	0/00	No	0/00
No cause recorded	51		32	
Normal death	3		6	
Neonatal death	1		4	
Sickness			3	
	<b>55</b>	<b>16.9</b>	<b>45</b>	<b>18.6</b>
Diarrhoea	2		8	
Dysentery	6		6	
Vomiting	2		9	
Colitis	6		4	
	<b>16</b>	<b>4.9</b>	<b>27</b>	<b>11.1</b>
Fever	18	5.5	23	9.5
Respiratory (Cough/asphyxia/ C-R failure/cold/ heart failure/asthma)	32	9.8	30	12.4
Malnutrition (+swelling/weakness/rickets)	8		11	
Anaemia	2		5	
	<b>10</b>	<b>3.1</b>	<b>16</b>	<b>6.6</b>
Tetanus (+fits/epilepsy convulsions)	14	4.3	6	2.5
Other G-I (abdominal disturbance/colic)	6	1.8	1	0.3
Other named causes	11	3.3	2	0.9
<b>Total</b>	<b>162</b>	<b>49.8</b>	<b>151</b>	<b>62.4</b>



**Cause specific death rates (Children 1-4 years)**

Cause of death	Male	0/00	Female	0/00
	No		No	
No cause recorded	9		10	
Normal death			2	
	9	1.7	12	2.8
Diarrhoea	5		5	
Dysentery	8		6	
Colitis	4		2	
	17	3.2	13	3.0
Fever	5	0.9	9	2.1
Respiratory (Cough/asthma/ cold/C-R failure)	3	0.5	9	2.1
Malnutrition (Rickets/swelling)	3		4	
Anaemia	3		3	
	6	1.1	7	1.6
Other infectious diseases (Polio/ encephalitis/measles/ tetanus)	4	0.8	3	0.7
Other named causes	1	0.2	2	0.9
<b>Total</b>	<b>45</b>	<b>8.6</b>	<b>57</b>	<b>13.3</b>

# OHP 1

## Maligaon Section

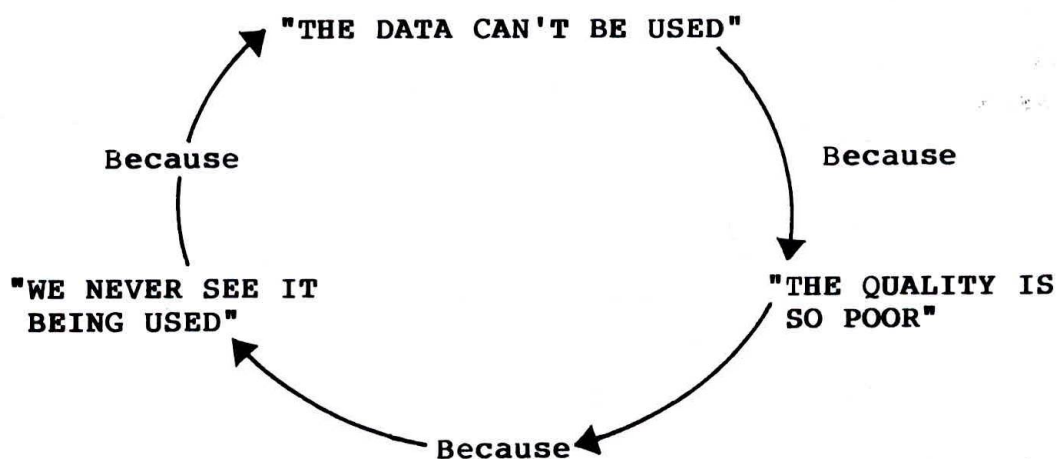
Population 1984/85

VILLAGE	I		II		III		IV		V	
	m	f	m	f	m	f	m	f	m	f
AGE (yrs)										
0 - 1	21	15	17	19	17	19	17	14	17	19
1 - 5	26	38	19	21	17	21	19	21	21	27
6 - 10	37	41	29	26	21	26	21	17	26	29

Target achievement for the sector (Immunisation)

	80/81		81/82		82/83		83/84	
	T	A	T	A	T	A	T	A
DPT	130	85	130	80	165	165	130	130
DT	185	120	185	100	165	65	130	85

# OHP 2





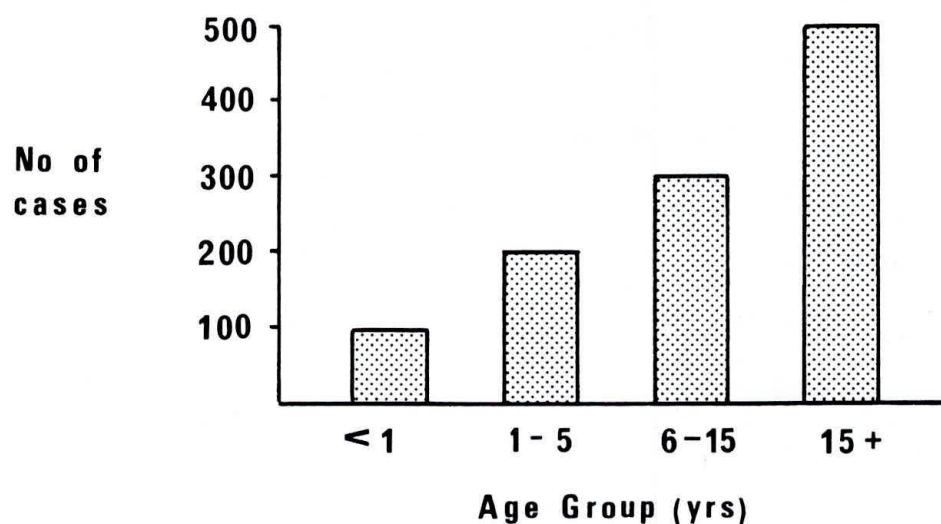
OHP 3

Village	A	B	C	D	E
Number of cases operated	15	25	10	12	25
Number of eligible couples	350	250	125	100	400
% protected	4.3	9.0	8.0	12.0	6.2

OHP 4a &amp; 4b

Sector	Number of cases	Population	Prevalence rate (0/00)
Alpingal	15	2,550	6.0
Navagon	15	5,100	3.0

OHP 5a

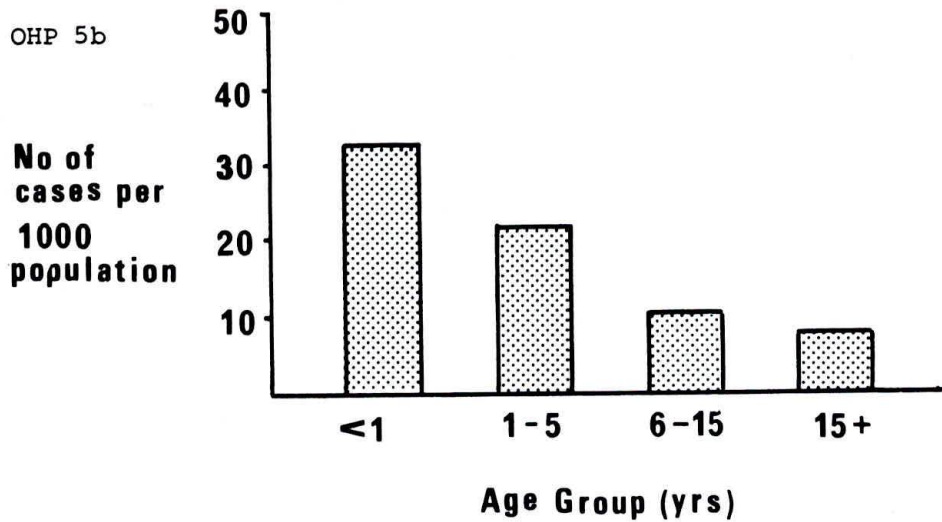
No. of cases of diarrhoea treated at the PHC 1983/4

% of population

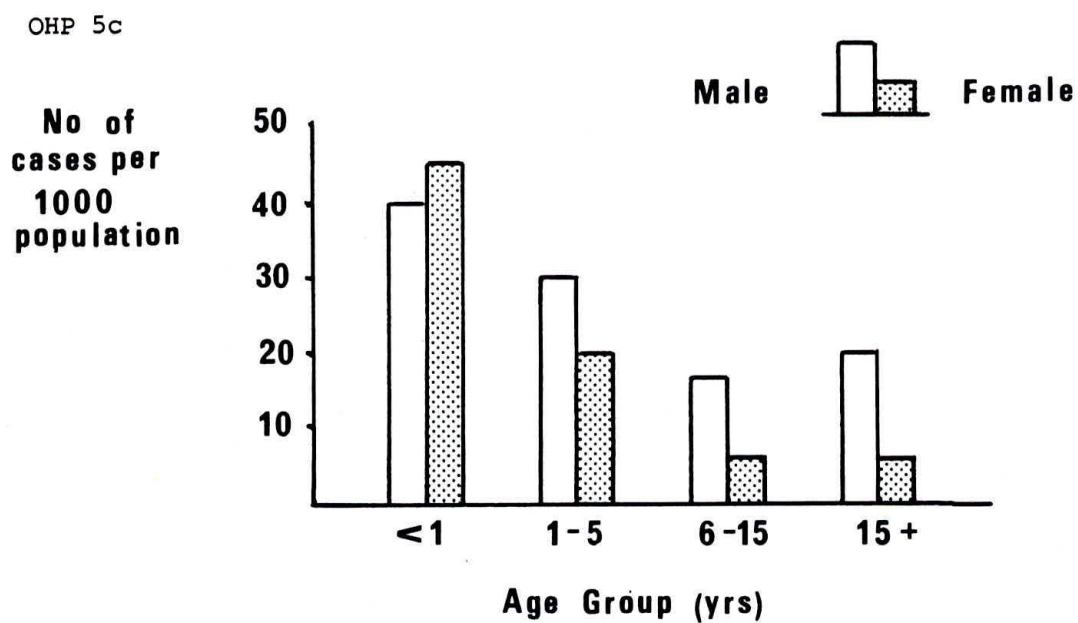
3%	9%	28%	40%
----	----	-----	-----

No in each age group in one block

3000	9000	28000	60000
------	------	-------	-------



No. of cases of diarrhoea treated per 1000 population



No. of cases of diarrhoea treated per 1000 population



OHP 7 CAUSES OF DEATH RECORDED IN SUB-CENTRE VS REGISTER

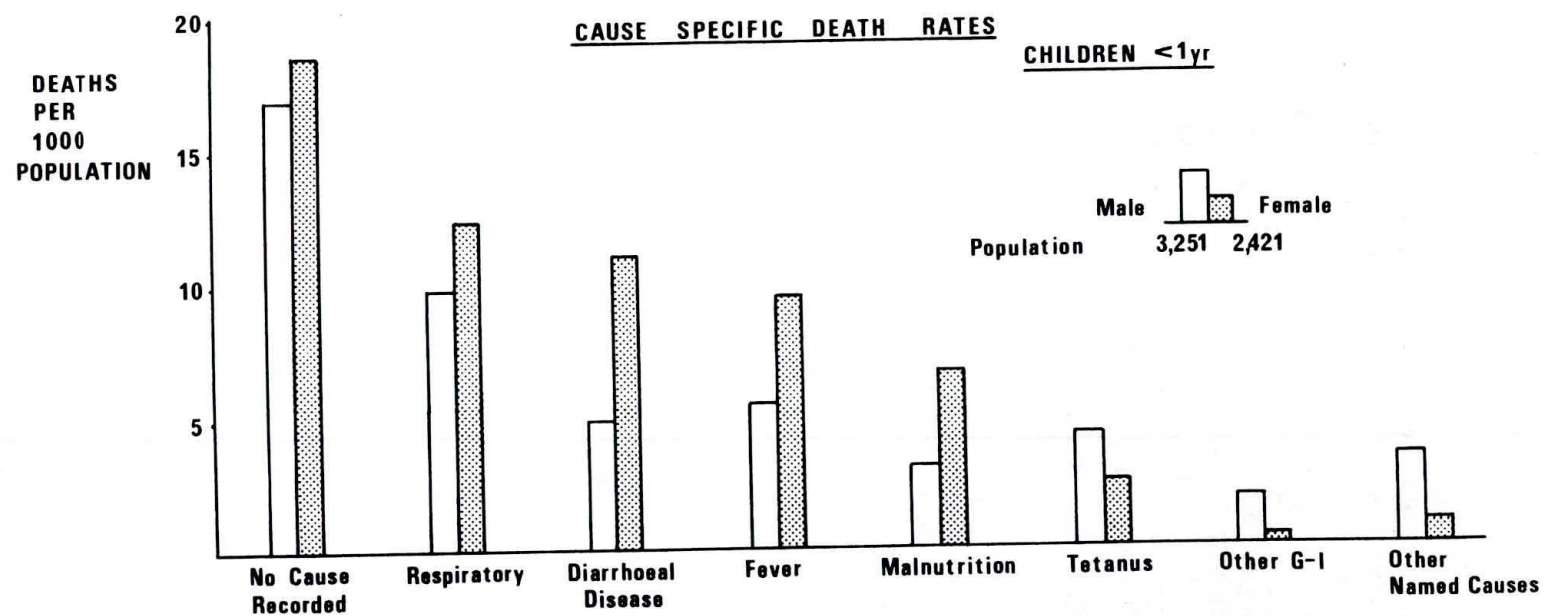
CAUSE OF DEATH		AGE	SEX
1.	ପିୟୁଳା (Piulaa)	1	m
2.	ବାତ (Baata)	4	f
3.	ରିକେଟ୍ (Rikets)	5	f
4.	କାଶ (Kaasha)	4	m
5.	ଆସଫିକ୍ସିଆ (Asfiksiaa)	4	m
6.	ଜଳଉଦ୍ବେଗ (Jalauduri)	6	f
7.	ଫୁଲା ରୋଗ (Fulaa roga)	1	f
8.	କାଲିକ (Kalik)	1	m
9.	ଏପିଲେପ୍ସି (Epilepsi)	53	f
10.	ପେଟ ଗୋଲମାଲ (Peta gola maal)	14	f

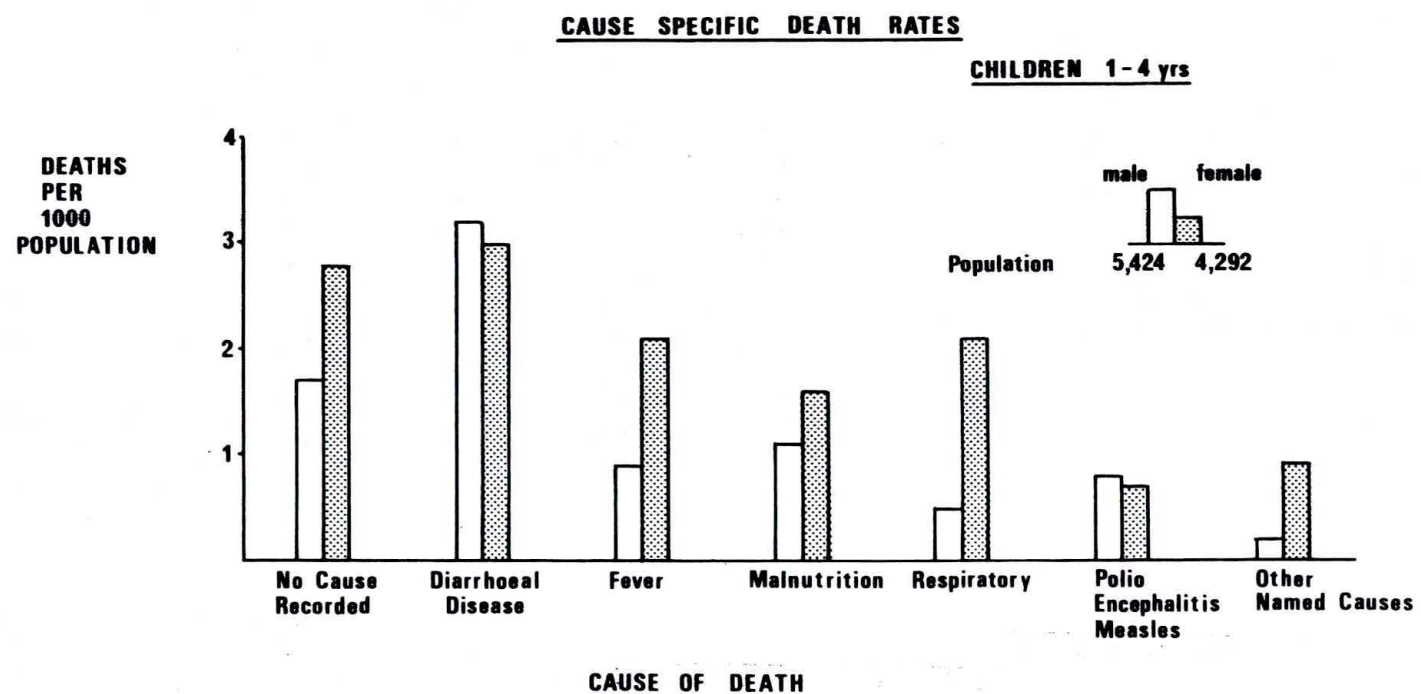
**OHP 8**

A CHILD OF 3 YEARS SUFFERING FROM SEVERE PROTEIN CALORIE MALNUTRITION IS BROUGHT TO A PHC. THE CHILD IS DEHYDRATED WITH LUNG SOUNDS INDICATIVE OF BRONCHOPNEUMONIA. LAB INVESTIGATIONS REVEAL LOW HAEMATOCRIT, SCANT P.VIVAX PARASITAEMIA AND OVA OF ANCYLOSTOMA AND TRICHURIS IN THE STOOLS. HISTORY FROM THE MOTHER INDICATES THAT THE CHILD SUFFERED A FEBRILE RASH ABOUT 2 WEEKS PREVIOUSLY, AT A TIME WHEN "MEASLES" WAS IN THE VILLAGE. THE CHILD HAD NEVER BEEN VACCINATED AGAINST ANYTHING. THE CHILD IS GIVEN FLUIDS AND ANTIBIOTICS, BUT DETERIORATES AND DIES WITHIN 48 HOURS OF ADMISSION.

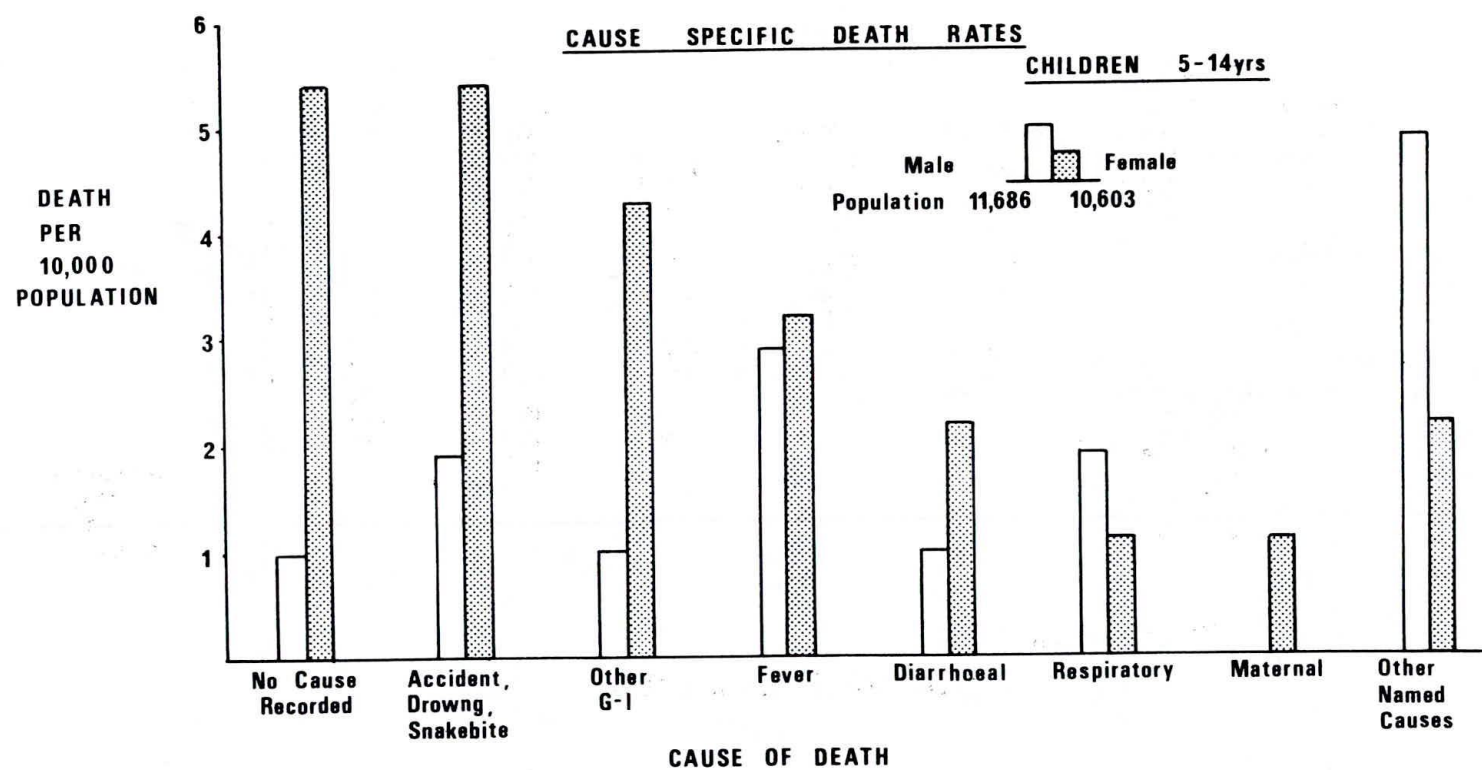
WHAT WOULD YOU RECORD AS THE CAUSE OF DEATH OF THIS CHILD?











### 3 Management of PHC staff

#### Introduction

One of the most difficult problems faced by medical officers is how to manage their field staff. 'My staff will not work properly or sincerely' is perhaps the most frequently heard complaint from the officer in charge.

This module introduces principles of organisation relevant to the PHC MO; this is followed by a detailed discussion of the administrative controls and procedures available to the MO. Techniques of supervision are examined and the use of an analytic approach to direct field supervision (using check-lists) is illustrated using video simulation. The module includes discussion sessions on the role of VHGs and TBAs and techniques of assessing the effectiveness of their work are illustrated. One half day is devoted to a workshop on personnel problems using case material from the participants themselves. Finally, a field visit to a PHC is arranged where groups of participants carry out a supervision exercise based on sector records; observe and assess the work of supervisors conducting health programmes; and assess the effectiveness of the work of the VHG and TBA in a selected village.

#### Schedule

DAY 1:	Introduction to the module (1/2 Hr) Principles of organisation Personnel administration
DAY 2:	Afternoon: Techniques of supervision* Use of checklists Introduction to the workshop
DAY 3:	Morning: Workshop on staff problems Afternoon: VHG and TBA Programme Preparation for field visit
DAY 4:	Morning: Field visit Afternoon: Preparation of reports
DAY 5:	Morning (1st Session only) Presentation and discussion of field work

\* The timetable in Appendix A shows this half day session taught on Day 1 of the module. This arrangement has been found to work equally well.

A wide variety of material is covered in this module of the course: for that reason the notes are divided into 5 parts.

An introductory session on the first day is used both to introduce the subjects to be taught and to show how they fit together during the course of the module.

It is important to stress in the introduction how this module links with others on the course: particularly personnel administration and finance; supervision and training; staff organisation and programme planning.



## Day 1

# Principles of PHC organisation and personnel administration

## Learning objectives

- 1 Participants will be able to understand how organisational principles can contribute to improved personnel management.
- 2 Participants will be able to understand and discuss the factors affecting the motivation of their workers and appreciate the factors that contribute to job satisfaction. Also how these factors operate in the PHC situation.
- 3 Participants will be able to understand the important principles of resolving conflicts in the work situation.
- 4 Participants will be familiar with and be able to apply correctly the administrative procedures laid down for managing staff in the PHC. These include:
  - . Work and behavioural records
  - . Induction procedures
  - . Wages and incentives
  - . Service records
  - . Staff development and accountability of supervisors.

## Activities

The session is conducted over the course of one day. The session starts with a lecture on organisation and motivation but continues as a class discussion on the procedural aspects of personnel administration. It is usual that this session raises a large number of questions based on the work experience of MOs. It is thus essential that sufficient time is allowed to answer these questions.

## Reference material

[Bearing in mind the need to keep this manual to a manageable size it is not possible to cover all the material in this session in detail. This reference section lists the main topics, records and procedures which should be discussed. Most government institutions will have personnel with the required knowledge and access to the original circulars and code books to which reference can be made as required.]

1 Personnel Management in context. The MO has to effectively manage the resources at his disposal in order to achieve various objectives. These resources include money, materials and time but they also include people. Personnel management is more difficult because people have likes and dislikes; their individual needs and problems are different; they have varied skills and ability and variable attitudes to their work and colleagues.

2 The importance of organisational factors. Each person is employed in an organisation and assigned responsibilities and made accountable for discharging those responsibilities to a superior. The way that the organisation is designed will have an important bearing on its successful functioning. Factors which have to be considered include:

- . Unity of command
- . Span of control
- . Lines of authority
- . Channels of communication

3 The motivation to work. People seek employment in order to fulfill various needs. These needs may be considered as a hierarchy whereby basic or low grade needs have to be met first. It is necessary to create opportunities for staff to also fulfill higher grade needs.

A person will be motivated to work if their efforts are valued not only in financial terms but by the appreciation of their superiors and their peers.

Factors to consider which positively affect job satisfaction and thus the motivation to work include:

- . Clear and well defined systems for both giving commands, reporting outcomes and discussing problems
- . Well defined, achievable and satisfying objectives
- . Clear definition of roles and responsibilities combined with the necessary flexibility needed to respond to change. - Adequate financial reward and reasonable job security

- . Clear and agreed systems of discipline
- . Good morale amongst colleagues
- . Reasonable working hours and satisfactory place of work
- . Opportunities for self-development

A great deal of dissatisfaction with work is caused by conflicts between different staff in the organisation. It is important to consider ways in which these conflicts can be resolved:

- . Participatory leadership styles
- . Job enrichment
- . A good system of communications to encourage early ventilation of ill feeling
- . Proper processes for collective bargaining; productivity bargaining etc.
- . Joint consultation with higher authorities to help solve interpersonal disputes.
- . Trying to find common interests rather than emphasising differences.

4 Work and behavioural records. No reward or punishment can be sanctioned unless full and legally foolproof records are maintained.

Particular attention needs to be paid to the methods of recording:

- a) Attendance on duty both in the PHC and in the field
- b) Performance of tour duties
- c) Negligence of duty (objective and subjective reports are needed).
- d) Misconduct and misbehaviour with fellow members of staff, with higher authorities and with members of the public.

Confidential Character Roll. MOs must be aware of the need for warnings prior to and the consequences of making an adverse entry into the CCR (also discussed below).

Induction into job.

- 1 Each person employed should be made aware of the responsibilities entailed in their job, to whom they are accountable, what level of performance will be expected and how their work will be assessed. They should appreciate the objectives of the organisation; its structure and their place in it.
- 2 They should be given full orientation in their place of work.
- 3 They should be given the opportunity to develop their knowledge, skill and attitude towards their work.

Wages and Incentives

MOs should be aware and be able to apply the following rules and procedures:

- . Pay scale and fixation of pay
- . LPC
- . Increments and the Efficiency Bar
- . Free housing or house rent allowance
- . Leave salary, surrender leave and LTC
- . TA and DA (fixed, ordinary and special)
- . General Provident Fund
- . Insurance, gratuity and pension
- . Daily workers' wage

Service Records

The MO in charge should be aware of:

- . Power and accountability of each cadre
- . Procedures for the appointment of staff (ad hoc and regular)
- . Procedures for joining posts:
  - temporary, permanent, part-time
- . Deputation

They should also be completely familiar with the following records and procedures:

- . service book
- . incumbency record
- . staff roll statement
- . service verification
- . leave and leave salary
- . transfer and posting
- . joining time
- . leave and leave account
- . holidays, medical fitness and sick leave
- . work certificate
- . CCR
- . initiation of proceedings
- . fine and suspension
- . stoppage of pay and cumulative increments



- . resignation
- . retirement (voluntary and compulsory)
- . termination.

#### Additional reading

Details of all the above regulations and procedures are found in the Orissa Service Code.

## Day 2

### Techniques of field supervision

#### Introduction

Medical Officers are responsible for the work of a large number of workers. In some circumstances they will supervise the work of others directly: more frequently they have to rely on their supervisors to oversee the work of MPWs. In this session different methods of supervision will be discussed which will be relevant in different situations. It is important to stress that one aim of the session is to familiarise MOs with techniques that they can, in turn, teach to their supervisors.

#### Learning objectives

- 1 Participants will understand the relationship between the MO, the supervisors and MPWs.
- 2 Participants will be able to list the situations in which supervision of work can take place.
- 3 Participants will understand the difference between direct, concurrent supervision and indirect supervision and will be able to apply different methods in each case.
- 4 Participants will understand the close relationship between supervision and on-the-job training.
- 5 Participants will be able to understand and communicate to others an analytic method of field supervision using checklists.

#### Activities

The session begins with a guided class discussion covering the following points:-

1 Direct and Indirect Supervision: The MO in charge is responsible for the outcome of all the health programmes under his or her charge. It is not possible, however, for the MO to actually oversee all the activities in the PHC Block.

Compare the kind of supervision that takes place of staff working with the MO (say in the OPD) with the kind of supervision necessary to make sure that the malaria spray programme is being carried out according to the layed down procedures.

In one case supervision is direct (or concurrent); in the other supervision is indirect and relies on the transmission of information to the MO. The use of health information in supervising health work has been discussed.

2 Relationship between MO and supervisors: As manager of the PHC (or of a sector) the MO is responsible for work carried out there. As such he is accountable to his superiors for this work and can exercise authority over the workers. It is not possible for him to effectively manage all the MPWs in his charge and thus between manager and workers there are supervisors.

In some ways the supervisor acts as a manager of the sector and control of the workers in the sector, for routine running of the PHC should be through the supervisor. In most cases this will be satisfactory but it should be noted that the supervisor does not have the same degree of authority over the workers that the MO has. The supervisor can only recommend that someone be disciplined. Thus in case of particular problems the MO may have to exert his or her authority directly.

For routine matters however the position of the supervisor as assistant manager should be used to help the MO and it should not be automatically bypassed.

3 Opportunities for supervision: The MO has several opportunities for supervising supervisors and workers; different methods will be applicable in each case:

- . PHC meetings
- . Sector meetings
- . Camps
- . In PHC HQ



The most important opportunity for supervisors to oversee work is actually on the job in the field.

4 Direct supervision: In many cases Health Assistants know they have to supervise but are not clear about what this actually means. It is necessary to consider what is required, including:

- . Clear instructions to the worker concerning what is required of them
- . A plan or programme of work which allows them to do it
- . Instruction in technique if necessary
- . Opportunity to discuss problems
- . Opportunity for on-the-job training.

The second part of the session concentrates on direct observation of work and giving feedback on performance to the worker. The participants are asked to carefully watch a short video film of an MPW(F) immunising children in the field. The film shows aspects of the task being done well and other aspects being done poorly.

The participants are asked to write notes which, if they were supervisors, they would make about the work they have seen.

The trainer will then record the comments of the participants on the OHP.

The trainer will then ask how these comments could be classified in order to make a checklist of observations which could be made which would be appropriate for other situations. Suitable headings include:

- . Planning/Preparation
- . Technical Skills
- . Problem identifying/solving
- . Attitude to job or patients
- . Recording of work done
- . Self evaluation
- . Health Education

How can a supervisor use these observations to improve the work that he or she has just seen? The need for a supportive approach rather than merely criticism needs to be identified. The trainer will ask individual participants how they would approach the worker in the particular situation that has just been observed.

Secondly the trainer will discuss the situations in which these observations, if recorded by the supervisor, can be used:

- . For follow up supervision
- . For on-the-job training
- . As discussion points in meetings
- . For better sector planning

When the participants have agreed on the headings most useful for making a checklist they are asked to watch a second film (of blood slides being collected from a suspected case of malaria). They are asked to record their comments under the headings previously agreed.

The trainer will then record the comments under each heading on the OHP. If not all comments fit well into the first check-list it might have to be adapted so as to be applicable in any situation.

As with the first film ways of improving the quality of work, based on these observations are discussed.

One of the most difficult problems for a supervisor is when he or she observes that the worker is perhaps performing the task correctly in a technical sense but their attitude toward their patient is wrong. This is often apparent when the worker is responsible for carrying out health education rather than performing a purely technical task.

Two other short films can be shown to demonstrate different approaches to patients and the effect on those patients (did they understand the message, were they likely to follow the instructions ?) can be discussed.

Reference can be made to the module on communications and health education in the discussion as to how supervisors can be trained to improve their workers performance in this respect.

**Note:** A more detailed account of videos used on the course is contained in the supplement to the Health Assistant Course.

## Day 3

# Workshop on staff problems

### Introduction

A number of management techniques and principles will have been discussed on the previous two days of this module. Many problems of staff management, however, are seen as being specific to a particular situation and it is useful to discuss several cases in order to see how the principles discussed can be successfully applied in practice. The session is seen to be most relevant if participants develop their own case materials.

### Learning objectives

- 1 To understand that many staff problems which are thought to be insoluble can be ameliorated by better management.
- 2 To be able to discuss the principles, techniques and procedures discussed on other parts of the course to specific situations.

### Activities

Preparation:

The nature of the workshop should be explained to participants. The exact way of running it will depend on the numbers on the course. During the session there should be time for about 5-6 different presentations. Initially it will be explained that successful management is best learnt from actual experience and as many of the participants are experienced in their job the purpose of the workshop is to share that experience and understand how others have solved difficult problems. Participants are asked, either individually or in pairs, to prepare a short presentation of a particular problem involving the management of their staff which they have experienced and which they have successfully resolved. They are asked to present the problem briefly and to explain it clearly so that the other participants and the trainers can fully understand it. When the problem has been fully described the other participants are asked for their comments and suggestions as to how they would have acted in the situation. The trainers may also join in at this point. Only after full discussion are the presenters asked about the actual outcome of the situation and how they resolved it.

Between presentations and at the end, one of the trainers will summarise the situations that have been discussed and attempt to show how various principles have been applied.

### Trainers notes

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It is important that one of the trainers acts as observer and records the proceedings so that a useful summary can be given. Unless there is some attempt to draw lessons from the discussions much of the value of the session will be lost. It is probable that the trainer responsible for recording the proceedings will not be able to join in the discussion: it is thus essential that at least two trainers run this session.

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### Reference material

The first time the session was run participants were asked initially to list the kind of staff problems that they commonly faced. Individuals were then asked to give full details of particular examples for discussion in the class.

For reference purposes some examples of problems discussed are listed below.

#### Staff Problems

- . The 2nd and 3rd MO will not assume any managerial responsibilities
- . Staff will only obey the MO in charge: other MOs cannot exert any authority
- . The MO i/c does not act impartially
- . Problems with staff posted in their home block:
  - they do not attend for work
  - can get away with drunkenness with immunity
  - if any action is taken they instigate proceedings with the support of local VIPs
- . Clerical staff spend all their time preparing bills partly to avoid other work and partly in order to extract some payment from other staff
- . BEE is given no specific responsibility and it is therefore difficult to discipline him if he is not working sincerely.



- . Relationships with the CDMO
  - MO not given any authority to depute staff within PHC
  - CDMO sanctions increment payments directly and thus they cannot be withheld by the MO as a means of controlling staff
  - MO unable to decide on sub-centre area distribution
- . No 'team spirit' in PHC
- . Competition between VHGs and workers over motivation of 'cases'
- . Conflicts between PHC staff and Block staff
- . Political interference in VHG selection
- . Male and female workers will not coordinate their work
- . Male workers will not carry out FW work

#### **Problems discussed in detail**

[Examples from the personal experience of course participants]

1 10 out of 12 male workers refuse to carry out FW activities. The problem is brought up at the monthly PHC meeting. The MO asks the concerned workers to put their refusal in writing. They do so and he publicly states that he will forward it to the CDMO with a request for their transfer. The CDMO replies in a confidential letter to the MO that he cannot transfer these workers. One of them is an organiser of the MPW association and he is worried that the refusal to work will spread to other PHCs in the district.

Discussion is concerned with whether this situation could have been avoided and if so how? Also, given that the situation has arisen, how should the MO proceed?

2 An MO joins a PHC as second MO. He finds that staff morale is very low. One reason is that the MO in charge is strongly favouring the BEE and the PHC driver in the allocation of the TA allotment -- other staff, himself included, are not getting their fair share. There is no committee of MOs in the PHC.

How should the 2nd MO proceed?

3 One sub-centre in the block has been given two names on paper and thus two male workers (one PH and one FW) have been posted there even though there are vacancies in other parts of the block. Both MPW(M)s wish to stay where they are and the situation has continued in this fashion for almost 5 years. In an investigation of sites for sub-centres under the UK aid programme the Project Officer realises what has happened and recommends that the MO make the necessary adjustment and post one of the MPW (M) to another post in the block. He knows that neither man wishes to move.

How should the MO proceed?



# The VHG and the TBA programme

## Introduction

The aim of this session is to discuss both the advantages and problems experienced by medical officers in implementing these programmes. Also the nature of the work of the VHG will be examined as a preliminary to deciding how it can best be assessed by field supervisors.

## Learning objectives

- 1 Participants will understand the nature of the relationship between VHGs/TBAs and other health service staff and the implications of this relationship for controlling their work.
- 2 Participants will be able to categorise the problems they have experienced in implementing the VHG scheme and be able to decide which problems are within their powers to ameliorate.
- 3 Participants will be able to assess, and teach others to assess, the effectiveness of particular VHGs in the field and to identify particular training needs.

## Activities

The session is conducted as a class discussion.

### Discussion points

- 1 The origins of the VHG programme. Where did the idea come from? Similar types of programme have been tried in many countries throughout the world. A great deal has been expected from them and in many cases people and health professionals in particular have been disappointed with the results.
- 2 To begin the discussion the participants are asked to list all the tasks that the VHG is supposed to perform. It is useful if these are displayed in two columns: those which are concerned with performing definite tasks (eg: collecting blood slides, treating minor illnesses etc) and those which involve motivating, giving advice or health education. It will be found that the second column is longer. The difference in the skills needed for the two types of tasks should also be clarified.
- 3 Problems of the VHG Programme. In discussing the problems the trainer should structure the discussion so that after getting a list of broad headings, suggestions for improvement can also be listed:
  - a) Selection:
    - . acceptability to the community
    - . educational level
    - . age
    - . sex
    - . temperament

A discussion of the process and problems of re-selection will lead on to the need for an assessment of the VHGs work which will be the subject of the second part of the session.

- b) Training:
  - . Problems with people of low educational level understanding the training course
  - . The need for refresher training
- c) Support:
  - . Supplies
  - . Remuneration
- d) Control:
  - . The responsibility of the VHG to the VHC rather than to PHC staff

All of these factors will affect the VHGs attitude towards their work. Other problems that might be discussed are the attitude of MOs towards VHGs working as 'quack' doctors and the problems that can arise when VHGs as a group make demands on PHC staff (for increased rewards, supplies or for increased services in their area).

The second part of the session begins by asking each MO in turn to give the number of VHGs in their block and to estimate the proportion that they feel are working effectively. It is likely that this will show that in each area there are some VHGs who are working well. It is then possible to advise that MOs concentrate their efforts on supporting those VHGs that are working well.

#### **Assessment of the work of VHGs in the field.**

Possible methods include:

- . contribution to target achievement
- . consultation with VHC
- . consultation with other PHC staff
- . assessment of help given in village programmes (camps/spraying etc)
- . assessing learning in recipients of programme

If the list of tasks is referred to it will be realised that much of the work of the VHG consists of giving advice and health education. If this is so supervisors might wish to find out, informally, how much people know concerning problems about which the VHG is supposed to teach (ORS/sanitation/availability and reasons for vaccination etc).

Asking people about their knowledge or attitude is quite difficult and it is important that MOs can instruct their supervisors as to how best this can be done.

Participants will then watch a short role play (or video) of an interview being conducted in a village. The simulation will illustrate a number of negative points about conducting interviews including:

- . arrogant attitude
- . using leading questions
- . observer introducing his own opinions
- . arguing with the respondent
- . treating the villager as ignorant
- . not giving time to answer
- . using technical or English terms

Participants are asked to list factors which will improve the quality of information obtained:

- . Maintaining a relaxed and informal attitude
- . Fitting in with what is going on
- . Giving time in which to answer
- . Avoiding asking about sensitive topics in front of other people
- . Not arguing or giving own opinions
- . Respecting the respondent's point of view
- . Showing interest but not asking leading questions
- . Using simple language
- . Keeping interviews short and simple

## **Day 4-5**

### **Field visit and presentation of findings**

#### **Introduction**

During the course of the module three different kinds of supervision have been discussed:

- . Direct observation of work
- . Use of routinely collected health information
- . Assessment of the effect of health education.

These three types of supervision form the basis of the field visit and one group of participants will work on each kind.

#### **Activities**

Preparation for the field visit takes place on the afternoon of Day 4's programme. The class will be divided into three groups and the necessary arrangements will have been made at a local PHC so that the location of programmes of work for the next day is known and PHC staff are prepared.



### **Group 1**

Are asked to visit one sub-centre and, by reviewing the records that are kept there, assess how effectively work is being carried out in that sector.

Preparation which needs to be carried out includes listing the records that they would expect to find in the sub-centre; deciding which of these should be reviewed to assess the work (vaccination, antenatal visits, vital statistics, stock and stores etc).

If the group decide to review the records from the past year they need to think in each case: how many births, deaths, pregnancies, vaccinations etc. would you expect to be given/occur on the basis of the population served. When they visit the sub-centre they can find out the actual number of services given.

Additionally the group should assess how complete the records are (are they only filled in sometimes); how clearly are they maintained -- can you find information quickly; do the staff understand the system of record keeping; is it possible to cross check data between registers (eg: if a baby is delivered can you check to see if the mother was seen antenatally, was she given TT, has she been followed up, does the baby appear in the vaccination register etc?); and is there any evidence that the supervisor has inspected the records or used them for controlling the work of the MPWs.

### **Group 2**

This group have the task of directly observing a health programme being carried out. They should concern themselves with assessing both how effectively the work is being carried out (using the checklist approach) and how the supervisor carries out his or her role. It is best if it can be arranged that this group observe a more complex activity such as an immunisation camp rather than just follow workers on house-to-house visits.

Their preparation should include making a checklist with which to observe the activities and preparing any questions which they wish to ask the staff.

### **Group 3**

This group are asked to assess the effectiveness of the VHG in a particular village. Their preparation will include deciding who, in the village to interview and what to ask. In addition they may want to review records kept by the VHG him or herself. Participants should be strongly advised not to ask too many questions in their interviews and also to practice asking the questions in their group.

## **Preparation and presentation of reports**

On return from the field visit each group is asked to prepare a brief report of their work. This should include:

- . how they carried out the task
- . what were their main findings
- . what specific recommendations would they make to improve the quality of the work they observed.

Reports should be brief (15-20 minutes) and groups should use the OHP.

## **Trainers' notes**

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As well as summarising the findings of the group at the end of the presentation session one of the trainers should also note from each group's presentation the training needs that have been identified for each group of staff. This can be reviewed at the end of the session briefly. The list will be used again (particularly with regard to MPWs and VHGs) in the Training Module.

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## 4 Materials Management

### Introduction

This module is taught in two parts. In the first the principles of materials management are reviewed and the procedural aspects of indenting, stock and store keeping, issue and distribution and condemnation are covered in some detail. The second part of the module is a practical exercise in which participants use given information to draw up a rational indent for PHC drugs.

### Learning objectives

Participants will appreciate that an understanding of the principles and practice of materials management will enable them to make the optimal use of stock and stores.

Specifically:

- 1 They will be able to critically review information from various sources available in the PHC and use it in making a rational indent for PHC drugs.
- 2 They will know and be able to use the correct procedures for placing an indent and for making local purchases.
- 3 They will be able to correctly record the receipt of supplies and understand appropriate processes for controlling stocks.
- 4 They will understand the need to regulate the issue of supplies according to seasonal and other specific needs; the need to maintain accurate records of all issues made and the need to ascertain whether distribution of supplies has been carried out properly.
- 5 They will understand and be able to apply the correct procedure by which articles are condemned.

### Schedule

#### DAY 1

- |            |  |
|------------|--|
| Session 1: | Principles of Materials Management       |
| Session 2: | Indents                                  |
| Session 3: | Recording receipt and controlling stocks |
| Session 4: | Condemnation Procedures                  |
|            | Introduction to group exercise           |

#### DAY 2

- |               |                      |
|---------------|----------------------|
| Sessions 1-3: | Drug indent exercise |
| Session 4:    | Reports/Discussion   |

#### DAY 3

- |            |                    |
|------------|--------------------|
| Session 1: | Reports/Discussion |
|            | Summary            |

### Activities - Day 1

[Note: Activities and reference material for the two parts of the module are covered separately]  
The whole day is devoted to procedural aspects of material management. The sessions are conducted as lecture/discussions with time allotted in each for answering participants questions. At the beginning of Session 1 participants are asked to enumerate specific problems that they would like to have clarified during the course of the day's work.



# Reference material

(Prepared by Dr BK Patnayak)

The following points will be covered during the course of the 4 sessions:

## Introduction

- a) The need to plan and manage the use of materials
  - . The declining availability of resources compared with man's needs
  - . The difference between DEMAND, NEED and SUPPLY
- b) Four inter-related components of materials management:
  - . Indent
  - . Receipt and recording
  - . Stock control and distribution
  - . Condemnation (of non-perishable goods)

## 1 Indents

- a) Checklist of the categories of supplies for which indents have to be prepared:

<u>General</u>	<u>Special</u>
Stationary	Drugs, disinfectants and dressings
Furniture	Instruments and equipment
Utensils	Diet
POL/DOL	X rays
Contingency items (Soap, Kerosene etc)	Linen and liveries

- b) Collection of information to be used in preparing indents:

For some categories (listed above) little information is needed. For preparing an indent for drugs or instruments and equipment more detailed information from several sources will be needed. For preparing the drug indent for example information from the following sources will have to be considered:

- . OPD/IPD/emergency registers
- . Cause of death register
- . Cost of individual drugs on approved list
- . Budgetary limit
- . Opinion of specialists/other MOs
- . Community 'demand'

How this information is used will be considered in more detail in the practical work on DAY 2.

- c) Allotments for drugs and dressings

These are shown in Handout 1 and OHP 4

- d) Sources of Supply

Drugs for use in the PHC and sub-centres come from a number of different sources -- not just from the central store. In some cases drugs and other supplies are received direct from these sources; in others indents will have to be made.

- . Central store (via CDMO's Office)
- . Family Welfare Bureau
  - MTP
  - Post-partum
- . Public Health Dept.
- . District TB Officer
- . District Malaria Officer
- . District leprosy Officer
- . Area Development Project (Project districts only)
- . Emergency Relief Medical Service (ERMS)
- . Central Directorate General of Health Services
- . UNICEF
- . Community Development Department

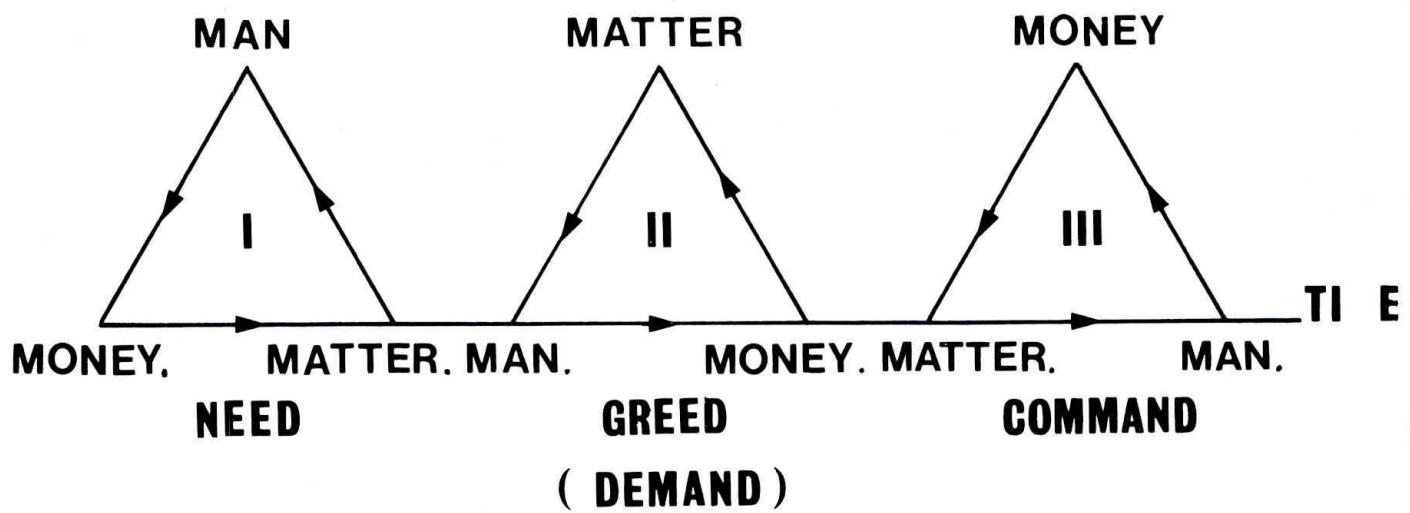
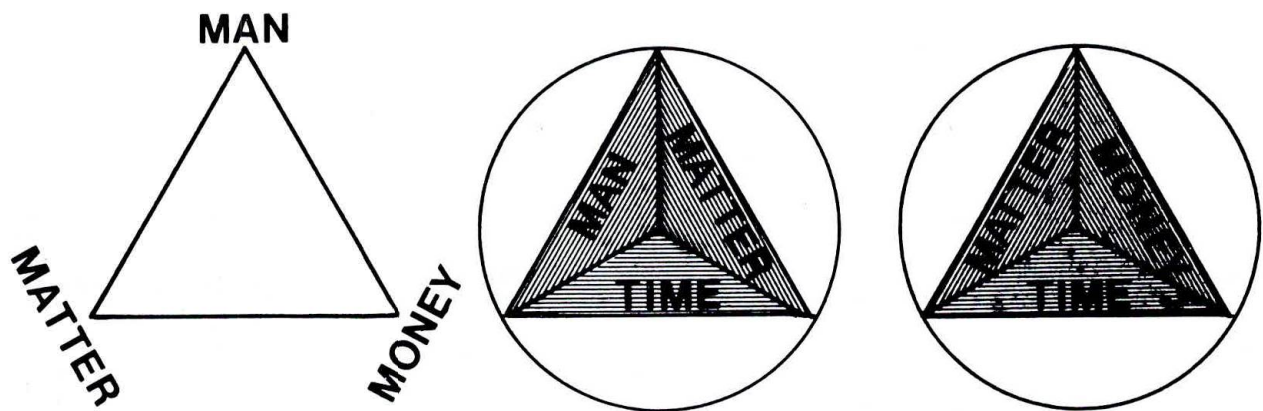
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OHP 3

OHP 4

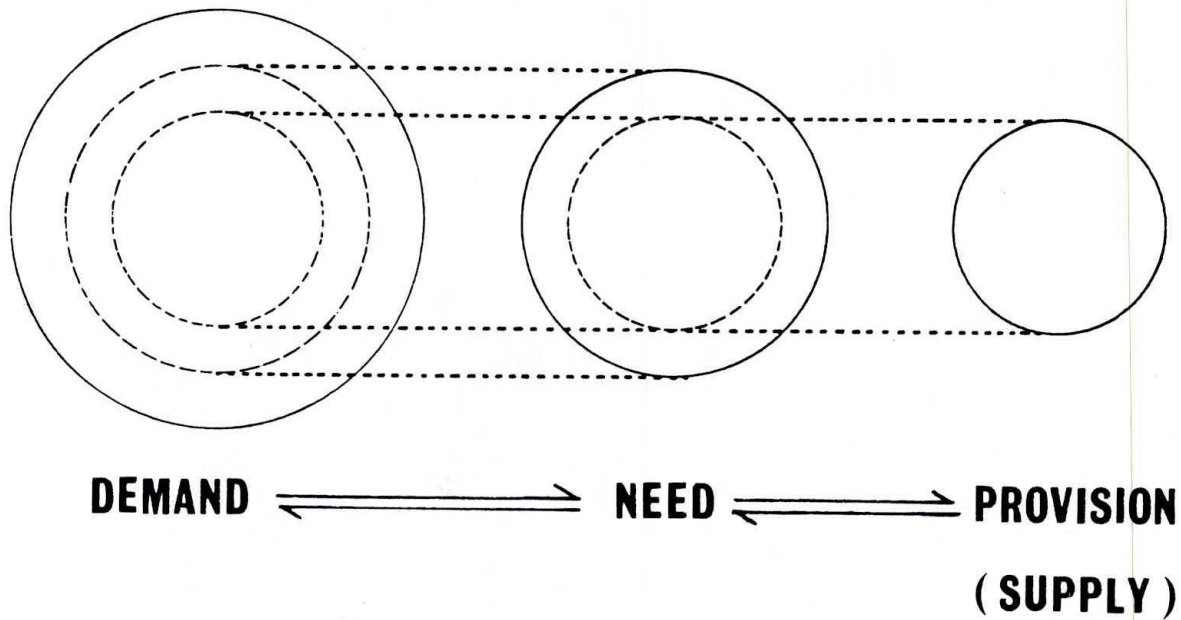
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## CHANGING STATUS OF MATERIAL

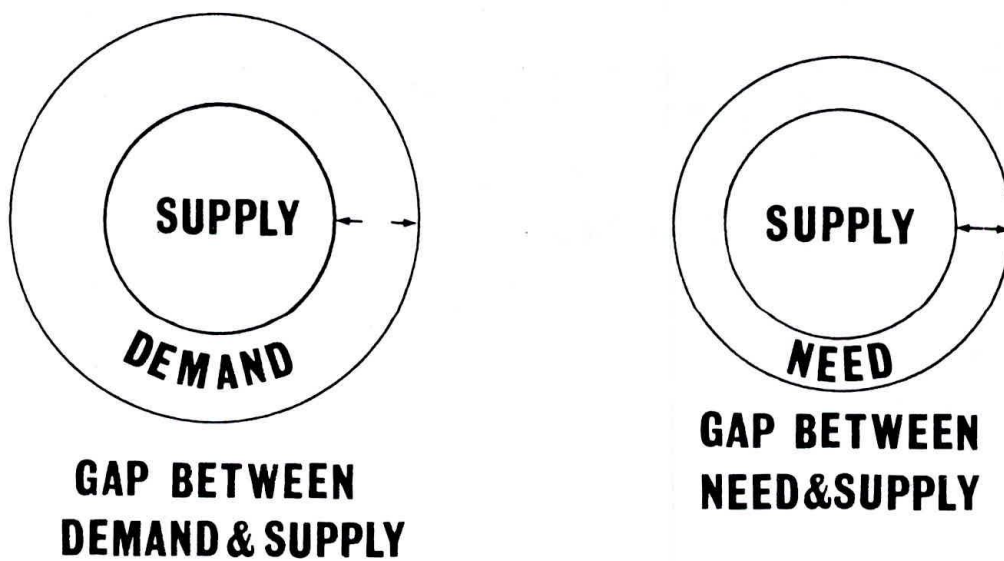




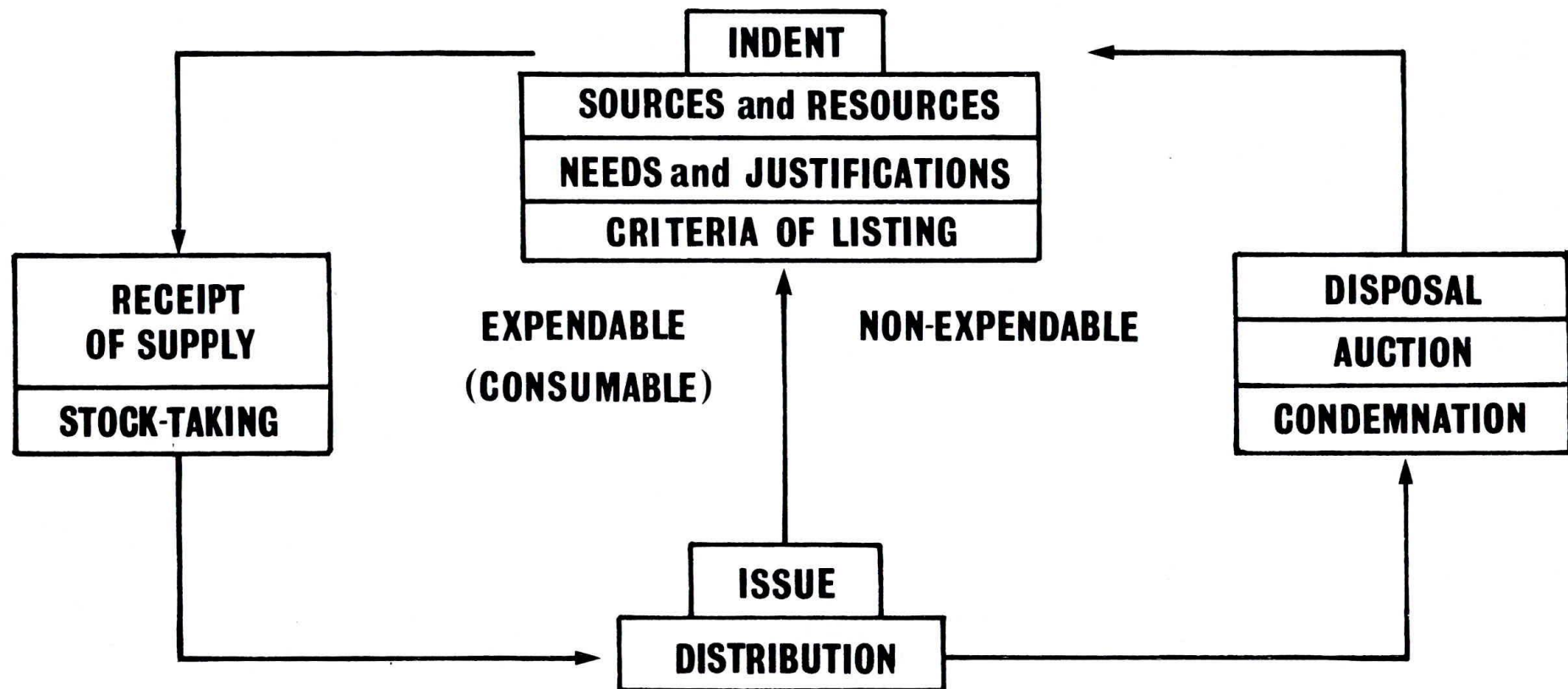
## RELATIONS OF DEMAND – NEED – SUPPLY



## GAPS OF DEMAND – NEED – SUPPLY



## CYCLE OF MATERIAL MANAGEMENT





### e) Preparation of Indents

#### (i) Local purchase:

For items not on the approved list (eg: diet or furniture):

- . Committee to be formed which includes a representative of the public
- . Prepare list of items to be purchased and a statement of available funds
- . Call for quotations in the prescribed manner (an example of how quotations should be requested is given in Handout 2)

If items appear on the approved list (eg: drugs) then a committee to agree on priorities and allocation of funds still has to be formed but public representation is not required. The approved list will specify the brand names and suppliers and the rate at which purchases will be made.

**Note:** In all documents relating to the purchase of goods quantities and prices must be recorded in both words and figures.

#### (ii) Internal indents (from central store etc.)

Again an internal committee must be convened but public representation is not required. At the committee available information (see above), status of present stocks and agreed priorities will be taken into account in preparing the indent which will be submitted.

**Note:** Indents for drugs should specify strengths and dosage forms wherever necessary.

## 2 Receipt and recording

### a) Use of log book:

Immediately on receipt supplies should not be entered directly into the central register. A log book for recording initial receipt should be used and any supplies arriving at the PHC, whether open or packed, from any source should be entered first into the log book by the person that receives them. If this person is not the pharmacist or whoever is in charge of stores the latter must acknowledge receipt of the goods before they are transferred to the central register.

Suggested column headings for a log are shown below

- . Sl no.
- . Name of item
- . No of items (parcels)
- . Bill/challen No; Source; date
- . Condition of items/remarks
- . Date of receipt
- . Name of person receiving
- . Central register reference (to be completed after transfer)
- . Date of transfer
- . Signature of person receiving into central store (ie: person in charge of stores)

### b) Entry of stores into the central register

All supplies must be entered into a central register. This may be supplied or drawn up in the PHC. In either case the following information needs to be available for every item entered. In the case of prepared ledgers some of this information is not specified but should be added by the person in charge of the stores.

- . Name of item
- . Order No./ Bill No.
- . Challen No.
- . Brand name/make
- . Quality/size
- . Source
- . Rate per unit
- . Total cost
- . Batch No.
- . Expiry Date

### Notes

- . A record of cost is essential for condemnation (see below)
- . As for indents total quantities (entered and balance) to be recorded in words and figures.
- . Each item should be physically verified by the MO in charge of stores before entry
- . Each entry to be signed by the assistant and counter-signed by the MO
- . At PHC level 2 copies of bills are necessary. On each the MO should certify that supplies were received in the quantity, quality and under the conditions specified for their purchase that were agreed and secondly that the details in the stock ledger are correct. One copy is kept in the store; the other sent to the accounts section.

OHP6

OHP 7

### 3 Stock control and distribution

a) All issues may be recorded in the central register or detailed sub registers (eg: issues to HQ, issues to sub-centres) may be kept.

In either case full details of each issue must be recorded. This includes the full name, designation and signature of the person to whom an issue is made, the amount and the date. All issues must be signed by the issuing officer.

The amounts of each issue must be recorded in words and figures.

When materials are issued to sub-centres all details recorded in the central register (except Bill Nos etc) must be recorded in the sub-centre register with a cross reference to the central register. Entries in the sub centre register must be signed by the issuing officer at the PHC HQ.

b) **Stock verification:**

- . The MO should check that ledgers have been updated and maintained correctly every month.
- . Physical verification of stocks should be done every 6 months and in detail once annually.
- . Sub centre stocks should be checked once a year.

c) **Physical maintenance of stores**

- . Stores must be kept under double lock. Keys will be held by the pharmacist and the MO in charge of stores
- . Duplicate keys must be lodged in a safe place.
- . Large items such as furniture should be clearly labelled with their source, year and a reference number to their entry in the stock ledger.
- . Particular care should be exercised in the storage of drugs:
  - drugs with shortest expiry date to be used first
  - dangerous drugs to be kept under separate lock
  - drugs to be protected from high temperatures and sunlight
- . The store must be kept clean, in good order and the assistant in charge must monitor stocks of commonly used items in order to notify the MO in charge if they are low.

### 4 Condemnation

Non-perishable items that have reached the end of their useful life cannot be replaced until they have been officially condemned. It is essential that MOs know the correct way of presenting information to the CDMO (the condemning officer) so that condemnation can take place.

A committee of the MOs, the pharmacist and the BEE should be convened at which items to be condemned are listed. The MO must examine all items and decide if they are repairable. If so the cost of replacement must be compared with the probable cost of repair.

Information must be supplied to the CDO on the form shown in Handout 3.

Information on the rate of depreciation (for calculating number 8) and the lifetime ascribed to each article (number 9) must be sought from the Directorate.

Immediately after condemnation if it is decided that goods will be auctioned they must be listed in detail (with full specifications) and the list must be signed by the CDMO.

At least one month's notice must be given for the auction which will be held in the office or a recognised public place and in the presence of the CDMO or his agent. Revenue from the sale to be deposited in the treasury.

If goods are not to be auctioned they must be destroyed either in a flowing river, burnt or buried. This should be done in the presence of the CDMO. No item once condemned may be carried away or retained by any person. Items should not be struck from the stock ledger unless a separate 'dead stock' ledger is opened. Complete writing off of articles should only be done following instructions of the CDMO.

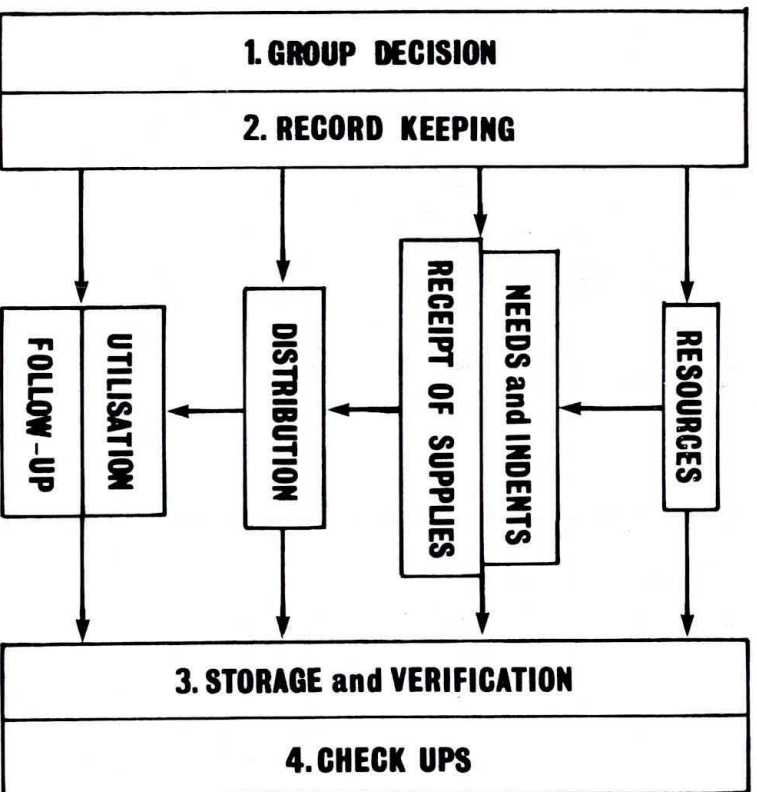
### Summary points

- 1 The importance of group decisions involving all the MOs in:
  - indenting
  - distribution
  - follow up
  - condemnation
- 2 Managerial responsibility should be assigned to the second MO
- 3 In the case of drugs the MO in charge of stores should monitor the utilisation of:
  - costly drugs (Deluxe)
  - narcotics and poisons (Dangerous)
  - those used very frequently (Daily consumed)
  - those for which stocks are low (Declining)



(A)

TO MANAGE MATERIAL



(B)

KEEP AN EYE UPON

- DANGEROUS DRUGS
- DELUXE (COSTLY) DRUGS
- DECLINING STOCKS
- DATE EXPIRING DRUGS
- DAILY DRUGS
- DEDUCTIONS IN RECORDS
- DETERIORATING DRUGS (light,heat,air).



[Note: The first two columns (Institution and amount) can be used as OHP 4.]  
**Provision of allotments for PHCs under drugs and dressings**

Institution	Amount per annum (Rs)	Reference No.
PHC	15,000.00	Letter No 33428/H dt. 10/10/79* Govt of Orissa, H&FW Dept.
Sub-centre	3,000.00	Letter No 2183 DFW dt. 21/2/83
Each VHG	600.00 (4 x 150.00)	Letter No 9347/H 26/3/85 GoO, H&FW Dept.

\* A copy of this letter is shown below.

Copy of letter No 33428 H dt 10.10.79 from the Government of Orissa, Health and Family Welfare Department addressed to the Director of Health Services, Orissa.

SUB: Fixation of norms for medical and diet for the indoor and outdoor patients in the State.

1.....

2.....

A. Allopathic system

	<u>Hospitals/dispensaries</u>
a) Medicines for indoor patients	Rs6.50
b) Medicines for outdoor patients	Rs0.50
c) Diet for indoor patients other than TB patients	Rs3.50
d) Diet for indoor TB patients	Rs4.50

B. Aryurvedic system

a) Medicines for indoor patients	Rs2.5
b) Medicines for outdoor patients	Rs0.25
c) Diet for indoor patients	Rs3.50

C. Homeopathic system

a) Medicines for indoor patients	Rs0.50
b) Medicines for outdoor patients	Rs0.10
c) Diet for indoor patients	Rs3.50

D. PHCs/ Subcentres

a) Medicines for each PHC per annum	Rs15,000.00
b) Medicines for each sub centre (per annum)	Rs3,000.00
c) Diet for each indoor patient per day	Rs3.50

3 Government have further been pleased to decide that the diversion of funds for medicines from one PHC to another considering the need for each PHC can be made by the CDMO of the respective district subject to the condition that the total expenditure does not exceed the total allotment made for PHCs under medicines for that district.

4.....

3787

TM-120



[Handout 2]

## Quotation

. Sealed quotations on plain paper are invited by the undersigned from the intending reputed suppliers/ manufacturers for supply of articles furnished in the list with specifications against each. A detailed list of items and any other information may obtained from the office of the undersigned during working hours.

. The quotations should be clearly written without any over-writing or cutting and must have been signed by the quotationers.

. The sealed envelope/cover should be superscribed as 'QUOTATIONS', addressed to and reach the undersigned on or before \_\_\_\_\_ within the working hours of the office. The terms and conditions are appended herewith failing which the tender will not be considered. No tender will be accepted after expiry of the time and date fixed.

. The quotations will be opened by the undersigned on \_\_\_\_\_ at \_\_\_\_Hrs. Interested quotationers or their representatives may remain present at the time of opening quotations but it will be decided even if all or any remain absent.

## Terms and conditions

- 1 The sample of each item duly signed should be furnished along with the tender. No tender will be considered without sample.
- 2 The rate quoted should be inclusive of all taxes, excise duty including even octroi charges. The supplier has to deliver the goods to the office of the undersigned at his own cost.
- 3 The tenderer has to furnish with the tender up-to-date sales tax, income tax clearance and solvency certificates from a competent authority without which the tender will not be considered.
- 4 The tender should be accompanied with earnest money of 2% of the total order in the form of DCR/Pass book pledged in favour of the undersigned without which the tender shall not be considered.
- 5 The earnest money of the approved tenders will be converted towards 5% security deposit of the bill amount and the rest will be deducted from the bill and retained in the Office until audit. In the case of other tenderers the earnest money will be refunded soon after finalisation of the tender.
- 6 The earnest money of the approved supplier will be forfeited in the event of failure on the part of the tenderer to execute the agreement or failure to supply partly or fully of standard goods as per the sample within the time stipulated.
- 7 In the event of low quality goods supplied by the approved supplier the stock will be rejected and the party will have to take back the stock at his own cost.
- 8 No withdrawal of tender/earnest money is allowed until the tender is finalised.
- 9 The supply has to be made by the approved firm within \_\_\_\_ days from the date of receipt of orders.
- 10 The authority reserves the right to accept or reject any or all tenders without assigning any reason.

Sd. Dr BK Patnayak PO ADP

Memo No      Date

Copy forwarded to all District level Officers of this district for favour of information with a request to kindly arrange to place it on his office notice board.

[Handout 3]

## Proforma for condemnation of unserviceable articles

The proforma should include the following columns:

- 1 Serial No.
- 2 Name of the article (including make/ size etc)
- 3 Page No of stock ledger
- 4 Number of articles to be mentioned
- 5 Year of purchase
- 6 Cost as per supplier bill
- 7 Present value at auction
- 8 Value after depreciation
- 9 Prescribed lifetime of article
- 10 Reasons for condemnation
- 11 Whether repairable
- 12 Will repair be economical
- 13 Is anyone responsible for article being in a state leading to condemnation. Why repair cost should not be borne by this person.
- 14 Remarks of Head of Office

After filling in the proforma as above the following endorsements should be added:  
'Certified that items mentioned in this page SI No.\_\_\_\_\_ are unfit for use and as such recommended for condemnation or, as required, condemned and sold by public auction.'

Signatures of the Condemnation Committee Members

'Verified that the items are as per above information and found correct. All items are condemned. Item recommended for auction sale is approved. Medical Officer of \_\_\_\_\_ to sell items by public auction and give a certificate to that effect.'

Signature of the Head of the Office (CDMO).



# Materials Management - Part 2

## Preparation of drug indents - practical exercise

### Introduction

At present MOs have little control over the drugs that they receive from the district level. This module, however, assumes that this situation may change and that it is useful for MOs to learn about how to make a rational indent for the drugs required by the PHC.

### Learning objectives

- 1 To understand the principles of an 'essential drugs' policy
- 2 To be able to take into account epidemiological and other information when making an indent for PHC drugs.
- 3 To understand the need for an agreed policy to be followed when making a drug indent.
- 4 To make an indent for 1 year and to discuss it critically.
- 5 To be able to suggest measures which can be implemented in a PHC which will help make the best use of a limited stock of drugs.

### Activities

General principles relating to indent and supply will have been covered in Part 1 of the module. It will have been established that many of the MOs feel frustrated with the present system and that many will feel that they are capable of making a better indent themselves if permitted.

The following introduction to the group work should not take more than 20-30 minutes. After dividing into 3 groups (about 5 members in each), participants will have the rest of the day before giving their presentations.

#### Discussion Points

- 1 What is understood by an 'essential drugs' policy?
    - . drugs should be appropriate for local disease patterns
    - . drugs should be available for major causes of morbidity and mortality
    - . drugs should be appropriate to the training of those prescribing them
    - . such a policy gives priority to a limited number of drugs which are essential rather than to a wide variety of drugs which might only be 'nice to have'. If large amounts of relatively few essential drugs are bought, drugs become cheaper and there will be more available.
  - 2 These points can be applied to making the drug indent for a PHC. The important point in the 'essential drugs' policy is that we need to know which drugs are really needed. What sources of information can we use?
    - . Disease register
    - . Cause of death register
    - . Seasonal patterns of disease
    - . Personal experience
    - . Opinion of other MOs/Specialists
    - . Community demands
    - . Cost of individual drugs
    - . Budgetary limit
  - 3 Some of these sources may give conflicting information. For example:
    - . Drugs thought of as 'essential' by specialists may be prohibitively expensive
    - . Not all the demands made by the community reflect real needs
    - . 3 MOs may have conflicting personal opinions
    - . If the OPD diagnosis register is used as the only basis for the making the indent it might be biased toward relatively minor complaints.
- In the end it will be necessary to review evidence and information from a number of sources and exercise your judgement.

## Trainers notes

After the introduction each participant is given a copy of the instructions for group work [Handout 1] and each group is given a copy of the Information for Drug Indent Exercise [Handout 2], the List of Available Drugs and an Order Form [Appendix B]. Trainers should sit with the groups and fully explain the handout after individuals have had time to read it. Trainers will also need to spend more time with the groups towards the end of the time they work together to ensure that they do not ignore the last part of the presentation.

## Points for final summary

These can be illustrated with examples from the group presentations.

- 1 The difficulty in satisfying conflicting demands for limited resources.
  - 2 A policy or strategy agreed on by all MOs will help improve the management of drugs in the PHC. It can help in deciding:
    - . how to allocate resources (there is no correct method!).
    - . which drugs to choose when faced with many alternatives (avoid combinations and expensive new drugs).
    - . what to do about ORS (teach home made or indent packets?).
    - . which drugs should not be used (dangerous or useless).
    - . on a policy on prescribing for outside purchase.
  - 3 Large quantities of 'essential drugs' are more economical than a few units of wide range of drugs. (It is interesting to quickly calculate, using standard doses, the number of patients that could be treated with antibiotics indented by the 3 groups).
  - 4 It is easier to get MOs to accept the drug situation if they are involved in making up the indent.
  - 5 Could available information be improved? Participants might be asked, for example, whether the disease analysis from OPD register was useful. Could it be better or more comprehensive and if so, how?
  - 6 50 paise per patient not a very useful guideline for busy PHCs (see Handout 1 in Part 1 of this module).
  - 7 Measures for conserving/making best use of limited stocks.
- Discussion should cover:
- . Split courses: problems of compliance, resistance
  - . Outside prescribing: problem of those that cannot afford drugs
  - . Standard courses for common ailments
  - . Avoidance of multiple prescriptions
  - . Only giving drugs when necessary
- All these points may be adopted as part of the PHC drug policy.

[Handout 1]

## Drug Indent Exercise

- 1 Your group, which represents the MO's committee, is asked to prepare an indent for the PHC for one year. You have been allotted a budget of Rs15,000 only for this purpose. You may not spend more than this and supplementary indents during the year will not be permitted.
  - 2 Drugs can only be chosen from the 'List of Available Drugs'. This is an abbreviated list from which PHC drugs are chosen but it should contain most of the items you need.
- Note:
- a) Drugs for malaria (except for emergency use); tuberculosis; leprosy; for use in FW camps and for MTP cases will be supplied separately -- also DPT and Polio vaccines.
  - b) You may only indent for whole and not part units of drugs.
- 3 In preparing your indent you should consider the information supplied (as discussed in class):
    - . PHC OPD and IPD service statistics
    - . Emergency drugs
    - . Commonest causes of death in children
    - . Community demands

Except for the service statistics, these represent the opinions of other people. They are not necessarily rules to be followed. You will not be able to satisfy all the demands and you may not agree with the opinions. In your presentation try and make clear how you dealt with these demands.

- 4 There are many ways of making the indent. All of them involve setting priorities and dividing up the resources you have according to the priorities you set.



For example: You could start by allocating part of your budget to the OPD and part to IPD; within that a part to children and a part to adults... and so on. A different way would be to define the most important health problems in the area and allocate resources to buy drugs appropriate for the control or treatment of these particular diseases. Please describe the policy or procedure you used in your presentation.

5 When your indent is complete please fill in 4 copies of the 'Order Form' provided. Please write as neatly as possible. In the column marked UNITS write the number of units of that drug indented and in the COST column write the cost of this many units. The order forms will be distributed to the other groups and to the trainers so that they can comment on your indent.

6 When the indent is completed the group should consider what strategies they would adopt in their PHC to make sure that the drugs they have indented last as long as possible and are put to the best possible use.

7 Presentation. There is no need to read out your indent. The other groups will have seen a copy of your order form. The presentation should concentrate on 3 things:

- a) How you dealt with the demands of the specialists and the community.
- b) The policy you adopted when making the indent.
- c) The measures you intend to implement to ensure the best possible use of the drugs indented.

### Information for drug indent exercise

#### Community demands

- . Last year there was an epidemic of bacillary dysentery from which several people died. The causative organism was not sensitive to sulphonamides.
- . Many people demand 'injections' for 'weakness' and they are not satisfied with vitamin tablets.
- . The Village Health Guides report that many children in the block suffer from night blindness.
- . A local schoolteacher has read in a newspaper that oxyphenbutazone and the drugs in Analgin and Baralgin have been withdrawn in many countries because they are dangerous. He wants to know if these drugs are used in the PHC and, if so, why.

#### PHC health statistics

Type of PHC - Upgraded with 16 beds.

For the year 1983/1984:

Total OPD attendance = 62,309 (31% <14 yrs old)

Total IPD admissions = 2,783 (34% <14 yrs old)

#### Commonest Diagnoses in OPD (from PHC records)

% of diagnoses	
Dysentery	22
Scabies	20
Fever	15
Ascariasis	12
Avitaminosis	9
Diarrhoea +/- Vomiting	5
Peptic ulcer	4
Conjunctivitis	2
Filaria	2
Anaemia	1
Other	8
	-----
	100

#### Emergency drugs needed in a PHC

- 1 Adrenaline injection
- 2 Avil injection
- 3 Anticonvulsants: Phenobarbitone Diazepam
- 4 Anthelmintics
- 5 Baralgin injection and tablets
- 6 Chloroquine tablets and syrup
- 7 Dexamethazone injection
- 8 Aminophylline injection
- 9 Gentamycin injection
- 10 Lasix injection
- 11 Penicillin injection
- 12 Vitamin A injection
- 13 Paracetamol tablets and syrup
- 14 Sodab carbonate solution
- 15 ORS packets



**Commonest causes of death**

**The opinion of the PHC paediatric specialist**

**0 - 1 YEARS**

- 1 Birth Injury
- 2 Tetanus
- 3 Septicaemia
- 4 Diarrhoea
- 5 Pneumonia
- 6 Meningitis
- 7 Encephalitis

**1 - 5 YEARS**

- 1 Diarrhoea
- 2 Respiratory infections (including pneumonia)
- 3 Encephalitis
- 4 Malnutrition
- 5 Diphtheria
- 6 Tetanus
- 7 Abdominal emergencies

Note: The paediatric specialist is very insistent that some antibiotic syrups be included in the indent for treating the children of poor families.

# 5 Financial Management

## Introduction

The aim of this module is to ensure that participants are familiar with aspects of financial management relevant to their work as Drawing and Disbursing Officers in the PHC. With the time available teaching cannot be completely comprehensive but tries to highlight essential points that they should be able to deal with correctly and give participants the opportunity to discuss particular problems that they have encountered.

## Learning objectives

- 1 Participants should understand that good financial management can have a positive impact on the overall effectiveness of PHC work.
- 2 Participants should understand the process by which funds are made available for health services in the State.
- 3 They should understand and be able to carry out correctly the duties of Drawing and Disbursing Officer for the PHC.
- 4 They should be able to draw up and present a budget for the PHC and be aware of the need for its timely submission.
- 5 They should understand the system of audit currently in force in Orissa and their duties and responsibilities in relation to it.

## Schedule

Three days are allocated to this module.

Day 1	Introduction Responsibilities of the Drawing and Disbursing Officer -- Part 1
Day 2	Responsibilities of the Drawing and Disbursing Officer -- Part 2
Day 3	Preparation of budgets Audit

## Trainers notes

It is not possible to deal with all aspects of financial management in detail in the time available. The reference section below lists topics which might be covered in the sessions and it can be used as a 'checklist' in planning teaching.

It has also been found to be very useful to have someone with extensive experience in financial management, preferably in connection with the Health Department, available either as a resource person to answer participants questions or to conduct the sessions. Handout 1 was provided by such a person for the first course in Jagatsinghpur.

## Activities

After the initial introduction the sessions are run as class discussions. Each aspect of financial management is introduced in turn and participants have the opportunity to ask questions and discuss any problems relevant to that topic.

MOs will be advised to make up a checklist of financial duties which must be carried out in the PHC every month, every six months and every year.

Registers and bills from the institution in which the training is being held can be used as examples if required.



## Reference material

(Prepared by Dr BK Patnayak)

Many of the topics listed below are covered in some detail in Handout 1 which should be given to participants before the session.

Topics to be covered in teaching on financial management:

### 1 Introduction

- . General principles
- . Sources of finance for health services
- . Budget cycle : initial and revised estimates
- . Reference sources (See Additional Reading below)
- . Taking over and handing over charge of cash and accounts.

### 2 Responsibilities of Drawing and Disbursing Officer

#### a) Management of cash:

- . Revenue deposit and receipts
- . Drawal, receipt and disbursement (for salaries and in payment for goods purchased)
- . Transport of cash
- . Security measures in the PHC (safe, keys etc)
- . Maintenance and verification of cash accounts
- . Monthly expenditure returns

#### b) Payment of staff

- . Salary payments
- . Incentives
- . Fines/punishments, dealing with misappropriation, suspension
- . Income tax calculation
- . GPF account
- . Increments, Efficiency Bar, Surrender Leave, LTC, local/agency allowances, house rent payments, risk allowance etc.
- . Maintenance of CCR and Service Book (particularly entry of earned leave, fines, suspension etc.)
- . Quarter allotment
- . Other deductions
- . Arrear payments
- . Pension rules

#### c) Preparation of bills:

- . Principles and procedures to be followed in the preparation of bills of payment including AC, DC, TA, Pay, Arrears and Contingency Bills
- . Certification Bills

#### d) Green Cards

- . Responsibilities of MO, records to be kept in relation to issue of Green Card for FW acceptors.
- . Payment of 'loss of wages' compensation

#### e) Records and registers

Handout 2 provides a checklist of both financial and store registers that should be maintained in the PHC.

The relevant records and forms to be used should be mentioned in each section above (also see Handout 1).

#### f) Budgeting

- . Responsibility of the MO for preparing budget
- . Method of budget preparation
- . Timing of budget submission

#### g) Audit

- . Present plans for conducting audit in Orissa
- . Responsibility of MO in relation to audit process

**Note:** In each section MOs must be made aware of the problems to be encountered, the likely mistakes to be made (CAUTIONS) and what can result if there are errors of omission or commission (CONSEQUENCES).

# Financial Management

Prepared by Sri N C Das, OFS.

## 1 Discipline

Discipline is unavoidable in every sphere of life. From our personal life to the life in public service discipline is a must. Financial discipline is of such vital importance that it cannot be ignored at any state of our life: public or private.

## 2 Consolidated fund or public account of the state

This includes the revenues received by the government, loans, ways and means advances taken by government, money received by the government in repayment of previous loans and receipts from the issue of Treasury Bills which are taken credit of. From this consolidated fund the expenditures of the Government, when so authorised by the State Legislature, are met.

## 3 Revenue receipts

Revenue receipts are classified as being a) Tax revenue b) Non-tax revenue and c) Grant-in-aid and contributions from the Central Government. In sound fiscal management revenue receipts play a vital role. A government cannot function successfully or achieve the aims and objectives of a welfare state unless revenue receipts are assured. Revenue receipts from the non-tax group are less than tax revenues. The budget for the FY 1984-85 aimed at a total revenue of Rs824.06 crores out of which tax revenue comes to Rs293.51 crores and grant-in-aid and contributions from Central Government are Rs423.14 crores. The Health Department is concerned with the receipts relating to the heads 080-Medical and 082-Public Health, Sanitation and Water Supply. Both of these come within the purview of the non-tax revenue group. Rs26.10 lakhs and Rs6.59 lakhs respectively are estimated to be achieved under 080-Medical and 082-PH, Sanitation and Water Supply during the year 1985-86. The revenue of the Health Department are through general services like tuition and other fees for medical education, receipts from patients in hospitals and dispensaries, receipts from Public Health laboratories, fees and fines etc. The Health Department is mainly a spending department of the State Government and is not a receipt oriented department.

## 4 Procedure to be followed in receipt of money on behalf of government

Where money is received on behalf of the government the head of an office must grant a receipt on Form OTC-5. Payment directly to the Treasury will be made in challans on Form OTC-6. It is always safer to ask the payer to deposit the money in the Treasury and produce the receipted challan. However, where payment to the treasury is not possible, payment may be received in cash by granting a receipt on Form OTC-5. Machine numbered receipt books should only be used if any special form of receipt is prescribed in the departmental code or manual, to suit the convenience of any particular department or office. Receipts like radiology charges, pathological charges, ambulance charges etc come within this category. The amount so received should be deposited in the Treasury through challans as early as possible without keeping the money in hand too long. The detailed procedure in this regard is outlined in SR 41-46, SR 62 and SR 69-70 of the Orissa Treasury Code (OTC) Vol 1.

Appropriation of Departmental receipts for Departmental expenditure is highly irregular under TR 6 of OTC Vol 1.

All receipts in cash except on account of permanent advance should be exhibited on the receipt side of the cash book to be maintained on Form OTC-4 and deposits into the treasury should be exhibited on the expenditure side of the cash book. Procedure regarding maintenance of the cash book is outlined in SR 36 of OTC Vol 1.

## 5 Expenditure

### A) Mode of withdrawal

Any amount to be withdrawn from the Public Account will either be by presentation of bills or by cheques. In the Health Department there is no occasion for the withdrawal of money from the Public Account by cheques as no personal ledger account is operated (SR 90 of OTC Vol 1).

### B) Competent authority for withdrawal

The competent authority in this regard is known as the Drawing and Disbursing Officer, declared so by any special orders of the Government or declared as a Head of Office as per Finance Department GO No. 24031-F dt.25.7.58

**Note:** A Drawing and Disbursing Officer is not necessarily a Head of Office whereas the Head of Office is always the Drawing and Disbursing Officer. The head of an office under SR 102 (OTC Vol 1) may authorise any Gazetted Officer under him to sign a bill or order for him,



communicating the name and specimen signature of the officer to the Treasury or Treasuries concerned. On no account should such an authorisation be given in favour of a Non-Gazetted Officer. Such a delegation will not relieve the Head of Office of his responsibility for the accuracy of the bill or for the disposal of the monies drawn from the Treasury.

#### C) Specimen signature

The Drawing and Disbursing Officer and the countersigning officer is required to send a specimen of his signature in duplicate to the Treasury Officer concerned, duly authorised by another officer whose signature already exists with the Treasury. Where cash transactions are done by the bank, two more sets of signatures also need to be sent to the bank. Such a procedure is also followed at the time of making over charge by a Drawing and Disbursing Officer. The intention of sending two sets of signatures to the Treasury or bank is that one set will be kept by the Officer/Branch Manager and the second set with Accountant/Cashier (See SR 131 OTC Vol 1). No rubber stamp facsimile is acceptable for the drawal of claims (SR 101 OTC Vol 1)

#### D) Preparation of Bills

The different classes of bills prepared for presentation towards withdrawal from the Public Account are detailed in SR 93 OTC Vol 1. The Drawing and Disbursing Officers of the Health Department in the field are commonly concerned with the preparation of the following classes of bills. The procedure regarding preparation and presentation of different kinds of bills prescribed in the rules are noted in each of the following sections:

#### E) Pay Bills

This bill is to be prepared on form OTC-22. Previously separate forms were prescribed for drawal of salary including TA claims of Gazetted government servants. This has been changed from 1978 and now all salary bills except in respect of contingent menials which are prepared on OTC- 22. The procedure regarding the preparation of bills is contained in SR 215-228 of OTC Vol 1. Separate pay bills are to be prepared for each separate establishment sanctioned by the Government. Separate establishment will mean the staff sanctioned relating to each head of account: Non-Plan, Plan, Central Plan. Centrally sponsored Plan schemes are also to be treated as separate establishments for the purpose of preparation of separate pay bills.

#### F) Bills toward reimbursement of costs of medicines (RCM)

These bills are to be prepared on Form OTC-25A (See SR 233-A OTC Vol 1). At the time of admitting claims a reference needs invariably to be made to the list of inadmissible medicines.

#### G) Travel Allowance Bills

This bill is to be prepared on Form OTC-25 (See SR229-233 OTC Vol 1). For admitting claims a reference needs to be made to the provisions of the Orissa Travelling Allowance Rules. The basic feature of admissibility is that the journey should be in the interest of public service with orders from the competent authority and it should be outside a radius of 8km from the HQ of the government servant. No TA Bill will be admissible if the government servant would have covered more than 8 route-km within a radius of 8Km. Distances between two stations are calculated from one Chief Police Station to another. A list of places connected by public transport as applicable to TA claims is published by the Board of Revenue, Orissa (See Note 3 below Rule 79 of the OTA Rules). A TA Bill needs to be countersigned by the controlling Officer declared under Rule 159 of the OTA rules unless the Drawing and Disbursing Officer is declared Controlling Officer.

#### H) Contingent Bills

Contingent charges or contingencies include all incidental expenses of a miscellaneous character which are incurred in the management of an office or for the technical working of a department. They are classified as:

- (i) Contract contingencies
- (ii) Scale regulated contingencies
- (iii) Special contingencies
- (iv) Countersigned contingencies
- (v) Full voucher contingencies

The bills for (i), (iii) and (v) will be prepared on OTC 30 and for (iv) on OTC 32, 33 and 34. A contingent register is required to be maintained on form OTC 29.

#### (i) Sub voucher

Each receipt, cash memo or bill on the basis of which money is required to be drawn on contingent bills is called a sub-voucher. These vouchers need to be numbered serially by indicating the financial year against each (Such as SVrs No 1 of FY1985-86). There needs to be a



running serial from 1st April to 31st March. The sub-vouchers should be numbered serially as they are entered into the contingency register. Each sub-voucher should be stamped as 'Billed' and endorsed in red ink 'Passed for payment of Rs \_\_\_\_\_ (Rupees Only)' and need bear the dated initial of the Drawing Officer. When the amount is drawn and paid it should be defaced under dated initial as 'PAID AND CANCELLED'. Vouchers of above Rs 1000/- each need to be attached to the bill and below Rs1000/- need to be retained in the office. All these sub vouchers so defaced need to be pasted serially in a guard file to be kept in safe custody. The Drawing Officer, while signing a contingent bill, is required to initial the entry in the Contingent register, sign the sub vouchers by comparing the amounts passed with the amount noted on the sub voucher, contingent bill and contingent register.

(ii) Contingent Allotment

An allotment column is prescribed in the contingent bill form. This should be correctly filled up and corresponding entries should be kept in the contingent register. On no account should bills be signed in excess of allotments received. No moneys shall be drawn which are required for immediate disbursement and it is not permissible to draw money in anticipation of demands or to prevent lapse of budget grants.

(iii) Service Postage Stamp Bills

The cost of service postage stamps is debitable to the unit 'Office Expenses'. This bill should be prepared on form OTC 35.

(iv) Certificates to be furnished on contingent bills

Certificates are printed on the contingent bill forms. These may be suitably modified if necessary and unnecessary certificates be struck off. Separate certificates are prescribed for the preparation of bills for drawal of pay of contingent menials (SR 245 OTC Vol 1); house rent and electric charges of hired buildings (SR 246-A OTC Vol 1); payments of Sales tax on purchase of goods (SR 246-B); light refreshments (SR 246-C). These certificates may be recorded as bills in appropriate cases.

(v) Sanction of Contingent Expenditure

Under Rule 20 of the Delegation of Financial Powers Rules, 1978, the Head of Offices have powers to sanction contingent expenditure subject to the following conditions:

- a) No expenditure shall be incurred without valid appropriation or reappropriation sanctioned by the competent authority.
- b) Rules for supply of articles for public service contained in the OGFR and subsidiary instructions and orders if any, shall be followed.
- c) No contingent expenditure involving any departure from rules, orders, restrictions or scales shall be incurred nor any liability be undertaken in connection therewith except with prior concurrence of the Finance Department.
- d) Subject to the conditions mentioned above, the general powers of the Head of Office to sanction contingent expenditure will be as follows:

Recurring: Rs1000/- per annum in each case

Non-recurring: Rs2500/- in each case

Each case means in respect of non-recurring expenditure at a given point in time and in regard to recurring expenditure, each type of expense of a recurring nature. If on a particular occasion, a number of items of stores are to be purchased, powers of the sanctioning authority should be exercised on that occasion and not with reference to individual articles constituting the lot. It should, however, be borne in mind that purchases arising out of the same indent should not be split up and made separately on different dates with a view to avoiding the sanction of higher authority. An authority empowered to sanction expenditure on any recurring item, say up to Rs1,500/- per annum will be competent to sanction expenditure on a number of occasions subject to the limit of Rs1,500/- per annum.

e) Powers of Heads of Offices in sanctioning contingent expenditure is contained in Annex 1 with restrictions/clarifications/monetary limits specified therein and in such cases the general powers as in d) will not apply.

f) One should not be encouraged that the Treasury does not object to a drawal of a contingent claim which has not been sanctioned. SR 98 (vii) of OTC Vol 1 stipulated that the Treasury Officer will not object to a claim on the ground that the charge has not been sanctioned. The responsibility of incurring unsanctioned charges rests with the Drawing Officer.

g) Bills for advances to government servants on personal account. The bills may be prepared on a form similar to OTC 40 or OTC 25-B (SR 501 and 510). A copy of the order of the competent authority sanctioning the advance should be attached to the bill.

j) Bill for temporary withdrawal from General Provident Fund. The bills may be prepared on OTC 79-A. A copy of the order of the competent authority sanctioning the advance should be attached to the bill. The sanctioning authority is also required to make a copy of the sanction



available to the Treasury direct for passing the bill. Under Rule 15 of the GPF (Orissa) Rules the Head of Office is competent to sanction a temporary advance from the GPF in respect of the staff working under him if the following conditions are fulfilled:

a) The advance applied for will not exceed 6 months pay or 50% of the balance at credit of the subscriber which ever is less.

b) After complete repayment of the previous advances if any.

When either of the above conditions are not satisfied the advance will require the sanction of the Head of the Department or government, as the case may be.

#### **6 General instructions regarding preparation of bills**

(i) Printed bill forms should be used. When, however, a printed bill form is not available, a manuscript, or typed and cyclostyled form may be used by recording a certificate that a form of this kind is used in the absence of a printed form.

(ii) The bill must be filled in and signed in ink.

(iii) The amount of each bill should be written in words and figures without leaving any space in between for interpolations.

(iv) Corrections and alterations to a bill should be attested by the dated signature of the drawing officer as many times as such corrections are made. Erasures and overwriting on bills are absolutely forbidden.

(v) The full accounts classification must be recorded on each bill.

(vi) Charges against two or more heads should not be included in one bill.

(vii) When bills are presented on account of charges incurred under any special orders, the orders sanctioning the charge should be quoted on the bill and a copy of the sanction, duly attested by a gazetted officer, should accompany the bill.

(viii) An endorsement of 'Under Rupees \_\_\_\_\_ only' in red ink should invariably be recorded on the bill which should be a sum of slightly in excess of the billed amount expressed in whole rupees.

(ix) The voucher slip form OGFR 25 should be attached to each bill.

(x) The Drawing Officer should ensure the accuracy of calculation and totalling of the claims in the bill and should carefully verify the net total claims of the bill written in words and figures along with the 'Under Rupees \_\_\_\_\_' endorsement.

(xi) Before signing the bill it should be ensured, with reference to the allotment register that funds for the entire amount claimed are available and where an allotment column is available on the bill, it is accurately filled up.

#### **7 Arrears claim**

Arrears of pay, fixed allowances or leave salary shall not be drawn on ordinary monthly pay bills but on separate bills by exhibiting the amount claimed for each month separately with quotation of the number and date, together with the date of encashment of the bill from which the charge was omitted. Except claims which require sanction on investigation and preaudit, the rest can be drawn from the Treasury at any time by recording a certificate on the bill as follows:

'Certified that no part of the amount claimed in this bill has been drawn previously and that a note of the arrear claim has been made in the office copy of the bills for the period to which the claim pertains.' (See SR 228 of OTC Vol 1)

#### **8 Investigation and pre-audit**

a) No claims against the government except those by one department against another or by the Central Government or by a State Government, not preferred within a year of their becoming due can be presented without an authority from the Accountant General. Provided that such claims do not exceed Rs500/- and are presented within 3 years of their becoming due they may be paid without preaudit by the Accountant General. This system was current up until June 1984 but the system of preaudit by the AG was dispensed with by the Finance Department Office memorandum No.23792 (340)F dt.2.6.84. According to the revised procedure the Drawing and Disbursing Officer will sanction investigation of arrear claims up to Rs500/- for three years and above Rs500/- for one year and these can be drawn from the Treasury on the strength of sanction without any preaudit by the AG. All other cases will require sanction of the Head of Department or Administrative Department, as the case may be. (See SR 97 OTC Vol 1; Rules 72-74 OGFR Vol 1)

b) The following arrear claims do not require preaudit:

(i) Payment made by Forest Disbursing Officer.

(ii) Payment of claims on account of pension.

(iii) Claims of pay and allowances other than TA and RCM of such non-gazetted government servants whose names are omitted from the pay bills as per SR 221 (1).



- (iv) Payment of interest on government securities.
- (v) Other classes of payment governed by special orders of the Government.
- c) The date of preferring the claim will be the date of presentation of the claim at the Treasury (See note below SR97 OTC Vol 1).
- d) The dates from which different kinds of claims will require preaudit are indicated below:

Nature of claim	Date from which the claims fall due	Authority
Arrear claims of Pay and allowances and contingencies (RRT) other than TA and RCM	From date the charge becomes payable except in cases of sanction accorded with retrospective effect where charge does not become payable before it is sanctioned in which case it will be from the date of sanction.	Rule 76 OGFR Vol 1 read with Finance Dept. Office Memo No. 23792(340)F dt. 2.6.84
TA claims	The date succeeding the date of completion of the journey	Finance Dept memo No 42831 (340)F dt.20.11.62
TA Claims for departmental examinations conditional to declaration of the result.	From the date of announcement of the result.	-do-
TA claims in respect of transportation of personal effects	From the date following the date on which the personal effects reach the destination to which transported.	Finance Dept Memo No 42865 (28) dt 7.11.70
TA Claims on journeys outside the State	From the date of sanction of the journey by the competent authority.	FD Memo 55077 (28)F dt. 30.12.70
RCM	From the date of completion of the treatment as mentioned essentiality certificate	FD letter No 1248(117)F dt.15.1.64

#### **9 Procedure for drawal and safe custody of cash**

- a) After the bill is prepared and signed the same should be immediately entered in the Bill Register and Book of Drawal, duly authenticated by the Drawing Officer.
- b) Encashment of bills should be watched through the Book of Drawal which should be immediately noted in the Bill Register and cash received should be entered in the cash book (SR 69-70 OTC Vol 1).
- c) The undisbursed cash should be kept in an iron chest under double lock, one key being with the Cashier/Clerk authorised to deal with cash and the other with the Drawing Officer. The iron chest must be embedded and duplicate keys must be deposited in a sealed packet in the Treasury with orders of competent authority (SR 69 and Note (iii) below SR 88 (a) of OTC Vol 1).
- d) Keeping large amounts of undisbursed cash in hand should be avoided.
- e) At the end of every month the cash in the iron chest should be physically verified with reference to the closing balance shown in the cash book and a certificate recorded with the cash balance analysis.
- f) Security in the prescribed manner should be collected from the Cashier/Clerk authorised to deal with cash.



### 10 Monthly expenditure statement

This very important return needs to be submitted to the Controlling Officer by each Drawing Officer in respect of each head of account by the first week of the succeeding month along with figures of revenue receipts for the month on Form 11 of the Orissa Budget Manual, 1963 (See Rule 132 of the Orissa Budget Manual 1963).

### 11 Stock and stores

- a) Purchase of stores will be regulated according to the provision of rules contained in Appendix 6 of OGFR Vol II.
- b) Sealed tenders need to be invited for purchase of stores the cost of which exceeds Rs10,000. The purchase committee constituted under Rule 12 of the Delegation of Financial Power Rules, 1978 can only decide on tenders for stores costing more than Rs10,000. A tender/quotation cannot be invited for articles covered by Rate Contract of DGSD and Director of Export Promotion and Marketing, Orissa (Rule 2 of OGFR Vol II as amended in Finance Dept Office Memorandum No.21053 F Dt. 26.4.78).
- c) Purchase of stores is subject to prior sanction of the competent authority (para 5 (H) (iv) (d) of these notes read with Annex 1).
- d) All acquisition of stores should be entered in the stock and store register and a certificate as to the receipt of goods and the quantity and quality should be recorded in the purchase invoice (Rule 100 of OGFR Vol I) all issues including transfer of stores should also be exhibited in this register.
- e) The physical verification of stores should be periodically conducted and the result recorded in the register.

### 12 Budget

- a) Under Article 202 of the Constitution of India a statement of the estimated receipt and expenditure of the State for each financial year has to be laid before the State Legislature. This statement is known as the Annual Financial Statement or Budget.
- b) An estimating officer is primarily responsible for preparing the estimate of receipts and expenditure. All Drawing and Disbursing Officers are the estimating officers for their institutions.
- c) Even though the budget is an estimate it needs to be as accurate as possible to obviate the risk of shortfall in receipts or of large savings at the end of the Financial Year. The entire responsibility for this rests with the estimating officer and thus framing accurate and realistic estimates and timely submission thereof are of the utmost importance. Each estimate needs to be rounded up to the nearest rupee. This will, however, be rounded up to the nearest thousand rupees at the level of the Controlling Officer.
- d) Allotment of funds under each sub head/scheme is communicated by the Controlling Officer to the Drawing Officer in the month of April every year. The Drawing Officers are required to maintain a register of allotments and watch progress of expenditure through that register until the close of the financial year. The actual requirements of each Drawing Officer can only be estimated and provided for on timely submission of accurate estimates.
- e) First Revised Estimates: this estimate of receipt and expenditure is required to be submitted by the estimating officer to the Controlling Officer on the prescribed form by the end of August every year when actual expenditures of the first 4 months of the year will be available. The estimate of receipts and expenditures for the remaining 8 months will indicate the trend of collection and progress of expenditure in order to assess the total annual requirements.
- f) Budget Estimate: this estimate will entirely reflect the broad based anticipated revenue receipts and expenditure for the coming financial year. This should be submitted to the Controlling Officer by the end of August every year as the form of submission of Revised Estimates and Budget Estimates is a combined one. The Estimate will be based mostly on the requirements in the Revised Estimates and trend increases.
- g) Second Revised Estimates: this estimate, submitted to the Controlling Officer, is based on 9 months actuals and 3 months probables. The requirement in the second Revised Estimate will be more accurate than the First Revised Estimate. Timely submission of this estimate will help in the proper utilisation of budget provision either by withdrawing savings or by augmenting the provisions for excess requirements by supplementary demand or reappropriations. The second estimate needs to be submitted to the Controlling Officer by the end of December every year.
- h) Diversion of Funds: allotments are communicated to the estimating officers under each unit of appropriation. The estimating officers are required to limit their expenditure up to the level of allotments placed under each unit of appropriation. Thus estimating officers have no liberty in diverting funds from one unit to another at their level. If any excess requirement is noticed under a particular unit and savings are noticed in another he is simply required to propose a diversion of funds to the Controlling Officer and wait for orders. On no account should he go ahead and make expenditures in anticipation of receipt of orders.



- i) Surrender of Savings. On the basis of the Second Revised Estimates and after knowing the actual expenditure incurred up to the end of February, estimating officers, in cases where savings are available, should surrender those savings to the Controlling Officer by the first week of March without waiting until the end of March when such savings will lapse.
- j) Immediately after the closure of the financial year the Drawing and Disbursing Officer is required to submit an annual statement of expenditure under various units of appropriation to the Controlling Officer. This is an important report since it is absolutely necessary for completion and verification of actuals in the office of the Accountant General. The estimating officers need to make all sincere efforts to submit this report by the 15th April each year.

### **13 Permanent advance**

Permanent advances are granted to offices where payments are to be made before funds for the purpose are drawn from the Treasury. The advance is meant for payment of advances and contingent charges. The transactions relating to the permanent advance should not be exhibited in the cash book but should be accounted for in the Permanent Advance Register. The holder of the advance is responsible for the safe custody of money placed in his hands and he must be ready at all times to account for the money. In the case of transfer of charge and yearly on April 15th each officer holding a permanent advance must send an acknowledgement to the Accountant General of the amount due from and accountable for by himself on the 31st March preceeding. The detailed rules concerning the permanent advance are contained in Rule 82 of the OGFR Vol I.

### **14 Registers**

Registers which are required to be maintained in connection with the financial management of the office are listed below:

- a) Cash book (OTC 4)
- b) Stock Register of Receipt Books
- c) Aquittance Roll (OTC 28)
- d) Bill Register (OTC 28A)
- e) Register of undisbursed pay and allowances (OTC 28B)
- f) Register of contingent charges (OTC 29)
- g) Register of loans and advances (OGFR 10)
- h) Book of Drawal
- i) Permanent Advance Register
- j) Register of Stock and Store Account (OGFR 6 and 7)
- k) Register of Reference Books
- l) Register of Allotments

[Annex 1]

Powers of heads of office to sanction contingent expenditure

Item of Expenditure	Extent of Powers	Restrictions/ Conditions
1 Advertisement charges	Full	Provisions of Rule 121 OGFR Vol 1 shall be observed. All adverts to be routed through I&PR Dept.
2 Bicycle purchase	Full	Purchase and repairs subject to monetary limit fixed by Govt. Condemnation also regulated by Govt instructions.
3 Charges of Remittance	Full	Expenses in connection with remittance between Treasury and sub-treasury to be treated as contingent charges of the Treasuries concerned.
4 Conveyance hire	Full	May be paid at prevailing rate provided Head of Office certifies that expense was essential.
5 Fixtures and Furniture (inc. repairs)	Rs1000/- per annum	Fancy and costly wooden furniture shall not be purchased.
6 Freight charges	Rs1000/-in each case	
7 Demurrage and weather charges	Rs100/-in each case	
8 Hot and cold weather	Full	Sanction of expenditure shall be subject to the prescribed monetary limit
9 Instruments/minor equip/apparatus	Rs500/- in each case	



[Handout 2]

**Checklist of registers to be kept in PHC**

- 1 Cash book
- 2 Bill register
- 3 Book of drawal
- 4 Bank draft register (inward)
- 5 Bank draft register (outward)
- 6 Miscellaneous receipt books
- 7 Contingency bill register
- 8 Pay, TA and RCM - Aquittance Roll
- 9 Office copies of Pay, TA and RCM bills
- 10 Short-term advance recovery register
  - Festival advance
  - GPF advance
  - Motor cycle/cycle/car advance
  - Medical advance
  - Trade deposit advance
- 11 Advance ledger
- 12 House rent recovery ledger
- 13 Challan remittance register
- 14 Dead stock register
- 15 Library stock register
- 16 Stationary stock ledger
- 17 Service postage stamp a/c register
- 18 Medicine stock register
- 19 Instrument stock register
- 20 Bedding and clothing stock register
- 21 Diet register
- 22 List of approved medicines, instruments and equipment for the current financial year.
- 23 Stock register of miscellaneous receipt books
- 24 Service books and leave account
- 25 Log book of vehicle
- 26 Spare part register
- 27 Stock register of diesel and lubricant
- 28 Hire charges register
- 29 Log book of telephone
- 30 Trunk call charge register
- 31 Undisbursed pay and allowance register
- 32 Permanent advance cash book
- 33 Property register
- 34 Scheme files/ monthly progress reports
- 35 Old inspection report of AG
- 36 Departmental inspection report
- 37 Records of peripheral units
- 38 Receipt and despatch register

**Certification over the body of bills**

- 1 Head of accounts (rubber stamp)
- 2 Note in support of DA and other allowances (eg: house rent allowance on pay bills)
- 3 Deduction of GIS on pay bills
- 4 In pay bills it must be verified that the Service Book has been updated if it is available.
- 5 The signature of the recipient should be attested.
- 6 Under 'Rupees': The figure should be written on one line in words and figures in red ink. There must be no cutting, overwriting, erasures or gaps between figures in order to prevent insertions.
- 7 Second discharge must be recorded where payment is made by the bank.
- 8 Such a bill should show: 'Pay order to \_\_\_\_\_'
- 9 Receipt contents
- 10 In the case of contingency bills vouchers and sub-vouchers already paid off should be cancelled.
- 11 Non-drawal certificates should be made in the case of arrear claims
- 12 A certificate should be made by the Drawing Officer in the case of non-drawal, over drawal or double drawal of arrear claims.
- 13 Certificate of entertainmant in respect of Class IV Government servants whose names are omitted from the pay bills.
- 14 In contingency and TA bills the allotment column is to be filled up and the allotment order number and date should be cited over the bill.



**Additional notes on bill preparation**

**1 Pay Bill Form (OTC 22L III Form No.188)**

For pay/leave salary/arrear claims includes:

- . ex gratia assistance
- . surrender leave
- . FTA / conveyance allowance
- . fines to be deducted
- . deductions from excess drawals

**2 Fully Voucher Contingent Bill Form (OTC 31 Sch. L III Form No. 208)**

Items include:

- . postage stamps
- . diet
- . drugs
- . equipment
- . bedding/clothing
- . motor vehicle
- . contingencies

Other expenditure on this form:

- (i) Purchase of emergency drugs (within Rs20/-), furniture, utensils and liveries.
- (ii) Hiring of labour
- (iii) Charges for electricity and telephone

**3 Miscellaneous GPF advance (Form OTC 79A)**

Temporary or non-refundable advances

**4 Abstract Contingency (AC) Bills (OTC 32 Sch L III 206)**

- . sanctioned 'loss of wages' payments
- . all advances (including advances of payments on sophisticated equipment)

NOTE: After drawal of AC bill, adjustment is made on DC bills sent to the Director of Health Services particularly where the amount is in excess of Rs1000. Vouchers and duplicate copies should be retained in the office.

**5 TA Bill (OTC 25 Sch LIII Form No. 194)**

To include:

- . Journeys on transfer
- . Regular journeys/tour including LTC

Note: FTA and conveyance allowance are included in pay bills.

Pay bills

Should include the following:

- . Scale of pay
- . Basic plus Dearness Allowance (DA) and Additional DA
- . Non-practising allowance
- . House rent allowance
- . Washing allowance
- . Personal pay
- . Local allowance eg: pay protection
- . Risk allowance
- . Fixed tour allowance
- . Conveyance allowance
- . Subsistence allowance (on suspension)

**Additional reading**

1 *The Orissa Treasury Code* Vol 1 (3rd Edition)

2 *Orissa Government Finance Rules* Vol 1 and Vol 2

## 6 Management of medico-legal cases

### Introduction

Medical Officers have to deal with a wide variety of medico-legal problems in the course of their work. This session aims to cover some of the more important aspects in lecture form but many additional topics can be covered in an extended question and answer session.

### Learning objectives

Participants should be completely familiar with the medico-legal regulations and procedures relating to:

- 1 Injured persons
- 2 Victims of sexual offences
- 3 The declarations of dying persons
- 4 Post-mortems

### Schedule

One half day session

### Activities

The first part of the session is conducted as a short lecture but thereafter most of the time is spent answering questions and solving problems posed by the participants.

### Trainers notes

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It is essential that this session is conducted by someone with expertise in the field in order that the participants' questions can be fully answered. On the Jagatsinghpur course these sessions have been taught by Dr K C Mishra, Professor of Forensic Medicine at SCB Medical College, Cuttack.

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### Reference material

The following comprises a suggested structure for the lecture on medico-legal management and lists some of the most important topics to be covered. It is obviously not a complete account.

#### 1 Dealing with injuries

Including: Poisoning, drowning, snakebite, assault, burns, electrocution and traffic accidents.

##### Points to note

- a) Patient's condition on reception (Good/deteriorating/ moribund) must be recorded.
- b) Record carefully:
  - Date and time of reception
  - Name of attendant
  - Possible history
  - Findings on first examination
- c) Treatment:
  - Give immediate first aid
- d) Intimation to Police:
  - Note the time of issue, register number and time of receipt by the police of intimation (See Handout following)
- e) Clinical Investigations:
  - Original registers and reports are to be preserved.
  - Routine: Urine/stool/blood
  - Special: X-ray (Examining MO has to sign the X-ray, a registration number has to be given and the plate must be preserved).
  - Registration number and a copy of the report with the opinion of the MO must be available to the police.



- f) Written evidence for the police inquest should be kept under the personal custody of the doctor: Reports should be handed over personally to the police within 24 hours, together with a copy of the opinion of the MO in a sealed cover. The date and time of receipt of the police acknowledgement should be recorded. (See Handout).
- g) In case of admission of the patient:  
All details should be recorded on the bed-head ticket.  
This must be complete and kept up to date and preserved for later reference.  
Police must be notified well in advance of discharge.
- h) Collection and preservation of specimens (eg: vomitus in poisoning cases):  
Containers and preservatives must be available.  
Containers must be labelled with the case registration number and a record must be kept of the date and time specimens are handed over to the police.
- i) Weapons produced or found in the injury:  
All details must be carefully recorded with the case number and the signature of the MO.  
Date and time of receipt by the police must also be noted.

## **2 Dealing with victims of sexual offences**

- a) Written consent from the patient, or if a minor, from the guardian must be obtained prior to examination.
- b) Examination should be carried out in the presence of a staff nurse and a witness.
- c) If specimens for examination (eg: vaginal fluid) are collected for examination they must be labelled with the registration number of the case and the laboratory report and preserved.

## **3 Dealing with dying declarations**

When it is thought that the patient is likely to die and that in consequence valuable information like the substantiation of facts might be lost, a statement in the words of the patient needs to be recorded.

- a) The Sub Divisional Officer or local Magistrate should be requested to come and record the statement. The date and time of sending the request should be noted.
- b) If the SDO or Magistrate is absent or refuses to attend a proper recording must be made by the MO.
- c) The statement should be in the words of the patient:
  - . Date and time must be noted
  - . Record should be made in the presence of a witness who is another MO or any Gazetted Officer.
  - . If necessary selective questions may be asked but both questions and answers should be recorded.
- d) The statement should be despatched in sealed cover with the superscription 'MEDICO-LEGAL - CONFIDENTIAL' to the police. Date, time and registration number of case to be noted.
- e) Receipt of acknowledgement by the police to be noted
- f) Signature or thumb impression of the person to be taken and attested.
- g) When death occurs time and date to be recorded.

## **4 Dealing with Post-Mortems**

- a) To be conducted only in places declared as PM centres.
- b) Record date and time of receipt of inquest papers.
- c) PM forms to include name and designation of examining doctor.
- d) PMs must be carried out in natural light, between sunrise and sunset -- preferably at 5pm.
- e) Requisite instruments/ accessories/containers/ preservatives and sealing materials must be kept ready.
- f) Procedure
  - . Examination of relevant parts to be conducted step by step
  - . Report to be handed over within 24hrs
  - . Organs and viscera to be preserved (see Handout)
  - . Specimens should be properly packed and sealed
  - . Containers should be properly labelled (with Reg No) and signed by the MO.
  - . They should be sent to the police and the Police Constable's Badge number and full name must be recorded.
- g) Laboratory report on viscera examination should be compared with report of original opinion.

The following circular should be given to participants as a handout:



[Handout 1]

Copy of letter No.6523/L Dt. 23rd April 1983 from Legal Remembrancer Government of Orissa, Law department addressed to the Director of Public Prosecutions, Bhubaneswar, Orissa.

Sub:- Proceedings of a meeting held on 2.4.1983 to discuss matters relating to submission of injury reports, post-mortem reports and attendance of medical officers as witnesses in courts. It was stated by the DPP, Orissa that considerable delay occurs on the part of medical officers in submitting post-mortem reports and injury reports so much so in some cases that due to lapse of time injury reports are never sent to the concerned court.

It was therefore decided that henceforth, soon after autopsy is conducted, the first copy of the PM report shall be delivered to the constable carrying the dead body chalan while carrying the dead body and the PM report shall be delivered to the constable on the very day that the autopsy is conducted and the second copy of the PM report shall be sent to the concerned superintendent of police through the Chief District Medical Officer and the third copy may be retained by the concerned medical officer. In case there is any difficulty on the part of the medical officer to deliver the PM report on the date on which the autopsy is conducted, the medical officer shall keep the constable detained and the PM report must be delivered to the constable on the following day assigning reasons on the dead body chalan for the delay of one day in delivering the PM report to the constable.

It was further decided that in the case of the examination of injured persons, receipt of requisition for Medical Examination must be acknowledged by the concerned medical officer and the injury report(s) must be delivered to the constable accompanying the injured person on the very same day of examination and in case it is not possible to deliver the report on the same day, it shall be delivered to the constable on the following day and it shall be incumbent upon the medical officer to separately address a letter through the same constable, addressed to the investigating officer assigning reasons why the delay of one day was caused.

It was further decided that the District Superintendent of Police should issue suitable instructions to all police officers under him that henceforth whenever injured persons are sent for medical examination they shall be accompanied by a constable who must be commanded to bring the injury report along with him from the medical officer.

It was further decided that if any of the above directives were not complied with by the medical officer, the investigating officer shall forthwith report the fact to the DPP, Orissa through the concerned Superintendant of Police who in his turn would bring such facts to the notice of the Government for appropriate action to be taken against the concerned medical officer.

As regards non-attendance of medical officers in response to a summons issued by the court, it was stated by the Director of Health Services (DHS), Orissa that due to the short notice given by different courts, it is not possible to issue directions to the concerned medical officer for attending the court and it was therefore decided that the Honorable High Court may be requested to issue suitable instructions to all Criminal Courts in the State to directly send the summons to the concerned medical officer and all medical officers in the State would be suitably instructed by the Health Department that on receipt of a summons they should positively attend the concerned court without waiting for any directions from the DHS and in case the courts do not find the correct address of the concerned medical officer, then they may communicate with the DHS to locate the concerned medical officer and direct him to attend the court on the date fixed but the criminal court must give at least three weeks notice to the DHS to ensure attendance of the witness.

It was stated by the DHS that a lot of difficulties are being faced for conducting post-mortem examinations at places distant from the place of death so much so that the body becomes heavily decomposed and therefore the evidence in regard to the cause of death is not being properly assessed and therefore it was decided that all PHCs in the State of Orissa shall be declared post-mortem centres.

It was also stated by the DHS that in the case of unclaimed dead bodies, the police do not take charge of the body after autopsy is conducted. It was therefore decided that soon after autopsy that the police shall take charge of the dead body for disposal and the carrier charges shall be paid by the Police Department. If adequate funds are not available at the disposal of the Police Department, Government may be moved for enhancing the carrier charges and for allotment of adequate funds.

It was further stated by the DHS that in all cases, viscera of a dead body are preserved and they are never disposed of and thereby there is heavy accumulation of viscera in the store room for which the Health Department is confronted with very many difficulties.

It was therefore decided that reference be made to the Hon'ble High Court as to whether viscera of a dead body should be preserved in all cases other than cases of poisoning. After receipt of a reply from the Hon'ble High Court this matter will be finally decided.



## 7 Communications, health education and motivation

### Introduction

This module is primarily concerned with communication between PHC field staff and the community; particularly with a view to improving compliance with public health and family welfare measures and increasing the effectiveness of health education given by PHC staff. The duties and responsibilities of the Block Extension Educator in coordinating and supervising health education are also discussed.

In addition one session, taught at the very beginning of the course, is devoted to a practical exercise on group dynamics designed to facilitate group work which will be carried out during the rest of the course.

### Learning objectives

- 1 Participants will be able to recognise some important features of group dynamics and be able to use a working group in a productive way.
- 2 Participants will be able to suggest measures which will help in increasing public awareness of health programmes.
- 3 They will appreciate the need to understand local practices both harmful and beneficial before planning health education measures.
- 4 They will be able to produce a plan for effective health education based on a study of detailed case material.
- 5 They will appreciate the need for effective visual aids; realise that villagers may have difficulty in some health education material and understand the need for pre-testing material supplied to or prepared by them before using it in the field.
- 6 They will understand the duties and responsibilities and be able to make more effective use of the BEE as a coordinator and supervisor of health education activities in the Block.

### Schedule

- Part 1: Working in groups.  
1 session on the first full working day (see Appendix A)
- Part 2: 1 full working day is allocated to the rest of the module.
- The two parts of the module are described separately.

### Part 1: Working in Groups

[Material for this session was prepared by Sri UK Mohanty, HEEEO]

### Activities

Depending on the number of participants the trainer will divide the class into groups. They should be of unequal sizes. The groups will be asked to discuss one of the following topics and report their findings back to a plenary session for discussion. A time limit for the discussion should be given to the group.

#### Topics

- 1 The role of private practitioners in the Family Welfare Programme.
  - 2 How to prevent anaemia in antenatal women of low socio-economic class in rural areas.
  - 3 The need for breast feeding.
- The groups are asked to disperse into three separate discussion rooms where settings inappropriate for group discussions have been provided. (For example: randomly arranged chairs, no writing table, no light etc.)
- Trainers will not intervene in the discussion or give any further clarification. They will observe the meeting and make comments on an observation sheet.

On completion of the discussion each group makes a report (15 mins) to the whole class. This is followed by general discussion of the topic. After each presentation the observer of each group will comment on the way the discussion was conducted. One trainer will then summarise the findings of the observers.

#### **Discussion Points**

- 1 The importance of the physical setting: particularly the effect of seating arrangements and writing facilities on the group process.
- 2 The size of the groups: this will have been obvious if one of the groups was very large and another too small. Ideal size for discussion only is larger than that for carrying out a specific task (5-8 persons).
- 3 The need to elect a chairman and the effect of different styles of leadership (autocratic; democratic; laissez faire). The chairman should help set goals and involve all members of the group without dominating the process or the decisions made.
- 4 Roles adopted by participants: when people work in a group setting they tend to adopt different kinds of role, it is useful to be able to recognise the roles people adopt:
  - a) Group task roles: chairman, initiator, opinion seeker, information seeker/giver, elaborator, evaluator, energiser, recorder. One person may adopt more than one of these roles.
  - b) Group building and maintenance roles: encourager, harmoniser, gate-keeper, standard setter, observer.
  - c) Individual centered roles: dominator, blocker, aggressor, joker etc.
- 5 Group discussion: one or two personalities should not be allowed to dominate the process. The chairman should try to let everyone participate. It is particularly important that when feelings run high each person should have a chance to speak uninterrupted.
- 6 Decision making in groups: since the purpose of working in a group is often to reach a decision or a particular goal the leader should try to avoid the conflicts which tend to delay or preclude decision making.
- 7 Record keeping: records of arguments or discussions should be kept as the work progresses: not made at the end. It is useful if one person is nominated as recorder.
- 8 Making a report: Reports should be clear and precise and should only include the main points or findings. Additional facts or data to back up arguments should be kept in reserve. The time limit for presentations should be kept in mind and visual aids/OHPs should be clear and uncluttered.
- 9 In many work situations (eg PHC meetings) the relationship between people is structured (MO, BEE, LHV's etc). The importance of group work as discussed here is for situations where people meet as equals (on committees, in professional groups etc.) Being aware of the problems and processes of such groups can make them more productive and less frustrating to work in. After the summary session three further topics will be given and members of one group will observe and comment on the discussions of others.

#### **Topics**

- 1 Should family planning be made compulsory?
  - 2 Should the community be charged to meet the payment of the VHGTBA?
  - 3 Should the practice of indigenous medicine be discontinued?
- Discussion of the topic and the process that occurred in each group follows each presentation.



## Part 2: Activities

### 1 Community awareness of health programmes

After listing the various health programmes carried out by the PHC, participants are asked to give an estimate of the proportion of people in the community that are aware of the existence of these programmes.

It is probable that the estimates given will be high. When a consensus has been reached the estimates given by participants are compared with the data from the survey shown in the reference section below [OHP 1]. This survey, organised and conducted by staff at Jagatsinghpur, asked a sample of adult householders about their knowledge of various health programmes being conducted by the local PHC.

#### Discussion Points

1 The data shown demonstrate that there are two problems of communication which must be faced. Before dealing with the more difficult problem of how to change peoples' behaviour by health education it is important to realise that people must be made aware of the services that exist for their benefit.

2 Measures for increasing community awareness of health programmes:

- . problem assessment
- . improved work programming
- . better publicity for programmes
- . coordination between staff, the community and voluntary agencies
- . staff development

Most of these measures are covered in more detail in other modules (training, programming, coordination). The role of the BEE as coordinator will be discussed below.

### 2 Content of health education

Many medical staff are often critical and at the same time ignorant of local traditional practices in health care. In framing effective health education messages it is essential to understand what people do and why they do it. In this way it is possible to reinforce beneficial practices and find ways of changing harmful ones.

The session begins with a discussion of traditional advice for antenatal mothers. MOs are asked what is commonly advised by Dais (trained and untrained) in their area. It is probable that discussion will centre only on negative aspects of the advice.

Participants are then asked to read the case study shown in the reference section below [Handout 2]. When the participants have read the case material it should be explained that the material is genuine and obtained by interviewing Dais in the field. They are then asked to consider the antenatal advice given by the Dai. The various practices can be listed as either 'harmful' (eg: not referring mothers if no foetal movements are felt); 'beneficial' (eg: most of the dietary advice) or 'neutral' (eg: prohibition about crossing rivers).

#### Discussion Points

1 This Dai, and many like her, see far more patients than the ANMs and probably the trained Dais as well. As judged by payments made, even for antenatal advice, their opinion is valued by their clients. It is therefore important to know what advice they are giving.

2 Although some of their advice might usefully be changed much of it is beneficial.

3 Many medical staff reject any 'unscientific' reasoning as harmful even if the net result is not so.

4 If medical staff reinforce and acknowledge the positive aspects of traditional practice they are more likely to be successful in changing the more harmful aspects. If they reject the work of traditional dais completely, it is unlikely that the Dais will lose their clientele, and probable that an opportunity for health education and cooperation (eg: recording births) will be lost.

### 3 Planning health education

Participants are asked to work in two groups using the same case study material.

Given that the practices described in the case study are thought to be widely prevalent in the block each group is asked to consider how they would plan effective health education measures which might help:

Group 1 To reduce the number of low birth weight babies born in the area

Group 2 To reduce the incidence of puerperal sepsis

In each case they are asked:

- . to list which specific practices they would wish to change (also which existing practices are beneficial)
- . decide on appropriate health education messages for a mass campaign or describe how they would tell their staff to persuade mothers or dais of the changes they wish to bring about
- . decide on which staff would be involved
- . decide on how health education should be conducted (as part of village visit, mass campaign, special meetings etc)

The groups then present their work to the rest of the class in turn.

#### Discussion Points

- 1 Slogans or health education messages must be easily understood by the people at whom they are aimed. They should always be positive rather than 'blaming'.
- 2 Slogans are only useful in mass campaigns or for posters, they are not appropriate for individual staff to use. In this case health education is by discussion with clients. The groups should have considered how they would advise their staff to carry out health education individually or with small groups.
- 3 With the 'puerperal sepsis' example there are many practices which could be said to be harmful:

- eg:
- . manual removal of foetus and/or placenta
  - . putting oil in the birth canal
  - . cleaning with 'warm' water
  - . not taking a bath for 9 days and then bathing in a pond
  - . burning 'antudi' fire in delivery room

It is unlikely that people will easily change ritual practices which are adhered to and thought to be important by everyone in the area. In this case it might be best if health education messages concentrate on the need for referral in the case of delayed delivery of foetus or placenta.

4 Participants should discuss whether health education to mothers should be aimed at getting people to ignore the services of untrained Dais. An alternative approach, which acknowledges that people are likely to continue to use their services, is to publicise the effect of training on those Dais that have received it so that mothers and other Dais will be interested to find out what has been taught -- particularly in regard to reducing infection.

5 The 'low birth weight' example demonstrates the need for understanding local dietary practices.

### 4 Materials for health education

It is not possible to go into this subject in detail in the time available but it is important that it should be introduced.

Examples of posters and pamphlets supplied to the PHCs should be available to be used as examples in the discussion.

To begin the session a picture used to convey a message without any writing is displayed and participants are asked to write down their opinion as to what message they think the picture is trying to convey. It is probable that there will be much disagreement.

If time permits groups of participants may be supplied with posters commonly supplied to PHCs and asked to report back to the class having asked people without medical training what they have understood from the poster. This can be done in an OPD or in a nearby village after the class.



#### Discussion Points

- 1 MOs rarely take time to examine health education materials supplied to them.
- 2 Even trained people may differ in their understanding of the same material.
- 3 Villagers may not be used to the concept of conveying messages through pictures or may notice completely different aspects of the picture from that expected.
- 4 All health education materials need to be locally appropriate and need to be tested in the field before use.

#### **5 The role of the BEE**

Although it is important that the MO is aware of and understands the importance of health education measures there is not usually time for him or her to carry out the training and supervision required if staff are to work effectively in the ways described above.

The role of the BEE in PHCs always creates much discussion but it is generally agreed that the BEE is frequently given inappropriate duties and just used either as the doctor's administrative assistant or as someone to be in charge in the MOs absence.

If the MO understands the need for effective communication then he can better guide the BEE. The duties and responsibilities of the BEE are listed in Handout 2.

## Reference material

Number of persons giving positive response when asked if they knew about services provided by the PHC.

Service programme	Number
Treatment	86
Antenatal care	6
Malaria	1
School health	1
Control of communicable disease	21
Immunisation (under 5's)	15
Family Welfare	43
Vital statistics	0
TB	0
Leprosy	0
Nutrition	0
Environmental sanitation	0
No response	8
<b>Total respondents</b>	<b>100</b>

[Survey conducted by Sri UK Mohanty, HEEO, Jagatsinghpur RHC]

### Case study [Handout 1)

Kanaka Dei is a scheduled caste widow. She is 47 and illiterate: her husband died 8 years ago. She lives in a small mud-walled thatched hut on the outskirts of the village. She has no land of her own as her eldest son usurped the whole parental property and she has quarrelled with her daughter in law. Her main source of income derives from conducting deliveries and abortions in this and surrounding villages.

During the past year she says she has conducted 120 deliveries and 10 induced abortions. She learnt the techniques from her mother in law and has been conducting deliveries for at least the last 15 years. She says the occupation has been traditional in her family and she learnt how to deal with complicated deliveries by assisting her mother-in-law. Most of the villagers close by are aware of her skill and she is known as a good Dai, as was her mother in law before her.

### Antenatal care

She is called for whenever a pregnant woman feels uncomfortable or the baby is not moving properly. She checks the position of the foetus and in the event of any abnormality she gently massages the lower abdomen using oil on both palms to correct the position.

She advises the woman to do hard work during the 2nd-5th month of pregnancy only. The prescribed activities during this time include husking paddy and agricultural field work. She believes that activity at this time will keep the mother fit and make for a safe delivery. During early pregnancy and in the last trimester hard labour including fetching water and carrying head loads can cause abortion. Other advice given includes good sleep at night and not to lie flat. Sex is prohibited after the 7th month.

Pregnant mothers should also not cross rivers either on foot or visit places of worship.

### Diet

She tells the antenatal mother to eat fish, chicken meat, eggs, potato, brinjal and other green vegetables and dal. Black gram and horsegram dal, sheep meat, jackfruit, pumpkins and drumstick leaves are forbidden as they are thought to cause constipation in the mother and brain damage in the child. Fasting is also prohibited as it would cause malnutrition to the mother and foetus.

She does not know about tetanus immunisation or the need for any other medicines during pregnancy.

She is given about 1kg of rice and some vegetables from the garden for her antenatal advice.

### Delivery

As soon as she hears that the mother is in labour she will go to the house -- no matter what time of day or night. Her mother in law always told her to render service whenever it was needed. On arrival she asks the older women to give the mother hot tea or hot water to keep the body warm. She instructs the mother to lie flat and ties a piece of cloth around the abdomen above the



fundus so that the foetus does not move upwards. She then gets the patient to stand erect and drops a handful of oil over the abdomen. If the oil flows down straight it indicates that the head is in the correct position. If not she massages the abdomen to correct the position of the foetus. As contractions continue she applies pressure over the fundus. When the head appears she draws the baby out holding the head with both her hands. If, in spite of regular pains the baby is not born she prepares a paste out of 'Ahira chera' a local root which she carries with her. A portion of the paste is applied to the forehead and the other portion is given to the mother to eat. Usually the foetus is born soon after. If this fails she inserts her hand into the womb to pull the baby out. Before doing so she puts oil in the birth canal for lubrication.

Usually the placenta comes out within half an hour. In case of delay she instructs the members of the family to get her a strip of bark from a 'Mahua tree'. This tree is to be specially chosen and in the flowering season all its flowers must have fallen. She prepares a paste from its bark and gives it to the mother to eat and applies a tika to her forehead. Only in certain cases does she have to remove the placenta manually.

After delivery of the placenta she cuts the cord with a knife in the case of caste people and with the help of 'chial kanda' -- the pointed end of the arrow in the case of tribals. The cord is tied with thread.

She cleans the skin of the baby with soft husk and bathes it after applying 'kusum' oil.

The baby is given honey mixed with water as the first food as it is believed that honey water protects the baby from cold and cleans its stomach. She then applies hot fomentation over the body of the baby with 'Assan' wood which is believed to make the bones strong. When the mother feels better she cleans the vulva with warm water and dresses her with soft clean cloth. If the mother gets after pains she is given a drink containing 'pipli' powder or dried ginger powder in hot tea or water. She also has other herbal remedies for pain.

She then cleans the mother's nipples and presses them so that a few drops of milk fall to the ground (to ensure that the baby will digest milk properly and not suffer from green diarrhoea). The baby is then put to the breast.

The 'Antudi' fire is lit in the corner of the room in which the delivery took place and kept burning until the 9th day.

She takes the placenta to the outskirts of the village, digs a pit and buries it.

In case she notices symptoms of collapse she extracts the juice of 'Karanja bark' and places a piece of hot iron in the juice and after removing the iron she gives the juice to the mother to drink. The medicine helps the mother overcome the danger of ensuing collapse.

#### **Post natal care**

The mother is declared untouchable until the 9th day post delivery and she may not take a bath until it is over. The Dai visits her morning and evening to give hot fomentation to her and the baby and to massage both with mustard oil.

During this time she is only allowed one light meal a day, consisting of rice and brinjal with some oil and garlic to maintain temperature but is given plenty of water to drink. It is believed that the baby will suffer from diarrhoea if the mother has a rich diet. This diet is maintained up to 21 days.

On the 9th day the Dai takes the mother to the village pond for a bath and cleans the room where she had been staying.

On that day she receives her remuneration. For conducting a delivery she gets 7-8Kg of rice for a son and 5-6Kg for a daughter. In addition she gets a new saree for each first delivery.

#### **Relationship with PHC**

She does not keep any records of deliveries or abortions but thinks that some of the women delivered by her inform the ANM. Abortions are always kept secret. If a delivery case is too complicated for her skills she will advise the family to take the mother to see the doctor at the PHC but many families cannot bear the expense and prevail upon her to do her best.

She knows of one or two other dais in the area who practice similar methods to her. None of them have had training. As well as performing abortions she knows of medicines that can prevent conception. She feels that abortion is an important method of limiting family size if the mother cannot support more children but that it should not be done frequently. As most people are poor, if she does not provide this service, the mothers are reluctant to go to the PHC for termination and must continue the pregnancy. She sometimes advises women to go to the PHC for sterilisation operations.

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[Case study adapted from studies conducted by the staff of the Department of Social and Preventive Medicine, SCB Medical College, Cuttack under the guidance of Professor Saraswati Swain and sponsored by the Indian Council of Medical Research.]



[Handout 2]

## Job description of the block extension educator

### Working relationships

The BEE will function under the technical supervision and guidance of the Deputy District Extension and Media Officer and the District Extension and Media Officer. However, he will be under the immediate administrative control of the PHC Medical Officer. He will be responsible for providing support to all health and Family Welfare programmes in the block.

### Duties and functions

- 1 He will have with him all information relevant to development activities in the block, particularly concerning health and family welfare, and will utilise same for programme planning.
- 2 He will develop his work plan in consultation with the MO of his PHC and the concerned Dy District Extension and Media Officer.
- 3 He will collect, analyse and interpret the data in respect of extension education work at the Block level.
- 4 He will be responsible for regular maintenance of records of educational activities, tour programmes, daily diaries and other registers, and will ensure preparation and display of relevant maps and charts in the PHC.
- 5 He will assist the MO PHC in conducting training of health workers under the MPW and VHG schemes.
- 6 He will establish a working relationship with the Block Development Officer (BDO) and will enlist his and his staff's cooperation in the implementation of health and family welfare programmes.
- 7 He will be a member of the local block level health and family welfare committee and will act as a resource person.
- 8 He will organise the celebration of Health Days and Weeks and publicity programmes at local fairs and on market days etc.
- 9 He will organise orientation training for health and family welfare workers, opinion leaders, local medical practitioners, school teachers, dais and others involved in health and family welfare work.
- 10 He will assist in organising mass communication programmes like film shows, exhibitions, lectures and dramas with the help of the DEMO and Dy DEMO.
- 11 He will supervise the work of field workers in the area of education and motivation.
- 12 He will supply educational material on health and family welfare to health workers in the block.
- 13 He will tour for 15 days of the month with a minimum of one night halt in every field worker's area.
- 14 While on tour he will check the available stock of conventional contraceptives with the depot holders and the kits with the MPWs and VHGs.
- 15 While on tour he will verify the entries in the Eligible Couple Register for every village and do random checking of Family Welfare acceptors.
- 16 He will help field workers in winning over resistant cases and drop-outs in the health and family welfare programmes.
- 17 He will maintain a complete set of educational aids on health and family welfare for his own use and for training purposes.
- 18 He will organise population education and health education sessions in schools and for out of school youth.
- 19 He will maintain a list of prominent acceptors of FP methods and opinion leaders village-wise and will try and involve them in the promotion of programmes.
- 20 He will prepare a monthly report on the progress of educational activities in the block and send it to the DMO.

[Supplied by Dy Director MEM, Orissa]



## 8 Training Staff

### Introduction

In this module the importance of in-service refresher training for PHC staff and its links with supervision are discussed. After an introductory session in which training methods and aids are explained, participants critically review video film of other medical officers conducting training sessions. They then are asked to select a topic and prepare a short training session for either MPWs or VHGs. The material prepared by the participants is reviewed by trainers at a practice session and after necessary improvements have been made the participants conduct a training session for an audience of VHGs or MPWs in a nearby PHC.

### Learning objectives

- 1 Participants should understand that refresher training for PHC staff is an on-going process and that it is closely linked to effective supervision.
- 2 Participants should realise the need and be able to adapt the content of their teaching so that people of poor educational backgrounds can learn new knowledge and skills.
- 3 Participants should understand that different methods of teaching and learning are required for manual skills, communication skills and knowledge.
- 4 Participants should be able to analytically observe work being carried out and identify the most important training needs.
- 5 Participants will be able to conduct a short training session for PHC staff. Specifically they will be able to:
  - . Select material giving priority to that which is essential for the learners
  - . Devise ways of making the introduction and content of training sessions interesting to the audience
  - . Make and use appropriate visual aids
  - . Arrange clear demonstrations
  - . Assess whether or not trainees have learnt the knowledge or skill being taught.
- 6 Participants should be able to critically review and suggest improvements in training carried out by others.

### Schedule

Five half-day sessions are allowed for this module.

- Session 1: Introduction to refresher training  
Training methods  
Review of teaching carried out by previous batches.
- Session 2: Selection of topics for teaching to VHGs  
Lesson preparation
- Session 3: Practice teaching and review by trainers
- Session 4: Training session for VHGs in the PHC
- Session 5: Final review and summary

### Trainers notes

A number of difficulties have arisen in teaching this module and it is useful to mention how they have been overcome. Firstly, many people regard training as a 'one-off' event: VHG and MPW training is complete and thus learning about training is no longer relevant. It is important that the need for continuing training is stressed at the outset. Secondly, many MOs feel that people with little formal education (eg. VHGs) are unable to learn anything medical. This problem needs to be discussed early in the session. Understandably people do not take kindly to the idea that their teaching in the past might have not been appropriate or that it would benefit from improvement. It is a sensitive subject. We have found that showing film of other MOs

teaching is a useful, indirect way of stimulating criticism. Finally, the actual training session conducted for VHGs or MPWs must serve two purposes: as well as being a learning exercise for MOs it must also benefit the VHGs. This is one reason why the practice teaching session is useful as obviously inappropriate material can be improved before participants go to the field.

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## Activities

### Session 1

The first part of the session is conducted as a class discussion led by one of the trainers.

#### Discussion Points

- 1 Discussion of participants' previous experience in giving in-service training at PHC level:
  - . which staff trained and for how long?
  - . how was training carried out and by whom?
  - . what teaching aids were used?
  - . what problems arose?
  - . were they confident about what the trainees had learnt?

- 2 In-service training as a management tool:

There are several reasons why on-the-job or refresher training is necessary.

- . to learn new techniques
- . to re-learn forgotten skills
- . as part of the implementation of new policies (eg VHG, MPW scheme)
- . although many aspects of work are covered in initial training many people do not learn them well until they realise the need for such skills as part of their work.

Thus although all workers have received some primary training it does not mean that the work of training is over.

- 3 Difficulty of training less educated people in technical matters:

People with little formal education often do not understand things in the same way as those educated in formal schools. This does not mean, however, that they cannot be trained to do technical jobs. It only means that trainers have to learn how others understand things.

Comparisons have to be appropriate and explanations made in terms that people can appreciate and understand. eg How do villagers understand the tubectomy operation? Or the reason for giving ORS?

- 4 How to assess training needs:

- . need to observe work analytically (as was done in supervision module) and take note of what was done well and what was done badly.
- . priority given to those faults noted which have important consequences (examples can be selected from the video film shown in the supervision module).

- 5 Different methods of teaching are appropriate for learning factual knowledge, manual skills and communication skills.

- . although a lecture may be the best method to teach about facts that a health worker should know
- different methods will be needed to teach manual skills (demonstration, practice with supervision) and communication skills (role play, group work etc.)
- The trainer will give examples of each.

- 6 Selecting topics for training:

- . limited time is available for training
- . trainees can only absorb a limited amount in a session
- . there is thus a need to make a careful selection of material to be covered in any training course.
- . Using the e.g. of information about BCG vaccination consider for VHGs:
  - What they must know (the essentials)
  - What would be nice if they learnt
  - What it would be useful for them to learn
  - What is largely irrelevant

(This point is often easy to grasp in theory but hard for MOs to take note of in practice. They are often reluctant to accept that considerable detail [fascinating as it is to them] is not necessary and usually lost on their junior staff.)

In the second part of the session video film of previous trainees teaching is used to provoke discussion on the effectiveness of teaching and to re-emphasise some of the above points. By the end of the session the following points concerning effective teaching should have been covered in some detail using examples from the video film as illustration.



a) The need for clear learning objectives:

What exactly is the trainer trying to teach the students?

If the effectiveness of teaching is to be tested it is essential to know what the original objectives were.

b) The need for clarity:

The teacher needs to speak clearly, his actions and demonstrations need to be clear and there needs to be a clear structure to the lesson he is giving.

c) The need to create and maintain interest:

Particularly the introduction has to catch the attention of students. Also for successful learning students need to be involved throughout the class.

d) The need for variety in presentation:

If the Teacher Talks all the Time (TTT!) the presentation will rarely hold the attention of the audience.

e) The need for understandable and appropriate visual aids:

To be of use they must be understood by the trainees. Often this has to be assessed by the trainer in the session.

f) The need for feedback:

How does the trainer assess whether or not learning has been successful. Questions and answer may not be the only method appropriate.

## Session 2

In the second session the arrangements made for conducting a training session in the field are explained. Depending on the number of participants on the course they are divided into 3-4 groups.

Each group is asked to decide on a topic that they feel would be appropriate to teach to VHGs or MPWs (whichever has been arranged). They should be instructed to make the topics as specific as possible and a time limit of 30 minutes for each group is given.

It is desirable that the topics chosen include communication and manual skills as well as just factual knowledge.

One of the trainees should be appointed as coordinator of the session and will be responsible for introducing each topic and the presenters.

The remainder of the session is spent preparing lessons using materials that would be available in their own PHC (ie: not using the OHP).

## Session 3

### Practice Teaching

Each group is asked to present their material to an audience in the training centre. After each presentation the other trainees are asked for their comments and criticisms. One of the trainers will then emphasise any points that have been missed.

In the review session points a)-f) (above) will be repeated and suggestions for improvements in each group's work will be made. There must be time available (usually overnight) for groups to act on suggestions made. Usually after the practice session topics will have to be made more specific and ways found to increase audience involvement.

## Session 4

### Training in the field

If possible, the training session is recorded on video film so that each session can be reviewed afterwards. In any case the trainers should note down their observations on the teaching for use in the discussion afterwards.

## Session 5

Final review of training as carried out in the field and summary of the major points concerning effective training.

# 9 Programme planning

## Introduction

This module aims to define the MOs role in programme planning; to introduce a systematic approach to programming and implementation of health activities; to familiarise participants with important issues in the programming of PHC level activities and to give practical experience in making realistic programmes for the work of PHC staff.

## Learning objectives

- 1 To understand the role of the PHC MO in health programming.
- 2 To be able to adopt a systematic approach to planning and implementing any health activity.
- 3 To understand the importance of programmed field activities and be able to discuss the advantages and disadvantages of different methods of programming activities.
- 4 To be able to draw up a realistic fixed tour programme for all levels of PHC staff.
- 5 To be able to make out a detailed sector programme.
- 6 To be able to present fixed tour programmes and sector programmes in a clear and comprehensible way to others.
- 7 To be able to critically review programmes made by others.

## Schedule

Two days is allocated to this module.

### DAY 1

Session 1: Introduction to planning and programming

Session 2: Specific issues in PHC programming

### DAY 2

Session 3: Group work -- introduced at the end of the first day. Most of the day is needed to complete the tasks and prepare reports.

Session 4: The last session of the day is used for presentation and discussion of reports.

## Activities

### Session 1:

Starts with guided discussion concerning the MOs role in planning and programming.

Participants as a group are then asked to list out all the factors that have to be taken into account in planning a school health visit. The factors enumerated are structured by the trainer as a means of introducing the systematic approach to programme implementation.

### Session 2:

In this session each issue is raised as a question for the participants to debate in the light of their own experience. The trainer summarises the pros and cons of each argument and in some cases may offer a personal opinion as to the most effective method of programming.

### Session 3:

Participants work in groups of 5 or 6 on preparing either a fixed tour programme or a detailed sector programme. Reports are prepared for presentation on the OHP.

### Session 4:

Because the two group exercises are different it is most useful if discussion/criticism takes place after each. The end of this session can be used for summarising the module.



## Trainers notes

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Notes on the conduct of the first two sessions are included in the reference material for each. It is important that trainers work with the groups initially to get them started on producing clear programmes. Not only should the programmes produced be consistent with the instructions and constraints given; their presentation should be clear. It is important to stress that one of the objectives is not only that MOs can produce realistic work programmes but that they can communicate them clearly and concisely to others. This should be commented on in the discussion.

Good plans produced by other groups should be available for comparison in the discussion session.

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# Reference material

## Session 1

### OHP 1

#### 1 The MOs role in Health Programming

(i) The Government of India signed the Alma Ata declaration and espouses the cause of *Health for All by the Year 2000*. What does this actually mean? What should happen to peoples' health over the next 15 years?

Discussion points:

- . HFA 2000 is an international slogan used to help focus the attention of governments on the provision of health care.
- . Has to be made more specific in terms of achievable goals
- . The goals chosen may differ from country to country
- . In India some specific goals have been specified in terms of:

- . Availability and coverage of services  
[1 PHC per 30,000 population; 1 sub-centre per 5000 population etc]
- . Coverage by programmes [DPT/Polio to 85% of school entrants.]
- . Decline in mortality [IMR <60; MMR <2; CDR 9 etc]
- . Decline in morbidity from specified diseases [eg: malaria, TB and leprosy]
- . Decline in fertility indices [CBR 21; NRR 1;]

(ii) To achieve these goals priorities have to be made and resources have to be allocated. Health is a State subject but this process usually involves a process of negotiation between the States and the Centre.

The priority given to a particular part of the health programme is often indicated by the proportion of the budget allocated to it and the emphasis it receives from Directors.

What are the priority health programmes in Orissa?

(iii) At the level of the PHC (and the district) priorities have already been decided and long term goals translated into short-term operational targets: which PHCs are required to achieve.

Does this mean that the MO has no role in planning or programming?

The MO is in the position of having to implement orders from above. Several programmes have to be implemented simultaneously with finite numbers of staff, limited resources and limited time. Programmes will not 'just happen' and the MO has one of the most difficult planning and programming jobs in the whole system.

### OHP 2/ OHP 3

#### 2 A systematic approach to Programme Implementation

To make a difficult task easier it is useful to adopt a systematic approach to implementing programmes.

The example of a school health programme is used in order to consider all the things that have to be taken into account in planning and carrying out a series of visits.

[The trainer will make a checklist on an OHP and fill in headings (as per handout) afterwards]

The following points are covered in reference to the handout on programme implementation (see below). [OHP 4]

- . It is like using a mental checklist so that each aspect of the programme is considered and nothing is forgotten. It is also easier to remember linkages using this method.
- . This approach brings together the subjects that have been covered so far. [See OHP 6a/6b from Introduction Module]
- . It is similar to the systems approach that we use clinically in diagnosis and treatment.
- . In different circumstances some headings will be more important than others.
- . This approach is also useful for getting to grips with unfamiliar situations or programmes. It tells you what questions to ask.

#### 3 Some general guidelines

##### (i) Planning as ritual

Easy and quick  
Can be delegated  
Rarely needs changes  
Of little practical value

##### Planning as reality

Takes time and thought  
Requires consultation  
Often has to be changed  
A useful tool for making things work.



(ii) Relationships with superiors: what to do when asked to do the impossible.

The MO is in the position of implementing orders and priorities of others. Sometimes it is not possible to do everything that is asked which puts the MOi/c in a difficult position with superiors and subordinate staff.

- . Always make sure that instructions given are fully understood. Never worry about asking for clarification.
- . It is frequently important to clarify what you do not have to do. If in doubt ask for it in writing.
- . Making out a detailed programme of work makes it easier to understand what can actually be done by staff in a given period. If people agree on their role in a particular plan they are more likely to fulfil it effectively.

This session is an introduction to the idea of programming work. One of the most difficult aspects of programming is making realistic schedules and managing time. This will be dealt with in much more detail in the next session.

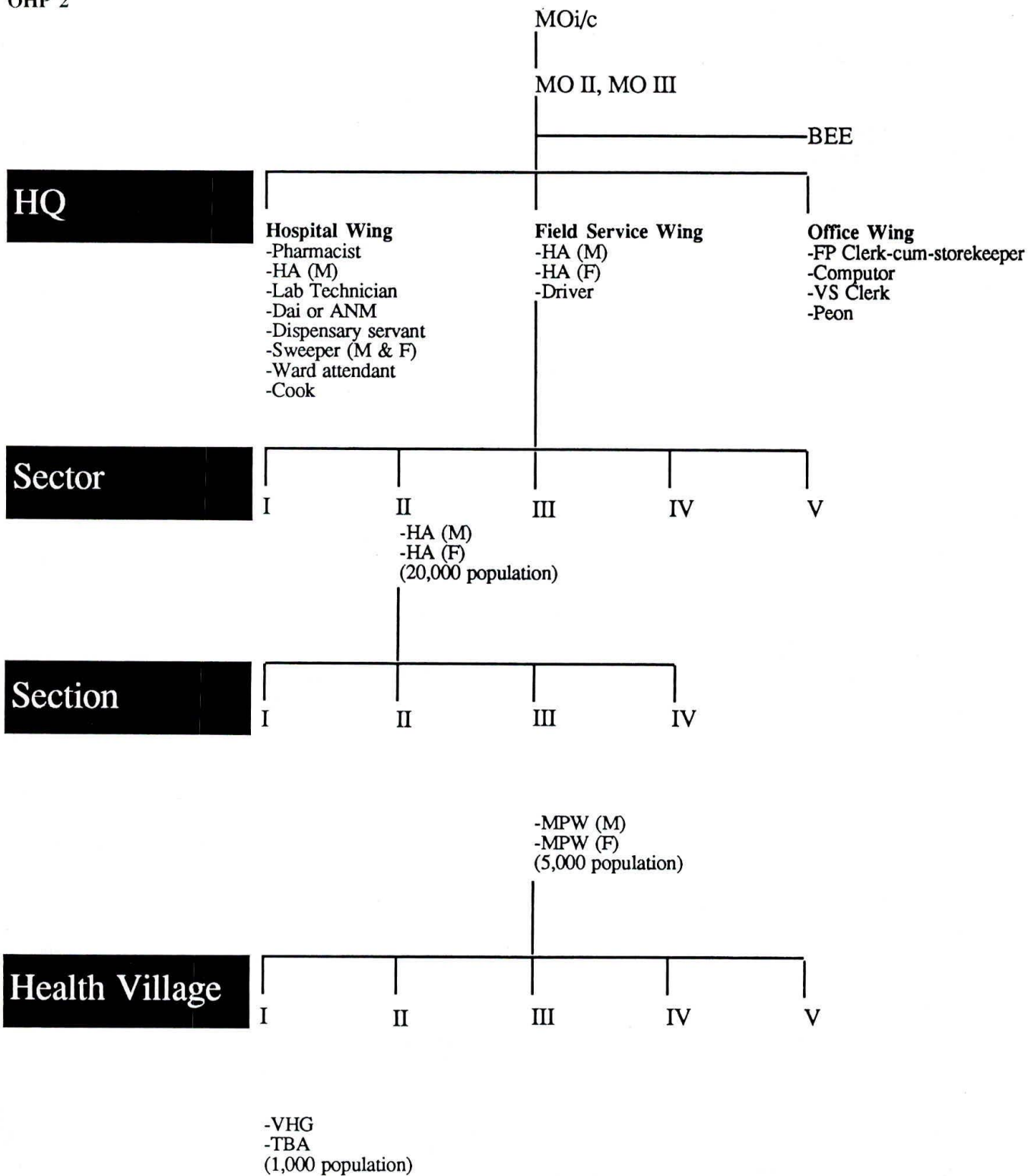
#### OHPs for session 1

#### OHP 1

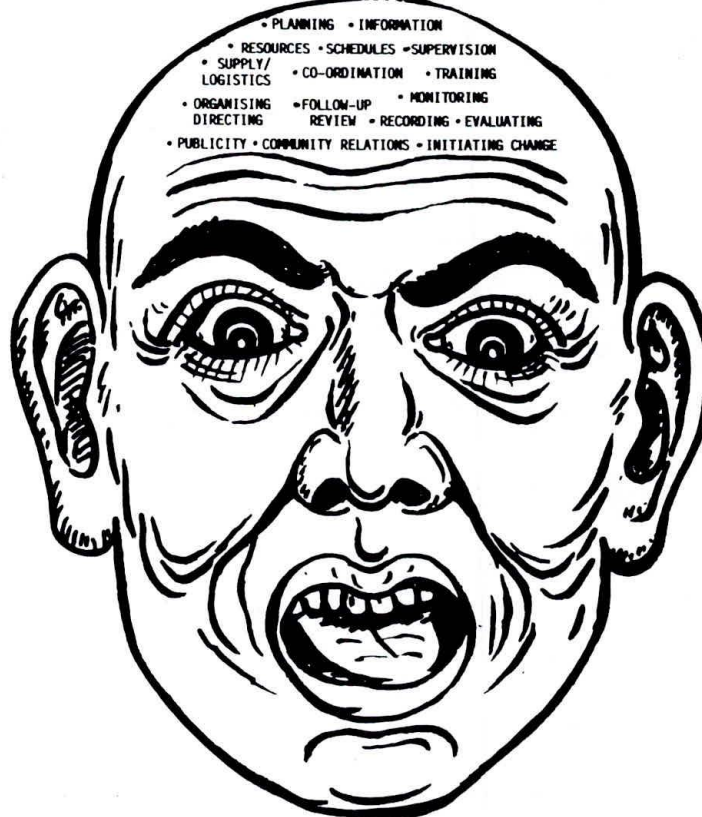
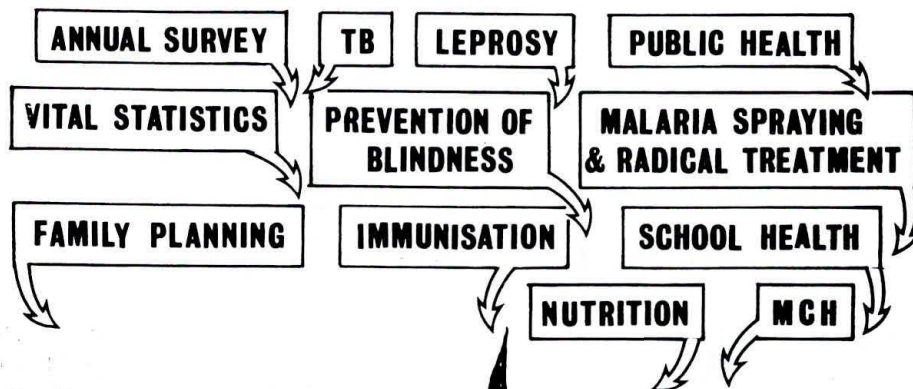
International	<i>Health for All by 2000AD</i>
National	Long term goals <ul style="list-style-type: none"><li>- Provision of services</li><li>- Decline in mortality</li><li>- Decline in fertility</li></ul> Medium term (5 year plans)
State	Priority Programmes FW Immunisation Malaria
District	Operational targets
Block	Implementation of programmes to achieve targets <ul style="list-style-type: none"><li>-limited resources</li><li>-limited time</li><li>-finite number of staff</li></ul>

# Organisational Structure of the PHC

OHP 2

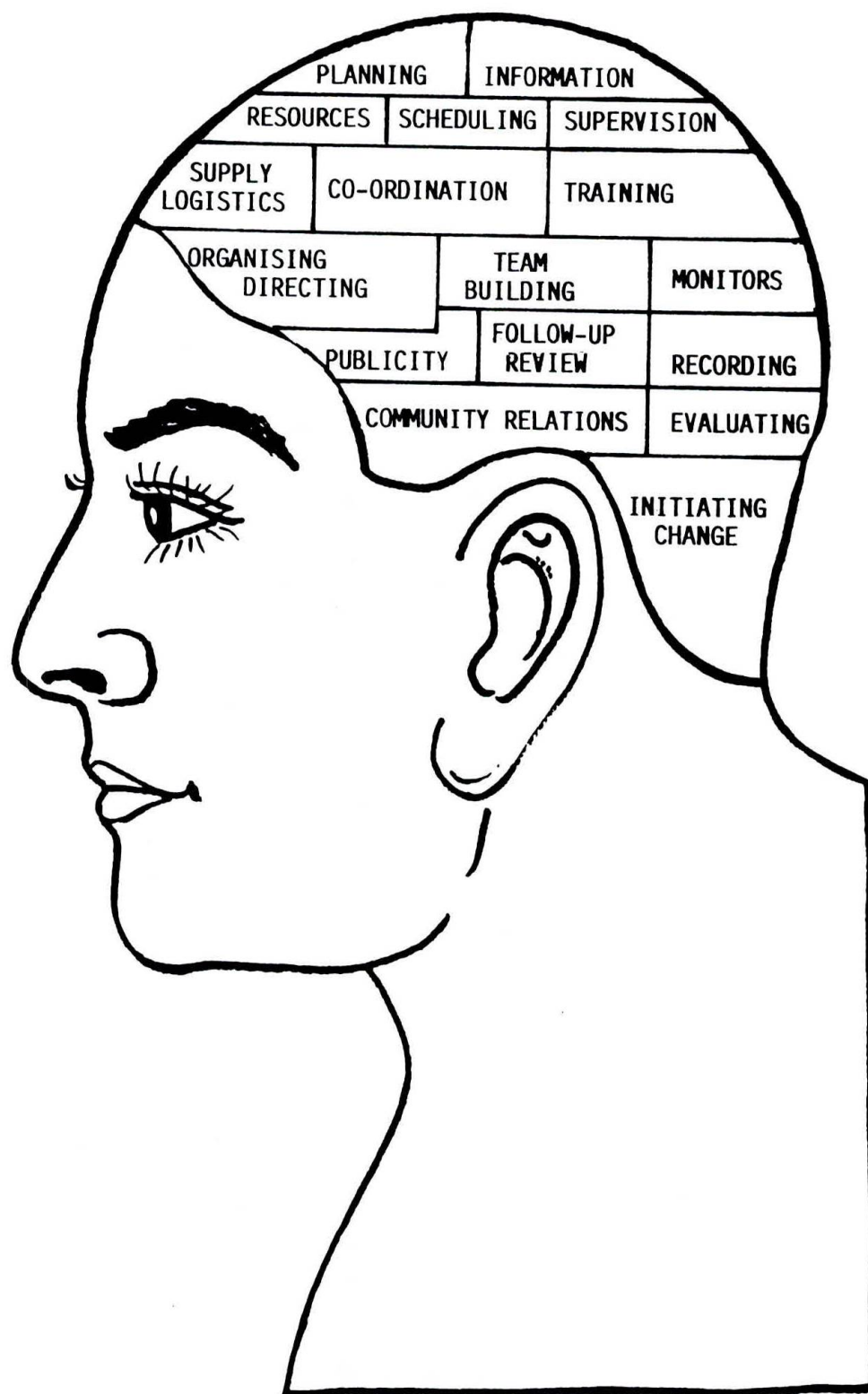






## THE DOCTORS DILEMMA

# AN ANATOMY OF HEALTH PROGRAMME IMPLEMENTATION





## Planning and implementing health programmes: A checklist

This checklist of questions can be used when thinking about the implementation of any health programme. It is designed to help doctors adopt a systematic and logical approach to programme planning and implementation.

The categories used sometimes overlap and not everyone will agree with the definition of each category. The list of questions in each will obviously change with the particular situation that is being dealt with. In some cases certain categories will receive greater emphasis than others. The answers to the questions need to be as detailed and practical as possible.

### 1 Information

What information is needed for planning the programme?

- . How many people/children/cases/households/buildings etc. will be covered by the programme?
- . What is the age/sex of those to be covered?
- . Where do they live?
- . What particular health problem is to be affected by the programme?
- . Which part of the area is worst affected by this problem?
- . Where does the above information come from? Is it reliable? Can it be checked? (SUPERVISION)
- . Do people affected by the programme agree to participate?
- . If they are resistant, why is this?
- . What help might the community give to health workers? (COMMUNITY RELATIONS, PUBLICITY)

### 2 Planning

In this section we ask: what will be the strategy for the programme.

- . WHICH staff? HOW MANY of each grade?
- . WHAT methods will be used?
- . HOW MANY people will be covered?
- . WHERE and WHEN will the programme be carried out?
- . WHAT will be the sequence of operations?
- . HOW FREQUENTLY will the programme be done?

### 3 Resources

What resources are required for this particular programme?

Materials:

- . How are requirements of drugs/vaccines/insecticide etc. estimated?
- . What equipment is needed?

Money:

- . How is money for the programme requested?
- . Do special bills have to be prepared?

Vehicles:

- . Is it necessary to use the vehicle?
- . How can its use be optimised? (SCHEDULING)

Personnel:

- . Who will be involved, when and for how long? (SCHEDULING, PLANNING)

If availability of resources is a limiting factor in planning programmes (as it usually is!) then INFORMATION is needed in order to make priorities.

### 4 Supply and logistics

How do we arrange to get the resources needed from the source of supply to the place where they are used at the right time? [This is particularly important in the management of vaccination programmes and malaria spraying]

## 5 Scheduling

This will be dealt with in detail on the course.

- . For the particular programme which staff need to be where, when, doing what and how often?
- . Does their work schedule/tour programme allow for this to occur?
- . Has time been given for preparation/publicity/ training etc. in existing schedules or do they need to be adapted?
- . Do all concerned staff know their work schedule?
- . Have meetings (Supervisors meetings; sector meetings) been arranged for the drawing up and planning of work schedules ? How often will they be held? Who will attend?

## 6 Supervision

- . How will supervision be carried out -- direct or indirect? By whom?
- . What aspects of work will be checked? How can supervisors be sure that the work has been done properly?
- . Are supervisors familiar with how work should be done? Are they able to supervise effectively? (TRAINING)
- . Do their work schedules allow them to supervise effectively ? (SCHEDULING)

## 7 Coordination

This refers to coordination and cooperation with higher authority, other departments and other agencies. It is particularly important in the ICDS programme.

- . Which other departments should be informed of the timing of the programme?
- . Which voluntary agencies should be involved?
- . How will they be informed?
- . How will coordination be arranged? Will a letter suffice or should a meeting be arranged?

## 8 Training

Are all the staff involved able to carry out the tasks assigned to them? (SUPERVISION)

- . Is refresher training needed?
- . When will it be done and by whom? (SCHEDULING)
- . Would people in the community benefit from some training (Opinion leaders, school teachers etc.)?

## 9 Organising and directing

For each programme activity decisions have to be made as to the actual mode of operation.

Here we are concerned with details of each part of the programme.

- . For each activity where will it be done (eg: a separate place for registration, operation, premeds, payment and recovery at a FP camp)
- . For each activity: who will do what? (eg: In a spraying team one man to pump, one to spray, one to do the stencil)
- . In what order will activities be carried out?
- . Have emergency/contingency plans been made? (eg: in case of complications after tubectomy).

## 10 Publicity

- . Do the people who will be affected know about the programme?
- . What methods/media will be used to inform them?
- . How long in advance does specific publicity have to be carried out? (SCHEDULING)
- . Are the methods used effective?

## 11 Community relations

Do the beneficiaries of the programme understand/agree with what is being done and can they help with programme implementation?

- . Are there false beliefs about the programme?
- . Why do people hold these views?
- . How can the aims of the programme be effectively explained to the community? Who will do it? Do these people need training?



## **12 Monitoring and recording**

- . What records need to be kept for the programme? Who will keep the records? Do they understand why records are kept and how the record keeping system works? (TRAINING)
- . Who will check whether records are accurate? (SUPERVISION)
- . How will information from programme monitoring be used to control the availability of resources? (RESOURCES, SUPPLIES AND LOGISTICS)

## **13 Review and follow up**

- . Is it necessary to follow up persons affected by the programme? Who will do this? When? (SCHEDULING)
- . What problems can be identified by follow-up and review of work in the field? (SUPERVISION)

## **14 Evaluation**

Did the programme have the effect that was intended?

- . Which data should be examined? (INFORMATION, RECORDING)
- . Was the target achieved?
- . What was the coverage of the programme?
- . What problems prevented successful implementation of the programme?

## **15 Initiating change**

Programming and planning is part of a continuing process. Where problems are identified or a need for improvement discovered it is necessary to plan out how changes can be introduced. This process may affect any of the above categories (eg: more TRAINING needed, better SUPERVISION, more careful SCHEDULING, different ORGANISATION of work, a new system of SUPPLY etc.)

# Reference material

## Session 2

### Specific issues in programming

#### Introduction

This session is designed to introduce important issues which will be encountered in the practical programming exercise. The session should make participants aware of the pros and cons of various approaches to programming rather than giving rigid guidance. It also naturally leads into the group exercise.

Each section is introduced as a question to the audience who are asked their opinion and experience on each of the issues outlined below.

#### 1 Is there a need for programmed work?

The organisation of the PHC can be seen to be in 3 parts:

OHP 2 from Session 1

- a) Hospital Wing
- b) Office Wing
- c) Field Service

Most of the office work is routine and repetitive: there is little need for programming. In the hospital wing (OPD/IPD) again activities are routine but they must occur at fixed times and it is essential that one MO always be present. This must be taken into account in planning how the MOs spend the rest of their time.

As was pointed out at the end of the last session it is in the field service section that a wide range of tasks have to be undertaken by the same staff in a limited time. Field work cannot be done haphazardly: a detailed programme is essential in order to make the best use of resources.

#### 2 What should be the basic unit for service activities?

Revenue village vs. 'health village'

Disadvantages of the revenue village as the basic unit include:

- . variable population
- . changeable

Advantages of the 'health village'

. VHGs are allocated by population (1/1000 population) therefore a health village with population of about 1000 is logical

To divide the area of a block into health villages requires detailed local knowledge so that the divisions are sensible and can be agreed by all concerned. If, however, it is agreed that the division of the area into health villages is useful it can make a good starting point for improving PHC organisation.

[Useful for trainer to check how many participants already have divided their blocks into health villages.]

#### 3 Issues in making fixed tour programmes for village visits

a) How many households can be visited in one day? Malaria surveys show that 100 households can be visited in 6hrs therefore 60-100 houses per day might be achievable. BUT the time needed for introduction and discussion of Health Education is very different from a survey.

Frequently people are out/in the fields/at work.

Thus 60 is probably the absolute maximum. It is also necessary to be selective and if a larger number of houses have to be visited than is realistically possible, concentrate on those households where services are most needed.

b) How often should the area be visited?

(i) Weekly/fortnightly/monthly?

The ideal might be weekly but is this possible?

(ii) Should visits be on a fixed day or fixed date?

There are several advantages of the fixed day system as people are more likely to remember the day of a visit, relate it to markets etc and most people are unfamiliar with using dates. It does, however, make a weekly schedule necessary.

Thus if the health village population is about 1000 and the worker can visit a maximum of 500 houses in a week and a fixed weekly programme is desirable a compromise solution is necessary.

It is suggested that each village be divided into two approximately equal parts: Village A1, Village A2 etc. Intensive work is carried out in village A1 one week and A2 in the second week.

Note: RT and other, non-routine, work has to be done in both parts of the village as necessary.



#### **4 What should be the basic unit for supervision and programming?**

Should it be: the PHC -- ie: the whole block

Sector

Section (sub-centre) ?

Advantages and disadvantages of each can be discussed. For each sector there should be one HA(M) and HA(F) as supervisors. Also each MO will have responsibility for one or two sectors.

If the supervisors and sector MO are accountable for the success or failure of programmes conducted in the sector then it is logical that the sector be the basic unit for programming.

If this is the case then two factors should be considered:

- a) Regular sector meetings will be necessary to make and agree on programmes for the sector
- b) Sector programmes will have to be coordinated at PHC level.

#### **5 Routine vs Special Programmes**

In making up programmes for the sector it is useful to consider the frequency with which programmes are carried out. Many activities have to be done on most if not all visits: others on certain occasions only.

Note: Some activities can be classified as routine but are only done if circumstances dictate eg: RT, BS collection, deliveries.

Frequency of special programmes

(i) Family Planning Camps:

Time has to be allocated both for motivation and preparation before the camp and follow-up afterwards. Thus if one week is allocated to each activity a minimum of 2 weeks (plus the actual day/s operating) is the minimum required. Clearly therefore the maximum achievable is 2 camps per sector per month. A more realistic optimum is one. Better to prepare and conduct one well organised camp than try to have several ones that are poorly organised and probably badly attended.

Note: Programme should consider the details of who should do the motivation, when and for how long etc.

(ii) Immunisation:

Should immunisation programmes be village based or sub-centre based? The advantages and disadvantages of each are discussed. Although a village based programme has advantages in terms of better attendance, follow up and registration and a lower drop out rate; a particular place suitable for conducting vaccinations must be chosen in each village.

It is also necessary to discuss whether special visits should be made for conducting vaccinations or whether they should be done on fixed days. If the latter is chosen, how many visits will be necessary to cover each sector? On the first visit registration will be done; three visits are necessary for the 3 doses to be given and on a final visit children that were missed can be vaccinated. It can be shown that the optimum will be two complete rounds per annum.

(iii) VHC Committee Meetings

1 meeting every 3 months is ideal.

(iv) OTC training camps

1 in each sector every 3 months.

#### **6 Programming Meetings**

(i) Sector Meetings

Particular attention needs to be given to the rationale for sector meetings and liaison with the PHC by means of a regular rota for an observer from the PHC to attend sector meetings.

(ii) Supervisors Meetings

Again the rationale in terms of improved coordination of sector programming should be considered.

(iii) PHC Meeting

For each meeting the frequency and attendance must be considered.

#### **7 Sub-Centre Clinics**

The advantages of better utilisation of the resources (particularly medicines) of the sub-centre and the issues concerning attendance and supervision of the sub-centre clinics by the MO can be discussed.

#### **8 Out-Door Department**

It is essential that one MO always be available to run the out-door department. In order that MOs can also be available for field work and supervision it is necessary that a rota be agreed. The issues of continuity of patient care; continuity of field work and frequency of handing over charge need to be considered in devising this rota.

## Frequency of programmes and service activities

Activity	Frequency
Annual survey and updating records	1 annually
Malaria spraying	2 rounds/yr
Immunisation	2 rounds/yr
Disinfection of wells	2 rounds/yr
Special camps (eg eye)	1/2 per year
VHC meetings	1/3 mths
OTC camps	1/sector/3mth
Sterilisation camps	1/sector/mth
School health	1/school/2wks
Collection of VS	Routine
Collection of blood slides	Routine
Radical treatment	Routine
Health/Nutrition education	Routine
Ante natal: registration	Routine
vaccination	Routine
fefol distribution	Routine
Deliveries	Routine
Postnatal: follow up	Routine
child care	Routine
First aid/Rx minor ailments	Routine
Referral	Routine
Advice on hygiene/sanitation	Routine

## Exercises for group work

### Group one

You are asked to design a fixed tour programme for the staff of a PHC as listed below. The tour programmes should conform as far as possible to the commitments listed for each grade of staff. You will have to decide whether all the commitments listed can be fulfilled. The group should try and justify its decisions.

### Background information

The PHC is divided into 5 sectors and there are approximately 20 villages in each sector (with population of about 1,000 each). The sectors have been labelled (I, II, III, IV, V). There is a HA(M) posted to Sectors II-V but the post in Sector I has been vacant for some time. There is no LHV (HA(F)) in Sector IV.

There are 20 functioning sub-centres and 5 (the sector HQ in each case) are upgraded. In the areas served by the subcentres there are both MPW (M) and (F)s. The subcentres have been sited so that they serve about 5 villages each.

There are 3 MOs in the PHC: along with a BEE and the usual ancillary staff.

### Commitments to be fulfilled

#### 1 Medical Officers

- \* One MO should be available in HQ at all times. It has been agreed that they will all share the field work on a rotating schedule.
- \* Because of his greater administrative commitments the MOi/c takes charge of Sector I. The other MOs take responsibility for 2 sectors each.
- \* The last day of each month is devoted to a PHC coordination meeting at which all staff are present.
- \* The MO should run a clinic in the up-graded subcentres once a week and in the other sub-centres as often as possible.
- \* To coordinate the work in all sectors a weekly meeting of supervisors held in the PHC HQ and attended by all MOs is convened.
- \* In each sector a meeting is held weekly. It has been agreed that one member of the HQ senior staff should attend each sector meeting on a rotating schedule. (This rota will include the MOs).



## 2 Supervisors [HA(M) and HA (F)]

- \* It is agreed that sub-centre clinics be held on a fixed day each week.
- \* The HA (F) should attend the subcentre clinic whenever possible.
- \* One day each week is reserved for attending a meeting of supervisors at the PHC.
- \* A coordination meeting is to be held in each sector each week to which the MPWs of the sector (plus some VHGs/TBAs) will be called
- \* The main duty of the HA(M) and (F) is concurrent supervision of MPWs in the field.
- \* The tour programme for Sector I and IV has to take into account staff vacancies.

## 3 MPW (M) and MPW (F)

- \* The MPWs are required to visit the villages in their area on a regular basis. In addition they have to have time available for non-routine events (for example: giving radical treatment; conducting deliveries; attending special camps; VHC meetings).
- \* They are required to attend the sector meeting at the sector HQ on one day each week and to attend the PHC coordination meeting on the last day of each month.
- \* One of the MPWs should be present at the weekly sub-centre clinic.
- \* The tour programme for MPWs in Sector IV should take into account staff vacancies.

## Group two

You are asked to make a detailed plan for the service activities to be carried out in one sector of a typical PHC. The plan should be as detailed as possible and take into account available manpower resources and area/persons to be covered. You should also take into account the likely availability of material resources.

### Background information

The sector has a population of 20,000 persons approximately, living in 20 villages. The sector is fully staffed: with 1 HA (M), 1 HA (F); 4 MPW (M), 4MPW (F) and the usual number of VHGs. At the monthly PHC coordination meeting it has been agreed that the emphasis over the next month should be on immunisation (DPT and polio) and that the maximum coverage of eligible children in the 20 villages should be aimed for [ie.100% as envisaged in the Universal Immunisation Programme (UIP)].

The immunising agents are always available at the district HQ. Indents need to be sent at least 2 months in advance of requirement.

In addition however routine service activities should be maintained by the MPWs. As MOi/c you are particularly concerned that the following activities are continued:

- \* BS collection
- \* Vital statistics registration
- \* Ante natal care (particularly TT administration)
- \* Supervision of deliveries by MPW(f)
- \* Post natal follow-up

In order to maintain progress toward the target set for FW activities it is necessary that one FW camp be held in the sector during the month. Provision should be made for carrying out this camp (publicity, motivation, operations, follow up) in the monthly plan.

The group should draw up a detailed plan indicating how the immunisation programme will be carried out. (The checklist provided may help). The plan should also include a schedule of activities for the HA (M and F) and MPWs (M and F) showing how they will maintain their routine activities during the month and how concurrent supervision will be maintained.

### **Additional Reading**

*Organisational Aspects of the Primary Health Centres in India*

Professor B K Shree (1985) Draft Edition. (Available from RHC Jagatsinghpur.)

# 10 Management of immunisation programmes

## Introduction

This module aims to cover the most important points in the implementation of the Universal Immunisation Programme. Because of the time available on a general management course it is not possible to go into great detail. The teaching material is based on the WHO EPI manuals which can be used if time is available for a more comprehensive training on this subject. A separate session on the maintenance of cold chain equipment is held during the course.

## Schedule

Approximately two hours is required for this module. If possible it is appropriate that it is taught either just before or soon after the practical demonstration of maintenance of cold chain equipment (Module 11).

## Activities

In Jagatsinghpur this session has been conducted by the Deputy Director (MCH). The session takes the form of lecture/discussion with time allowed at the end of the session for answering participants' questions. Parts of the reference material (as indicated) may be used as a hand-out for participants.

## Reference material

### 1 History

Following the world-wide eradication of smallpox the World Health Organisation initiated the Expanded Programme of Immunisation. This was adopted by the 4th Central Council of Health of the Government of India. It was agreed that implementation of the programme would be the responsibility of the States: the Government of India would, however, provide for the following:

- . provision of vaccines
- . training
- . evaluation
- . cold chain equipment

OHP 1

### 2 Diseases covered by EPI programmes

Diphtheria  
Pertussis  
Tetanus  
Polio  
TB  
Typhoid  
Measles

In Orissa measles vaccination will be undertaken in selected sub-divisions for the first time in 1985/86.

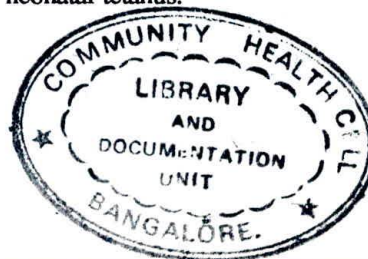
The rationale for including a disease in the programme is that

- 1 The vaccine is available
- 2 The disease is preventable by vaccine

It has been noted that 50% of deaths occur in the childhood period; 30% in the first year of life; 20% in the first month and 10% in the first week. A large proportion of these deaths are due to diseases preventable by vaccination and thus the EPI programme directly contributes to lowering Infant Mortality Rates (IMR) and Child Mortality Rates. Notably the neonatal mortality rate is influenced by the number of deaths due to neonatal tetanus.

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### 3 Vaccine Schedules

#### General

Vaccine schedules are constantly changing and many different schedules exist.

Supplies of vaccine are inevitably limited and vaccine will be supplied according to the schedule. Additionally it has been decided to concentrate on the population <1 yr. old. In Orissa the <1 yr. population is 9,00,000 but vaccine for only 5,00,000 is supplied. For this reason priorities have to be made and it is aimed to supply vaccine for 100% of the target group in ICDS blocks, tribal backward areas.

If vaccinations are given to older children coverage of the target age group will suffer. It is acknowledged that it is often difficult to refuse when vaccination is demanded by wherever possible vaccination should not be given to children > 4 yrs.

In reports MOs are asked to divide vaccinations given into those for <1 yr. olds and those given in the age group 1-2 yrs.

OHP 2

#### **Vaccination schedule for Orissa 1985/86 [OHP 2/ Handout 1]**

	vaccine	number of doses	route	dose
3-9 months	DPT	3	im	0.50ml*
	Polio	3	po	0.50ml*
	BCG	1	id	0.05ml
9-12 months	Measles	1	sc	0.50ml
18-24 months	DPT	1 booster	im	0.50ml
	Polio	1 booster	po	0.50ml
5-6 years	DT	1 for children with 3 doses + booster 2 for unvaccinated children		
	Typhoid	2	sc	0.50ml*
10 years	Tet.tox	1 if no previous Dt or DPT		
	Typhoid	2 if no previous vaccination		
16 years	TT	1 booster or course of 2		
	Typhoid	1 booster or course of 2		

\* intervals 4-6 weeks (not less than 4 weeks)

#### Dose schedule for pregnant women

Tet. toxoid 2 doses im of 0.5ml given at 4-6 week interval between the 16th and 36th week ie not in the last 4 weeks.

#### Contraindications

Second dose of polio may be compromised by diarrhoea (repeat later).

Do not vaccinate only if acutely and severely ill OR if reaction occurred after first dose.

#### Side effects

If children experience side effects without their parents having been informed it is likely that they will refuse further vaccinations. Some vaccines do cause minor side effects: parents should be informed, reassured and told that if worried, they should attend the PHC or sub centre for advice.

### **4 Management of the Programme**

#### **a. Site**

Vaccinations should be carried out in the sub-centre or in suitable buildings such as a school. They should NOT be given house to house.

Initially attendance at sub-centres may be low. If regular, publicised clinics are started it will improve.

#### **b. Determination of eligible population [Handout 2]**

The population in each age group is calculated for the purpose of indenting vaccines using the following data:

- . Population of the area
- . Birth rate
- . Age specific death rate

Rates applicable to the State of Orissa as a whole are used. Thus:-

$$\begin{aligned} \text{(i) Population } < 1 \text{ yr} &= \text{Total Pop.} \times \text{BR} \times (1 - \text{IMR}) \\ &= 1,00,000 \times 0.035 \times (1 - 0.125) \\ &= 3,500 \times 0.875 \\ &= 3,063 \end{aligned}$$

**Note:** The birth rate and death rate are to be expressed as decimals ie: a birth rate of 35/1000 is expressed as 0.035. The Age specific death rate in children less than 1 year is, of course the same as the Infant Mortality Rate: 125/1000 live births -- or 0.125. Also note that the, <1yr population is approximately 3% of the whole.

- (ii) Population under 2 years:  
 $3,063 \times 2 = 6,126$  ie: assume the same population in each age group.
- (iii) No. of children aged 5:  
No. of infants  $\times 0.984$
- (iv) No. of children aged 10:  
No. of 5 year olds  $\times 0.966$
- (v) No. of 16 year olds:  
No. of 10 year olds  $\times 0.954$

After calculating, total beneficiaries, aim to cover 85%:

Thus if 5,000 eligible, aim to cover 4,250

Then for each vaccine:

(Target population  $\times$  No. of doses) + 10% wastage

To get quantity, in vials of vaccine for each indent:

Divide by: . periodicity of supply  
. dosage of vial

After estimating requirement: check remaining stock and deduct from total.

#### c. Source of vaccines

At State level:

- a) Central Research Institute, Himachal Pradesh
- b) Hafkins Biopharm Ltd, Bombay --- Polio only
- c) BCG Lab, Madras  
Pasteur Institute --- BCG and PPD

Transport from suppliers:

CRI to Chandigarh by van; Chandigarh by air to Delhi; Delhi to Bhubaneswar by air; from the airport to central store in vaccine carriers and then stored in new walk-in cooler in central store. From Bhubaneswar to the districts vaccine is transported in deep cold boxes with ice packs.

#### d. Vaccine storage

[Participants are directed to the literature on cold chain maintenance. Additionally a session is included in which the practical maintenance of equipment is covered in detail]

Some particular points to stress:

- . vaccines should be stored between 4-8 degrees centigrade.
- . DPT vaccine must not be frozen. Measles and polio can be frozen and for long storage can be kept at -20 degrees centigrade.
- . vaccines should not be stored in the door of the refrigerator: it is suggested that water bottles are kept in the door to help maintain temperature (NOT for drinking!)
- . if an area suffers from power cuts a fridge with an ice liner can maintain its temperature for 24hrs with 8hrs power. A good way of checking the seal on the fridge door is to see if a piece of paper can be pulled free easily. The seal should be tight.
- . do not expose vaccine carriers to direct sunlight.

#### e. Date expiry

PHCs are often sent vaccines close to or after their expiry date. Always note the DATE OF RECEIPT and BATCH No. If vaccine is already date expired then MOs are within their rights to refuse to accept it (See Module 4).

The PHC should not hold more than 1 months requirements at any one time.



## 5 Surveillance

To assess the impact of the programme the following data are required:

- 1 No. of cases of disease
- 2 Age at which vaccination given
- 3 Change in incidence or severity of disease
- 4 Vaccination status of children

Sources of data:

Regular reporting - generally acknowledged to be unreliable.

Sentinel centres - particular centres chosen where data may be more accurately collected, eg up-graded PHC in Puri.

Active surveillance - using health workers to actively search for cases. Strict criteria can be defined so that case ascertainment is more accurate, eg asking re deaths of children less than 1 week old who were well at birth and then suffered from fits: to ascertain number of neonatal tetanus cases.

Investigation - cluster sampling to assess coverage outbreak investigation.

### Additional Reading

- 1 *The Immunisation Programme in India: A Handbook for Medical Officers* by J Sokhey, I Bhargava and RN Basu.

Published by the Government of India, Ministry of Health and Family Welfare, 1984.

- 2 *Vaccine Production in India* by DB Bisht and J Sokhey. Published by Directorate General of Health Services, Ministry of Health and Family Welfare, GoI, 1985.

- 3 WHO EPI Training Manuals.

All these books are in the training centre library.

# 11 Management of the the PHC Vehicle and Cold Chain Equipment

## Introduction

This module has been arranged in collaboration with the State Health Transport Organisation (SHTO) who are responsible for the maintenance of both vehicles and cold chain equipment for the Department of Health and Family Welfare.

## Learning Objectives

- 1 Participants should understand the need for regular maintenance of the PHC vehicle; be able to instruct the driver to carry out the various required procedures at the appropriate intervals and be able, if necessary, to check that the work has been carried out correctly.
- 2 They should be able to install and maintain the PHC refrigerator and be able to carry out simple checks to detect problems in the event of its malfunctioning.
- 3 They should know the capacity and correct method of use of the various vaccine carriers used for transporting vaccines to and from the PHC headquarters.

## Schedule

This module is allocated 3 sessions of one working day. If it can be arranged it is appropriate for Module 10 (Management of Immunisation Programmes) to be taught during the last session (see Appendix A).

## Activities

The day is divided into two parts: one part on vehicles and the other on cold chain maintenance. Both sessions are run as demonstrations by the staff of the SHTO using a vehicle and refrigerator from the training centre to explain the various points. The handouts (see Reference Material below) have been prepared by the SHTO and should be given to the participants to read before the session.



[Handout 1]

## Reference material

### Operational know-how and maintenance of vehicles

Prepared by: State Health Transport Organisation, Orissa

Dear Doctor:

You are well aware that the human body is apt to develop handicaps prematurely with increasing age if it is not properly and regularly looked after. The motor vehicle under your charge too requires regular and timely maintenance if it is to give you sustained and satisfactory service; enabling you to perform your important duty promptly and safely.

#### Operational instructions

Ask the driver before commencement of the journey in your presence to check:

- 1 Fuel in the tank
- 2 Oil level in the engine: if low, top up to the correct level.
- 3 Water level in the radiator: if low, to up to the neck and fix the cap properly.
- 4 Check tyre pressures as specified (see below).
- 5 Check cleanliness of vehicle.
- 6 Check that spare wheel is correctly installed -- and tools.
- 7 Check that vehicle jack is in proper working condition and that the wheel spanner is of the correct size.
- 8 If possible essential spares (fan belt, headlight bulbs, spark plugs) should be carried.

#### Weekly the driver should:

- 1 Check and clean the air cleaner and top up oil level.
- 2 Wash the vehicle and lubricate thoroughly.
- 3 Clean the battery. To avoid corrosion with sulphate top up the battery with distilled water (1/4" above the plates). Tighten the clamps and apply vaseline to the battery posts.
- 4 Report if anything is found to be defective.

#### SHTO

- 1 Make use of the training facilities offered to drivers.
- 2 Only the SHTO repair facilities should be used.
- 3 Only if SHTO facilities are not available then the vehicle may be attended by a workshop approved and authorised by the State authorities or the vehicle manufacturer.
- 4 Inform SHTO immediately in the case of an accident.
- 5 Produce the vehicle regularly for preventive maintenance at the Mobile Maintenance (MM) unit.
- 6 Send regular reports on vehicle operation as per Department requirements.

#### Prolonging vehicle life

- 1 Do not allow the driver to overspeed. Speeding will eat up 50% of the vehicle's life and may cost a human life. It also increases operational costs.
- 2 Do not overload the vehicle: it causes tremendous wear and tear reducing vehicle life.
- 3 Do not allow the driver to strain the engine by running it in the incorrect gear. Speed and load ratio must be in accordance with load and speed.
- 4 Do not allow the vehicle to be used for purposes other than that for which it is officially authorised.
- 5 Do not start any journey without filling in the log book details of previous journey.

#### **Maintenance**

Maintenance is a regular procedure and repairs are a consequence of neglect. Proper maintenance of your vehicle demands that it be given a thorough service inspection and lubrication at each 1,500KM of operation. Such an inspection consists of a careful road test and examination by a competent technician in order to locate and analyse any small defects that may have developed. The prompt correction of minor faults thus discovered will go far towards holding down maintenance costs and costly delays in operation.

#### **A STITCH IN TIME SAVES NINE**

Your MM Unit/SHTO is highly interested in your vehicle and it will pay you to have them regularly inspect it. The MM/SHTO are fully experienced and equipped with all the necessary tools to give you the best possible service.

In the following we have outlined methods of making minor adjustments and also give suggestions covering lubrication, service and routine maintenance.

#### After the first 800km

During the early life of the vehicle the working parts tend to settle down with the result that various clearances and adjustments need to be corrected. A general check up is therefore necessary and should be carried out after the first 800km.

- . Lubricate all the grease nipples
- . Change engine oil (and every 4-5,000km thereafter)
- . Check and top up oil levels in:
  - gear box
  - rear axle (4WD)
  - steering box
  - knuckle hub
- . Check and top up battery electrolyte
- . Lubricate clutch and brake linkage
- . Tighten all wheel nuts
- . Check and adjust brakes
- . Check cooling system for leakage
- . Check and adjust fan belt
- . Tighten manifold attachment
- . Check flexible pipe unions for leakage
- . Check cylinder head bolts to specified torque
- . Check and adjust valve clearance
- . Lubricate fuel injection pump
- . Check operation of all electrical fittings

#### Frequency of servicing

- (i) 1,500 km or monthly
- (ii) 7,500km or 6 monthly
- (iii) 15,000km or annually

ENGINE OIL SHOULD BE CHANGED EVERY 4-5,000km.

After every 15,000km. replace:

- 1 Oil in gear box
- 2 Oil in differential
- 3 Oil in steering box
- 4 Drain and flush fuel tank
- 5 Drain and flush radiator

#### Lubrication

Regular application of high grade lubricants when operating your vehicle is especially important considering the diverse types of services it performs. The amount of trouble free service you receive will be in direct proportion to the care given. The operational conditions determine the frequency of lubrication. Vehicles operating on dusty roads may need lubrication attention more frequently than vehicles operating mainly on pucca roads. In dusty areas also the air cleaner will need regular attention. It should be cleaned once or twice a week or even daily in extreme circumstances. The other lubrication should be as recommended.

No vehicle should be allowed to operate without an air cleaner hose or a damaged one.

#### Preventive maintenance

Engine:

For the best performance, dependability and longlife the engine should be tuned after every 15,000km.

- 1 Tighten head bolt
- 2 Tappet adjustment
- 3 Atomiser testing and setting
- 4 Also as for 800km service

Engine mounting:

The rubber engine mountings which are attached to the frame and to the support bracket preventing



fore and aft motion of the engine yet allowing sideways and vertical movement, prevent vibration at the source. The engine mountings should be tightened every 7,500km. A loose engine mounting may cause vibration; clutch trouble and high fuel consumption.

#### Cooling system:

The cooling system should be flushed three times a year and frequently checked for leakage. To prevent corrosion of the cooling system, anti-rust compounds available at most petrol pumps, should be added after each flush. All engines are equipped with a temperature control valve (thermostat) to get the best performance. Under no circumstances should this thermostat be tampered with. The radiator hose should be frequently checked for looseness and replaced immediately if found faulty.

#### Radiator pressure cap:

This cap helps prevent loss of coolant by evaporation. It should always be kept tight and should not be replaced with a non-pressure type cap. While removing the cap care should be taken to discharge steam pressure by loosening it slightly to avoid sudden blow-out which might result in burns or injury.

#### Fan belt:

The fan belt should be checked and if necessary adjusted after every 1,500km. It should have 1/2" deflection on thumb pressure.

#### Electrical system:

Your vehicle has a 12 volt electrical system and is fitted with a 12 volt 13/15 plate battery of 90 Amphours.

Battery: Good starting of the engine and the efficient functioning of other electrical gadgets depends on the condition of your battery. Battery failures are predictable and need not happen as often as they do, embarrassing the vehicle user. The battery should be of good quality, be the proper size and properly maintained.

Periodic service: After every 1,500km. the battery should be checked and serviced.

- 1 Clean battery top with a brush and wipe off with a cloth moistened with a solution of baking soda.
- 2 Inspect cables and replace if necessary.
- 3 Clean the battery terminals and the inside surfaces of the clamps. Coat surfaces with vaseline after the clamps are tightened.
- 4 Inspect the cradle and tighten the holding clamps to avoid physical injury to the battery.
- 5 Inspect the electrolyte level: if low, top up with distilled water to 1/4" above the surface of the plates.
- 6 Tighten vent plug, making sure that the vent holes are free to permit gases to escape.

#### Steering system:

The steering system needs little care other than proper lubrication and maintenance of alignment. Periodic inspection and tightening of the steering parts will greatly aid maintaining the wheel alignment. Check the wheel alignment if any abnormal wear on tyres is noticed.

#### Tyres:

Tyres are the second costliest recurring expense of vehicle operation. Careful driving, timely retreading and regular rotation of tyres will go a long way in saving money which would otherwise be wasted.

- 1 Recommended tyre pressures:  
600 x 16 size: 24PSI Front; 26 PSI Rear  
700 x 15 size: 26PSI Front; 28 PSI Rear
- 2 Check for slow leaks.
- 3 Always replace missing valve caps.
- 4 Remove nails, stones and other objects picked up in the tyre tread.
- 5 Drive carefully: hard braking, rapid acceleration and fast cornering increase tyre wear.
- 6 Change wheels around every 7,500km.
- 8 Check steering system for wheel alignment.
- 9 Remove for retreading at proper time. Any further use will render the tyre casing unfit for retreading and a replacement will have to be bought at 6 times the cost. Also there will be a delay in procurement due to the inevitable procedures that will have to be followed keeping the vehicle off the road.

#### Protection of the vehicle during storage:

If the vehicle is not to be used for a period of more than 30 days for any reason the following procedures should be strictly followed:

- 1 Complete lubrication service and checking of the transmission, front (4WD) and rear axle, steering and gearbox for the correct level of lubrication.
- 2 Tyres: jack-up the vehicle thus relieving the tyres from load. Keep the tyres inflated to the recommended pressure. Oil, grease, paint, heat and direct sunlight in direct contact with the tyres during storage should be avoided.
- 3 Cooling: drain the water from the radiator and engine block. Refill the radiator with fresh water and add anti-rust compound to avoid rust formation and consequent blocking of the pipes.
- 4 Engine: start the engine every 2 weeks for 10-15 mins. whilst in storage.
- 5 Clutch: using a wooden block press the clutch pedal to the floor in the fully released position to avoid the clutch disc sticking to the fly wheel. Remove the block when starting the engine and replace it afterwards.
- 6 Brakes: top up master cylinder every 2 weeks and operate the brake pedals several times to avoid sticking of the brake system components.
- 7 Battery: the battery should be fully charged before storage and should be recharged every 30 days to avoid sulphation of the plates.

#### Commissioning the vehicle after storage:

- . Tyres: check that they are at the recommended pressure.
- . Place vehicle on the ground by removing the jack stand.
- . Cooling system: check the level of water in the radiator.
- . Battery: fit battery after proper charging.
- . Engine: check level of engine oil.

#### **Reporting**

Reporting forms an important part of modern management and administration procedures. Reports contain statistical information which help the administration make exhaustive and critical analyses for future planning and budgeting. Regular reports from you help the administration to support you with efficient, economical and reliable transport facilities.

#### Health Vehicle User's Report

Vehicle Reg. No. \_\_\_\_\_ Report for the month of \_\_\_\_\_  
Location \_\_\_\_\_ District \_\_\_\_\_

1 Mileage covered during the month \_\_\_\_\_ km.  
2 Total mileage covered \_\_\_\_\_ km.  
3 Total fuel consumed for the month \_\_\_\_\_ ltr cost Rs \_\_\_\_\_  
4 Engine oil consumed for the month \_\_\_\_\_ ltr cost Rs \_\_\_\_\_  
5 Total amount spent on repairs Rs \_\_\_\_\_  
6 If the vehicle is off the road furnish:  
a) Date since off the road \_\_\_\_\_  
b) Reason off the road \_\_\_\_\_  
c) Action in progress to bring vehicle on the road \_\_\_\_\_

Date \_\_\_\_\_

Signature of the Officer  
Designation

#### **Additional reference material**

- 1 Driver's Manual: produced by TEMS, UNICEF in cooperation with the Transport Wing, Ministry of Health, Government of India (1982). [Distributed to participants on the course.]
- 2 Mahindra and Mahindra Ltd. Operators Manual (1984).



# The Care and Use of Cold Chain Equipment

Prepared by: Mr C R Mohanty, Deputy Director, SHTO, Orissa.

## 1 Introduction

Vaccines are sensitive to heat and when exposed start losing their potency with the result that they no longer protect individuals from disease. Once potency is lost it cannot be restored by returning vaccines to the refrigerator or freezer. Thus the only way to maintain vaccine potency for as long as possible is to transport, store and distribute it from the manufacturer to the site of use at the recommended temperature. The system for doing this is known as the 'Cold Chain'.

All vaccines are heat sensitive and the following are listed in order of their heat sensitivity:

- . Polio
- . Measles
- . DPT
- . BCG
- . Tetanus

The two essential and inter-related parts of the cold chain are:

- 1 Distribution of vaccines
- 2 Storing and transporting vaccines

The equipment used for storage includes:

- 1 Cold Room
- 2 Walk-in Cooler
- 3 Deep freezer/Ice lined refrigerator (ILR)

For transporting vaccine:

- 1 Cold box
- 2 Vaccine carrier
- 3 Flask

## 2 Equipment for storing vaccines

### a) Cold Room:

Used for bulk storage of vaccines. Required at the State HQ where large quantities of vaccine are stored for supply all over the State.

A room in the building is selected which is not exposed to direct sunlight. The building should be in a priority area where the power supply is regular. Despite this a generator should be maintained as a standby in case of power failure. The room temperature should be recorded twice a day and there should be an alarm system to indicate power failure. The cold room should be manned round the clock. If a power or plant failure threatens to take a long time to repair prompt action must be taken to transfer the vaccines to an alternative place for cold storage before it is too late.

### b) Walk-in cooler:

This is used to store bulk vaccine at 4-8°C and at -20°C. The walk in cooler should be kept in a room which does not get direct sunlight. As it works on electricity an autostart back-up generator is desirable. Unlike the cold room it can be moved from place to place.

### c) Deep freezer:

Available with internal capacity of 295-425 L. Internal temperatures are normally in the range of -15 to -20°C. They are suitable for long term storage of polio or measles vaccine and making ice packs.

Other vaccines (DPT/DT/TT and anti-typhoid) must never be placed in the deep freeze. To prepare ice: do not place more than 5 L water in the freezer at any one time as it will raise the internal temperature.

### d) Ice-lined refrigerator:

This can be used as a deep freezer or refrigerator. It has an internal capacity of 310L. When used as a refrigerator temperatures range from 1-8°C and as a freezer the range is -15 to -18°C. The ILR is suitable for use against an erratic power supply. Vaccine can be stored safely for 24hrs with 8hrs power supply.

e) **Refrigerator:**

As everyone is using a refrigerator to store vaccines it is necessary to go into detail about their installation, maintenance and use.

There are two types of refrigerator in use:

Absorption type -- operates on kerosene or electricity

Compressor type -- electricity only

(i) **Absorption type:**

The kerosene type can be converted to run on electricity. As the compressor is eliminated no voltage stabiliser is required. This type of refrigerator also has a freezer compartment.

(ii) **Compressor type:**

Most commonly used and a voltage stabiliser is essential to protect the compressor. Also has a freezer compartment.

**Installation of a refrigerator**

- 1 The voltage shown on the data plate should be the same as the power supply (220 V).
- 2 If you suspect any damage to the refrigerator in transit notify the supplier after unpacking the refrigerator carefully.
- 3 Look for the instructions for use inside the packing case.
- 4 Read the instructions carefully and follow what they say.
- 5 Place the refrigerator close to an electric socket and in the coolest part of the building.
- 6 The room must be well ventilated and good air circulation around the refrigerator is essential.
- 7 Clearance to the wall and roof must be 12" and 16" respectively.
- 8 Correctly fit the plug into the socket.
- 9 Place the refrigerator on a stand or wooden blocks at least 2" in height to keep the refrigerator dry.
- 10 Check that the door opens, closes and seals properly.
- 11 The electric supply fuse should be 5amp. Check before plugging in.

**Starting**

- 1 Plug the power supply cable into the electric socket.
- 2 Turn the control knob to medium position (normally 3-5 or MED) and allow the refrigerator to run for 3-4 hrs without any load in the cabinet. If it does not start check that the plug is wired correctly and matches the socket.
- 3 Measure the temperature inside the refrigerator. It must be between 4-8°C. If necessary adjust the control knob as follows:  
The control knob is usually marked 1 - 7 or MIN-MED-MAX or with an arrow indicating how to turn the knob for a colder temperature. Number 1 or MIN gives the warmest temperature; 7 or MAX, the coldest. In the absorption type of refrigerator adjust the size of the flame as necessary. To help maintain the correct temperature:
  - a) Carry out the daily, weekly and monthly tasks listed below.
  - b) Do not keep food or drinks in the refrigerator.
  - c) Open the door only to remove vaccines.
  - d) Ice packs should be kept in the freezer compartment overnight and should always be frozen hard.
  - e) Arrange the boxes or trays of vaccine so that there is a 2" gap between each for cold air to circulate in the refrigerator.

**Daily check**

Check the temperature daily. It should be between 4-8°C. If necessary adjust the regulator.

Note: the thermometer should always be kept inside the refrigerator.

If the temperature cannot be adjusted the cooling unit is not working properly and help must be sought from a refrigerator technician.

**Weekly check**

Check for ice formation on the evaporator. If the ice is thicker than 1cm defrost the refrigerator. If defrosting is necessary every week it is probable that the door is not sealing properly and air containing moisture is getting inside.

**Monthly check**

- 1 Clean the condenser and compressor by removing any dirt or dust with a soft brush.
- 2 Check the outside of the refrigerator for any damage to paint. If found:
  - . Clean the damaged surface
  - . Remove all rust
  - . Repaint the damaged area
- 3 Clean the refrigerator inside and out using a damp cloth and mild detergent.
- 4 Clean door bracket and powder it with talcum.



### **Fault finding**

What to do if the refrigerator does not start:

(i) Is the supply cable plugged in ?

Yes -- No -- Plug into socket

|

(ii) Is mains switch control knob turned on?

Yes -- No -- Switch on

|

(iii) Does other electrical equipment work in the socket?

Yes -- No -- Check fuse current in the socket

|

(iv) Is the plug correctly wired?

Yes -- No -- Rewire plug

|

(v) Does thermostat click when turned to on position?

Yes -- No -- Check the thermostat

|

(vi) Call for refrigerator technician as there seems to be a major fault.

### **Refrigerator not cold enough**

(i) Is the control knob in cold position?

Yes -- No -- Adjust the knob to cold position

|

(ii) Evaporator free from thick ice?

Yes -- No -- Pull out plug and defrost

|

(iii) Normal load of water for making ice?

Yes -- No -- Take some water out

|

(iv) Door closing properly?

Yes -- No -- Check door hinges and adjust

|

(v) Good air circulation in and around refrigerator?

Yes -- No -- Change position and pack vaccine properly

|

(vi) Condenser free from dust?

Yes -- No -- Clean the condenser

|

(vii) Is thermostat working?

Yes -- No -- Short circuit the thermostat

|

If the thermostat is working, call a refrigerator technician.

### **Refrigerator is too cold**

(i) Control knob in cold position?

Yes -- No -- Adjust control

|

(ii) The thermostat switches off the compressor from time to time?

Yes -- No -- Make sure the capillary tube end is connected to the evaporator. If it is replace thermostat.

|

Replace the thermostat.

### **The refrigerator is too noisy**

(i) Makes a rattling noise

Yes -- No -- If it is a loud humming noise, switch off and call technician

|

(ii) Gently rock refrigerator; if it moves adjust blocks.

If refrigerator still rattling examine the tubes at the rear, bend carefully to separate from other parts.

If after checking all the faults twice the refrigerator is still not working properly:

1 Transfer vaccines into another refrigerator immediately.

2 Report immediately to get a technician to come and repair the refrigerator.

### How to defrost your refrigerator

It is quite normal for ice to form on the evaporator and a thin layer does not affect cooling performance. A thick layer (> 1 cm) must be removed by defrosting.

- 1 Transfer vaccines to another refrigerator or store in cold box with ice packs.
- 2 Pull out plug from power supply.
- 3 Open door of refrigerator and freezer compartment.
- 4 Only remove ice with your hands. Sharp instruments can damage the evaporator.
- 5 To hasten the process put a pot of hot water in the unit or wipe ice with cloth soaked in hot water.
- 6 When the ice is melted wipe the unit dry.
- 7 Clean it with soap and water and dry it.
- 8 Replace plug in the socket.
- 9 Wait until the inside regains correct temperature before replacing vaccines.

Note: Defrosting should be carried out as quickly as possible so that vaccines have to be kept in a cold box for as short a time as possible.

### 3 Equipment for distributing vaccines

#### a) Cold box

Capacity: 21.3 L

Net vaccine storage capacity: 6.8 L

Weight fully loaded: 33 kg

Cold life: 77-98 hrs.

Cold boxes are designed using thick insulating materials that prevent the entry of warm air. The cold life depends on the insulating material used and the number of times that the box has to be opened.

Before using a cold box, check: that it is clean; there are no cracks and that the lid fits tightly and has locks.

Cold boxes are used for transport and for storage for short periods. When vaccines are packed in a cold box there should be ice packs around all the sides and at the top. Vaccine vials should never be in contact with ice packs and cardboard wrapping or pieces should be used to prevent direct contact.

#### b) Small vaccine carriers:

##### (i) American made:

Net vaccine capacity: 1.7 L

Cold life: 33-48 hrs.

##### (ii) Indian made Thermocold Vaccine Carrier:

Net vaccine storage capacity: 1.5 L

Cold life: 12 hrs.

This carrier is particularly cheap and light but has a shorter cold life.

##### (iii) Philippine made Polyfoam Vaccine Carrier:

Net vaccine storage capacity: 1.7 L

Cold life: 45-58 hrs.

These carriers are used for carrying small quantities of vaccine, they are light and easily carried. As with larger carriers check they are clean, have no cracks and that the lid fits tightly before using. Also check that ice packs are ready and fully frozen.

Ice packs:

Polyethylene

Capacity: 0.53 L

Recommended freezing at: -20°C

These are flat plastic bottles used for lining the walls of carriers and cold boxes. Some are sealed and some can be opened. Those that can be opened should be filled 3/4 full with plain water. Salt should not be added as it will lower the freezing point to below zero and thus can damage DPT and typhoid vaccine. Freezing in the freezer compartment of the refrigerator will take 6 hrs. and should therefore be done the night before they are needed.

#### c) Thermos flasks:

Capacity: 10 oz.

Net vaccine storage capacity: 4 vials of 20 doses

Cold life: 8 hrs

Thermos flasks are used for carrying small quantities of vaccine for use during one day. The flask must contain enough ice to keep the vaccine cold. If half of the volume of the flask is taken up by ice vaccines can be maintained at the correct temperature for about 8hrs provided the flask is only opened to remove vaccines or to add more ice. When packing place a sheet of plastic between the vials and the ice to prevent contact. The ice should be on top of the vaccines in a plastic bag (some



flasks have specially shaped containers for ice). It is best to keep the whole range of vaccines needed for the days work in one flask so that only one flask at a time has to be opened. The flask can be kept in a basket and wrapped with grass, paper or other packing material. If this is kept moist and out of direct sunlight it will help to make the ice in the flask last longer. There must however always be ice in the flask.

Note: Thermos flasks are very fragile and a knock (or dropping vaccine vials into it) may easily break the glass liner. A broken flask will not keep vaccines cold. Liners can be replaced.

# 12 Management of epidemics, floods and other disasters

## Introduction

This module is taught in two parts. In the first the investigation and management of common epidemics is discussed. The second session emphasises the role of PHC staff in the event of severe flooding but comparisons are also made with other disaster situations. The activities and reference material for the two sessions are given separately below.

## Schedule

Session 1: Investigation and management of epidemics  
Session 2: Management of floods

## Session 1

### Introduction

Epidemics are common and it is important that the PHC MOi/c be able to manage epidemic situations competently. Effective management of epidemics is not possible without the relevant technical knowledge concerning how diseases are spread and what measures are required for their control.

A key feature of epidemic control for the PHC MO is that extra resources are required (bleaching powder, drugs, vaccines etc). These have to be requested from higher authorities. Requests are more likely to be promptly fulfilled if the MO demonstrates that he has properly investigated the epidemic and shows that he knows how to proceed with its control.

### Learning objectives

- 1 Participants should be able to understand and be able to follow the steps to be taken in investigating an epidemic in order to make an estimate of resource requirements for its control.
- 2 Participants should be able to carry out more detailed investigations of common source epidemics in order to control or eliminate the source of infection.

### Activities

The session is conducted as a guided discussion using the OHP slides and handouts listed as illustrations.

### Discussion points

#### 1 Confirming the diagnosis

Handout 1 is distributed and participants are asked to discuss whether this is an epidemic and, if so, what of.

'Mystery epidemics' are loved by the press and public. Discuss what this epidemic could be: encephalitis, malaria, meningitis, typhoid, mixed cases etc.

The first step in any investigation therefore is to try and find out the diagnosis: what is it an epidemic of? Ways of doing this include asking staff, VHGs or other reliable people in the area for better description. It is always best to see cases yourself as soon as possible (give examples of false epidemics).



#### Additional Points

- . There are very few real 'mystery diseases' but they are a favourite topic for newspaper stories.
- . It is often difficult to get a medically accurate diagnosis but MOs should try to get as far as possible eg: you can't distinguish type of encephalitis but you can distinguish encephalitis from malaria, typhoid or meningitis.
- . They should try to distinguish epidemic from endemic disease eg: sporadic cases of dysentery and diarrhoea or outbreak of drug resistant shigella? An outbreak of infectious hepatitis or mixed cases of jaundice?
- . Diagnosis may be important in deciding on control measures eg: typhoid or food poisoning.

### **2 Confirm that it is an epidemic**

Participants will probably have heard about the outbreak of hepatitis in Calcutta in April 1985. They are asked to imagine that something similar happened in Cuttack: It is announced in the newspaper that there have been 50 cases of 'jaundice' in Cuttack in the month of March and 7 deaths. Questions have been asked in the State Assembly as to whether this is an epidemic of infectious hepatitis.

What information would be needed to show if this is an epidemic?

Figure 1 shows figures from Cuttack Town over the last 9 years

- . figures only available for jaundice (not hepatitis)
- . figures incomplete and often unreliable (were there few cases in 1980 or was reporting incomplete? What happened in 1983?)
- . possible that not all sources of data utilised
- . no real pattern emerges

Figure 2 shows monthly figures from 1984:

- . figures only for 'jaundice'
- . shows seasonal pattern of incidence and thus 50 cases occurring in March are probably going to indicate that an epidemic has occurred.

OHP 2 shows data from the Infectious Diseases Hospital in Calcutta and demonstrates clearly the sharp rise in the number of admissions for diarrhoea between equivalent weeks in 1983 and 1984 at the time of the epidemic of *Shigella* dysentery.

#### Additional Points

- . The data needed to confirm that an epidemic is taking place are often unavailable, unreliable, inaccurate or incomplete.
- . Case finding often increases in direct proportion to the amount of publicity given in the early stages of an epidemic.
- . This may add to the 'mixture' of cases making up the epidemic.
- . The frequency with which spurious reports of 'epidemics' appear in the press indicates how epidemics (both real and imagined) are used to try and influence the allocation of resources (particularly tube wells). It is thus important for medical staff to at least know whether they are dealing with a genuine epidemic or not.

For definitions and discussion of what constitutes an epidemic refer to Handout 2.

### **3 Investigation of epidemics**

The first thing that will be asked about any epidemic is its

- EXTENT:
- how many people affected
  - of what age and sex
  - in which area
  - when did it start
  - are numbers of new cases increasing or decreasing?

Answers to these questions will enable MOs to estimate the quantities of materials needed for effective control (eg how many wells in the affected area, how many doses of vaccine to cover affected population, doses of drugs etc etc.)

If you suspect that a single focus is the cause of an outbreak (for example of typhoid) then investigation needs to be more detailed. If the source can be discovered then it is possible to control the epidemic completely.

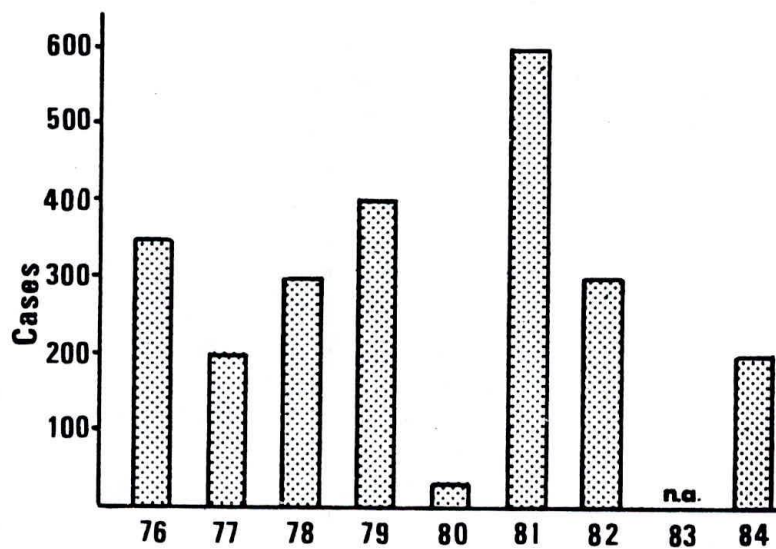
Thus in the case of most epidemics the need is to investigate in order to estimate resource

OHP1

OHP 2

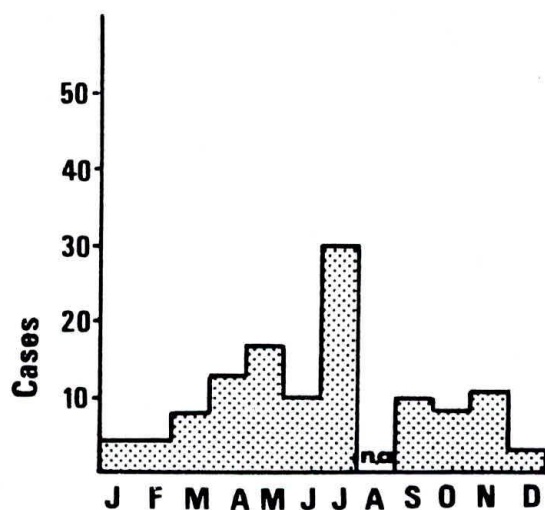
CASES OF 'JAUNDICE' REPORTED IN CUTTACK TOWN  
1976 - 1984

Fig. 1



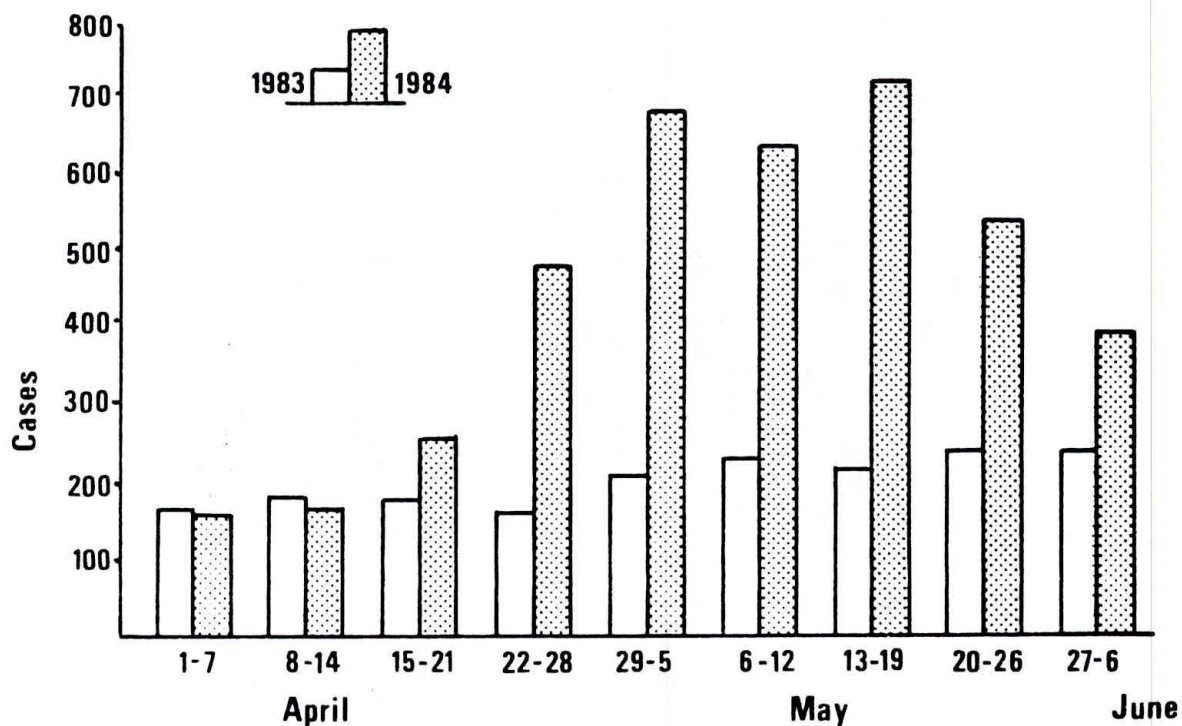
CASES OF 'JAUNDICE' REPORTED MONTHLY  
1984

Fig. 2





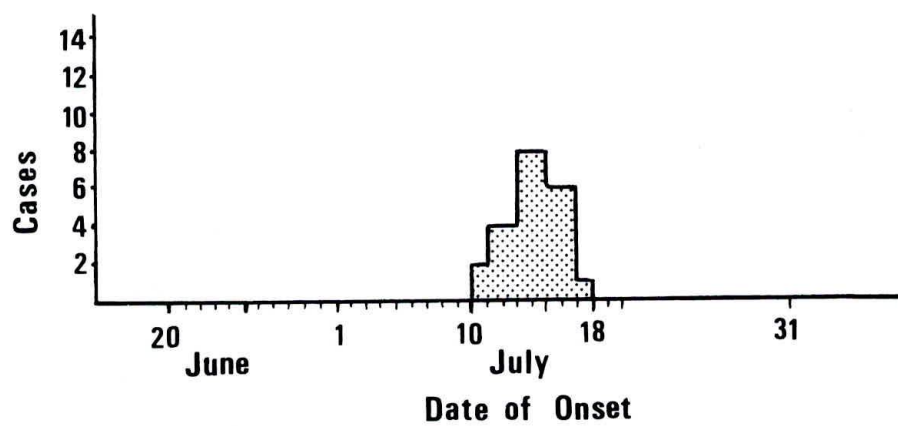
WEEKLY DIARRHOEA ADMISSIONS TO THE INFECTIOUS DISEASES  
HOSPITAL, CALCUTTA, APRIL 1st - JUNE 6th 1983 and 1984



Source:

Pal SC (1984) Epidemic dysentery in West Bengal, India,  
1984.  
The Lancet, i, 1426.

DATE OF ONSET OF 39 TYPHOID CASES





requirements. If a 'common source' (see Handout 2) is suspected then investigation has two purposes: a) to estimate resource requirements and b) to find and eliminate the source.

#### Investigation of a typhoid outbreak

Over a period of 3-4 days 7 cases that are suspected, clinically, of being typhoid are seen at the PHC. The MO suspects that there may be an outbreak as all the cases are from the same area. What are the next steps in the investigation?

- a) Define the area more precisely ie. which village(s)
- b) Discover if there are any more cases

It is found that the cases are all from two villages in one sector and it is discovered from one of the patients and from the LHV from that area that there are reports of several sick children in those villages and surrounding villages. What to do next?

Visit the area: to find out number affected, date of onset, age and sex of patients, exposure to possible sources. After this visit 39 cases were found with age and sex as follows:

Age	M	F
<5	2	1
5-14	15	12
15-39	7	1
40+	1	0

Differences in the number of cases of males and females, children and adults may suggest how or where exposure took place.

The time of onset in the cases can help fix when exposure occurred. The time of onset of the 39 cases is shown in OHP 4.

The distribution of cases would indicate that exposure occurred over a short period. By considering the incubation period of the disease (1-3 weeks) an estimate of when exposure took place (before July 3rd and probably after June 20th) can be made.

The next step is to ask those who are ill and those who were not ill (of same age and sex) about exposure to likely foods etc. Also note opportunities for exposure. Visits to fairs, to school etc. It is usually not possible to carry out a formal investigation. If the source of infection is located it should then be controlled or eliminated.

#### **4 Treatment of cases**

People in the community are not interested in investigation. The credibility of PHC staff depends on being able to give some treatment. Staff in the field must be informed as to what the epidemic is and what measures they are expected to adopt or which drugs they are expected to give. Details of specific treatment and control measures for diarrhoeal disease are given in Handout 3 and additional data sheets covering other diseases can be prepared as handouts.

#### **5 Control measures**

The measures to be adopted depend on the nature of the disease. A separate account of control of diarrhoeal disease is given in Handout 3.

Control measures usually fall into the following categories:

1 Removal of source of infection eg: source of food poisoning

2 Prevention of further infection

- a) By protecting susceptible population (chemoprophylaxis, vaccination)
- b) By reducing the source of infection (spraying mosquitoes, chlorinating wells, treating infectious cases)
- c) Promotion of hygienic practices (health education)

Usually a combination of measures is appropriate.

#### **6 Staff management**

It is not possible to give detailed guidelines concerning what each person must do. It is however important to point out that for investigation one of the MOs must go him or herself. After considering evidence and thinking out possibilities a personal visit to affected areas is essential. To effect control consider first what tasks need to be done (using the categories above) and assign responsibilities to the available workers best able to do each task eg: vaccination to LHV; chlorination to MPW male; health education MPWs and VHGs. An early meeting of supervisors will be essential to coordinate activities if large parts of the block are affected.

#### **7 Reporting**

The importance of regular and accurate reports to higher authorities must be stressed. Supplies indented and supplied must be monitored so that needs can be accurately assessed. The importance of good reporting and supply management will also be stressed in the next session on disasters.

OHP 3

OHP 4

## **Reference material**

### **Session 1**

[Handout 1]

#### **12 children die of mystery disease**

**Dhar (Madhya Pradesh), Aug.17 (PTI):**

In all 12 children, ranging from infants to 12-year-olds, have died from a mysterious disease between July 2 and August 6 in the tribal village of Kuvali in the Dhar district of Madhya Pradesh.

A PTI correspondent who visited the village was told by the tribals that the majority of the children who had fallen prey to the disease, had complained of fever, vomiting, convulsions and frothing.

The children died at regular intervals till July 20 by which time 7 children had died. The mysterious disease again raged from August 5 when a 10 day old baby, a 2 month old infant and 3 other children are said to have died. The Sarpanch of Kuvali GP complained that the Health Department had not taken any needful action.



[Handout 2]

## Some useful definitions

### Endemic

The constant presence of a disease or an infectious agent within a given geographical area.

### Epidemic

The occurrence in a community or region of cases of an illness clearly in excess of expectancy. The number of cases indicating the presence of an epidemic will vary according to the infectious agent, size and type of population exposed, previous experience or lack of exposure to the disease and time and place of occurrence.

Epidemicity is thus relative to usual frequency of the disease in the same area, among the same population and at the same season of the year.

### Outbreak

Often used to refer to a small localised epidemic.

### Pandemic

Widespread, worldwide spread of disease eg Plague or El Tor Cholera.

### Incubation period

The time interval from initial infection (entry of infectious agent into body) until onset of clinical disease. Usually given as a range eg: Cholera = few hours - 5 days.

### Types of epidemic

1 COMMON SOURCE: when people exposed to a single source of infection for a short time leading to an increased incidence.

(i) Point source: common source in which exposure occurs at one point in time. Duration of the epidemic equal to longest incubation period of the disease. eg: If guests at a party subject to salmonella food poisoning from one dish which they finish, all cases will occur within 72hrs.

(ii) Extended source: Infection occurring from one source but over a longer period of time. eg: a prostitute infected with gonorrhoea infecting an army camp.

The most important factor in common source epidemics is discovering and removing the source of infection.

2 PROPAGATED SOURCE: Occurs when infection introduced into a community of susceptibles leading to transmission from one generation (or crop) of cases to the next -- either directly or via vector. Most epidemics are of this sort.

[Handout 3]

## Diarrhoeal disease and epidemics

One of the commonest epidemic situations to arise, particularly after another disaster such as a flood, is an outbreak of diarrhoea, gastro-enteritis or dysentery. These together have been called 'diarrhoeal disease'.

Most diarrhoeal disease is endemic, that is cases occur throughout the year. Diarrhoeal disease, including dysentery also shows very marked seasonal variation: many more cases are seen in summer months every year than in the winter. Often what is called an epidemic is just the usual increase that occurs in the warmer and wetter months.

Nevertheless there are certain epidemic situations which need to be managed effectively and it is also necessary to try and control the regular increase in the number of cases that occurs each year. The methods are effectively the same.

From a managerial point of view diarrhoeal disease can be divided into 4 categories:

### 1 Diarrhoea associated with food poisoning

The most important point is that infection usually stems from a common source. To control the epidemic it is vital to identify the source of infection and remove it. This requires careful investigation. Promotion of personal hygiene and the supply of plentiful clean water remain the most important preventive measures.

Most other forms of diarrhoea do not stem from a single source but are propagated through the community.

## **2 Acute Watery Diarrhoea**

This category includes many infective agents; the most common are E coli (ETEC), rotavirus, and Vibrio cholerae 01. Control of cholera is shown on the chart. Rotavirus outbreaks often occur in cooler months.

Principles of control:

1 Treat cases: Antibiotic therapy is not indicated except to decrease the duration of cholera. Adequate rehydration is essential and all peripheral staff must be trained in methods of making ORS.

2 Prevent infection: Water is an important vehicle in the spread of most of these agents BUT even in the case of cholera it is not the only method of spread. Man to man spread is just as, if not more important than polluted water. Therefore:

- a) Chlorination of wells: to be carried out by MPWs as a priority but must be accompanied by,
- b) Health education re sanitary disposal of faeces and personal hygiene (especially among those preparing food).

Note: Cold season outbreaks of watery diarrhoea caused by rotavirus probably will not respond to chlorination of water sources.

- c) Although it will be demanded there is no evidence that cholera vaccine will stop the spread of an epidemic.

## **3 Acute Bacillary Dysentery**

The most common agent implicated in serious outbreaks is Shigella dysenteriae. Other agents in this category include Campylobacter and other species of Shigella.

In the last few years epidemics of drug resistant S dysenteriae have become an increasing problem.

Note: Chlorination of water supplies must be accompanied by promotion of personal hygiene otherwise the effort will be wasted.

In the case of bacillary dysentery drugs are important as well as rehydration. First you need to know the number of cases to be treated (investigate and estimate) and then you must seek help. If it is feasible send a stool sample for culture and antibiotic sensitivity. If not ask CDMO or ADMO (Public Health) or contact other colleagues for advice about sensitivity. DO NOT give each patient 2 or 3 different types of antibiotic trying to 'score a hit with one'. This method of treatment was largely responsible for the antibiotic resistance in the first place.

## **4 Prolonged Diarrhoea or Dysentery**

Prolonged diarrhoea or dysentery where the patient is not acutely ill, may have blood and/or mucus in the stool, but usually no fever is often caused by amoebae or giardia lamblia.

Although there are many other causes of this kind of diarrhoea none of them occur in outbreak or epidemic form. They are however endemic and respond to the same preventive measures.



# Disaster management

## Session 2

### Introduction

In this session the example of flooding, very common in coastal districts of Orissa, is used to illustrate important points in planning for management of medical services at times of natural and other disasters.

### Learning objectives

- 1 Participants will understand and be able to act on factors which help in anticipating severe flooding.
- 2 They will understand the need for and be able to implement a plan to combat the effects of flooding in their block.
- 3 They will understand the need for coordination with other departments and the requirements for reporting to higher authorities.

### Activities

The session may be run as a lecture/discussion (covering the points listed in the reference section below) or, as many doctors have experience of dealing with floods, participants may be asked to discuss their experiences. In the latter case the reference material can be used by the trainers as a check list and for summarising points made at the end of the session.

### Reference material

It is vital that the MO i/c can deal competently with acute disasters:

#### Major (widespread)

Flood

Cyclone

Epidemic

(these are interrelated)

Also drought which is rarely acute: see below.

#### Minor (localised)

Fire

Accidents (road, rail etc.)

Management in an emergency is difficult and can be confusing and complex. It requires that the person in charge is decisive and can give clear precise orders as to what should be done. The more that can be anticipated and the more that strategies are thought out in advance the easier the job will be.

This module takes severe flooding as the main example of a disaster. The principles should apply to other situations as well.

#### Floods

##### **1 Consequences that will have to be dealt with:**

- . Death due to drowning
- . Injury due to wind, water or other mishap (NB snakebites)
- . Epidemics: particularly diarrhoeal disease (NB cholera)
- . Starvation
- . Water pollution
- . Damaged communications (therefore delayed supply/distribution)
- . Increase in endemic health problems particularly malaria (increased exposure and breeding sites)
- . Diseases resulting from exposure (pneumonia, influenza)
- . Malnutrition and diseases consequent upon it
- . Loss of houses, crops and livestock

Some problems have a more long lasting effect than others so we can divide control measures into:

##### **A Acute - To control morbidity and mortality:**

- . Ensure adequate food supplied
- . Treatment of disease
- . Prevent epidemics

##### **B Longer term measures**

- . Continued feeding programmes
- . Rehabilitation

Note:

- 1 In a flood situation the first and immediate need is for food, only later will medicines be required. Although the PHC has no official responsibility for distributing food, medical staff have been beaten if they bring medicines only. It may be best to coordinate first visits with CD staff. Sometimes tribal people will be better off than others as they are used to scavenging for food from the jungle.
- 2 The acute measures are more the concern of PHC staff and the longer term measures of the CD department. In a drought situation the PHC staff may have a role in treating malnourished cases but the bulk of the work is long term and concerned with rehabilitation, provision of water supplies or replacement of crops and livestock.
- 3 As in a drought situation (deaths from malnutrition) young children, women and the elderly are most at risk.

## **2 Anticipation of flooding**

The occurrence of many disasters, including flooding can be anticipated to some extent:

- . In which months have floods occurred in the past?
- . What is the normal interval between floods?
- . Which roads normally remain open during floods?
- . Which villages are worst affected? Where have people moved to in the past?
- . How are warnings given? Do people in the area take any notice of them?
- . Have supplies of bleaching powder been given out to sub-centres?

Participants who come from areas prone to flooding might be asked what would happen if a flood occurred while they were on training. Is there a plan which others would put into action? What would happen in the PHC?

A plan can help deal with disasters more effectively but it must be known and agreed by everybody concerned to be of any use.

## **3 Some points in planning and management of flooding**

### **1 Information**

- . Map of PHC area showing all villages and area badly affected by flooding.
- . Communications.
- . Village populations.

### **2 Resources**

- . list materials needed
- . how long will it take for more supplies to come from district?
- . necessary to use available resources until new supplies arrive.
- a) Money: Use available sources irrespective of budget head. Accurate records must be kept so that adjustments can later be made.
- b) Drugs: Use available drugs until more arrive. In times when flood is likely, may consider keeping emergency stock. (SG, DIQ, tetracycline, ORS, IV fluid).
- c) If flood likely should supply be sent in advance to s/c?
- d) Cholera vaccine: will need sufficient for whole population. Initially only store within capacity of fridge.
- e) Other supplies: stationary for reporting: torches, utensils, kerosine, lanterns etc.

### **3 Logistics**

Decide how supplies can be distributed to workers in different parts of the block. Also how will supplies reach PHC from the district?

The most difficult part of managing the situation will be deciding on how to reach people in need when the available transport is limited. It is important to know in advance if and where from boats will be available.

### **4 Organisation of staff**

All staff must be given specific tasks to carry out and they must be made aware of their responsibilities:

- . chlorination of wells
- . cholera vaccinations
- . health education regarding rehydration/sanitation
- . fetching supplies from PHC or subcentre
- . filling in and delivering daily report forms

Other issues:

Who is responsible for the disposal of dead bodies (human)?

Also major problems can arise over disposal of animal corpses.



## 5 Coordination

- a) With BDO: particularly for transport, boats, re feeding programmes.
- b) With police for sending wireless messages daily to SDHQ (see reports).
- c) It is recommended that voluntary task groups be formed to assist medical staff. Suggest division of labour:
  - (i) Disinfection of water sources
  - (ii) Domiciliary treatment and provision of transport
  - (iii) Disposal of dead bodies
  - (iv) Community feeding
  - (v) For cleaning debris

Arrangements for this will need to be agreed in principle beforehand.

Coordination of activities in times of emergency is very difficult and without some degree of advanced planning it is very unlikely to occur.

## 6 Training

It is essential to ensure that all staff know what is required of them. This can be done in a refresher training session at a monthly meeting prior to the flood season.

## 7 Team support

If workers spend a long time in the field arrangements must be made for their food and accommodation. Torches, batteries, lanterns and utensils for making a communal kitchen need to be supplied in order to encourage team spirit.

## 8 Publicity

For effective control measures to be implemented MPWs must inform the public of the need for chlorinating wells, about rehydration, need for vaccination. They must contact VHG to utilise his or her supply of medicine.

## 9 Reporting

It is essential that daily reports be sent on the progress of work carried out:

A monitoring cell will be set up in the district and at each affected sub-divisional headquarters. Workers will be responsible for relaying reports (via supervisors) to the MO in charge of the PHC who in turn will relay the report to the sub-divisional HQ. The MO i/c will utilise the police radio for sending daily reports.

Daily record includes:

- . No. of cases of diarrhoea/dysentery
- . No. of deaths
- . No. of wells disinfected
- . Food situation
- . Urgent requirements (drugs, manpower, money)

A common problem which should be discussed in the session is when to declare the situation as being under control.

# 13 Management of the Malaria Programme

## Introduction

The aim of the module is to ensure that Medical Officers are completely familiar with the administration of the malaria programme; that they understand their role and the role of their staff in both surveillance and in the spray programme and that they gain practical knowledge in aspects of the spray programme which will enable them to supervise the work more successfully.

## Schedule

One half day is devoted to this module.

- Session 1: Lecture/discussion on malaria programme administration, surveillance and the spray operation.
- Session 2: Practical demonstration of insecticide preparation, methods of spraying and equipment maintenance.

## Activities

- 1 The first session is run partly as a lecture but as many of the participants will be experienced it is more important that time is available for answering questions and clearing up difficulties that participants have encountered. The reference material for this session is based on notes provided by the Joint Director, Malaria.
- 2 The second session needs to be conducted by someone experienced in the practical techniques of the spray programme. It should be largely a practical session. After a short introduction, the participants will actually be involved in preparing insecticide, carrying out spraying in the correct way and familiarising themselves with the mode of operation and maintenance of the equipment used.

[Handout 1]

## Reference material

### Management of the Malaria Programme

#### 1 Background

Malaria is a disease of major public health importance in India. In 1947 it was estimated that there were 75 million cases annually and of these 8 lakh died. Since that time 3 phases in the history of the malaria programme can be identified:

- a) Between 1953-1958 DDT spraying was conducted in priority areas to good effect. By 1958 a surveillance component was introduced and, conforming to world-wide expectations, the programme aimed at malaria ERADICATION. By 1966 only 1 lakh cases were reported in India and no deaths. This was a phase of success when eradication was a realistic goal.
- b) Between 1966-1977 the National Malaria Eradication Programme was run as a vertical operation: that is with its own staff and resources down to field level. This period, however, saw an increase in the problem. In Orissa for example the number of cases reported annually rose from 10,000 at the beginning of the period to 2 lakh by 1977.

Problems had arisen on many fronts (and were being experienced in most of the countries of the region). These problems were:

- . technical: resistance to insecticides began to occur
  - . economic: the cost of materials required began to rise rapidly
  - . administrative: with the successes of the earlier period there was a degree of complacency in the application of the programme. This period then was one of RESURGENCE.
- c) From 1977 with the Modified Plan of Operation the malaria programme was integrated as a part of the whole Primary Health Care Programme and the administrative units (see below) were brought into line with other health programmes. The PHC approach stressed that in addition to government efforts the active involvement of the community was essential. Funds were also made available for research into improved methods. This phase in the programme's development, again in line with other countries, stresses not eradication but CONTROL of malaria.



## **2 Programme Administration**

### District level

#### **I Chief District Medical Officer**

Responsible for directing and controlling all health programmes implemented in the district. Liaison with officers of other departments at district level and accountable (with regard to the malaria programme) to the State Malariologist.

The CDMO being in overall charge of the district programme will periodically review progress with a view to solving problems that have arisen but will rely for the day to day management of the programme on his programme officer.

#### **II District Malaria Officer**

The DMO is in charge of the control operation in the area to which he is assigned and is accountable to the CDMO and to the Zonal Malaria Officer (see below). He is assisted by the Assistant Malaria Officer (AMO).

The DMO will have received specific training in malaria control and is expected to be thoroughly familiar with the district and the epidemiology of malaria within it. In addition to his technical responsibilities he should also be familiar with the standing orders of the State Government regulating service conditions of employees, recruitment, indenting, supply and accounting procedures in order to be able to fulfil his administrative functions. The administrative duties of the DMO are summarised below:

- . Arranging for suitable storage facilities for insecticides at district level and setting up sub-stocks to be managed by the Malaria Inspectors.
- . Administrative control of staff (Malaria Inspectors and Field Workers) for the spray operation
- . Controlling and directing the clerical and administrative work of the District Malaria Office including preparation and submission of required reports and accounts.

The DMO is particularly responsible for all stores supplied to the district for the programme. In order that spraying operations are carried out efficiently every spraying season it is imperative that each district has a full quota of insecticide and spraying equipment. To avoid shortages it is important that the Director of the programme has a complete picture of stocks in each unit of each district at the end of each spraying season.

#### **III Malaria Inspector**

The Malaria Inspector is in charge of the area covered by 2-3 PHC blocks. Malaria Inspectors are usually senior Sanitary Inspectors with specific training in malaria control.

The responsibilities of the Malaria Inspector are listed below:

- . In the area allocated he will keep registers of insecticides and anti-malarials received from the DMO and will be responsible for issuing anti-malarials and slides to the PHC and its staff and to other drug distribution centres, treatment depots etc.
- . He will be responsible for planning the surveillance programme in consultation with PHC MOs and assist in checking the work of HA (M)s and MPW (M) engaged in malaria control work.
- . He will be responsible for planning the Radical Treatment (RT) programme in consultation with the MO and PHC staff.
- . He will be responsible for planning spray operations and will be in charge of the day to day management of spraying work in the whole area allotted to him.
- . He will be responsible for publicity and educational work concerning the programme (through cinemas, schools, panchayats) using materials supplied from the DMO.
- . He is responsible to the DMO to whom he submits a tour diary (MF3) and all TA bills.

### Zonal Level

This tier is specific to the malaria control programme under the Modified Plan of Operation. There is one Zonal Officer for 5-6 districts.

#### Zonal Malaria Officer

In States with a regional health structure the ZMO will be part of that organisation. He is under the administrative control of the State Malariologist and is usually of Assistant Director rank.

The ZMO has the following powers:

- . Head of Office at the Zonal Tier
- . To appoint and transfer malaria staff (Malaria Inspectors and laboratory technicians) and other ministerial staff within the zone. Whereas their service books will be held by the DMO, their increments and efficiency bars will be released only on the recommendation of the Zonal Office.



- . To initiate confidential reports on the DMOs which are sent to the CDMO of the district for counter signature and onward transmission.
- . To initiate disciplinary proceedings against the malaria staff in the zone and inflict punishments other than reversions/ terminations under intimation to the CDMO of the respective district.
- . To sanction up to Rs1000/- for each vehicle at a time for repairs to vehicles in the zone.

#### Functions of the Zonal Tier

To assess the malaria situation in the area and advise districts on the basis of epidemiological investigations as to appropriate action, particularly in:

- I Villages recording deaths due to malaria
- II Villages with a very high incidence of malaria
- III Villages with high rates of blood slide collection
- IV Planning the timing of spray schedules based on the epidemiological findings of the previous year
- V Suggesting appropriate measures for projects in order to ensure sufficient funding from the project authorities
- VI Carrying out the following entomological investigations (in order of priority):
  - . Susceptibility status of the vector in *P falciparum* areas with API >2
  - . Susceptibility status of the vector in *P vivax* areas with API >2
  - . Susceptibility status of the vector in areas with dense concentration of labour working on particular projects.
  - . Susceptibility status of the vector in areas contiguous to those with API >2
  - . Short term, result oriented studies, in areas of double resistance or, where refractory, where anti-larval measures could be implemented in a selective way.
  - . Post spray evaluation.
- VII Supervising the Urban Malaria Scheme
- VIII Advising the State level organisation of developments based on their own investigations and reports of the DMOs.
- IX Reviewing monthly reports of the DMO and sending comments to the DMO and State Malariologist
- X Reviewing the tour diary of each DMO in the zone.

### **3 Management of the Malaria Programme at PHC level**

#### 1 Surveillance

The Medical Officer in charge of the PHC has the following responsibilities:

- 1 He will be in complete technical and administrative charge of surveillance operations in his PHC area.
- 2 He is responsible for the execution of all surveillance procedures as laid down by higher authority, should be familiar with all aspects of the programme and be able to deal effectively and promptly with any problems that might arise.
- 3 He should give guidance to his staff concerning treatment schedules, especially with primaquine. He should try to investigate the nature and origin of malaria cases and contact any case of primaquine toxicity.
- 4 He is responsible for the maintenance and submission of all records and reports concerning the programme both to and from the PHC.
- 5 He should make spot checks on work being carried out in the field by HAs and MPWs.
- 6 Similarly he should supervise the work of the laboratory technician and ensure that slides are sent to the zonal office for cross-checking.
- 7 At the monthly PHC meeting he should check the distribution and stocks of slides and anti-malarials given to HAs and MPWs. The Malaria Inspector who should also attend the meeting should plan the distribution of Radical Treatment under the guidance of the MO.
- 8 He will organise Passive Case Detection (PCD) through all dispensaries, other medical institutions in the area voluntary organisations and voluntary workers. He will organise training for those concerned and arrange for slides and anti-malarial drugs to be provided by the Malaria Inspector.
- 9 He will monitor the work carried out by field staff by using the data maintained by the laboratory technician.
- 10 He should organise fever treatment depots and the distribution of chloroquine through the Panchayats and teachers and should keep watch over the availability of chloroquine in local shops.



11 He should distribute publicity and mass media materials supplied by the DMO.

The responsibilities of the Laboratory Technician are as follows:

- 1 To stain and examine all surveillance blood smears as expeditiously as possible and despatch the results to the respective HA(M) and Malaria Inspector.
- 2 To maintain records of slides that he has examined and get the positive slides confirmed by the PHC MO.
- 3 He will be responsible for the cleaning of all new and used slides and redistributing them to the HA (M)s.
- 4 He is expected to be able to examine 60 blood smears a day.
- 5 He will maintain the following registers, charts and reports:
  - . MF2: indicating the case numbers of positive slides. A separate register of slides sent by the Panchayat or teachers should be kept.
  - . MF8: Receipt of blood smears and result by section of the block
  - . MF7: Positive register showing details of the patient and date of collection of slide, examination and start of RT, by section.
  - . MF9: Epidemiological Evaluation Master Register. For each month (divided into two fortnights) the register shows the total number of slides received by village from each source (ACD, PCD, clinic) with details of the positives found.
  - . Master chart of active blood slide collection with number of positives, for each section.
  - . Master chart of passive collection with number of positives detected.
  - . Back-log chart of slides pending examination compared to slides collected.
  - . Back-log chart of those awaiting RT compared to positives found.
  - . Line graph showing positives and blood slides collected each month.

The following reports prepared by the Lab technician are to be submitted by the MO to the District Malaria Officer with a copy to the Malaria Inspector:

- . MF 11: Weekly epidemiological report (each Saturday)
- . MF 4/5: Monthly technical report by section containing surveillance data and remedial measures. An advance copy of this report should also be sent to NMEP 22, Sham Nath Marg, Delhi 110054.
- . The laboratory technician will also maintain the stock registers for anti-malarials used in the PHC.

#### Responsibilities of the HA(M):

- 1 Planning and supervision of surveillance work undertaken by the 4 MPW(M) in his area.
- 2 He should randomly check houses that the MPW has reported as having fever cases.
- 3 In the event of the MPW not carrying out the work correctly the supervisor must collect blood smears and give presumptive treatment as well as making a report to the MO in charge of the sector.
- 4 If the MPW (M) is absent the supervisor will continue routine surveillance work in his area and will maintain the register MF2.
- 5 He will be responsible, under the guidance of the MO, for administering RT. He must see RT patients daily and check for symptoms of toxicity. If any are found he should instruct the patient to stop taking the drug and report the case to the MO.
- 6 He will assist the MO by contacting all institutions in the area conducting PCD. He will also help in the organisation of treatment depots and the distribution of drugs through panchayats and teachers.
- 7 He will maintain the Positive Register (MF 7) and submit his tour diary cum work report on Form MF 3 monthly.
- 8 He should maintain an emergency stock of slides and anti-malarials for his workers.

#### Responsibilities of the MPW (M):

- 1 Enumeration of all family members in the area on MF1.
- 2 He will collect blood smears from all fever cases on his regular house visits and from cases that have arisen since his previous visit and will administer a single presumptive dose of 4-aminoquinoline to all cases after slide collection.
- 3 He will send slides with Form MF2 to the PHC lab as fast as possible by any means suitable.
- 4 He will maintain a tour diary cum work statement on Form MF 3A.
- 5 He will visit any treatment depots etc. to replenish drugs or slides under the direction of the HA (M).
- 6 He will write wall stencils after household visits.



### Additional Points

1 The target for screening by blood slide collection is 10% of the population/year. This number should ideally be made up of a greater proportion of slides from active case detection. It is recommended that the proportion be 60:40 (ACD:PCD). In many cases PCD cases dominate indicating that field work is probably ineffective.

2 Problems in the surveillance programme may arise due to slides being sent in from the field irregularly. If large batches arrive suddenly the laboratory technician will be overloaded, results and RT will be delayed, and quality will generally suffer. Additionally slides may only be coming from some parts of the block. It is therefore useful for the MO to periodically check the receipt register (MF 8). If slides sent are recorded by section it should be possible to detect and therefore remedy these problems.

3 Recent circulars give the regime for radical treatment as follows:

*Plasmodium falciparum*: Primaquine 45mg + 600mg Chloroquine *Plasmodium vivax*:

Primaquine 75mg (15mg/day) Radical treatment for *P. vivax* is designed to prevent relapse.

In the case of *P. falciparum* a single gametocidal dose is given. To be effective this should be given within 15 days. It is during this time that the patient is infective to mosquitoes and thus a gametocidal dose has the effect of preventing further transmission. It is important to inspect the positive register (MF 7) and calculate the time lag between detection and RT.

Frequently the lag is greater than 15 days and MOs should thus ensure that arrangements for giving RT are improved.

4 The workload of the technician has been given as 60 slides/day but it has been agreed that 50 might be more reasonable -- giving a total of about 1200/month. To achieve this however it is important that the workload be reasonably evenly distributed. Problems often occur if too many slides are retained in the lab as they will then not be available in the field. The masterchart showing the back log is useful for monitoring the situation.

5 Slides from the OPD should get priority so that patients can be diagnosed without delay. These slides should not get mixed up with slides from the field and neither should they be responsible for causing undue delay in examining slides from the field. (Examine the register to calculate average delay.)

6 Reasons for misdiagnosis from slides include:

- . scratches on the slides
- . exposure of stains to the air causing fungal growth
- . lack of technical knowledge

10% of positive slides have to be sent for checking species identification to the zonal laboratory. Laboratory technicians are often reluctant to have their work checked, and thus possibly criticised, by other technicians -- sometimes more junior than themselves. It is also the case that no slides should be washed until cross checking has been done as, in the event that many discrepancies are discovered, more will have to be checked. If the technician takes extra time to recheck the slides he sends for cross checking, the delays resulting will mean that no slides will be available for field use. The MO should intervene to break up this process.

7 The MO should look at the master charts critically. If it is found, for example, that a sudden increase of fever cases or positives have come from a particular area, he should consider why this may be. It is possible that the rise may be spurious due to previous absence of staff perhaps. If the rise is genuine then he should investigate to see why there should be a rise in incidence in that area.

8 Current situation:

In 1983/4 there were 2,51,829 cases of malaria detected in Orissa. In 1984/85 there was an increase of 13% (2,84,000) although this is thought to represent more efficient detection rather than a genuine increase.

Despite reports to the contrary chloroquine is still the drug of choice and although some resistant cases genuinely occur the majority of instances of drug failure are due to reinfection. The situation is not the same in States such as Assam where chloroquine has recently been withdrawn.

### 2 Malaria spray programme

Depending on the type of insecticide used, either two or three rounds of spraying should take place. The aim of the spray programme is to reduce transmission of malaria (not as some people believe to eliminate mosquitoes -- a far harder task!). After biting an infected host the female anopheles rests on walls of the house. Insecticides are designed to have a residual effect and will continue to kill mosquitoes resting on a sprayed wall for several weeks after spraying (in the case of DDT - about 8-10 weeks).

Areas to be included in the spray programme are chosen on the basis of having an Annual Parasite Index (API) of >2. If an area of low API falls in between two high API areas it will probably be included for spraying.



Each spray squad consists of 1 Superior Field Worker and 5 Field Workers and is equipped with 2 pumps. The SFW thus supervises two pump teams.

The spray programme consists of the following phases:

- 1) Advance programme for spraying
- 2) Training of personnel
- 3) Transport of men and materials
- 4) Preparation of insecticides
- 5) Actual spraying
- 6) Maintenance of spray records

### 1 Advance Programme

The programme should be drawn up well in advance of the season. A specific programme for each round should be distributed to the following:

- . State Malariologist/ ADPH (Malaria)
- . District Collector
- . Tahsildhar with a request that the programme be communicated to village officers.
- . President of District or Taluk Board of Health (if any) and other heads of duly constituted local organisations.
- . CDMO

Once a programme has been made effort should be made to keep to it. If problems do arise a revised programme should be circulated to all concerned. Personal visits (on the part of the unit staff) as well as requests through the Tahsildhar to village headmen will reduce the number of households which will be missed.

When preparing a programme remember to take holidays into account -- both national and local to the area. People may well be reluctant to have their houses sprayed at the time of a festival. Spray squads may wish to work continuously and take holidays at the end of the period of work.

Permission from competent authority should be sought if this is the case.

In making the detailed plan, the number of villages assigned for a day's work will depend on:

- I the nature of the country
- II the size of houses in the area
- III the number of spraying squads available for work

Under ordinary rural conditions each pump team can cover 12-14,000sqft/Hr of work. In an 8hr day 2 hrs will be necessary for travelling to and from villages and for a midday break. This leaves 6hrs and thus the average team should be able to cover between 72-84,000sqft. This represents under normal conditions between 70 and 80 houses if each house has about 1000sqft surface area to spray. Allowances will have to be made if houses are larger than this.

For an advance programme it is reasonable to assume that at least 50-60 houses per day can be visited in compact villages and fewer in areas where houses are more scattered.

It is also necessary to take into account factors such as geographical contiguity, accessibility etc which will influence whether supervisory staff can keep in close touch with the teams. This and the availability of transport for the pump teams will influence how villages are grouped for a day's work. When villages remote from the HQ are being sprayed temporary camps to accommodate the spray squads should be planned.

Once the programme is planned for each unit area, maps of the area assigned to each spray squad should be prepared. These should show the location of villages and important communications in the area. A set of these maps should be available to the Malaria Inspector, Squad supervisor and the DMO. They should be updated with village names etc. as spraying proceeds.

### 2 Training of Personnel

After workers are recruited they must be trained by the MO with assistance from the Malaria Inspector. It is particularly important that the Superior Field Worker be familiar with all the jobs for which the team will be responsible.

In many cases workers selected will have experience from previous rounds. It is essential, however, that the MO is certain that the workers can actually carry out spraying in the correct manner. To be sure he should observe them actually using the equipment.

SFW and Field Workers should be instructed in the handling of every item of equipment given to them and be able to dismantle, reassemble and repair any minor defects that occur during use.

[Technical details of the spray operation are given in a separate section below]

### 3 Transport of men and materials

A truck is provided for each sub-unit and the Senior Malaria Inspector is in charge of it. It should only be used for transporting men and materials in the field -- not for other purposes.

A log book, giving full details of use and fuel consumption in the prescribed way should be kept and full extracts submitted to the DMO and State level monthly.



When planning the spray programme the best use of the truck must be made to avoid making unnecessary trips. In some cases some of the workers will have to proceed on foot, while others use the truck. If the truck is out of order for any reason alternative forms of transport should be used after seeking the authority of the State Malariologist.

#### 4 Preparation of Insecticides

This is covered in the Technical Data section (see below)

#### 5 Actual Spraying

##### a) Publicity and Community Acceptance

The plan of operation should include arrangements for giving advance warning to villages that the teams are coming. To achieve the work rate of 50-60 houses per day is difficult if whole families are absent or the programme is not acceptable to villagers. VHGs and other PHC workers can assist in giving advance warning. (Note: in some areas advance warning may mean that villagers deliberately leave their houses.) VHGs and others also have an important role in trying to gain acceptance for the programme. Many people are reluctant to have all or parts of their houses sprayed. People feel that the spraying increases bedbugs (in fact it is the irritant effect of the spray that causes an apparent increase). In many cases people do not allow their kitchen room to be sprayed: the risks of malaria should be explained to them.

##### b) Timing and dose of spraying

The recommended dose of application is 100 mg/sq ft for the first round (see technical notes). This round should be completed just before the beginning of the transmission period. As a rule the second round will take place 10-12 weeks later (when the residual effect of the insecticide is waning). The timing of the second round may be earlier or later according to local conditions affecting residual insecticide effect. If any houses were missed or have been built since the first round these should also be included.

If the transmission period is very long (particularly in areas with perennial irrigation systems) three rounds may be necessary. In other areas with a very short season one round may suffice. The dose for second or subsequent rounds should be determined by the State Malariologist or DMO according to local conditions but should not exceed the maximum 200mg/sq ft/year.

In areas with a transmission season from July to November the first round should be complete by mid-July and the second round complete sometime in September or October.

##### c) Supervision

The MO is responsible (with the malaria inspector) for supervising the programme in the field. Firstly it is important that standard methods are used (see Technical Data) so that work can be checked. Secondly the MO has limited time available for checking: it is essential that he be able to demonstrate that he knows and understands the programme and knows how to spot when workers are not correctly carrying out the work. Much of the supervision will become the responsibility of the HA(M).

Points to check during supervisory visits:

- . Have villagers received prior warning?
- . Is the programme being carried out according to schedule?
- . Are the full squads in the field or are there absentees?
- . What is the rate of non-acceptance? How many refusals?
- . Are the teams avoiding overlap of work?
- . What are the causes of delays in the programme, if any?
- . Is the source of water being used satisfactory?
- . Is the suspension of full strength? (Weigh bucket)
- . Does the SFW keep an account of the number of buckets prepared?
- . Are all structures and rooms being sprayed? (check the walls)
- . Is the actual spraying being done in the correct way?
- . Is equipment in use in good working order?
- . Is dispersal of insecticide uniform?

**Note:** mosquitoes often rest in places where it is inconvenient to spray: check behind pictures, in the eaves, cattle sheds and outhouses etc.

- . The number of rooms actually sprayed should tally with the number on the record form and on the stencil.



## 6 Maintenance of Records

Records of work carried out daily should be maintained by the SFW. These are submitted to and compiled by the Malaria Inspector.

The reports should show:

- . date
- . number of houses sprayed
- . number of houses missed
- . total quantity of DDT water dispersible powder (or emulsion concentrate) used
- . number of spray pumps working

This data should also be scrutinised by the MO as a means of indirect supervision. The compiled data is forwarded with remarks to the Malaria Officer.

## **Technical data for Malaria Spray Programme**

### 1 Materials

Two insecticides are commonly used: DDT (50% and 75% strength) and BHC. The equipment issued to spray squads includes spray pumps, 3 gallon GI bucket and 1/2 or 1lb mugs for DDT.

### 2 Preparation of DDT suspension

When DDT is mixed with water it forms a suspension. The proportion of suspension should be 5%. Thus, if 75% DDT is used and a 5% suspension is required, the proportions will be 1:15 DDT:water by weight.

Put 1lb of DDT in a bucket and add 1/2 gallon of water and make into a paste. When the paste is smooth add 1 gallon of water and the suspension will now be 5%. The water should be filtered before adding to the DDT and the suspension, after preparation, should be strained through a gauze cloth.

### 3 Preparation of BHC

BHC is used in DDT resistant areas. 3lbs of BHC should be added to 2 gallons of water. When sprayed this will leave a deposit of 20mg BHC/sq ft.

### 4 Methods for checking DDT suspension

- a) Take 100ml from the 5% suspension and place in a measuring cylinder. Wait for 15mins. If the sediment is >10ml the suspension is good.
- b) If a hand is placed in the suspension it should not stick to your hand.
- c) The weight of bucket plus water plus DDT can be checked to ensure that the full amount of insecticide has been added.

### 5 Order of spraying

Spraying should be carried out in the following order:

- . Ceiling
- . Walls (hangings eg: calendars, photos to be removed)
- . Outside rooms
- . Under projecting areas of roof

Areas exposed to sun and rain can be excluded. The outermost verandah wall should be sprayed only from 2ft above the ground to allow for people sitting against it or washing. No plastering of walls should be carried out within 6 weeks of spraying.

### 6 Method of spraying

- a) Spraying to be done from right to left
- b) The sprayer should avoid shifting position as much as possible.
- c) Width of spray should be 18'.
- d) There should be a 3' overlap between one strip and the next.
- e) A strip of 10 ft should be covered in 2-3 seconds
- f) 1000 sq ft surface to be covered in 3 minutes in roughly 67 strips (@ 1 strip/2.7 secs).

Coverage at this speed with an average discharge rate from the spraying nozzle of 27 oz/minute will leave a deposit of insecticide of the correct density.

[Principle: 1lb (16oz) of 75% strength DDT is equivalent to 12oz of the pure insecticide. If 1oz is equivalent to 28 gm then the amount sprayed on 3000 sq ft is equal to 12 x 28 or 336gm. This is equivalent to 112mg/sq ft. and thus allowing 12mg as wastage -- 100mg/sq ft.]

### 7 Maintenance of spraying equipment

Spraying equipment should be checked before each day's work. When work for the day is complete the equipment should be cleaned and washed with water to avoid damage or leakage.

The SFW should carry a kit which includes washers and spare valves for the spray pump. Field workers should be able to identify and correctly maintain the following parts of the spraying pump:

- . Lancet rod
- . Nozzle: body cap, tip, tip holder
- . Stirrup pump valve assembly, cut-off valve, barrel.
- . Hose pipe
- . Piston rod, washer, washer nut
- . Packing gland

#### 8 Spray Discharge Rates

The nozzle tip should be replaced if the spray pattern is uneven; if it is damaged or if it gives an excess rate of discharge. The discharge rate is calculated by considering the weight of suspension sprayed per minute (ie: 1 1/2 gallons sprayed over 9 minutes gives a rate of 26.6 oz/minute)



# 14 Inter-departmental Coordination and Integrated Child Development Service (ICDS)

## Introduction

As well as being an opportunity to explain the ICDS programme (and in particular the role of the MO in it) to participants this session is used to discuss the importance and problems involved in inter-departmental coordination -- particularly in the field of health and nutrition.

## Schedule

One half day.

Session 1 (1Hr): Models of Coordination

Session 2 (1 1/2Hr): ICDS

## Activities

SESSION 1 (Prepared by Dr BK Patnayak)

In this session a series of overhead slides is used to demonstrate the need for and means by which coordination in health programmes can be achieved. Example slides are shown in the reference section.

### Discussion Points

#### 1 The need for coordination in health services

a) Different organisations (Community Development Department and Health Department) provide services which are designed to improve the health status of the community.

There is a danger that the organisations and the community stand apart and the two organisations also remain separate.

b) Even within one programme (such as ICDS) the three elements necessary for the implementation of the programme (leadership, the organisation itself and the activities that it performs) are separate from the community that should be served.

c) These three elements need to be integrated: both with the community and with each other. A key element in this integration is the leadership of the organisation involved. The leader must be knowledgeable about the programme, have the requisite skills and have an appropriate attitude to his or her task.

OHP 1  
OHP 2

#### 2 Coordination at community level

Coordination of services, organisations and their leaders can only occur through people who have connections with all three: Informal village leaders

VHGs

TBAs

Anganwadi Workers

By achieving coordination through people at village level, leaders of organisations can be sure that their services will reach the community.

OHP 3

OHP 4a/4b

#### 3 Coordination in Practice -- ICDS

At block level coordination needs to be achieved between:

- . PHC and CD Department
- . their staff
- . the services and activities they carry out
- . and the times and places where services are delivered. This is shown in OHP 5a/5b.

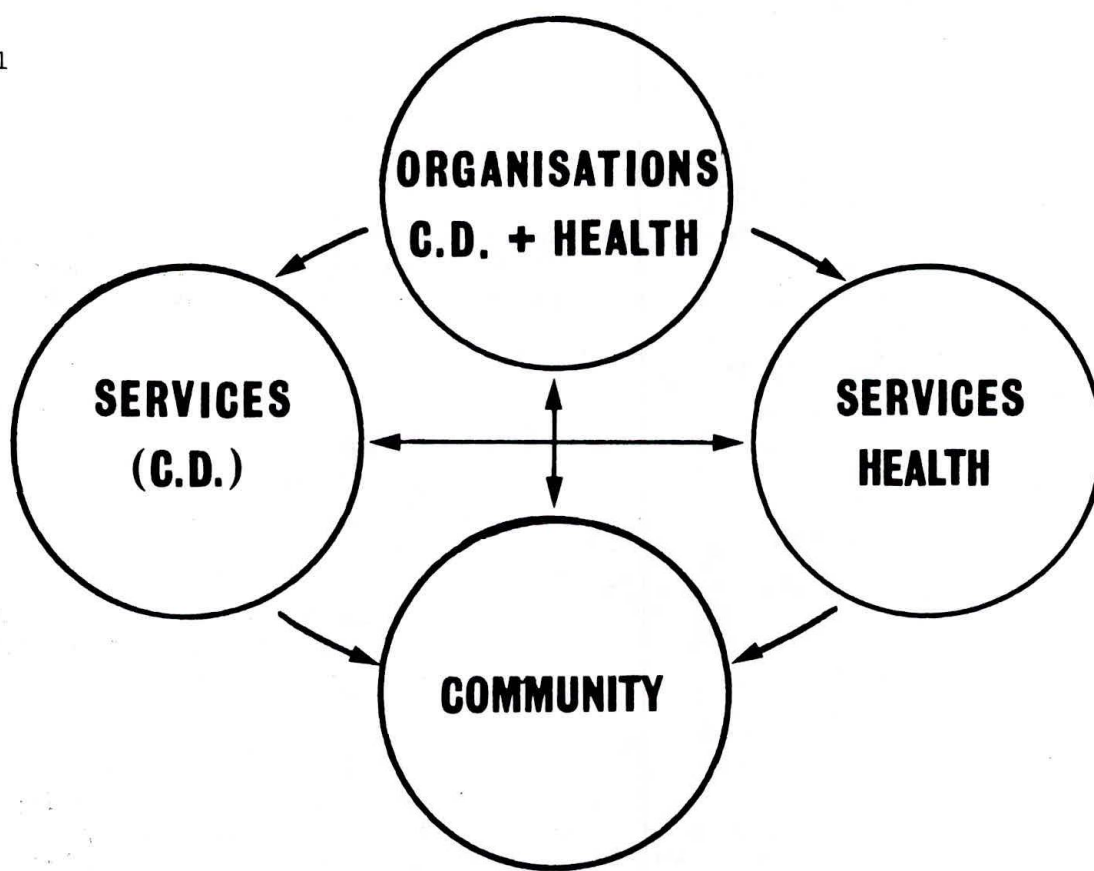
OHP 5a/5b

The role of various personnel in delivering specific services will be discussed in detail in the next session.

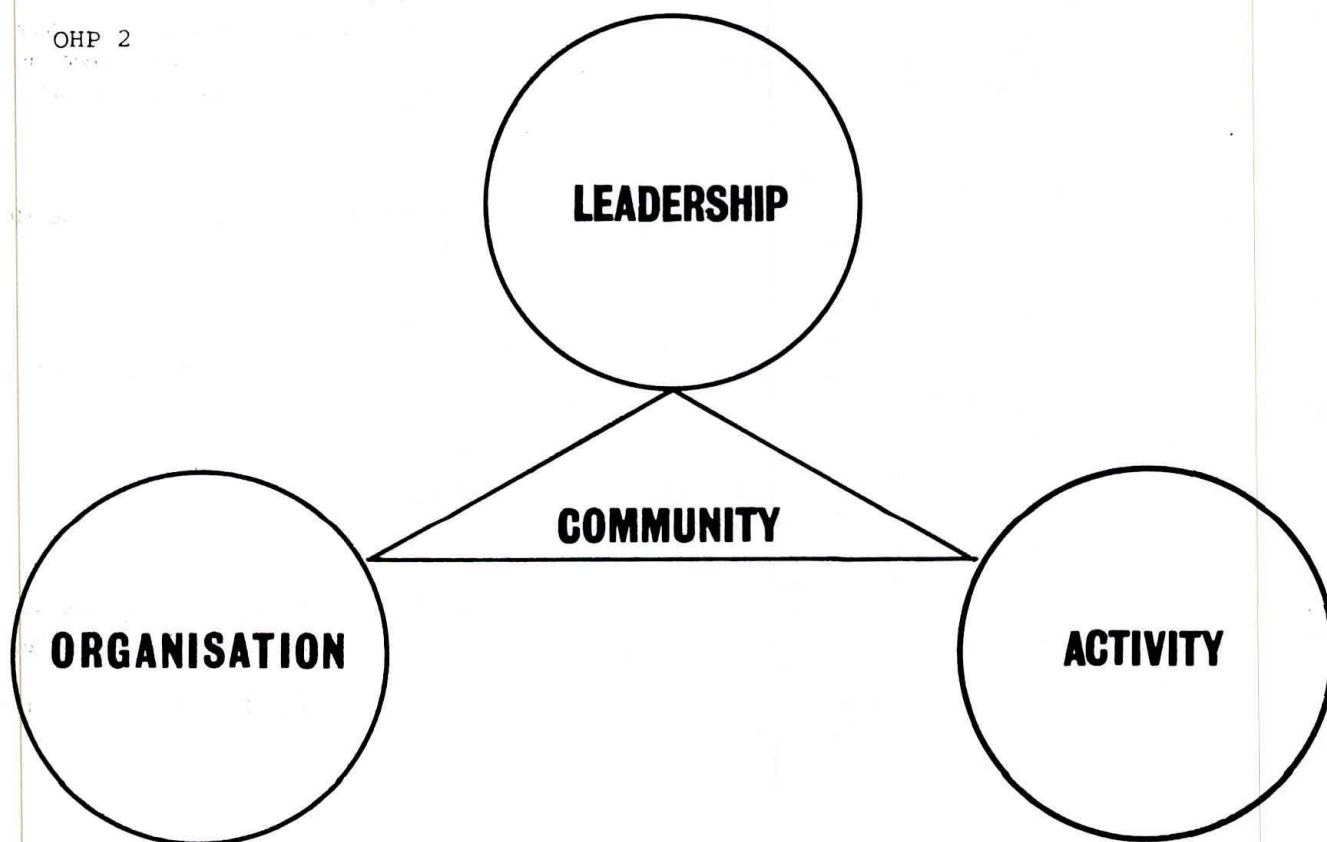
Finally it is demonstrated that the main coordinator is the PHC MO, assisted by the CDPO (and not the reverse as is often assumed).

## WHY CO-ORDINATION ?

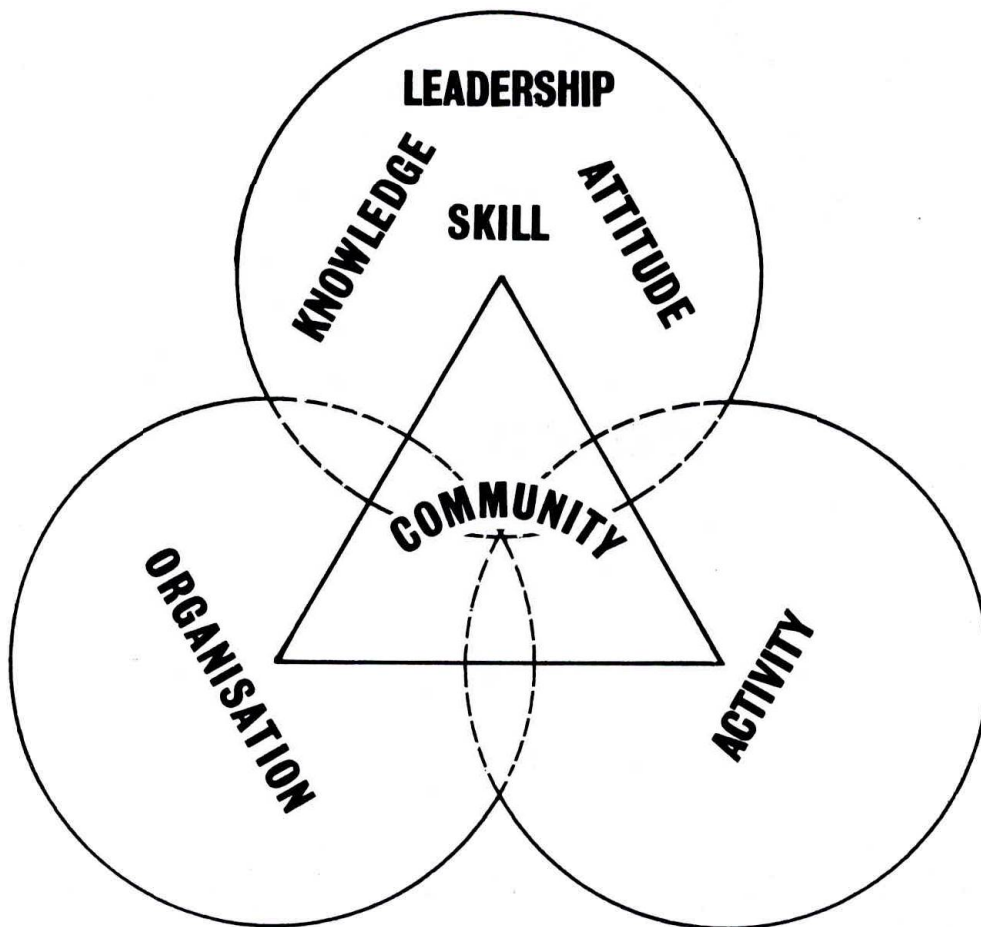
OHP 1



OHP 2





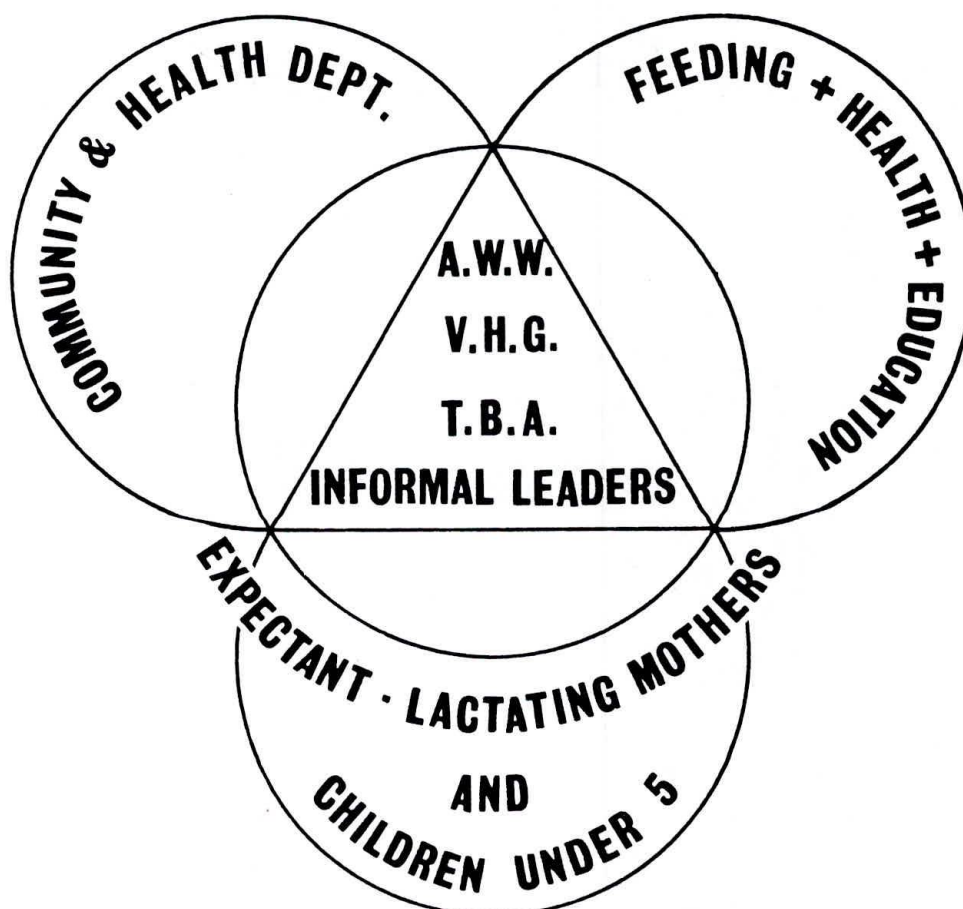


## MEANS OF CO-ORDINATION

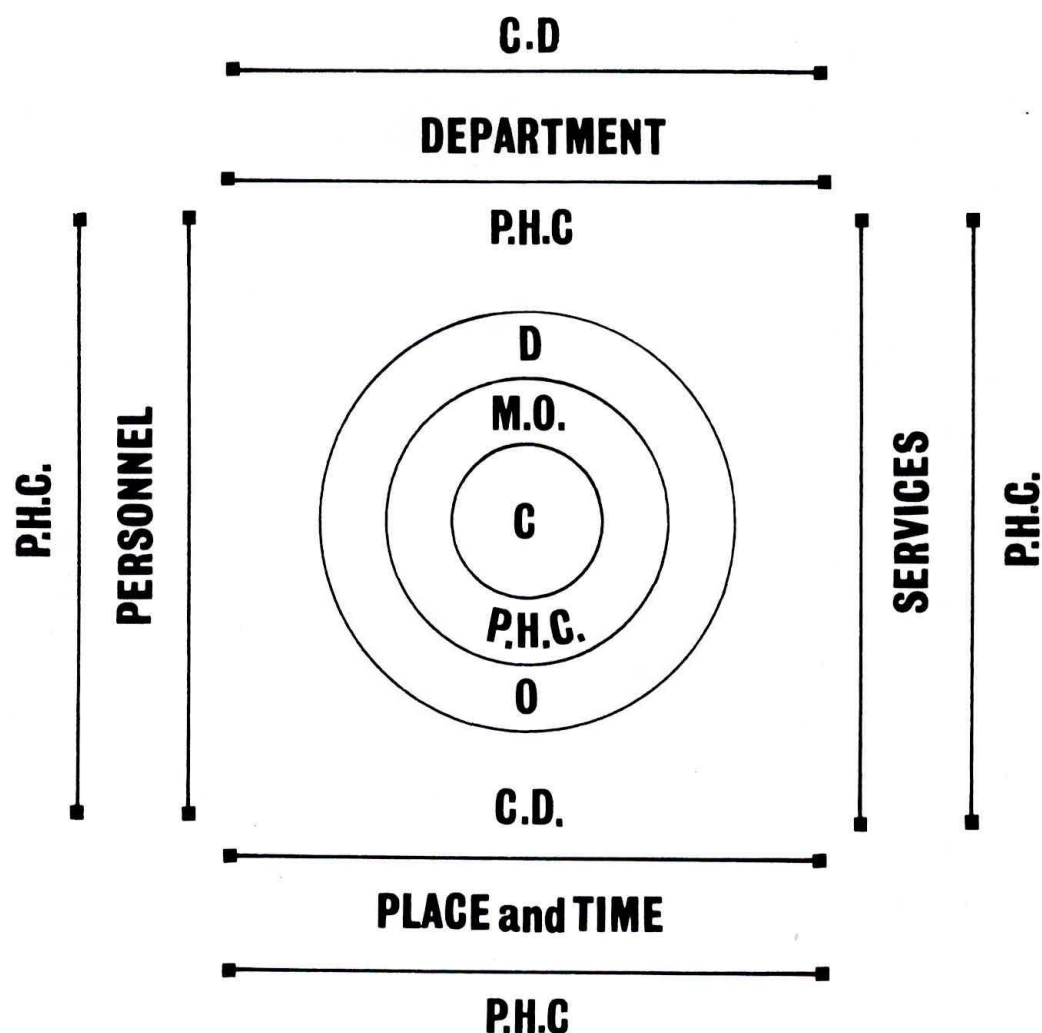
OHP 4a



OHP 4b





**PERSONNEL**

**WORKER**  
**SUPERVISORS**  
**LEADERS**

**SERVICES**

**FEEDING**  
**IMMUNISATION**  
**MCH SERVICES**  
**HEALTH EDUCATION**  
**NON-FORMAL EDUCATION**

**SUPPLIES**

**FEEDING MATERIALS**  
**VACCINES**  
**DRUGS**

**COORDINATION → ACTIVITIES**

**COORDINATED → STAFFS**

**COORDINATOR → M.O.P.H.C.**

**WITH C.D.P.O**

**C.D**

**HEALTH**

**P.H.C**

**C.D**

**P.H.C**

## Session 2

This session is concerned with a more detailed explanation and discussion of the ICDS programme. In Jagatsinghpur this session has been taught by the Deputy Director of Nutrition (on whose notes the reference material is based).

After an initial introductory lecture, it is important that time is given to discuss the experiences of MOs (particularly those who have worked in ICDS blocks).

### Reference material

Session 1: OHPs 1-5c

Session 2: Either the whole of this section could be used as a handout for participants or just the parts that have been so marked. Similarly material for use as overhead projection slides is marked in the following text.

## Integrated Child Development Service (ICDS)

### History

Many programmes aimed at increasing economic status have not increased the health status of children. After preparatory studies details of the ICDS scheme were finalised in 1975 when 33 experimental ICDS projects were started. In Orissa the first ICDS project was launched in 1976 in Subdega Block of Sundergarh District. Currently 44 projects are being run, each covering one block, in the State. An additional 14 blocks are planned to be covered in 1985/86.

### Objectives of ICDS

- 1 To improve the nutritional and health status of children in the age group 0-6 years
- 2 To lay the foundations for proper psychological, physical and social development of the child
- 3 To reduce the incidence of mortality, morbidity, malnutrition and school drop-out
- 4 To achieve effective coordination of policy and implementation between the different departments involved to promote child development
- 5 To enhance the capability of the mother to look after the normal health and nutritional needs of the child through nutrition and health education

**Note:** Objectives include mothers and children.

The ICDS concept is based on the consideration that the impact will be larger if services are provided as a PACKAGE, ie: the effectiveness of one service is enhanced by the support of others. For example: supplementary feeding is more likely to enhance nutritional status if infections are treated or prevented by immunisation. Also provision of a package of services at the Anganwadi centre obviates the need for the AWW to go door-to-door.

### ICDS Services

- 1 Supplementary nutrition
- 2 Immunisation
- 3 Health check-up
- 4 Nutrition and health education
- 5 Referral services
- 6 Non-formal pre-school education

To further increase effectiveness attempts have been made to link the ICDS programme with functional literacy for adult women, the rural drinking water supply programme and the applied nutrition programme.

### Beneficiaries

- . Children under 6yrs
- . Women 15-45 yrs (particularly pregnant and lactating mothers)

OHP 6

OHP 7



**Provision of services**

Expectant and nursing mothers	.health check-up .tetanus (TT) immunisation .supplementary nutrition .nutrition and health education
Other women 15-45 yrs	.nutrition and health education
Children <3yrs	.supplementary nutrition .immunisation .health check-up .referral
Children 3-6yrs	.as above plus: .non-formal pre-school education

**Organisation and Flow of Services**

ICDS is a multi-sectoral project. Overall control is maintained by the central Ministry of Social Welfare. At State level the Department of Health and Family Welfare and Department of Community Development and Rural Reconstruction work together. Principal control is exercised by the Department of Community Development.

**Organisation**

STATE	Dept. H&FW DHS (State Coordinator)	Dept CD&RR Director Social Welfare
DISTRICT	CDMO (District Advisor) ADMO	District Social Welfare Officer
BLOCK SECTOR	MO i/c PHC LHV	CDPO* ICDS Supervisor
	ANM Anganwadi Worker (AWW)	

\* At block level BDO exercises overall responsibility for implementation but the MO is the main coordinator for each sector. In each project area one (female) Child Development Officer is appointed.

**The Anganwadi Worker**

She is a local woman given 4 months training and is responsible for running the village Anganwadi centre where all ICDS activities take place.

She is responsible for:

- . Preschool education ie: play activities in the centre for children 3-6 yrs
- . Organising supplementary feeding
- . Giving health and nutritional education
- . Home visiting to educate parents
- . Promotion of community support for programme
- . Assisting PHC staff in implementing health component
- . Maintaining routine records
- . Reporting to CDPO about conditions in the village
- . Maintaining relationships with Primary school, women's clubs etc.

**Role of the PHC**

The PHC staff under the supervision of the MO in charge are responsible for the implementation of the health components of the programme: immunisation; health check-ups and referral.

Where necessary extra staff have been posted in order that there is:

1 ANM per 5000 population

1 LHV per 4 ANMs

Also 1 extra MO may be posted.

Role of the MOi/c [Handout 1] [Summary on OHP 10]

1 To prepare and implement a detailed plan of operation for delivery of health services in project area

2 The detailed plan will consist of:

- . Schedule for immunisation
- . health check up
- . medical care
- . protection against nutritional anaemia
- . protection against blindness

The plan should emphasise the importance of reaching children under 3 yrs of age.

3 MO i/c and others will help to enumerate the number of pregnant and nursing mothers and children under 6 yrs. and assess their health and nutritional status.

They will also render help and guidance in proper selection of patients for supplementary nutrition.

4 MO will ensure that AWWs are properly trained for performing the health tasks assigned to them. Training to be given each month.

MO will also ensure that AWW's medical kits are regularly replenished.

5 MO i/c will indent for vaccines, vit A solution, iron and folic acid tabs and other vitamins and medicines additionally required over and above the fixed quota allotted to the PHC. Indents to be sent to District Health Office.

6 To obtain UNICEF supplies and equipment (Midwifery kits) for PHC and all its sub-centres including additional ones sanctioned under ICDS.

7 As worm infestation is common in rural, tribal and urban slum areas, to carry out periodic deworming and disinfection of water sources.

8 MOi/c and other MOs to make efforts to enhance and strengthen services of the PHC and sub centres particularly by:

- . provision of ORS
- . emergency treatment of mothers and children
- . meticulous scheduling
- . training of TBAs
- . on-the-job training for AWW
- . facilities for treating severe malnutrition and provision of therapeutic food under supervision\*.

9 Identify cases in need of referral to district or Taluk hospitals.

\*CD Dept has provision to supply food if child is referred to PHC.

To improve implementation of the programme from this financial year MOs in ICDS blocks are required to visit each sector monthly and submit a report to the State Coordinator.

**Additional reading**

A good account of the ICDS programme and the problems of inter-departmental coordination in health services in Orissa is given in:

*Children in Orissa: Current Situation and Future Programmes*

Published by National Institute of Social Work and Social Sciences,  
Suryanagar, Bhubaneswar, Orissa.



# 15 Management of the leprosy programme

## Introduction

Under the National Leprosy Eradication Programme anti-leprosy activities are carried out as a vertical programme.

It is, however, important that the PHC MO knows how this programme is organised and what areas of cooperation need to be fully developed between PHC and NLEP staff.

## Learning objectives

- 1 Participants should understand the organisation of the National Leprosy Eradication Programme; they should know the duties and responsibilities of the Paramedical Workers (PMW), their supervisors and the staff of the Leprosy Eradication Unit (LEU).
- 2 They should be able to explain how cooperation between PHC and NLEP staff can take place; know what services and supplies are available from the LEU and understand their own role in relation to leprosy eradication.

## Schedule

One session is devoted to this module.

## Activities

The session has been run as a lecture/discussion by officers from the National Leprosy Eradication Programme on whose notes the reference material is based.

## Reference material

The following points should be covered in the session:

### 1 Organisation of the NLEP in Orissa

State level:

The programme comes under the Joint Director, Leprosy who reports to the Director of Health Services.

District level:

In 10 out of the 13 districts the Leprosy Eradication Programme is organised by the District Leprosy Officer (DLO) who is responsible to the Chief District Medical Officer.

The DLO is a Junior Class 1 post equivalent in rank to an ADMO.

### District Leprosy Office

The District Office has the following staff:

- . 2 non-medical supervisors (NMS)
- . 1 senior clerk
- . 1 statistical clerk
- . 1 junior clerk
- . plus ancillary staff

In addition to the above, Health Education Officers have been posted to the DLO in 3 districts during the year 1985/86.

Apart from the HEO who is supposed to advise and supervise health education activities carried out by LEU staff, none of the DLO staff make field visits. The NMS receive data from the LEUs and assist the DLO in making plans and reports on the basis of information received.

### Leprosy Eradication Units

Prior to 1980 these were called Leprosy Control Units. In the 20 point programme they were renamed LEUs to be consistent with the aim, under that programme, of eradicating the disease from India by the year 2000. LEUs are located according to the prevalence of leprosy locally. In any area if the prevalence rate is  $> 1/1000$  the disease is said to be 'endemic'. In coastal districts LEUs are located where the prevalence is  $> 10/1000$ . [Note in Cuttack District prevalence rate  $> 15/1000$ .]

According to programme guidelines each LEU should cover a population of about 4,00,000 (ie: about 4-5 blocks). In some areas coverage is greater than this.

The smaller Survey, Education and Treatment Centres (SETC) which should cover a population of 25-30,000. The SET Centres are now being phased out gradually in favour of LEUs.

Where they do exist they are supervised directly by the DLO. They do not come under the LEU. Staff of the LEU:

- 1 Medical Officer
- 2 Non Medical Supervisors
- 1 Physiotherapist
- 1 Senior Clerk
- 1 Junior Clerk
- 1 Driver
- 1 peon, 1 sweeper, 1 watchman.

Each LEU is responsible for 20 Paramedical workers who are supervised by the 2 NMS. All the PMWs are male and are of equivalent rank to MPW (M). The supervisors are equivalent to the PHC supervisors

## **2 Organisation of the work of the LEU**

### Paramedical workers

PMWs have received 6 months training at Aska in Ganjam District. They are responsible for case detection (survey), patient education and treatment. The area covered by the LEU is divided into 20 sectors and each PMW is assigned to one sector.

#### (i) Case detection methods:

- . mass survey carried out once 5 years
- . surveillance of contacts of known cases (quarterly)
- . school surveys (each school annually)
- . selective surveys (of particular institutions)

In addition patients are found after voluntary referral.

PMWs carry slides and blades for making skin smears. Fixed slides are passed to the NMS who takes them to the LEU.

Reports are given back to the PMWs at the end of the month when they collect their pay.

PMWs may not start a patient on treatment until the case has been confirmed by the MO.

#### (ii) Education:

PMWs are responsible for health education concerning all aspects of leprosy both to individual patients and their families and to institutions.

#### (iii) Treatment:

After confirmation of the case one month's supply of drugs is given to the patient by the PMW. For subsequent treatment the patient has to report to the weekly 'clinic' to be held by the PMW. In practice clinics are held monthly rather than weekly. They are either held in a local market (although many patients will be reluctant to collect their drugs in public) or in one of the PHC buildings (HQ, dispensary or sub-centre). Treating patients from a sub-centre is desirable as it shows that leprosy patients can be treated along with those with any other illness.

### Non Medical Supervisors

Most (80%) NMS have been promoted from PMWs. They receive an additional 6 months training at centres outside the State. Each NMS supervises 10 of the 20 PMWs.

Their responsibilities include:

- . checking that survey work is carried out correctly
- . referring complicated cases to the MO
- . transferring slides to the LEU
- . carrying out school surveys with PMWs
- . giving refresher training to PMWs
- . communicating the advance tour programme of the PMWs to the LEU
- . compiling and submitting monthly returns to the DLO



### Physiotherapist

The physiotherapist is usually a PMW with an extra 6 months training. Due to lack of transport he tends to travel with the MO on field visits and does not work independently. Supervisors or PMWs can refer patients to be seen by the physio who will advise about exercises to be carried out by the patient.

### Medical Officer

The MO of the LEU should spend 20 days of each month in the field. On these tours he will:

- . confirm cases
- . deal with complications
- . advise about reactions
- . organise surveys in the large schools
- . liaise with PHC Medical Officers and local leaders
- . hear staff grievances and complaints

In the HQ he will be responsible for seeing referred patients. As there is no sanctioned post for a laboratory technician he will also examine all skin smears referred to him and give reports to the PMWs at the end of the month. He will organise refresher training for staff as necessary.

In addition he is the Drawing and Disbursing Officer for the LEU and has to carry out all the administrative and reporting functions of the Head of Office.

There is no travel allowance provided and so staff can only be called to the HQ once in a month to collect their pay. At this time a monthly meeting is held, the MO gives instruction to staff about topics of interest and reports from slides are distributed

### **3 Relationship with the PHC**

There are several areas where cooperation can take place between NLEP and PHC staff:

- 1 NLEP staff can conduct weekly or monthly clinics in the sub-centre or dispensary. If a supply of dapsone is left then patients coming at other times can be given treatment.
- 2 At times of carrying out any survey (mass surveys and school surveys etc) the ANM should be asked to assist the male PMW. If this is done more females will be thoroughly examined.
- 3 All PHC staff should be trained to recognise cases of leprosy and refer them to the PMW for diagnosis by skin smear.
- 4 One of the weakest aspects of the work done by PMWs is health education. PMWs and VHGs should be able to advise patients and their contacts about the nature of the disease and how those affected should be cared for. A diagnosis of leprosy may stigmatise a patient for life, all health service staff should play their part in educating the public.
- 5 It is probable that the MO will detect cases of leprosy in the OPD. An indent can be made to the LEU for dapsone to treat these patients. Patients so detected should be reported to the LEU for registration. Ideally the diagnosis should be confirmed by skin smear. Most MOs can carry out skin smears but, in practice, lab technicians will not examine the smears as they do not receive the 'risk allowance' paid to PMWs of the NLEP.
- 6 The MO should know the criteria for discharging patients from treatment that are followed by the NLEP so he can advise patients accordingly

### **4 Multi-drug therapy**

Until recently leprosy was treated by a single drug (dapsone). It has now been found that resistance may develop in the same way that resistance will develop to anti-TB drugs if used alone. Also treatment with MDT shortens the duration of treatment required and decreases the period of infectivity. Regimes of MDT are, however, expensive and thus must be closely supervised. In Orissa MDT was given initially to only multi-bacillary cases. Nowadays it is given to all new leprosy patients in selected districts.

This program began in Ganjam (as one of the first 6 districts in India) and the programme is sponsored by SIDA and WHO. In 1985/86 the MDT programme has begun in Puri and in the following year it will start in Cuttack District.

In the MDT programme all treatment must be supervised by the LEU MO. To begin treatment for new patients there is an intensive phase of 21 days when the drugs are given personally by the MO who checks that they are actually ingested.

It has been found to be useful to have handouts on the MDT regime for participants. Also, if time allows, it has been found useful for the participants to visit the nearest LEU where they can be instructed in the technique of taking skin smears.

### **Additional reading**

*Leprosy: Guidelines on case-detection, treatment, follow up and reporting*

NLEP, Leprosy Division, Directorate General of health services, MOHFW, New Delhi (1985).

# 16 Management of the Tuberculosis Programme

## Introduction

The aim of this module is to familiarise participants with activities carried out under the National Tuberculosis Control Programme and discuss the role of PHC staff in relation to the programme.

## Learning objectives

- 1 Participants should understand the organisation of the National TB Control Programme and duties and responsibilities of the District TB Control Centre and its staff.
- 2 They should be aware of the responsibilities of PHC staff in relation to the TB control programme.

## Schedule

One teaching session is devoted to this module.

## Activities

The session is run as a lecture/discussion preferably by officers of the TB Control Programme. The whole of the reference section, which contains some technical information, can be used as a handout if so desired.

## Reference material

### Organisational aspects of the Tuberculosis Control Programme

#### Introduction

Prepared by Prof BK Shee, MD

Tuberculosis is an important public health programme in India. There are about 4-5 cases in every 1000 population (ie: one health village) in our country. On average one new case is added and one case either dies or is cured every year thus maintaining the same level of prevalence. Out of the 4-5 cases one will be excreting organisms (*Mycobacterium tuberculosis*) in the sputum and will therefore be infectious to the community. Approximately 85% of established cases will have pulmonary disease and the remainder will be non-pulmonary. Fortunately, although many people get the infection and become tuberculin positive they do not all develop the disease due to the body's immunity. On average 1% of children <5 years are infected and 15% in the school age group (5-15 years). Rates of infection increase steadily to about 60% at age 45. Overall about 30% of the population are tuberculin positive. Mortality from TB is estimated to be about 1/1000 per annum.

#### TB Control Programme

The TB Control Programme has been operating since 1962. It is known as the 'District TB Control Programme' as the districts have been adopted as the basic operational units. Every district in the country has a District Tuberculosis Centre (DTC). The DTC is concerned with the programme management responsibilities: (i) planning (ii) implementation (iii) coordination (iv) supervision (v) surveillance activities. It also maintains the case register (index) for the whole district and acts as a referral centre for the peripheral health units.

The DTC is staffed with 1 District TB Officer (DTO), 1 MO, 1 X-ray technician, 2 laboratory technicians, 2 treatment organisers (health visitors), 1 BCG team leader, 4-5 BCG technicians (ie: 1 for 2-3 PHCs), 1 statistical assistant, 1 clerk, 1 driver and 4-5 Class 4 employees.

The whole DTC is divided into 8 sections: (i) Registration (ii) Clinical (iii) X-ray (iv) Laboratory (v) Treatment (vi) BCG (vii) Statistics (including case indexing and monitoring) (viii) Administration.



The DTC is a referral and apex coordination centre for all the recognised peripheral health institutions of the entire district. The latter are categorised (i) X-ray centres (those with X-ray facilities) (ii) Microscopic centre and (iii) Referral centres which do not have microscopic facilities but are entrusted to collect sputum smears and send them for examination to a microscopic centre.

The principal activities in the TB Control Programme are:

- 1 Case finding
- 2 Treatment of cases and rehabilitation
- 3 BCG Vaccination
- 4 Surveillance

### **Control Policy**

The main emphasis of the programme is directed toward diagnosing all sputum positive cases and converting them to non-infectious cases. Domiciliary treatment is stressed as it has been found that hospital care is not more effective and its cost would paralyse the programme. Complicated, non-ambulatory cases only are referred for in-patient care.

The programme's success depends solely on the active participation of health personnel at all levels (public and private; practitioners of all systems of medicine; medical colleges etc.)

### **Operational aspects of the TB Control Programme**

1 Early case finding. Approximately 1-2 persons in every 1000 are sputum positive and therefore spreading the disease. If all these persons are treated then spread of the disease will be stopped. In epidemiological terms, those that are sputum positive are 'TB Cases' and those with symptoms or suggestive shadows on X ray are 'TB suspects'. Effective screening followed by effective case holding is the key to success in the TB control programme.

Screening of cases is done in stages as follows. All clinical suspects having any of the following symptoms are subjected to sputum examination:

- a) Chronic cough for more than 2 weeks
- b) Continuous fever for more than 2 weeks
- c) Chest pain for more than 2 weeks
- d) Blood in sputum

In any health village 2% (ie: 20 persons) of the population may have the above symptoms. In any hospital OPD about 4-8% of patients will admit to these symptoms. Thus if mass screening is carried out in a health village 20 suspects would be expected out of whom 1 or 2 might be cases. In the field health workers might be expected to submit 2 slides from clinical suspects every month per 1000 population covered.

In the hospital situation 4 slides might be examined from every 100 patients. 1 in 20 of these slides might be expected to be positive.

The MOs role in case-finding is important as 90% of TB cases are likely to have had symptoms which will have made them present for treatment early in their illness. It is thus important to remember to check anyone who might be suspected of having TB so that cases are not missed. The patient should be instructed as to how to give a sputum specimen on the spot. If this is negative on examination a further specimen should be requested.

Smears can be prepared by health workers at sub-centre level and sent for staining and AFB examination at the PHC.

All sputum positives are to be registered as CASES and a TREATMENT CARD prepared. An index number should be obtained from the DTC. The DTC registers all cases in the District Tuberculosis Case Index.

Cases detected at the DTC or at sanatoria are to be referred to the nearest PHC for regular collection of drugs and follow-up.

Those cases that are clinically suspected of having TB but who are negative on two sputum examinations are to be referred to the nearest X ray centre for examination with a referral slip. The X-ray results will be stated as N (Normal), NT (Non-tuberculous), TBP (Pulmonary TB), PLEF (Plural effusion), TBHA (Tubercular Ulcer), OBS (On observation), TT (Technically inadequate). Those with TT should be re-xrayed and those with OBS should have a follow up X-ray to check the diagnosis. All suspects having tubercular X-ray shadows will be registered with the Case Index and referred to the nearest peripheral institution with a treatment card and referral slip. Every PHI is expected to send a monthly report on TB (MRT) to the DTC for monitoring case finding and treatment activities.

2 Treatment and rehabilitation Adequate treatment of all sputum positive patients is essential for interrupting the chain of transmission of the disease.



All primary, miliary and extrapulmonary cases that are definitely diagnosed as TB should be given therapy with two drugs. When definite evidence of the diagnosis is lacking INH alone can be given.

TB cases must be encouraged to collect and take their drugs regularly. Instructing patients to start uninterrupted treatment is called INITIAL MOTIVATION. Persuasion for regularity of treatment is called SUBSEQUENT MOTIVATION. Persuasion to resume or restart treatment is called RE-MOTIVATION.

#### Treatment Regimes

##### 1 Self-administered daily oral regimes

Isoniazid 300mg, thiacetazone 150mg (adult) given in a single daily dose or in two divided doses.

OR

Isoniazid 300mg in a single daily dose and PAS 10g in 2 divided doses for 18 months

##### 2 Fully supervised twice weekly regime

Isoniazid 600-700mg orally and streptomycin 1g by i.m. injection at the same time under supervision twice weekly for 18 months. To prevent INH toxicity pyridoxine 10mg can be given with each dose of INH. Patients over 40 years should be given streptomycin 0.75g instead of 1g.

##### 3 Bi-phasic chemotherapy

As intensive chemotherapy in the first few weeks is more effective it is recommended for seriously ill patients. Daily streptomycin for 8 weeks is added to the daily regimes.

4 Patients with only radiographic evidence of pulmonary TB (negative sputum) having cavitation or extensive disease should be given INH and thiacetazone daily for 18 months.

Other categories of patients may be kept under observation or given INH only.

#### Duration of Chemotherapy

The optimum period of uninterrupted treatment is 18 months. Chemotherapy beyond two years does not give any extra benefit. If treatment is interrupted for 2 months or more during the first year it should be resumed again (RESUMED TREATMENT) at least for one year. PROLONGED TREATMENT (beyond 18 months) should only be given after a full review of the case. If a considerable period elapses between stopping and having to restart treatment (RESTARTED TREATMENT) the duration is as for a new patient.

#### Follow-up check

A check up is necessary at 6 monthly intervals. Positive sputum after 6 or 12 months indicates that either the patient is not taking drugs regularly or the organism has developed resistance. To confirm sputum negativity three sputum smears should be negative. X rays should also be done at 6 monthly intervals or at least between 12 and 15 months of regular treatment. The X ray result may show C (Clear), I (Improved), S (Stationary) or D (Deteriorated). The last two indicate a poor prognosis and warrant a change in regime. The ESR is of little value in assessing progress.

Treatment may be stopped after the specified period by the DTO or MO only.

#### Irregularity in Chemotherapy

If the patient does not turn up for collection of drugs for more than 3 days and less than 2 months after the scheduled date, they are termed as TREATMENT DEFAULTER. An INITIAL DEFAULTER is one who does not turn up to start treatment after diagnosis.

Drug Resistance is not very common; it may develop during treatment as a result of inadequate or irregular therapy. The choice of regime in resistant cases can be difficult but should, wherever possible, take into account previous drug history and the cost of alternative regimes.

It is more important to try and prevent the development of resistance by a) regular and complete therapy b) use of more than one drug at all times and c) using drugs to which the organism is sensitive.

#### Short term chemotherapy

Several short term regimes have been tested in controlled trials and shown to be effective. They are now given to patients over 15 with positive sputum and not having a history of more than 2 months previous TB drug treatment. The duration of these regimes is between 6-9 months.



### 1 Supervised short course regime

Drugs are administered biweekly under staff supervision.

- a) INH 600mg + Rifampicin 600mg + Pyrazinamide 2g for 2 months followed by
- b) Rifampicin 600mg and INH 600mg biweekly for another 4 months.

### 2 Self administered short course regime

- a) INH 300mg + Rifampicin 450mg + Pyrazinamide 1.5g daily for 2 months (SM 0.75g may be added) followed by
- b) Thiacetazone 150mg + INH 300mg daily for 6 months.

Sputum examination is to be done after 3rd, 6/8th, 9th and 12th month. An X ray should be taken after 12 months.

If the patient remains positive at 9th or 12 months the case should be referred to the DTO.

With short term regimes default for more than 4 weeks is termed LOST.

### 3 BCG vaccination

Now all the health workers in the PHC are being trained to give BCG vaccination (instead of the mass campaigns being operated by BCG teams) and BCG is to be included under the Universal Immunisation Programme. The present strategy is to immunise all the infants between 3-9 months whereas previously everyone under 19 was immunised without a preceding tuberculin test. (Those under 19 who have not been covered are eligible for vaccination.) The freeze dried vaccine can be stored in a refrigerator for about 1 year and at room temperature for 1 to 28 days. Further details on the technique and dose are mentioned in Module 11.

Chemoprophylaxis: is not recommended as a control measure although it might be given to individual contacts of infectious cases.

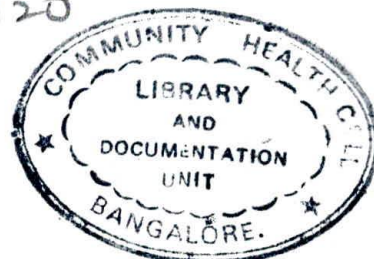
### 4 Surveillance

Regular surveillance is carried out under the DTC with 2 objectives:

- (i) Surveillance of action: Including BCG vaccination coverage, case finding, case holding, coverage of treatment activities of PHIs and DTC etc.
- (ii) Surveillance of effect: Measuring change in endemicity, tuberculin conversion, disease prevalence, case fatality rate, drug resistance prevalence.

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# 17 Project planning

## Introduction

The overall aim of the course is to improve management in the field. In order to encourage participants to put into practice some of the ideas discussed on the course, they are asked to plan out one project to be implemented in detail on their return. Participants are free to choose the subject for their project but they are encouraged to make a detailed plan which will be discussed with their colleagues and with the trainers and of which one copy will remain with the training team for use on follow-up visits to the PHC.

## Learning objectives

- 1 Participants will be able to select a feasible project which has the potential of improving the implementation of health programmes in their block.
- 2 They will be able to write out a detailed plan for this project, taking into account the time needed for implementing each step and suggesting ways in which likely problems are to be overcome.
- 3 They will be able to critically review project plans made by others, assess their feasibility and suggest improvements.

## Schedule

Two half day sessions are allowed for this module.

Session 1: Explanation of the exercise and individual work on project preparation.

Session 2: Presentation and discussion of projects

## Trainers notes

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The aim of the exercise is for participants to produce a detailed plan of action which stands a good chance of being implemented and which is likely to improve the delivery of PHC services in some way. The emphasis throughout has to be on realism: 'What will actually happen?'; 'who will actually do it?' etc. It is important to avoid general statements eg: 'Health education in the community will be improved.'

It is more likely that participants will produce detailed plans if they are given written guidelines to work with (see below). The hardest part of the exercise for the trainer, however, is making it clear what is required. Thus as well as giving out the guidelines in the introductory session it is useful to go through an example. Either one made up by the trainers or a good example from a previous batch (particularly if it is known that the project has been implemented successfully). An example project is included in the reference section of this module.

Finally, so that participants think of the project during the course (not just on the last day), it is useful if some time (15-20 minutes) could be spent early in the course discussing the ideas of post-course projects. This will enable participants to think of ideas during the rest of the course.

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## Activities

### Session 1

The first part of the session is devoted to explaining the exercise using the guidelines below. After going through all the points in the guidelines one example of a successful project should be reviewed in the class.



[Handout 1]

### **MO Course Project - participants guidelines**

On completion of the course it is hoped that you will wish to implement some changes or improvements in the way that work is managed in the PHC.

To help start this process you are asked to work out the details of one project which you aim to implement on your return. The decision as to what project is chosen is left up to you. The guidelines below are designed to help you in making out a project plan.

#### **General**

(i) The project should concern some change or improvement in PHC management: with the implementation of field work or patient care in the PHC rather than just changes in PHC office or accounts management.

(ii) The aim of this exercise is to record all the steps necessary in thinking out and implementing changes. You are therefore requested to try and be as specific as possible and pay attention to details, not just generalities.

#### **Specific**

1 What is the main concern of your project?eg: Improved implementation of the immunisation programme.

More effective collection of Vital Statistics

Better methods of FW motivation

2 What specifically is wrong with the programme(s) at present; what are the problems you are trying to solve or improve with the project? In other words, why is the project necessary? In this section you need to list specific problems.

3 What are the specific aims of the project?

It may not be possible to achieve your main aim all at once. What are the short term objectives of the project to be achieved on the way?

4 Project details:

In this section record exactly how you will go about implementing the project. It might be easiest to divide implementation up into a number of steps.

For each step in the project, think: what will actually happen? who will actually do it? what will they need? etc. Also for each step record how long will be required for implementation. [The handout given in the planning and programming module may be useful in this exercise]

5 What problems are likely to be encountered?

For each step in implementation record the problems that are likely to occur and think how these might be overcome.

6 How will you evaluate the project?

After implementation is complete how will you ensure that the desired effect has been achieved?

Please make TWO COPIES of your project plan and leave one with the training centre.

## Session 2

In the second session prepared projects are reviewed. The method used depends on the number of participants. If possible, individuals can make brief presentations to the class. If numbers prohibit this, two or three groups can be formed with one trainer in each. Projects are then presented to the rest of the group.

Each project should be critically assessed for its feasibility, its likely effect and the time estimated for its implementation. Other members of the group/class may suggest improvements or refinements in projects presented.

## Reference material

The following is an example of a project which could be implemented by an MO on return from the training course. It is written out in more detail than would be expected from participants in order to illustrate some of the points likely to come out in discussion.

[Handout 2]

**1 The project is concerned with ensuring that MPWs visit the villages according to their work programme and carry out the tasks which they are assigned.**

### **2 Specific problems**

- . many of the MPWs do not visit villages at all: they remain at home and submit false reports
- . of those that do carry out their visits, many do not carry out the work correctly
- . records of work done are not properly kept at the sub-centre and thus cannot be used for supervision by the supervisors.

### **3 Aims of the project**

The overall aim is to improve the work of MPWs and HAs in the whole block and make sure that visits are carried out according to the work programme.

This will take a long time to achieve and the project will be concerned with achieving more short term aims. If these are successfully implemented then further improvements can be added.

It has been decided to concentrate on the work of the MPW(F) and HA(F) at the outset and try to improve the coverage of ante-natal services in one sector. Improvements in one area will be used to convince workers in other parts of the block.

Specifically:

- . all ante-natal cases in the sector will be registered
- . including the initial registration visit each mother will be seen 4 times
- . all ante-natal mothers will receive protection with tetanus toxoid, will have their blood pressure and urine tested and receive Folifar and calcium tablets.
- . records will be kept on all mothers registered; they will be displayed in the sub-centre and used by the supervisor for supervising the MPW
- . all 'at risk' cases will be advised about referral if necessary

### **4 Details of implementation**

#### **a) Initial strategy:**

The first step will be to decide in which sector to implement the project. To have the greatest chance of success it should be one which is nearby and one with reasonably cooperative staff. The decision can be taken by the MO on the basis of his or her own experience.

#### **b) Involvement of other MOs:**

It will be necessary to try and involve the other MOs through informal discussion although it is probable that they will not be interested. They will raise the usual objections:

- . extra work for no extra pay
- . FP targets to meet
- . they have received no instruction from higher authority

It will probably be necessary to carry on with the project and hope to convince them by demonstrating that when the project is implemented the workers will do their jobs more enthusiastically.



c) Involvement of the HA(F) from the sector:

It will be most effective to approach her on her own, after rather than during a PHC meeting. After describing the project it will be important to find out what problems she foresees, eg:

- . MPWs not cooperative
- . MPWs do not know how to do the work
- . mothers don't trust workers and want to see MO directly

It should be possible for all communication with the MPWs in the sector to go through the HA(F). After she has talked to the MPWs she will bring up other problems and these will have to be sorted out. Whilst doing so it will be important to assess tactfully whether she knows how to do all the tasks herself.

d) The role of the BEE:

(i) At the same time the BEE should be asked to make an assessment of peoples' attitudes in the selected area to ante-natal and delivery services. This will be difficult: partly in getting the BEE to cooperate but also because asking questions in the village will raise awkward questions about previous difficult obstetric cases. It will be important for the BEE to find some persons who are respected and who will give support to health service staff. The BEE's enquiries should be informal (not a survey).

(ii) The BEE's involvement in this project will be on-going as he will be concerned in ensuring that all ante natal mothers are registered. It will be important for him to try and maintain or make contact with some of the 'dais' in the area. This is easier said than done as it means visiting a large number of people and many are not cooperating with PHC staff as there has been competition over who gets credit for referring tubectomy cases.

e) Programming of work:

Work programmes for the sector should be reviewed with the HA(F) and BEE to ensure that the plan of work envisaged (see below) can actually be carried out. Again this should be done in individual consultation rather than at a meeting.

f) Refresher Training:

If the HA requires any refresher training a session working with the MO at the HQ antenatal clinic should be arranged.

**TIMING:** This preparatory phase will take at least 2 MONTHS and longer if any training has to be arranged.

g) Work plan:

The MPWs should keep to their normal programme of visits to the villages in their area and plan the following services to be given to each antenatal mother that is known in the area:

- . On first contact the mother should be registered. the following details should be recorded for each woman: Age, parity, LMP, EDD, previous complications, other risk factors.
- . Subsequently tetanus toxoid immunisation must be arranged (either a course of two or one booster as needed).
- . Monthly supplies of Folifer and calcium must be given

Folifer etc and routine examinations can be given on domicilliary visits but tetanus immunisation will be better done at a centre to be arranged in each village so that several vaccinations can be done at once and the HA can supervise the worker and carry out BP checks.

It will not be easy to arrange vaccinations at first as people will not come to the centre without a lot of warning and reminders. This will be tedious to do and the workers and HA will have to be patient. Ideally all vaccinations could be done in the sub-centre clinic but apart from in one sector, this is very unlikely to work.

h) Records to be kept:

. The details of each mother must be recorded as above. Also the date of each vaccination and each other contact, details of medicines given and examinations performed. These details will be entered in the register by the MPW. Registers have not been well kept and are rarely used. To remedy this a chart will be posted in the sub-centre. This chart will display information on each ante-natal mother in the sector and will be updated by the MPW and reviewed by the supervisor. The chart can pencils to make the chart are the only extra resources required for this project. By making records of work public it is hoped that they will be more accurately kept.

. Daily work records of the MPW are to be kept on separate sheets and passed by the HA to the MO. Especially in the early stages of implementation the MO and BEE will try to attend sector meetings as frequently as other commitments allow. Work records and the displayed records can be reviewed and problems discussed at these meetings.

. If the supervisor works well it should not be too difficult to make sure that service delivery is improved to those mothers who are registered. The difficult part will be ensuring complete registration particularly of poor and scheduled caste women. The MO will have to keep probing to find out if this has been done.

. An important area of discussion at sector meetings will be dealing with cases that need referral. There is little point in detecting at risk cases if no action is taken and it is here that the MO's advice will be most useful.

### **5 Evaluation**

This project takes one specific aspect of work in one area as the first step in improving work in the PHC more generally. Most of the problems envisaged have been mentioned above. Evaluation in the early stages will be confined to a review of records and comparing the number of pregnancies expected with the number of mothers registered.

By the end of the first year it should be possible to demonstrate an increased rate of attendance at deliveries and timely referral of all cases. At a later stage it is hoped that it will be possible to demonstrate a decline in the maternal mortality rate.

### **6 Wider implementation**

The next step in the project will be to try and get this plan of work adopted in other sectors.

The plan as above should be allowed to run for at least 3 months. If it is going well then the PHC meeting should be used as a means of publicising the work to other staff.

Discussion of ante natal care should come up in the middle (not at the end of the meeting). The MO should take care not to lecture other staff on the successes of one sector.

Rather, after reviewing achievements, he should carefully ask the staff of the selected sector how they organise their work -- so they describe the work to the rest of the meeting.

It will be necessary to go through the preparatory phases in subsequent sectors again and it cannot be assumed that the project can be duplicated without problems. Also it cannot be assumed that work will continue in the original sector without continued close supervision.



# Appendix A

## Course timetable for 22 working day course

Day	10am	12pm	1-2pm	3.30pm	5pm
1	Registration	Inauguration	1. Introduction: The Medical Officer as a Manager		
2	Working in Groups*	2. Using health information	Group work on health data		
3	Report/discussion	Village health registers	3. Managing staff: Supervision		
4	Personnel administration		VHG/TBA Programme	Preparation for field visit	
5	Staff problems: workshop			Report Preparation	
6	Field visit		6. Medico-legal management		
7	Reports/discussion	++			
8	7. Communications/health education/motivation				
9	4. Materials management:				
10	Drug indent exercise				
11	Report/Discussion	5. Financial management			
12	Finance				
13	Finance				
14	9. Programme planning	Issues in PHC programming		Intro. to group exercise	
15	Group programming exercise			Reports/Discussion	
16	11. Vehicle management	Cold chain management		10. Immunisation Programme	
17	8. Teaching methods		Lesson preparation	15. Leprosy programme	
18	Practice teaching		Malaria programme		
19	Teaching in the PHC (Field Visit)		Discussion	16. TB Programme	
20	14. Coordination	ICDS	12. Management of floods	Epidemics	
21	17. Project Planning		Project Presentation		
22	Course evaluation/discussion		Closing session		

### NOTES

The numbers in the timetable refer to the 'Module Numbers' found in the text.

\* The session 'working in groups' is described in the module on communications (Module 7)

Except where (++) indicates a free session to be used as desired, sessions starting in the morning or after the lunch break continue for the rest of the day.

## Appendix B

### List of available drugs for drug indent exercise (Module 4)

Type of drug	Unit	Cost/Unit
<b>ANTIBIOTICS</b>		
Caps ampicillin 250mg	1000	600.00
Caps ampicillin 500mg	1000	1500.00
Syp ampicillin 125mg/5ml	40ml	4.25
Inj benzyl penicillin 5 lac units	100 vials	172.00
Inj benzyl penicillin 10 lac units	100 vials	237.00
Inj fort. procaine penicillin	1(5 dose)vial	4.30
Caps chloramphenicol 250mg	1000	258.00
Caps chloramphenicol 500mg	500	265.00
Syp chloramphenicol 125mg/ml	50ml	4.57
Tab sulphasomidine	1000	136.65
Tab sulphaguanidine	1000	74.80
Inj streptopenicillin	1 vial	2.50
Tab tetracycline 500mg	100	75.70
Inj gentamycin 40mg	1 vial	5.00
Inj kanamycin 500mg	1 vial	8.60
Tab erythromycin 250mg	100	121.58
Syp amoxycillin 125mg/ml	40ml	5.40
<b>ANTIMALARIALS</b>		
Inj quinine HCl 600mg/2ml	100 amp	14.34
Inj chloroquine sulphate 40mg/2ml	10 amp	8.05
Tab chloroquine diphosphate	1000	148.95
Tab pyrimethamine 25mg	1000	42.95
Tab primaquin 7.5mg	100	3.82
<b>ANTIHELMINTHICS</b>		
Tab piperazine phos.	1000	23.40
Alcopar 5mg	10 sachets	19.30
Tab mebendazole 100mg	500	72.00
Syp mebendazole 100mg/5ml	30ml	3.30
<b>ANTIFILARIAL</b>		
Tab diethyl carbamazine 50mg	1000	20.00
Tab diethyl carbamazine 100mg	1000	35.50
<b>ANTIAMOEBICS</b>		
Tab metronidazole 400mg	1000	169.60
Syp metronidazole	60ml	7.50
Tab tinidazole 150mg	1000	177.00
Tab tinidazole 300mg	1000	325.00
Inj dihydroemetine 30mg	6 amp	8.84
Inj dihydroemetine 50mg	6 amp	14.90
<b>ANAESTHETICS</b>		
Inj atropine 6mg	50 amp	25.44
Inj lignocaine 2% 30ml vial	1 vial	3.50



# ANALGESICS

Tab paracetamol 500mg	1000	72.00
Tab paracetamol and caffeine	1000	61.10
Tab acetyl salicylic acid 300mg	200	4.50
Tab Analgin 500mg	1000	146.35
Inj Analgin 500mg/2ml	10 amp	12.22
Inj morphine sulphate 15mg/ml	50 amp	19.33
Inj morphine sulphate 30mg/2ml	50 amp	25.99
Inj pethidine 50mg/ml	100 amp	75.30
Inj pentazocine 30mg	25 amp	49.50

# INFUSION FLUIDS

Oral rehydration soln.(ORS)	1000 packets	150.00
Inj sodium bicarbonate 7.5%	50 amp	29.50
Glucose saline	540 ml	6.25
Normal saline	540 ml	6.45
Darrow's solution	540 ml	6.75
Inj Periston N	100 ml	19.20
Inj mannitol 20%	350 ml	12.05
Haemaccel	540 ml	36.40
Lomodex	540 ml	31.04
Distilled water	540 ml	4.00
Water for injection		

# MUSCULOSKELETAL

Tab oxyphenbutazone 100mg	1000	138.75
Tab phenylbutazone and paracetamol	500	69.85
Inj oxyphenbutazone 3ml amp	5 amp	8.80
Inj phenylbutazone 200mg/3ml	5 amp	8.80

# SEDATIVES

Inj phenobarbitone 200mg	100 amp	65.00
Tab phenobarbitone 15mg	1000	12.50
Tab phenobarbitone 60mg	1000	36.80
Inj diazepam 10mg/2ml	100 vial	75.00
Inj chlorpromazine 25mg/ml	10 amp	6.64
Tab chlorpromazine 10mg	1000	32.37
Inj Phenergan 50mg/2ml	10 amp	10.57

# RESPIRATORY

Tab salbutamol	100	44.40
Tab aminophylline 100mg	1000	26.45
Inj aminophylline 10mg	25 amp	14.00
Inj nikethamide 2ml amp	100 amp	26.00
Inj adrenaline 1ml amp	100 amp	40.00
Cough mixture	250ml bottle	7.50

# ANTIHYPERTENSIVES

Inj reserpine 1mg	5 amp	4.40
Tab reserpine 25mg	1000	20.50
Tab Adelphane Esidrex	500	50.72

# CARDIAC

Tab digoxin 0.25mg	100	10.00
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# ANTICOAGULANTS

Tab menadion + Vit C	500	34.97
Inj menadion 2.5mg/ml	25 amp	36.18

ACTING ON UTERUS		
Inj methyl ergotamine maleate	50 amp	53.40
Tab methyl ergotamine maleate 125mg	500	165.00
Inj syntocinon 2ml	6 amp	6.29
DIURETICS		
Inj frusemide 20mg/2ml	10 amp	7.82
Tab frusemide 40mg	250	48.14
ENDOCRINE		
Inj dexamethazone 4mg/2ml	1 vial	3.13
Tab dexamethazone 5mg	1000	69.85
Tab prednisolone 0.5mg	1000	109.50
Tab progesterone 5mg	10	7.71
Tab allylestrenol 5mg	10	11.50
ANTACIDS		
Tab aluminium hydroxide gel + mag hydroxide + polysiloxogen	1000	35.50
Susp. aluminium hydroxide gel + mag. hydroxide + polysiloxogen	450 ml	11.70
Tab dried aluminium hydroxide	1000	18.50
Tab dried aluminium hydroxide + mag. trisilicate	1000	9.00
Susp.aluminium hydroxide	450 ml	5.00
ANTIALLERGIC		
Inj Avil 22.5mg/2ml	10 ml	10.18
Tab Avil 25mg	1000	74.75
Tab embramine 25mg	12 tab	2.81
ANTISPASMODICS		
Tab Spasmindon	1000	340.20
Inj Spasmindon 2ml amp	25 amp	36.25
Drops Baralgan 10ml	1 bottle	4.28
Tab Baralgan	1000	314.44
Inj Baralgan 2ml amp	10 amp	12.29
LAXATIVE		
Tab senna 50mg	500	89.46
NUTRITION/METABOLIC		
Tab ferrous sulphate	100	6.40
Inj iron dextran 2ml	100 amp	135.00
Tab ferrous fumarate + folic acid + calcium gluconate	100	8.35
Inj calcium pantothenate 10ml	1 vial	2.90
Tab riboflavin 70mg	1000	16.75
Inj liver extract 10ml	1 vial	3.54
Caps vitamin A 50,000 IU	1000	350.00
Caps vitamin A + D (4,000IU Vit A)	1000	29.50
Inj vitamin B complex 10ml	1 vial	3.00
Inj Polybion 2ml	25 amp	27.48
Tab calcium gluconate	1000	23.80
SKIN		
Benzyl benzoate emulsion 25%	500 ml	7.30



# EYE AND ENT

Chloramphenicol eye applicaps	100 caps	12.23
Sulphacetamide eye drops 10%	10ml bottle	1.60
Chloramphenicol ear drops 5ml	1 bottle	2.42
Nasivium nasal decongestant drops	10ml bottle	5.11
Neomycin and betamethasone eye ointment	3.5 gm tube	2.92

# SERA AND VACCINES

Antisnake venom 10ml	20 vials	43.00
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# DISPENSING CHEMICALS

Gentian violet	1000 gm	21.00
Sulphur sublimate	500 gm	5.50
Acriflavin crystals	100 gm	92.00
Potassium permanganate	500 gm	20.75
Tr. benzoin co.	500 ml	10.00
Spirit ammonia aromate	500 ml	5.20
Spirit chloroform	500 ml	5.00
Tr. cardamon	500 ml	6.00
Calamine preparation	500 gm	9.90
Glycerine	500 ml	45.00
Menthol	100 gm	36.45

# ANTISEPTIC/DISINFECTANT/DETERGENT

Iodine crystals	100 gm	40.00
Tr. Iodine	500 ml	9.40
White soft paraffin	15 Kg	170.60
Yellow soft paraffin	15 Kg	170.60
Spirit methylated	500 ml	4.90
Spirit rectified	500 ml	4.40
Chloroxylenol soln.	1 Litre	15.30
Phenol (black disinfectant)	4 Litre	26.75

# DRESSING MATERIALS ETC

Plaster of Paris	50 Kg	162.00
Adhesive plaster 10cm x 5m	10 packets	210.00
Elastic bandage 6cm x 5/6m	1	29.50
Crepe bandage 8cm x 4.5m	12	120.00
Handloom cotton gauze (HCG)	1 than	16.45
HCG unbleached	1 than	41.20
Cotton	500 gm	12.64
Catgut plain	1 dozen	49.92
Nylon	1 than	0.78
Needles: half curved	6	5.50
round bodied	6	5.50
straight	6	5.50
RB cutting	6	4.50
BP blade	1	0.70
BP blade handle	1	0.70
OT towel	1	9.70
Operating gloves	12 pairs	33.00
Oxygen cylinder	1	810.00
Syringe 2cc	1	6.40
Syringe 10cc	1	8.95
Infusion set	1	3.50
Thermometer	1	5.45

# Order form

Type of drug	Units	Cost (Rs)
<b>ANTIBIOTICS</b>		
Caps ampicillin 250mg	_____	_____
Caps ampicillin 500mg	_____	_____
Syp ampicillin 125mg/5ml	_____	_____
Inj benzyl penicillin 5 lac units	_____	_____
Inj benzyl penicillin 10 lac units	_____	_____
Inj fort. procaine penicillin	_____	_____
Caps chloramphenicol 250mg	_____	_____
Caps chloramphenicol 500mg	_____	_____
Syp chloramphenicol 125mg/ml	_____	_____
Tab sulphasomidine	_____	_____
Tab sulphaguanidine	_____	_____
Inj streptopenicillin	_____	_____
Tab tetracycline 500mg	_____	_____
Inj gentamycin 40mg	_____	_____
Inj kanamycin 500mg	_____	_____
Tab erythromycin 250mg	_____	_____
Syp amoxycillin 125mg/ml	_____	_____
<b>ANTIMALARIALS</b>		
Inj quinine HCl 600mg/2ml	_____	_____
Inj chloroquine sulphate 40mg/2ml	_____	_____
Tab chloroquine diphosphate	_____	_____
Tab pyrimethamine 25mg	_____	_____
Tab primaquin 7.5mg	_____	_____
<b>ANTIHELMINTHICS</b>		
Tab piperazine phos.	_____	_____
Alcopar 5mg	_____	_____
Tab mebendazole 100mg	_____	_____
Syp mebendazole 100mg/5ml	_____	_____
<b>ANTIFILARIALS</b>		
Tab diethyl carbamazine 50mg	_____	_____
Tab diethyl carbamazine 100mg	_____	_____
<b>ANTIAMOEBIASIS</b>		
Tab metronidazole 400mg	_____	_____
Syp metronidazole	_____	_____
Tab tinidazole 150mg	_____	_____
Tab tinidazole 300mg	_____	_____
Inj dihydroemetine 30mg	_____	_____
Inj dihydroemetine 50mg	_____	_____
<b>ANAESTHETICS</b>		
Inj atropine 6mg	_____	_____
Inj lignocaine 2% 30ml vial	_____	_____
<b>ANALGESICS</b>		
Tab paracetamol 500mg	_____	_____
Tab paracetamol and caffeine	_____	_____
Tab acetyl salicylic acid 300mg	_____	_____
Tab Analgin 500mg	_____	_____
Inj Analgin 500mg/2ml	_____	_____
Inj morphine sulphate 15mg/ml	_____	_____
Inj morphine sulphate 30mg/2ml	_____	_____
Inj pethidine 50mg/ml	_____	_____
Inj pentazocine 30mg	_____	_____



# INFUSION FLUIDS

Oral rehydration soln.(ORS)  
 Inj sodium bicarbonate 7.5%  
 Glucose saline  
 Normal saline  
 Darrow's solution  
 Inj Periston N  
 Inj mannitol 20%  
 Haemaccel  
 Lomodex  
 Distilled water  
 Water for injection

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

# MUSCULOSKELETAL

Tab oxyphenbutazone 100mg  
 Tab phenylbutazone and paracetamol  
 Inj oxyphenbutazone 3ml amp  
 Inj phenylbutazone 200mg/3ml

_____	_____
_____	_____
_____	_____
_____	_____

# SEDATIVES

Inj phenobarbitone 200mg  
 Tab phenobarbitone 15mg  
 Tab phenobarbitone 60mg  
 Inj diazepam 10mg/2ml  
 Inj chlorpromazine 25mg/ml  
 Tab chlorpromazine 10mg  
 Inj Phenergan 50mg/2ml

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

# RESPIRATORY

Tab salbutamol  
 Tab aminophylline 100mg  
 Inj aminophylline 10mg  
 Inj nikethamide 2ml amp  
 Inj adrenaline 1ml amp  
 Cough mixture

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

# ANTIHYPERTENSIVES

Inj reserpine 1mg  
 Tab reserpine 25mg  
 Tab Adelphane Esidrex

_____	_____
_____	_____
_____	_____

# CARDIAC

Tab digoxin 0.25mg

_____	_____
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# ANTICOAGULANTS

Tab menadion + Vit C  
 Inj menadion 2.5mg/ml

_____	_____
_____	_____

# ACTING ON UTERUS

Inj methyl ergotamine maleate  
 Tab methyl ergotamine  
 maleate 125mg  
 Inj syntocinon 2ml

_____	_____
_____	_____
_____	_____
_____	_____

# DIURETICS

Inj frusemide 20mg/2ml  
 Tab frusemide 40mg

_____	_____
_____	_____

# ENDOCRINE

Inj dexamethazone 4mg/2ml  
 Tab dexamethazone 5mg  
 Tab prednisolone 0.5mg  
 Tab progesterone 5mg  
 Tab allylestrenol 5mg

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

# ANTACIDS

Tab aluminium hydroxide gel + mag  
hydroxide + polysiloxogen  
Susp. aluminium hydroxide gel +  
mag. hydroxide + polysiloxogen  
Tab dried aluminium hydroxide  
Tab dried aluminium hydroxide +  
mag. trisilicate  
Susp.aluminium hydroxide

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# ANTIALLERGIC

Inj Avil 22.5mg/2ml  
Tab Avil 25mg  
Tab embramine 25mg

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# ANTISPASMODICS

Tab Spasmindon  
Inj Spasmindon 2ml amp  
Drops Baralgan 10ml  
Tab Baralgan  
Inj Baralgan 2ml amp

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# LAXATIVE

Tab senna 50mg

\_\_\_\_\_

# NUTRITION/METABOLIC

Tab ferrous sulphate  
Inj iron dextran 2ml  
Tab ferrous fumarate + folic  
acid + calcium gluconate  
Inj calcium pantothenate 10ml  
Tab riboflavin 70mg  
Inj liver extract 10ml  
Caps vitamin A 50,000 IU  
Caps vitamin A + D (4,000IU Vit A)  
Inj vitamin B complex 10ml  
Inj Polybion 2ml  
Tab calcium gluconate

\_\_\_\_\_  
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\_\_\_\_\_

# SKIN

Benzyl benzoate emulsion 25%

\_\_\_\_\_

# EYE AND ENT

Chloramphenicol eye applicaps  
Sulphacetamide eye drops 10%  
Chloramphenicol ear drops 5ml  
Nasivium nasal decongestant drops  
Neomycin and betamethasone  
eye ointment

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# SERA AND VACCINES

Antisnake venom 10ml

\_\_\_\_\_

# DISPENSING CHEMICALS

Gentian violet  
Sulphur sublimate  
Acridflavin crystals  
Potassium permanganate  
Tr. benzoin co.  
Spirit ammonia aromate  
Spirit chloroform  
Tr. cardamon  
Calamine preparation  
Glycerine  
Menthol

\_\_\_\_\_  
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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



# ANTISEPTIC/DISINFECTANT/DETERGENT

Iodine crystals

Tr.Iodine

White soft paraffin

Yellow soft paraffin

Spirit methylated

Spirit rectified

Chloroxyleneol soln.

Phenol (black disinfectant)

## DRESSING MATERIALS ETC

Plaster of Paris

Adhesive plaster 10cm x 5m

Elastic bandage 6cm x 5/6m

Crepe bandage 8cm x 4.5m

Handloom cotton gauze (HCG)

HCG unbleached

Cotton

Catgut plain

Nylon

Needles: half curved

round bodied

straight

RB cutting

BP blade

BP blade handle

OT towel

Operating gloves

Oxygen cylinder

Syringe 2cc

Syringe 10cc

Infusion set

Thermometer

## Appendix C

### Course evaluation

Participants are asked to fill up Questionnaire 1 at the beginning of the introductory session on the first day. They are given a copy of Questionnaire 2 after each module. Questionnaire 3 is used on the last day of the course.

#### Questionnaire 1

This questionnaire is concerned with the expectations of participants coming on the course. It provides an opportunity at the outset for individuals to acknowledge that there are some aspects of management with which they are not fully confident. The results of this questionnaire can provide a useful starting point for certain sessions -- eg 'The results of our questionnaire show that 90% of doctors attending the course feel that health programme implementation could be improved with better management at PHC level -- in which ways do you think it could be improved?' or 'Most MOs do not feel fully confident in their role as Drawing and Disbursing Officers -- why do you think this is?'

If MOs consistently express themselves to be fully confident in a particular topic and admit no improvement in their competence or understanding in Questionnaire 3, trainers may consider omitting or changing the particular module.

It is not advisable to use this questionnaire in an unchanged form to assess change in perceived confidence before and after the course. Participants' understanding of the questions will change after being exposed to course materials and thus the results would not be comparable. For this reason Questionnaire 3 was devised.

#### Questionnaire 2

This short questionnaire is used to assess participants' reactions to the teaching as soon after the module as possible. In early courses open questions were used but answers tended to be repetitive or off the point. Question 2 covers the most frequent criticisms of modules. Question 3 tries to assess which part of the module was seen as being most important or relevant.

#### Questionnaire 3

This questionnaire attempts in a very simple way to assess whether participants perceive any improvement in their ability or understanding of particular subjects having followed the course. They are also asked to comment on the usefulness of teaching equipment and methods used during the course; the role of outside speakers; the facilities provided for them and, finally, their opinion as to whether they would feel confident in the role of trainer in management for other health service staff.

#### Follow up

Questionnaires administered during or immediately after a course are of only limited use in assessing the effectiveness of training. The question of whether work performance improves once back on the job still remains. The extent to which participants will put into practice ideas and methods discussed during their training will depend not only on the effectiveness of the teaching but also their motivation for coming on the course and the support they receive on return.

Nevertheless, follow-up of past trainees, at PHC level, which has been started by the training groups in Jagatsinghpur has been found to be useful not only in assessing course effectiveness but also in helping trainees put new methods into practice. By discussing problems encountered with individuals in PHCs the process of training can be extended to the field situation.

The project discussed in the last module of the course will provide a focus for future follow-up visits.



# Questionnaire 1

No. \_\_\_\_\_

Years in government service: \_\_\_\_\_

Years as PHC i/c: \_\_\_\_\_

District: \_\_\_\_\_

Please tick one of the boxes only in answer to each question.

	fully confident				uncertain
1 I am confident in my role as drawing and disbursing officer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2 I am able to utilise health information collected by my staff.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3 I know how to manage the malaria spraying programme effectively.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 I am confident in my role as PHC manager.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 I know how to manage the leprosy programme effectively.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6 I know how to apply the rules and procedures laid down for managing personnel.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7 I am able to teach my supervisors how to supervise their workers effectively.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8 I know how to get good cooperation from and can coordinate my work with officers of other departments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9 I understand the role of the MO in ICDS blocks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10 I am able to make routine tour programmes and detailed sector programmes for my staff.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11 I know how to manage the TB programme.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12 I am able to run effective training sessions for my subordinate staff.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13 I know what to do in the case of severe flooding in my block.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14 I am confident in handling medico-legal cases.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15 I know how to properly investigate an epidemic in my block.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16 I know how to maintain cold chain equipment correctly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17 I know how to train my staff to communicate health education messages to villagers effectively.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18 I feel confident in motivating most of my staff to work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19 I know how to manage the immunisation programme effectively.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20 I know how to indent for drugs and materials correctly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21 I know how the PHC vehicle should be maintained.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22 I feel confident that I am managing the VHG programme to the best effect.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23 I know how to make the best use of a limited drug budget.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	greatly improved				cannot be improved
24 I think that the implementation of health programmes in my block could be improved by better management at PHC level.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please list three aspects of your work that you hope to improve as a result of coming on a management course:

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_

## Instructions

- . Participants should be told that there is no need to put their name on the record form. They should be asked to answer as honestly as possible as the results will only be used for course evaluation.
- . For each question they are asked to mark one of the boxes. For each question there are four possible choices ranging on the left from complete confidence to complete uncertainty on the right with two 'intermediate' positions.
- . If there is any doubt as to which aspect of each subject the question refers, participants may be advised to prefix each question with 'In general ...'

**Questionnaire 2**

**Management Course for Medical Officers**

Batch no. \_\_\_\_\_

Module: \_\_\_\_\_

No. \_\_\_\_\_

Participant's name: \_\_\_\_\_

1 Was the module relevant to your work as PHC MO in charge?

Relevant

Partly relevant

Not relevant

2 If not relevant:

Not relevant to PHC work/situation

Approach was too academic or theoretical

Should have been taught in the field

Other comments:

3 If relevant, which aspect of work covered in the module will you try to implement first?



### Questionnaire 3

Name \_\_\_\_\_  
PHC \_\_\_\_\_  
Date \_\_\_\_\_

Batch No. \_\_\_\_\_  
District \_\_\_\_\_

- 1 Having completed the management course do you think that your ability to manage the following aspects of your work has improved: (Please delete the answer which does not apply)
- |   |        |
|---|--------|
| Using health information                                | YES/NO |
| Managing staff  | YES/NO |
| Managing stock and stores                               | YES/NO |
| Financial management                                    | YES/NO |
| Managing medico-legal cases                             | YES/NO |
| Planning effective health education                     | YES/NO |
| Giving on-the-job training to staff                     | YES/NO |
| Programming work  | YES/NO |
| Managing floods and epidemics                           | YES/NO |
| Managing the PHC vehicle                                | YES/NO |
| Managing the following health programmes*:              |        |
| Malaria   | YES/NO |
| Leprosy   | YES/NO |
| TB  | YES/NO |
| Immunisation (inc. maintenance of cold chain equipment) | YES/NO |
| ICDS  | YES/NO |
- \*Any other programmes which have been specifically covered on the course should be included.

2 Which of the modules taught by visiting lecturers did you find useful? (Modules taught by visiting speakers should be listed with instructions to place a tick against those which were found to be useful) Which other modules do you think should have been taught by visiting speakers?

3 Did you find that the use of the video and overhead projector made the teaching more interesting?

VIDEO	YES/NO
OHP	YES/NO

4 Did you find the method of group projects followed by presentation of work to be a useful way of learning in the following modules:

Preparing drug indents	YES/NO
Analysing mortality data	YES/NO
Presenting the findings of supervision field visit	YES/NO
Making work programmes	YES/NO
Solving staff problems	YES/NO
Preparing a training session	YES/NO

5 Do you have any comments about the training team?

6 Would you have liked more opportunity for self-study? (e.g. use of library, journals etc.)

Comments: YES/NO

7 Do you have any comments about the accommodation provided? What extra facilities are required?

8 Do you appreciate the idea of training team members making a follow-up visit to see if you are putting new ideas from the course into practice?

Comments: YES/NO

9 In the event of the formation of district training teams for training PHC staff in the managerial aspects of their work would you feel confident to take up the responsibility of being a trainer for:

MOs	YES/NO
BEEs	YES/NO
Computer/ VS clerk	YES/NO
HAs	YES/NO
MPWs	YES/NO

10 Any other comments: