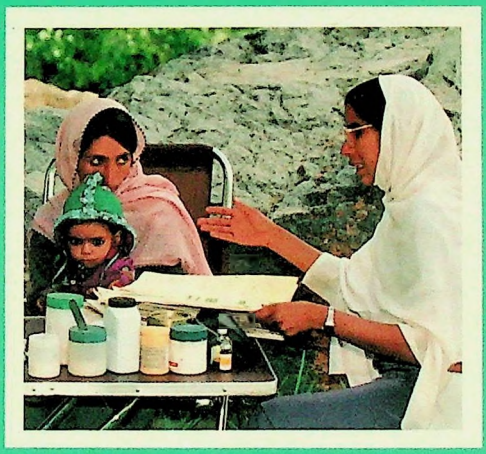
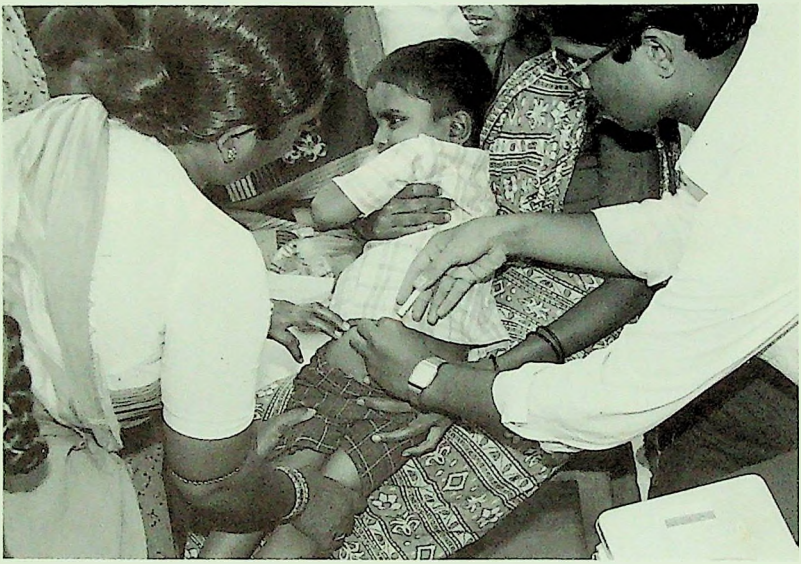
Primary Health Care Management Advancement Programme

PLANNING AND ASSESSING HEALTH WORKER ACTIVITIES



MODULE 3
USER'S GUIDE



In Bangladesh, health workers use a major share of their time to train other women about measures they can take to promote health and prevent disease.

Photo by Jean-Luc Ray for AKF

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Dedicated to
Dr. Duane L. Smith (1939-1992),
Dr. William B. Steeler (1948-1992)
and all other health leaders, managers and workers
who follow their example in the effort to bring quality health
care to all in need.

In Kenya, a community health nurse trains and helps plan the work of the community health volunteers

Photo by Jean-Luc Ray for AKF

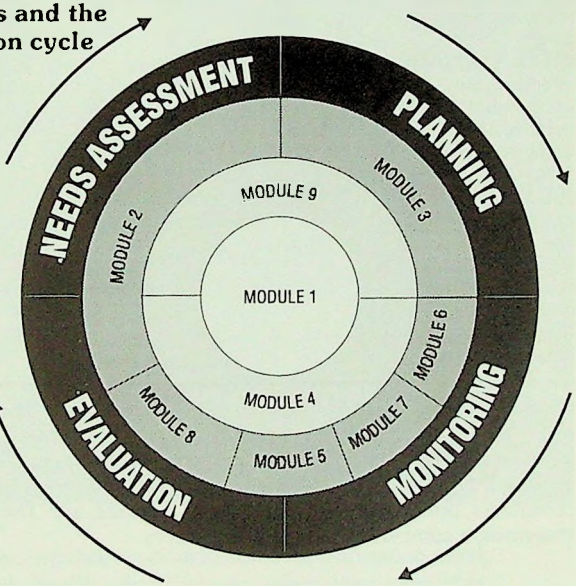
An overview of PHC MAP

The main purpose of the Primary Health Care Management Advancement Programme (PHC MAP) is to help PHC management teams collect, process and analyse useful management information.

Initiated by the Aga Khan Foundation, PHC MAP is a collaborative programme of the Aga Khan Health Network[1] and PRICOR.[2] An experienced design team and equally experienced PHC practitioner teams in several countries, including Bangladesh, Chile, Colombia, the Dominican Republic, Guatemala, Haiti, India, Indonesia, Kenya, Pakistan, Senegal, Thailand and Zaire, have worked together to develop, test and refine the PHC MAP materials to make sure that they are understandable, easy to use and helpful.

PHC MAP includes nine units called modules. These modules focus on essential information that is needed in the traditional management cycle of planning-doing-evaluating. The relationship between the modules and this cycle is illustrated below.

PHC MAP modules and the planning-evaluation cycle



PHC MAP MODULES

1. Information needs
2. Community needs
3. Work planning
4. Surveillance
5. Monitoring indicators
6. Service quality
7. Management quality
8. Cost analysis
9. Sustainability

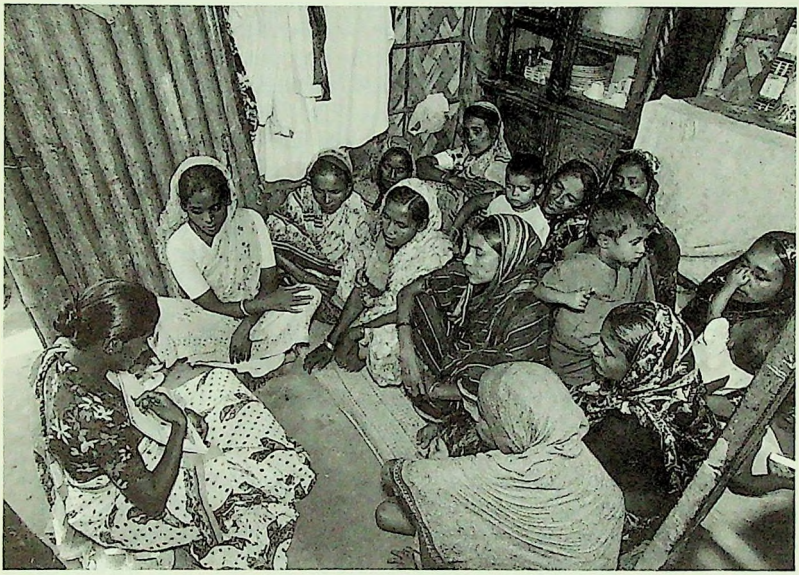
1. The Aga Khan Health Network includes the Aga Khan Foundation, the Aga Khan Health Services, and the Aga Khan University, all of which are involved in the strengthening of primary health care
2. Primary Health Care Operations Research is a worldwide project of the Center for Human Services, funded by the United States Agency for International Development

Managers can easily adapt these tools to fit local conditions. Both new and experienced programmers can use them. Government and NGO managers, management teams, and communities can all use the modules to gather information that fits their needs. Each module explains how to collect, process and interpret PHC-specific information that managers can use to improve planning and monitoring. The modules include User's guides, sample data collecting and data processing instruments, optional computer programs, and Facilitator's guides, for those who want to hold training workshops.
The health and management services included in PHC MAP are listed below.

Health and management services

HEALTH SERVICES		MANAGEMENT SERVICES
GENERAL	**OTHER HEALTH CARE**	Planning
PHC household visits	Water supply, hygiene and sanitation	Personnel management
Health education	School health	Training
MATERNAL CARE	Childhood disabilities	Supervision
Antenatal care	Accidents and injuries	Financial management
Safe delivery	Sexually transmitted diseases	Logistics management
Postnatal care	HIV/AIDS	Information management
Family planning	Malaria	Community organisation
	Tuberculosis	
CHILD CARE	Treatment of minor ailments	
Breast feeding	Chronic, non-communicable diseases	
Growth monitoring		
Nutrition education		
Immunization		
Acute respiratory infection		
Diarrhoeal disease control		
Oral rehydration therapy		

Several Manager's guides supplement these modules. These are: *Better management: 100 tips*, a helpful hints book describing effective ways to help managers improve what they do; *Problem-solving*, a guide to help managers deal with common problems; *Computers*, a guidebook providing useful hints on buying and operating computers, printers, other hardware and software; and *The computerised PRICOR thesaurus*, a compendium of PHC indicators.



Community women are a powerful force for improving family and community health when they are well-trained, supervised and logistically supported

Photo by Jean-Luc Ray for AKF

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A number of other individuals deserve special thanks for their contributions to this module. Among these are Neeraj Kak and Maria Franscisco from the Center for Human Services and Sohail Mushtak from the Aga Khan University. Special acknowledgement and deep appreciation goes to Dr. Colin De'ath, Bangkok, Thailand for his extra efforts during the final edits on this edition, all the work at odd hours he has put in on the rest of the series and his continual encouragement while working with a less than harmonious production team.

Field tests:	Countries, participating organisations, field test facilitators
India	Junagadh PHC Project, Gujarat, and the Sidhpur Sustainable Health System Project, Gujarat; Aga Khan Health Service, India; Facilitators: Neeraj Kak, Center for Human Services, Vijay Moses, Aga Khan Health Service, India
Kenya	Mombasa PHC Programme; Kisumu PHC Programme; Facilitators: Maria Francisco, University Research Corporation/Center for Human Services; Inaam-ul-Haq, Aga Khan University, Pakistan

Quick start

Basic work planning

You may already have done some of the work planning activities described in this module. To find out - and to identify the ones that interest you most - review the following Quick start summary. Check off the sections that you want to read and begin with these. Most of these sections include worksheets and sample forms that can help you develop work planning procedures quickly.

Step 1: Describe and map the catchment area

Review this step if you need to: 1) define and map the physical boundaries of your catchment (service) area; 2) describe the health services and population contained in that area; and/or 3) develop a register of households and/or individuals located in the area.

Step 2: Identify community needs and available resources

Review this step if you need to: 1) identify community health problems and needs; 2) assess the PHC services currently provided by other health providers in the area; and/or 3) identify health resources that you can call on in the area.

Step 3: Set priorities and identify high-risk groups

Review this step if you need to: 1) identify priority health problems that your programme will address; 2) set up a system for assessing risk factors in your area; 3) identify your primary target groups; 4) identify high-risk groups and individuals in your area; and/or 5) establish a system for monitoring high-risk groups.

Step 4: Plan PHC activities

Review this step if you need to: 1) identify strategies for providing needed health services to your target groups; 2) develop a plan for community-based and outreach services; and/or 3) develop a plan for clinic-based services.

Step 5: Develop job descriptions and recruit staff

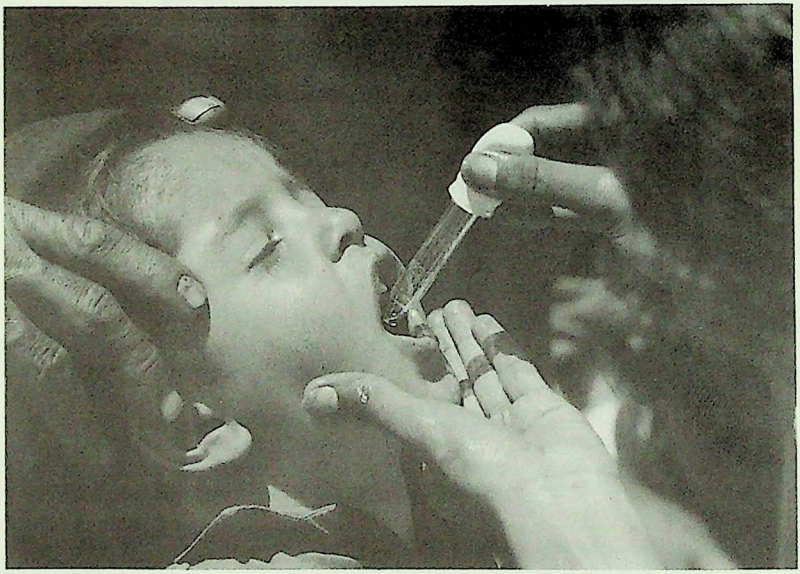
Review this step if you need to: 1) develop a role and task list for your staff; 2) prepare job descriptions for your staff; and/or 3) make sure that staff job descriptions will produce desired programmatic results.

Step 6: Develop individual work plans and schedules

Review this step if you need to: 1) develop individual work plans for each staff member; 2) assign work to fit priority health needs and the needs of high-risk groups; and/or 3) schedule work so that staff have a reasonable work load and can complete their assignments on time.

Step 7: Assess job performance

Review this step if you need to: 1) set up a performance-based system for assessing staff work; 2) set up procedures to compare planned with actual work performance; and/or 3) ensure that staff performance is contributing to programme objective.



In North Pakistan a health worker administers an oral dose of iodinated oil for prevention of iodine deficiency disorders, such as goitre

Photo by Pierre Claquin for AKF

Introduction

Planning and assessing health worker activities

One of the major objectives of most PHC managers is to find ways to increase coverage of the target populations with basic health services. One of the major challenges is finding simple, yet effective procedures for getting PHC staff to do that. This module was designed to address this problem.

The overall objective of Module 3 is to help your staff develop realistic work plans that will lead to improved coverage, early identification and attention to high-risk women and children, and will not require additional effort to manage.

Set up a system

To do this, you will need to set up a system that identifies your various target populations, determines their health needs, sets priorities among those needs, and then assigns staff to provide services on a selective basis. The heart of this system will be information. The system must provide adequate information so that you and your health workers can continually assess needs, adjust plans accordingly, monitor results, reassess needs, readjust plans, and so on. The "system" described in this module is based on some of the best features of several PHC programmes that have been successful in that respect. Through the use of maps, simple registers, risk analyses, prompt feedback, flexible work plans, living job descriptions, supportive performance appraisals, and other simple tools, these programmes have been able

to increase coverage, improve health status, and raise job satisfaction at the same time.

Module 3 picks up where Module 2 left off. Community surveys provide a broad picture of health needs and program effectiveness in meeting those needs. Module 3 shows how to assess individual needs and develop specific work plans to enable both clinic staff and field workers to meet those needs.

The procedures described in this module do not require sophisticated computers or advanced training in management. All of the procedures can be done by hand, and many are designed to be used by front line field workers (CHWs, nurses, midwives, field doctors, and the like). As with the other PHC MAP modules, these tools are illustrative and you are encouraged to adapt them to fit your specific needs.

How Module 3 can help you

This module is designed to help you to plan your PHC activities. For example, you can use this module to;

How each step will help you

- **Identify the populations/individuals to be served.** Step 1 will help you to define and describe your programme's catchment area, to develop a map of the area, and to compile information for a household register from a community/village.
- **Identify health problems, risk factors, and available resources as well as assess existing health services.** Step 2 will help you to identify health problems, demographic factors, and other risk indicators. It will also help you to assess health services and other resources available to you.
- **Identify those in need of the various types of care and target high-risk clients for intensive care.** Step 3 will help you in developing risk factors for the various PHC components. You can use the risk factors to identify individuals or households at risk of getting diseases you are trying to protect them from, and to focus your efforts on these high-risk groups.

- **Plan PHC activities.** Step 4 will help you to plan outreach and clinic-based services to accommodate community needs with available PHC resources.
- **Identify needs for additional staff and resources.** Step 4 can also help you to identify additional resources that would be needed to improve coverage and to reach those most in need.
- **Improve health worker efficiency.** The module will show you and your staff how to set priorities and to develop work plans for their day-to-day activities, to monitor their own performance, and to manage their time effectively. The tools can help your staff accomplish more with no additional effort.

Developing work plans

- **Develop job descriptions and individual work plans.** Steps 5 and 6 show you how to develop job descriptions and individual work plans that will help your programme meet its overall objectives.
- **Review performance, monitor and support health worker activities, and give them constructive feedback.** Step 7 shows how to monitor staff performance in reaching individual, community and programme objectives. And it shows how to set up a system to provide objective and constructive feedback to your staff.

Some limitations of the module

The module does not deal with the overall planning of a PHC programme. Rather, its purpose is to assist the manager and the team in planning their activities so that the work that each person does contributes directly toward the larger goals of the programme.

The module does not discuss specific ways to involve communities in the planning process. However, that is encouraged, and it is not difficult to see how they could be involved in most of the steps, from assessing needs to identifying high-risk children, to providing feedback on CHW performance.

The module is not a comprehensive personnel management manual either. However, it does describe ways to focus

the health worker on those tasks that will lead to better programme performance.

How to use this guide

Assessing needs of the target population

This guide provides instructions for planning and assessing your programme's PHC and health worker activities. By following the instructions and using the worksheets, you should be able to identify the target population, to assess its needs, to plan PHC activities, to determine staffing requirements, to develop individual job schedules, and to evaluate worker performance. You may skip a step or sub-step if you think that the activity is already being undertaken in your programme. However, you may still want to review the skipped step to see if the existing process can be improved. The steps and sub-steps for planning and assessing PHC and health worker activities are summarised on the following page.

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Steps in planning and assessing health worker activities

Step 1: Describe and map the catchment area

Define the catchment area
Describe the catchment area
Make map(s) of the catchment area
Make a register of communities/villages
Make a household register

Step 2: Identify community needs and available resources

Select indicators
- Health problem indicators
- Demographic indicators
- Risk factors indicators
- Existing health services and available resources

Identify source(s) of information
Develop a survey instrument

Step 3: Set priorities and identify high-risk groups

Set priorities among health problems
Determine the risk factors
Set priorities for risk factors identified
Identify main target and high-risk groups
Use risk factors to monitor high-risk groups

Step 4: Plan PHC activities

List services required, identify strategies and activities
Identify and plan outreach and community-based activities
- Determine number of units to be covered
- Determine optimal time interval for each activity

Determine resource requirements
Compare resource availability with requirements and identify an optimal number of visits
Develop tools to plan and monitor community-based and outreach activities

Identify and plan clinic-based activities
Determine client load
Determine staff capacity
Determine resource requirements
Determine availability of resources
Compare availability with need and identify an optimal solution
Develop tools to plan clinic-based activities

Step 5: Develop job descriptions and recruit staff

Develop role, task and skills list
Prepare job descriptions and do a feasibility check
Post job announcement, recruit, screen, and select candidates
Agree with selected candidates on role and task expectations

Step 6: Develop individual work plans and schedules

Advantages of work plans
Principles of good work plans
Scheduling of work

Step 7: Assess job performance

Principles of performance assessment
Continuous performance assessment
Formal performance assessment

If your programme is new, you will need to go through the following steps. This module can be used for some of these. Other PHC MAP modules can help you with those steps not included in this module.

Steps	Module 3 steps	Other modules
1. Define catchment area and target group	1	1
2. Identify community needs	2	2
3. Set priorities among health problems and identify high-risk groups	3	2,4
4. Define goals and objectives		1
5. Identify services/components and strategies		1
6. Plan activities	4	
7. Plan resource needs	4	8,9
8. Develop job descriptions and recruit staff	4	
9. Develop work plans and schedules	5,6	
10. Implement and monitor progress	7	4,5,6,7
11. Assess job performance	7	5,6,7
12. Assess programme performance	7	4,5,6,7,8,9
13. Evaluate		2,4,8,9

Step 1: Describe and map the catchment area

Skip this step if:

- *Your catchment areas are adequately defined and mapped*
- *You already maintain adequate registers of households and/or individuals in these areas*

Review this step if:

- *You need to define and map the physical boundaries of the catchment area(s) and to describe the services and population contained within it*
- *You need to define and develop a register of households and/or individuals located in these catchment area(s)*

The purpose of this step is to help the manager to define and describe the PHC catchment area or the geographical area surrounding a health facility and the target population it serves. The PHC manager needs to understand the

ecology and economy of the local area because both will be reflected in the health needs of the catchment population. In each community, a detailed household listing will have to be developed to identify women, children and other at-risk individuals who may seek or require health services from time-to-time. The sub-steps involved are described below.

- Define the catchment area(s)
- Describe the catchment area(s)
- Draw a map of the catchment area(s)
- Make a register of villages, communities
- Make a household register

Define the catchment area

If you have not already done it, this step can be a major activity, but it is worth it. Most PHC programmes do some sort of assessment at the onset. It is a good opportunity to involve key members of the PHC team and the community.

Defining and describing PHC catchment area

The catchment area is defined as the geographical area surrounding a single health facility or group of health facilities and includes the target population living within it. Catchment areas may be determined by the type of PHC service or by geographical or administrative boundaries. For example, the catchment area of a secondary hospital may be a district serving a relatively large population; a community health centre serving the health needs of one sub district of only five to ten villages; and at the lowest level, a community-based worker with a village or sub-division of the village as part of his or her catchment area.

Thus, the boundaries of the catchment area can be defined by:

- an administrative unit which can be based on area and/or population, e.g., district, sub-district, village, etc;
- a circle of a fixed distance, e.g. five or eight km around a health facility;
- an area which includes the target population for a specific PHC service, a socio-economic group, or a geographically defined population; or

- any practically defined working area, which may include services offered in neighbouring areas or which is based on an assessment of utilisation patterns.

Divide into sub-catchment areas

A catchment area for a larger PHC programme can be divided into sub-catchment areas for different types of PHC services. For example, the catchment area for a programme's EPI component may be larger than the one for basic curative care if the neighboring health centre does not have electricity so it can provide surgical services. The sub-catchment areas may also be defined by the area where outreach MCH services will be most concentrated. (It may not be possible to provide outreach services to a large area because of transportation problems.)

The following is an example of a completed worksheet that can help you define your catchment area. A blank worksheet is provided in Appendix E.

Exhibit 1: Worksheet for defining catchment area

a) Select criteria to define the boundaries of your catchment area:

____ Fixed distance of____kms around health facility
_X_ Administrative unit (specify level and name) *Panggang (sub district) in Gunung Kidul (district)*
____ PHC service target group, socio-economic or geographically defined population
____ A practically defined population (please specify)

b) Define sub-catchment areas for different services:

____ Curative care
_X_ MCH
____ Family planning
_X_ TB

Describe the catchment area

Following the definition of the catchment area, the PHC team must identify the target population residing in the catchment area. For example, at the village level, households or individuals will be identified as the target population for specific PHC components, while at the district level the identification will only include communities. The identification process may involve gathering data from existing sources, such as administrative records or household registers (described later in this module), or may require the

collection of data through community surveys (Module 2 and Step 2 of this module).

Information for a village or community level catchment area should include:

- number of households, or individuals residing in the area
- composition of households (or characteristics of individuals, including age, sex, ethnic group, mortality, morbidity, disability)
- such socio-economic factors as occupation, income, educational level
- utilities (water, sanitation facilities, electricity, telephone, TV)
- social activities
- size and terrain of area, status of roads and houses

Exhibit 2: Worksheet for describing catchment area

Level	Information	Data sources
District level	No. of facilities	Government offices
	Name of facilities	Government offices
Facility level	Name of villages	Village registers
	No. of villages	Village registers
	Location of facility(s)	Village registers
	Size and terrain of area	Observation
Village level	No. households	Household registers
	Position of HHs	Household registers
	Source of income	Community surveys
	Educational levels	Community surveys
	Religion/ethnicity	Community surveys
	Status of houses/roads	Interviews and observations
	Distance to health facility	Interviews and observations

For larger catchment areas, you may need to aggregate data for several villages or communities and include such additional information as:

- road networks, distances, transport availability and cost
- social differences among populations (e.g., female mobility)
- industry, agriculture, and environment
- listings of communities/villages

The preceding is an example of a worksheet that can help you to describe your catchment area. A blank worksheet can be found in Appendix E. The example illustrates the types of information that may be needed to determine target groups and to plan PHC activities for the sub-district catchment area.

Make map(s) of catchment area

You can use maps for planning work assignments, conducting surveys, monitoring services, and determining the physical parameters of service coverage. Maps can be drawn for different levels of the service delivery system:

Map A At the **district level**, showing boundaries of sub-districts and facility catchment areas, the location of district headquarters and surrounding villages, health facilities and their catchment areas, and other major infrastructure in the district (see Exhibit 3). Map A is often available at government offices and can be used to illustrate an overall scheme for the planning of a PHC programme.

Exhibit 3: District level map - Map A

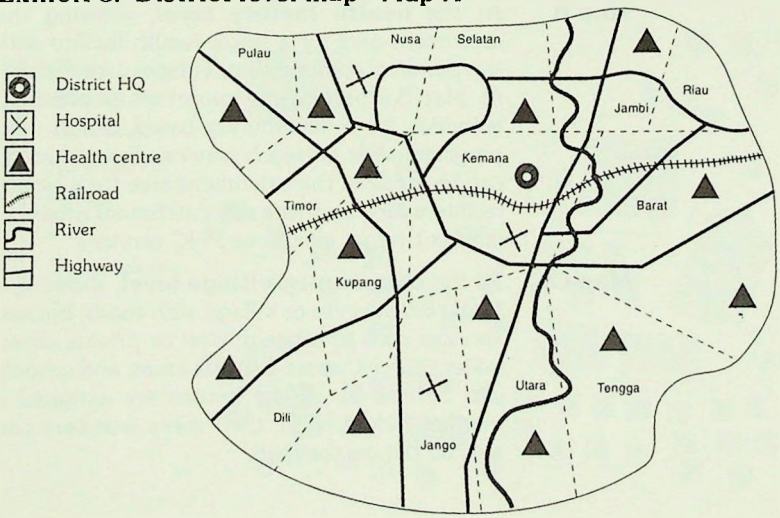
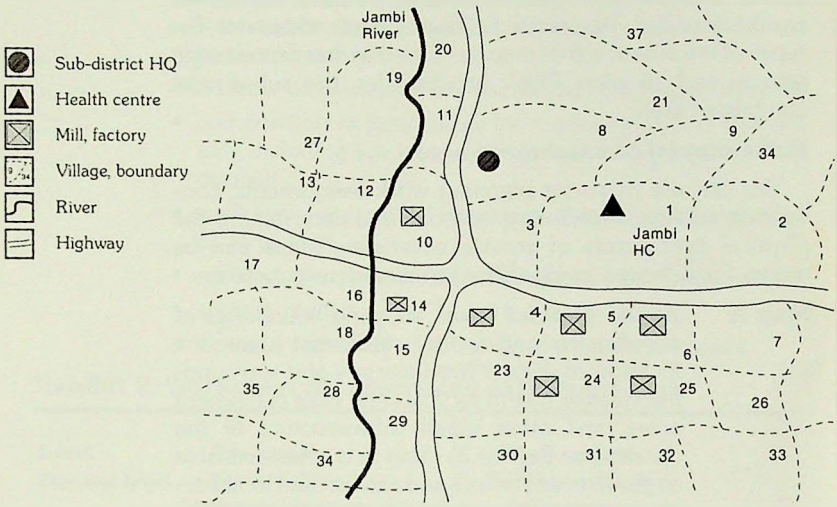


Exhibit 4: Health facility level map - Map B



Map B At the **health facility level**, showing the catchment area for a single health facility with surrounding communities/villages (see Exhibit 4). Map B is particularly important for planning activities for a community-based health care programme or outreach service. Several maps can be made of the catchment area for a health facility which illustrate sub-catchment areas for different target groups or PHC services.

Map C At the **community/village level**, showing a single community or village with roads, houses, services such as a health post or private clinic, water sources, waste disposal areas, and schools (see Exhibit 5). If the houses are assigned a number before hand, then these numbers can also be put on the map.

Exhibit 6: Village register

District: *Pakhowal* **Sub-district:** *Juhu*

S. No	Village	No. of house-holds	Population	Local leaders	Health volunteers	Health problems		Distance to health facility (Km)	Public transport available	Other remarks
						Priority	Being addressed			
1.	*Anderi*	*150*	*1,000*	*Nasir*	*Nazima*	*Poor sanitation*	*yes*	*10*	*yes*	*Education needed*
2.	*Balowai*	*20*	*750*	*Aziz*	*Noor*	*Low immunization*	*yes*	*15*	*no*	*CHW inactive*
3.	*Sapur*	*172*	*1.500*	*Kasim*	*Roshan*	*TB, parasites*	*no*	*5*	*yes*	*Education needed*
4.	*Deogha*	*93*	*1,200*	*Ramsan*	*Amina*	*Low immunization, MCH*	*yes*	*8*	*yes*	*Need to train local TBA*
5.	*Jalma*	*210*	*1.075*	*Mehndi*	*Sumi*	*Low immunization*	*yes*	*2*	*yes*	*Household reg. to be updated*
6.	*Hamsa*	*95*	*450*	*Rustam*	*Naseem*	*Hepatitis B*	*no*	*5*	*yes*	*Education needed*
7.	*Sahan*	*80*	*900*	*Munwar*	*Bano*	*Low Immunization*	*yes*	*3*	*yes*	*Update HH reg. training CHW*
8.										
9.										
10.										
11.										
12.										
13.										

Exhibit 7: Household register

Sector # / house # / household #: *02/90/1/2*
Name of head of household: *Mohammad Hossain*
HH income: *3000*

Registration date: *23/07/1989*
Occupation: *Gov't service*
Centre name: *Grax*

ID No	Name	Father's/ husband's name	Date of birth/age*	Sex M/F	Chronic health problem	Date of Death	Migration out	Remarks
D1	*Hasan Ali*	*M. Ali*	*-1926*	*M*	*TB*			
D2	*Bibi Masyam*	*Hasan Ali*	*11-1929*	*F*				
F	*M. Hussain*	*Hasan Ali*	*30-09-1948*	*M*				
M	*Sakina*	*M. Hossain*	*23-06-1950*	*F*				
C1	*Sikundar*	*M. Hossain*	*01-03-1967*	*M*				
C2	*Laila*	*M. Hossain*	*24-04-1968*	*F*			*26-06-1990*	*Left for Saudi Arabia*
C3	*Zainab*	*M. Hossain*	*19-05-1970*	*F*		*20-09-1970*	*05-04-1989*	*Left family after marriage*
C4	*Khalid*	*M. Hossain*	*21-01-1974*	*M*				
C5	*Seema*	*M. Hossain*	*15-02-1976*	*F*				
C6	*Zahail*	*M. Hossain*	*17-09-1980*	*M*				
C7	*Naila*	*M. Hossain*	*30-07-1984*	*F*		*15-08-1984*		
C8	*Aaman*	*M. Hossain*	*06-02-1986*	*M*				

** List oldest member first and youngest last*

Risk profile of household	Score if present	Score
At least 1 child < 1 yr	1	
>2 Infant deaths in past 5 years	2	
>2 children < 5 yrs	1	
Illiterate women	2	*2*
Restriction on mobility of women	1	*1*
Presence of TB case	1	*1*
Low family income	1	
Improper /no use of toilet facilities	1	

as education, income, access to water and sanitation, etc. An example of a simple standard household register and the types of information it should contain is presented in Exhibit 7.

You can determine the size of the target population for specific PHC services by compiling information from these registers. Using these registers, you should be able to calculate the number of children who need immunization, the number of women who need antenatal care, etc. in a given year. However if you are unable to develop household registers in some areas because of the dispersion of villages and communities, you should estimate the size of the target population. For example, demographic survey or census data of an area or country can be used to estimate the proportion of people in the various age groups and these proportions can be applied to the total population to estimate the population age pyramid of the area.

Example: A demographic survey of rural Pakistan provided the following overall estimates for the area:

- < 5 children = 15% of the total population
- < 2 children = 6% of the total population
- married women = 20% of the total population
- pregnant women = 15% of married women

These percentages were multiplied by the population in the catchment area of the *Dhabeji* health facility (about 25,000). Thus the estimated target population

- < 5 children = 25,000 x .15 = 3,750
- < 2 children = 25,000 x .06 = 1,500
- married women = 25,000 x .2 = 5,000
- pregnant women = 5,000 x .15 = 750

Step 2: Identify community needs and available resources

Skip this step if:

- *Your programme has already prioritised health problems and identified high-risk groups*
- *You have already completed Module 1 and/or Module 2 and have identified community needs*

Review this step if:

- *You have not identified community needs*
- *You have not assessed existing health services*
- *You wish to determine available resources*

Purpose of this step

The purpose of this step is to identify community needs based on information from records and surveys as well as from interviews with community members to determine their perceptions. In addition, this step also addresses the identification of resources that will help in providing better service. These needs and available resources can be ascertained from;

- the health status of the community in terms of occurrence of disease and death,
- factors that contribute to these outcomes, e.g., crowding, sanitation, lack of water supply, illiteracy,
- the quality and adequacy of existing health services being provided in the area,
- available resources, such as facilities, manpower, transportation, etc., needed for the effective and efficient provision of health care.

Sub-steps to identify community needs and available resources are described below.

- Select indicators
- Identify source(s) of information
- Develop a survey instrument

Step 1 has helped you to define and describe the catchment area, to develop an area map, and to compile information for a household register from a community/village. This information will help you when you proceed to Step 2.

Step 2 will help you to collect the necessary data to determine the health needs of the community and the existing resources which could be used for the provision of PHC services.

Select indicators

The first thing that you will need to do is to determine which indicators are necessary to assess the health status of the community. This information will help you proceed,

together with the PHC team and the community, in setting priorities and determining strategies for the provision of effective and equitable health care.

These indicators fall into two broad categories: 1) indicators that reflect the health status of the population and 2) indicators that reflect the perceived needs of the community, which can often prove contrary to what other data will show.

A community's perceived needs are often different from what other data indicate. The information which you will need to select pertain to the following:

1. Health problems
2. Demographic information
3. Risk factors
4. Existing health services and available resources.

Health problem indicators. This category deals primarily with statistics of disease (morbidity) and death (mortality). You need to characterise health problems in terms of **WHO** is affected, **WHEN** the person was affected, and **WHERE** it happened. These characteristics can be translated into indices to help you analyse the current situation. They also serve as a baseline with which to evaluate future PHC interventions. In addition, this information can be presented in the form of rates (see Module 5 for details of rates, formulae, and examples) to facilitate comparisons over time and between geographical areas. Examples of these indicators are:

Examples of indicators

- simple frequencies of those afflicted by a particular disease
- community perceptions of what they consider to be major health problems
- prevalence rates, preferably by age and sex
- mortality rates, e.g., crude death rate (CDR), infant mortality rate (IMR), under 5 child mortality rate, cause-specific death rates, etc.

If you are interested in setting up a permanent (or temporary) surveillance system to monitor changes in morbidity and mortality, see Module 4.

Demographic indicators. This category includes population composition, i.e., the total number of people within the community, preferably with age and sex distribution. Since both age-sex distributions and sex ratios are reflected in reproductive behaviour, disease exposure rates, and death rates, both factors need to be considered in determining community needs. Data should be broken down by age group. Useful categories include: less than 1 year (infants), children aged 1-4 years, persons between the ages of 5-14, 15-44, and those 45 years and above.

Break data down by age groups and sex

Data on the number of births and deaths are also important. Birth data are needed to determine the fertility level of the area, whereas the number of deaths reflects the health status and health services of the area. The more important rates are:

- Crude birth rate (CBR)
- Crude death rate (CDR)
- Total fertility rate (TFR).

Determine which indicators are necessary

Population growth can be calculated from the rate of natural increase (births minus deaths) and the net migration (migration-in minus migration-out). It calls the attention of a PHC team to future problems due to an increase in population.

A note of caution: you need to have a fairly large population - at least 50,000 - to calculate accurate rates. See Module 2 or Module 4 for a discussion.

Risk factors. A risk factor is a characteristic pertaining to individuals or groups that is associated with an increased chance of an unwanted outcome such as illness or death. Risk factors may either indicate the possibility of such an outcome or directly cause it and form part of the chain leading to illness or death. These risk factors may be amenable to change in which case the incidence of a disease will drop. However, some risk factors, such as age, cannot be changed and, therefore, require greater care (see Appendix B for details on risk factors).

The impact a certain risk factor may have on determining an individual's or community's health status can be measured by comparing the likelihood of the unwanted outcome

in the **presence** of the risk factor with the likelihood of that outcome in the **absence** of the risk factor. This measure is called the relative risk. Often in health programmes it is also necessary to determine the attributable risk. The attributable risk is the magnitude of risk that can be solely attributed to the risk factor and which would decrease in the absence of the risk factor.

In some cases, an outcome for one risk factor may be considered to be a risk factor for another outcome. For example, poverty (risk factor) is associated with low birth weight (outcome). Low birth weight in turn could act as a risk factor for infant death (outcome). A risk factor may also be associated with several outcomes, e.g., low birth weight is a risk factor for infants developing diarrhoea as well as for infant death.

Some risk factors cannot be changed

Risk factors are thus categorised into the following groups:

- **Environmental:** These factors pertain to an individual's surroundings, e.g., poor sanitation, drought, lack of water, lack of access to clean water, type of housing structure.
- **Biological:** These factors are intrinsic to the individual, e.g., age, malabsorption, malnutrition, infections, decreased immunity, developmental abnormalities, maternal height.
- **Socio-economic:** These factors pertain to income, societal status of women, education, employment, etc. Some of the most important are poverty, illiteracy, large families, and working mothers.
- **Behavioural:** These factors are primarily determined by cultural and/or religious beliefs, such as male preference, local beliefs regarding disease causation and management, local nutritional practices, and early marriage.
- **Health care related:** Some of the most important are inaccessible health services, improper outreach programmes, poor quality of health care, unavailability and/or high cost of supplies and medicines.

Existing health services and available resources. The information included in this section deals with the type

and quantity of health services being provided, e.g., curative clinics, number of PHC centres, number of tertiary facilities. In addition, knowledge of the health providers such as the TBAs, doctors, dispensers, etc., helps in determining the ratio of health service providers to population.

Assessing the quality of health service

Included in this section is information on how to assess the quality of health services being provided, access to the health services in terms of distance, and availability of supplies, e.g., vaccines, medicines, surgical supplies. Community perceptions regarding availability, accessibility, quality of services, etc., are also extremely important and cannot be overemphasised, as community members are ultimately the clients for such services.

In addition to health care services and providers, it is also important to ascertain other resources such as available transportation and other human resources, e.g., school teachers, that can be utilised for the provision of health care to the community.

Identify source(s) of information

You need to obtain information for the indices. This information can be found in: 1) existing data sources, 2) interviews with people, and 3) observation.

Existing data sources: A large amount of the required data can be obtained from records of hospitals and clinics, national registries, results of previous surveys, household registers (described in Step 1), etc.

Ascertaining other data sources

Interviews: The source in this case is the people of the community, and information can be obtained from them through:

- surveys conducted through structured interviews of either all or representative samples of the community (see Module 2 for suggestions for designing and conducting community surveys)
- interviews of a small number of particularly knowledgeable persons from the community (key informants).

Observation: To a great extent, data can also be collected from observing the environment and behaviour of the people of the community. This is especially needed for data

Exhibit 8: Worksheet for determining indicators and source of indicators

INDICATORS	SOURCE
1. Health status indicators	
Clinical morbidity	Clinic/hospital records
Prevalence rates	Community survey
Age-specific morbidity rates	Community survey
Frequency of cause of deaths	Community survey
	Verbal autopsy
Cause-specific mortality rate	Community survey
	Verbal autopsy
2. Demographic indicators	
Age distribution	Community survey
	Village household registers
Sex ratio	Community survey
	Village household registers
CBR	Community survey
	Village household registers
CDR	Community survey
	Village household registers
3. Risk factors	
Biological	
malnutrition	MCH card
immunization status	MCH card
Environmental	
water	Observation
sanitation	Observation
Socio-economic	
literacy	Community survey
Behavioural	Community survey
4. Health service-related	
Quantity	Facility survey
Quality	Facility survey
Accessibility	
distance	Community survey
cost	Community survey

on sensitive issues like household cleanliness, economic status, etc.

The source to be used depends on: 1) resources and; 2) the stage of the programme. For example, if you want to determine community needs but are unable to conduct a community survey, you might use existing records as your data source. If your programme is already in place, you will easily be able to obtain information generated from the

periodic reports. Exhibit 8 is a worksheet that can help you to determine indicators and the source of indicators. A blank worksheet form is provided in Appendix E.

Develop a survey instrument

You will also require detailed information about the community, the health services provided, and the resources present, which cannot all be obtained from records. For planning PHC programmes, you will need to conduct a survey (see Module 2) to elicit information regarding;

- the community, and
- health facilities.

Questionnaires, such as those in Appendix C, can be designed to provide information covering the indicators that you have selected. These questionnaires can be modified to suit your needs. Models of questionnaires in Module 2 can be used through a mix-and-match method to provide you with the necessary survey instrument. Module 2 will also provide you with details on how to analyse the data that you obtain from these surveys.

Modify questionnaires to suit your needs

Step 3: Set priorities and identify high-risk groups

Skip this step if:

- *You know client load per facility or provider*
- *You have well planned outreach and clinic-based activities*

Review this step if:

- *You have not identified priority health problems*
- *Your programme does not have a way to identify at-risk individuals or families*

The purpose of this step is to help in setting priorities among health problems and in the identification of at-risk groups so that the PHC programme can: 1) provide equitable health care, and/or; 2) increase the frequency of services for those in greater need. The sub-steps for setting priorities and identifying high-risk groups are described below.

- Set priorities among health problems

- Determine the risk factors
- Set priorities for the identified risk factors
- Identify target groups and high-risk groups
- Use risk factors to monitor high-risk groups

Set priorities among health problems

Now that you have gone through the process of identifying community health problems (Step 2) you have some basic information in terms of the pattern of disease prevailing in the area and the risk factors that are prevalent. Your next step, therefore, is to work with the PHC team, along with the community, to prioritise the health problems.

One method of setting priorities among health problems (Exhibit 9) is based on such criteria as;

- seriousness of the disease (e.g., in terms of mortality, disability)
- prevalence of the disease
- feasibility of control, i.e., available technology, cost, resource constraints
- community acceptance with respect to their perceptions and demands.

Each criterion can be assigned a score from 1 to 4 (or any other scale that you choose). The scores for the different health problems are tabulated using addition or multiplication and then compared and priorities are set. Multiplication may result in a more sensitive score for comparison between health problems if addition results in equal scores for different health problems (e.g., malnutrition, cancer, and AIDS = 10). Thus, according to multiplicative scores in Exhibit 9, diarrhoea is ranked as the highest priority followed by malnutrition, AIDS, and cancer. A blank form of this worksheet can be found in Appendix E.

Tabulating scores

Determine the risk factors

You now need to determine the risk factors that are associated with the health problems you selected to emphasise. You will find that identifying the risk factors will help you to develop appropriate strategies for health promotion,

tion, disease prevention, and the reduction of morbidity, disability, and mortality in high-risk groups.

In order to use the risk approach in your PHC programme, you can make use of the risk factors determined by:

- prior research
- analysing data from your programme site.

Identifying risk factors

As mentioned above, many risk factors have been identified and carefully documented and are easily accessible through literature. For example, your survey might have identified malnutrition as a health problem which was later determined to be high on the list of priorities. Data obtained by you from the catchment area might indicate that poverty, illiteracy, poor sanitation, and lack of antenatal care facilities are potential risk factors. A review of the literature and prior knowledge will help you to decide whether these are risk factors that you should consider in the priority-setting process. Appendix B (see also Exhibit 10 for malnutrition risk factors) provides you with risk factors for some health problems. In this appendix, risk factors for selected diseases are tabulated. However, caution must be taken and critical monitoring done when applying them to your PHC programme.

In certain situations, you may feel that you are equipped to determine the magnitude of risk associated with a factor. In this case you may wish to calculate the Relative Risk (RR) and Attributable Risk (AR) (see Appendix B). Because risk factors vary among communities, information should be collected (see Module 2 and Module 3 — Step 2) that identifies the relevant risk factors.

Exhibit 9: Worksheet for setting priorities among health problems

Health Problems	Prevalence	Seriousness	Feasibility of control	Community acceptance	Additive scores	Multiplicative scores (x)
Malnutrition	*3*	*3*	*3*	*2*	*11*	*54*
Diarrhoea/ dehydration	*3*	*4*	*2*	*4*	*13*	*96*
Cancer	*1*	*4*	*1*	*4*	*10*	*16*
AIDS	*2*	*4*	*1*	*3*	*10*	*24*

Exhibit 10: Malnutrition risk factors

Biological	Environmental	Socio-economic	Behavioural	Health care-related
Malnutrition				
• *Age* • *Malabsorption* • *Infections* • *Pregnancy-related nutritional disorders* • *Infections and disease during pregnancy* • *Decreased gut immunity due to lack of breast feeding*	• *Unsanitary conditions* • *Drought* • *Desertification*	• *Poverty* • *Illiteracy* • *Large family* • *Working mothers* • *Violence/war* • *Unwillingness to weigh children due to belief in evil eye*	• *Feeding boys before girls* • *Preference of adults in food distribution* • *Unwillingness to weigh children due to belief in evil eye* • *Attributing malnutrition to supernatural causes and not food-related* • *Breast feeding boys longer than girls* • *Diet* • *Inactivity, smoking, etc.* • *Dietary beliefs*	• *Lack or improper antenatal care* • *Distant health care facility* • *Drugs* • *Lack of drugs and diagnostic equipment* • *Other diseases which are untreated* • *Inadequate use of services*

Set priorities for risk factors identified

You will now have to set priorities for the identified risk factors through a process similar to the one you used when you set priorities among health problems. The same criteria can also be used here with a few modifications;

- seriousness of the factor in terms of magnitude of risk (i.e., relative risk and attributable risk)
- prevalence of the risk factor
- feasibility of control (i.e., available technology, cost, resource constraints)
- community acceptance with respect to their perceptions and demands.

Here, too, you will need to assign each risk factor a score for each criterion and then to calculate total scores either by addition or multiplication. You will then compare the scores to obtain priorities for the risk factors.

Identify main target groups and high-risk groups

After health problems and the risk factors for your catchment population are defined, you will need to identify the individuals or households in the catchment area who will be the target of your PHC services, as well as those who are at greater risk of disease and death.

Identification of priority target groups and high-risk groups is very much related. Target groups are determined in order to focus on *persons who will require services.* Identifying high-risk groups helps to *recognise those individuals (households/communities) most at risk of disease or death, whose potential for these outcomes can be decreased if they are targeted through specific strategies aimed at reducing risk factors.* For example, the target groups identified may be mothers with children under five who are most vulnerable. In this case the high-risk group would be those children under five who have been losing weight for three consecutive months.

Determining target groups

You will find that the identification of all individuals/households in the target groups is relatively easy if these groups are defined by age, sex, location, or other commonly known demographic criteria. You can obtain this information through the household registers maintained by com-

munity health workers or village leaders. In case there are no household registers, other means, such as surveys, reviewing administrative records, or interviewing key persons, can be used.

Obtain information from household registers

You can use risk factors in several ways to identify individuals or households. For example, the maternal health record card of Pakistan has an in-built risk-identifying mechanism to track high-risk pregnant women and children under three years.

MODEL OF MCH CARD IN PAKISTAN

The MCH card being designed for use in Pakistan, is action-oriented and focuses on risk identification. It uses the risk approach while monitoring the individual. One side of the card has information on the pregnant woman and the reverse for the child from that pregnancy.

The Maternal side of the card has four panels, one each for general information, past history, present pregnancy/labour, and outcome. Each entry has a built-in alert signal which is a shaded area and points to a risk factor. An entry in this area anywhere on the card makes the card holder a high-risk case and requires action.

The reverse of the card is devoted to the child from that particular pregnancy and has a panel for general information regarding the child, some of which is similarly designed to show risk factors (areas shaded in red). The rest of this side has a growth chart showing a cut-off for normal growth and undernutrition. Below this are shaded areas to mark bottle feeding and early weaning, which are both risk factors for poor growth.

Use risk factors to monitor high-risk groups

You can assign households a **risk score** based on a "risk profile" which indicates the risk of high morbidity and mortality of its members. This score will help in the identification and follow-up of "risk households." The basis for creating the risk profile is a list of risk factors. The list can be based on literature, prior knowledge or experience, and local perceptions. A value is assigned on the basis of whether the risk factor is absent (0) or present (1). A total score is calculated and compared to a rating scale which was designed earlier. Weights can be used for risk factors when present, if deemed necessary.

For household no. 1, which has one infant death, three children under the age of five, an illiterate mother who is not allowed out of the house, low family income, and low use of toilet facilities, the risk score is 8. This household would be considered to be in the high-risk group. Household No. 4 has one child under five, an illiterate mother, and low family income but is included in the low-risk category because the risk score is 3.

Once these high-risk individuals, households, or communities are identified, PHC services can be organised according to the special needs of the high-risk groups.

Exhibit 11: Worksheet to develop risk profiles of households

CONDITIONS	SCORE IF PRESENT	HOUSEHOLD NO.			
		1	2	3	4
Number of infant deaths in past 5 years	*	1	1	1	0
Number of children under the age of 5	*	3	1	1	1
Illiterate mother	1	1	1	0	1
Cultural/religious restriction on mobility of women	1	1	1	1	0
Presence of infectious diseases (e.g., TB)	1	0	1	0	0
Low family income (below locally accepted level)	1	1	1	1	1
Improper/no use of toilet facilities*	1	1	0	1	0
Total risk score		8	6	5	3

* Weights determined by number of children

Rating scale: Low risk 0-3 Moderate risk 4-6 High risk >7

Step 4: Plan PHC activities

Skip this step if:

- *Your programme is already set up and you have job descriptions*

Review this step if:

- *You want to plan community-based, outreach, and/or clinic-based activities*
- *You do not know client load in your facility*

The purpose of this step is to develop a community-based outreach and centre-based activities plan for delivering services. In Step 2, you identified community need and available resources. In Step 3, you determined the number of households and/or individuals who are at-risk or afflicted by health problems. At this point, you need to use Module 1 to determine your goals and objectives and the type of services required to meet the health needs of the target population. After deciding the type of service, you must decide what strategy will be used to provide the service, the community-based outreach, and the centre-based activities that will need to be performed. You will also need to know the type and amount of resources that will be required to provide the services. If you foresee that your existing resources cannot fulfill the need in an appropriate manner, then you will have to decide either to mobilise additional resources or to relocate existing resources to improve efficiency.

Planning strategy

To carry out this step, PHC teams with large catchment areas must have assessed community needs (Module 2 and/or Step 2 of this module), identified priority or high-risk groups (Step 3), defined programme goals and objectives based on the needs of the community (Module 1), selected PHC services (Module 1), and identified strategies for providing the services.

The manager, the PHC team, and the community leaders should together plan PHC services and activities. The following section will focus on how to plan community-based, outreach, and clinic-based activities to deliver services. The following sub-steps will need to be modified depending on the nature of the activity.

Assessing community needs

- List services required by the community and identify the strategies that will be used and the activities that will need to be performed to provide these services
- Identify and plan community-based and outreach activities
- Identify and plan clinic-based activities

List services required, identify strategies and activities

In Steps 2 and 3, you identified the community needs and the priority groups. You, the PHC team, and the community

Identify the community health services and activities

leaders will now need to work together to identify (use Module 1) and list the services that should be provided and the strategies for delivering those services.

For example, you may have decided that you need to provide antenatal care, growth monitoring, immunization, and basic curative care services. You now need to decide **how** you will provide these services. You need to determine:

- the overall **strategy** that you will use to provide each service.
- **which activities** are needed to provide the service. You may need several.
- **who will perform the activities**, how, and at which level (community vs. health centre). The activities needed to provide a service may be activities done by different people at different levels.

Exhibit 12 is an example of a worksheet that can be used to list services, strategies, activities, those who should do the activity, and where and how it should be done. A blank form is provided in Appendix E.

Once you have listed the activities, identify which are community-based, outreach, and/or centre-based activities. A community-based activity is performed at the community level by community members. An outreach activity is performed at the community level by the health centre staff. A centre-based activity is done at the centre by health centre staff. Organising and conducting clinics is a major centre-based activity.

The first column of Exhibit 13 shows an example of activities that can be done at the different levels. You can use the first column of the worksheet provided in Appendix E for listing your activities in the appropriate category.

In the following sub-steps you will be asked to plan for each activity separately. However since many of the attributes involve the same resources, it is important to look at the package of activities as a whole when assessing the availability of resources. Resources should be allocated to reach an optimal level of services for those at risk and to maintain equity.

Exhibit 12: Worksheet for identifying services, strategies and activities

Service/component	Strategy	Activities		
		List	Who will do it	How and when
Immunization	*Will be provided regularly at the health centre and periodically in the villages through camps*	*Motivate mothers*	*CHW*	*Home visits*
		Maintain cold chain	*Vaccinator*	*At health centre and during transportation with proper carriers*
		Vaccinate	*Vaccinator*	*Centre and camps*
		Maintain records	*Vaccinator /CHW*	*Centre, camps and home visits*
Basic curative care	*Will be provided regularly at the health centre*	*Identify and refer cases from community*	*CHWs and LHVs*	*Home visits*
		Provide treatment	*CHN and CHD*	*In health centre*
		Maintain reports	*CHN and CHD*	*In health centre*
Community organisation	*Motivate community members to participate in improving their own health through regular interaction with them.*	*Dialogue with community members*	*COs and CHDs*	*Visits to villages·COs*
		Form village committees		*Visit to villages*
		Select volunteers	*Community members and COs*	*Meeting with village committee*
		Form area health committees	*COs and CHDs*	*Visit to villages and meeting at health facility*
		Have regular meeting with:		
		village committees	*COs*	*Village health centre*
		area committees	*COs and CHDs*	

CO = Community organiser
CHW = Community health worker
LHV = Lady health visitor
TBA = Traditional birth attendent
CHN = Community health nurse
CHD = Community health doctor
Vac. = Vaccinator
AA = Administrative assistant
SP = Security person

Exhibit 13: Worksheet for planning PHC activities (continued, page 37)

Services / activities needed			Manpower			Logistics / supplies			Optimal level of services given resource constraints
A. Community-based	Target group	Frequency	Required		Available	Required		Available	
			Type	Number (FTEs)		Type	Amount		
Home visits for: Growth monitoring Build awareness of ORS for diarrhoea Motivate for FP Motivate for immunization and ANC Follow-up of high risk Referral etc.	*1,000 HHs*	*Regular 1/month High-risk 1/week more if needed*	*CHWs*	*6*	*4*	*Weighing scale ORS packets Registers Stationery*	*10*		*Visit HHs with no women and children quarterly, the rest monthly*
Community meetings for health education	*Mothers of 10 villages*	*1/month*	*CHW*	*1.5*		*Flip Charts*			
Deliveries	*Women delivering*	*30/month*	*TBAs*	*1*		*TBA kit*	*10*		
B. Outreach									
Community organisation activities	*10 Villages*	*1/two weeks*	*CO*	*1*		*Bus fare*			
Vaccination	*300 women and children*	*1/month per village*	*Vac*	*0.5*		*Vaccines Carriers Syringes Van*	*10 days/month*		
Supervision/support	*CHW Others*	*1/month per CHW regular*	*LHV CHN*	*0.4 0.1*		*Van*	*15 days/month*		

CO = Community organiser
CHW = Community health worker
LHD = Lady health visitor
TBA = Traditional birth attendent
CHN = Community health nurse
CHD = Community health doctor
Vac. = Vaccinator
AA = Administrative assistant
SP = Security person

Exhibit 13: Worksheet for planning PHC activities

Services / activities needed			Manpower			Logistics / supplies			Optimal level of services given resource constraints
C. Clinic-based	Target group	Frequency	Required		Available	Required		Available	
			Type	Number (FTEs)		Type	Amount		
Curative care	*1000/month (20% ref. to CHD)*	*Every day*	*LHV* *CHN* *CHD*	*0.7* *0.65* *0.2*	*0.55*	*Drugs (by type)* *Equipment* *Van*	*2 days/ month*		*May need to bring a volunteer from time to time*
Antenatal care	*80/month (20% ref. to CHD)*	*1/week*	*CHN* *CHD*	*0.15* *0.03*					
Vaccinations	*200/month*	*1/week*	*LHV* *Vac.*	*0.2* *0.4*		*Vaccines* *Syringes* *Refrigerator* *Equipment*			
Family planning	*200/month*	*1/week*	*LHV*	*0.5*	*0.40*	*Condoms* *Pills, etc.*			*May need to bring a volunteer in to help with FP*
Supervision/support	*Staff at centre*	*Regular*	*CHN* *CHD*	*0.1* *0.3*					
Management activities meetings	*PHC Team* *CHW/CHN*	*1/month* *1/month*	*CHW* *LHV* *CHN* *CHD* *Vac*	*1.5* *0.3* *0.1* *0.4* *0.1*		*Stationery* *Register and Form*			
Administration			*AA* *Helper* *SP*	*1* *1* *1*		*Van* *Stationery* *Cleaning supplies, etc.*	*2 days/month*		
Total			*CO* *CHWs* *TBAs* *Vac* *LHVs* *CHN* *CHD* *AA* *Helper* *SP*	*1* *10* *1* *1* *2.1* *1.1* *1* *1* *1* *1*	*1* *8* *10 for 10%* *1* *2* *1* *1* *1* *1* *1*	*Van* *Cost of other equipment and supplies*	*1*		

Planning each activity

Identify and plan outreach and community-based activities

In developing countries, community-based activities play an important role in ensuring that large populations have access to basic health care, both curative and preventive. A number of health services originate from clinics, but frequently community-based workers play an important role as a source for referrals and for the provision of basic health care and education.

The planning of some of the community-based activities, such as selection of CHWs, home visits, and monitoring of CHWs, should be conducted by the community members themselves with some technical assistance from the health centre staff.

Community-based workers need to be trained and supported by the clinical staff. Clinical staff often also monitor the high-risk individuals in the community identified by the community health workers. Outreach activities are very important for the success of the community-based programme and can be done through meetings with community-based workers, community meetings, immunization or growth monitoring camps, educational sessions with school children, and home visits. Therefore, PHC teams need to plan their clinic staff's outreach activities as well as to participate in the planning of the activities that are to be carried out by community-based workers. The sub-steps to plan and carry out community-based and outreach activities are described below.

- Determine number of units (individuals/households/villages) to be covered for each activity
- Determine optimal time interval for each activity
- Determine resource requirements
- Compare resource availability with requirements and identify an optimal number of visits
- Develop tools to plan and monitor community-based and outreach

Determine number of units to be covered. For activities like health education you will have to target the entire village while for others, such as immunization, ORT, etc., you

Selecting targets

may target specific households or individuals. You will have to review the household or village register or a map of your catchment area to determine the size and location of the target populations for various activities. If you do not have a household or a village register or a map, you should review Step 1 for how to develop them.

Determine optimal time interval for each activity. You will need to decide an optimal time interval for each activity. For example, you may decide to conduct a community-wide health education session once every three months, while immunization services will be offered in a village once a month. In some communities, monthly home visits may be needed, while in others, quarterly visits may be enough. Information from past experience, literature reviews, and/or operational research could be used to determine the frequency of visits that would be required to meet community needs.

Determine resource requirements. For each activity, you should determine the type and quantity of resources required. For example, health education may be provided by a community nurse, while contraceptive supplies could be provided by community health workers. In this section we will focus on how to determine staff requirements; however, the same method can be used for other resource requirements (for example a vehicle). Exhibit 14 formulae can be used to determine the level of staff effort required for each type of activity (for example, home visits) over a specific time period.

Before you do the next step, you need to determine the availability of resources. When calculating availability, keep in

Exhibit 14: Worksheet to determine staff requirements

Staff capacity per month = days/month x number of units that can be covered/day per worker

Staff requirement = units to be covered/staff capacity

Note: When determining the number of units that can be covered for one type of activity in a day, take into account the time it takes to effectively cover the unit for that activity and travel time if needed.

mind other activities which need the same resources. For example, a health worker may need to conduct community meetings, health education sessions, and immunization sessions in addition to home visits (see Exhibit 13). Personal leave and administrative duties should also be considered when determining availability. Since you need to see the whole package of activities when allocating available resources, it may be a good idea for you to do the first three sub-steps for all activities before you do the next step. An example of the results of this process is shown in Exhibit 13. A blank worksheet form has been provided in Appendix E for you to use.

For example, if you were planning LHVs outreach support visits:
Number of villages in catchment area: 50
Frequency for visiting each village: once a month
Number of working days per month: 25
Number of villages that can be visited per day per LHV: 1
Staff capacity per month = 25 X 1 = 25 per LHVs
Staff requirement = 50/25 = 2 full time (FTE) LHVs

Compare resource availability with requirements and identify an optimal number of visits. In the last sub-step, you determined the number of staff needed to perform a particular activity in a specific time period. If the existing staff is unable to cover every unit (village/household/individual) during the time interval, then you should:

- increase the time allocated for doing the activity;
- hire additional staff; or
- substitute resource intense activities with less resource intense activities. For example, use group sessions as a substitute for frequent home visits. However, focus on high-risk groups/individuals should not be neglected.

You can use the following formula to determine the total time (in months) needed to cover every unit in the catchment area:

No. units/(staff capacity x No. of staff available) = frequency of doing the activity

If the total is one, all units can be covered every month. If it is more than one, a special strategy is needed.

For example, for planning home visits if:
Number of households = 600
Days/month = 20
Number of households that can be visited per day per worker = 5
Capacity per month per worker = 20 x 5 = 100
Available health workers = 4
Time to complete routine visits = 600/(100 x 4) = 1.5 months
Therefore, with the existing number of workers, it would take 1.5 months to visit every household.

In the example above, if each household could be visited quarterly instead of once in 1.5 months, the remainder of the outreach time could be used for high-risk cases, which could be followed up monthly or weekly. However, if it is felt that regular monthly visits are essential to meet the needs of the community, two more workers will need to be identified and trained.

In some situations the above method may not be useful for community-based workers since they are often volunteers and are not always available. In such a case, each worker should be asked how much time she/he would be able to give. This will help you to determine the number of households/individuals she/he can monitor and the total number of workers that will need to be selected and trained. If there are not enough available volunteers, then the frequency of visits/service may have to be decreased.

Develop tools to plan and monitor community-based and outreach activities. This step is the basis for developing individual work plans in Step 6 and for assessing performance in Step 7. Activity registers or lists of target groups can be used to plan community outreach services and to follow up high-risk cases. Some activities which are done once a month, such as community meetings, may not need a separate tool. A work schedule (see Step 5) can be used to plan such activities. Activities such as immunization camps need a list of villages, a map, and a schedule. Supervisors can use supervisory checklists (Modules 5 and 6) to identify gaps in the quality of services being provided by the service providers and to identify training needs. Five models of tools for planning and monitoring community-based and/or outreach activities will be presented in this section as examples.

Develop individual workplans

- **CHW activity register** — used by the Urban PHC Programme of the Aga Khan University in which families are visited on a monthly basis (see Exhibit 15).
- **Pictorial CHW activity record** — a part of it is extracted from the record used by the Mombasa PHC Programme of the Aga Khan Health Service, Kenya (see Exhibit 16).
- **Pictorial TBA activity record** — not tested anywhere as of yet (see Exhibit 17).
- **LHV activity register** — not tested anywhere as of yet (see Exhibit 18).
- **Target lists** of women who need immunization — used by the Aga Khan Community Health Programme in Bangladesh (see Exhibit 19).

These formats can be adapted and used in various situations.

MODEL 1: AKU URBAN CHW ACTIVITY REGISTER FOR MONTHLY HOME VISITS

At present, the CHWs in AKU's Urban PHC programme focus their attention on married women with children less than three years old. Growth monitoring of children less than three years is done every month. The CHWs list all the households, children, and married women in their target area in the household register once a year and update it during their home visits. The CHW also records information about their activities (households visited, children weighed) and target population (births, deaths, age, weight change, nutrition status, immunization status, diarrhoea cases of children under five years, last menstrual period, pregnancies, use of family planning, and immunization status of married women) during home visits. The CHW uses the register to:

- plan her home visits and monitor the health status of the target population,
- identify and monitor the high-risk women and children
- record and aggregate information to see if changes are occurring over time and thus,
- revaluate her own performance.

The supervisors use the register for identifying problems and for supporting the CHWs. The register is also used for summarising information and preparing quarterly reports for management purposes.

The CHW has visited (columns 11-13) all seven families, 12 children, and eight women listed on this page in January and March. In February, she visited six out of the seven families.

- She weighed and recorded weight change from one month to the other (+ = increase, 0 = table, and − = decrease) of children less than three years of age in January, February, and March (columns 6-8). She must focus her attention on two children—child C2 in House No. 245 has lost weight three times in a row and child C4 in House No. 248 has not been putting on weight and is a second degree malnourished child.
- Household 248 seems to be a problem household as all the children seem to have nutritional problems and immunization does not seem to be given importance.
- Three of the married women are pregnant (Household Nos. 243, 245, and 248).
- One woman has delivered a baby (house No. 243) during the month of March and may need follow-up by a nurse. Her other child seems to be neglected.

A model of the CHW activity register with instructions on how to fill it is provided in Appendix D.

Exhibit 15: CHW activities register (continued, page 45)

			Children < 3 years									
Srs.	Household No.	ID No.	Age	Newly identified birth (Jan.-Mar.)			Jan.		Feb.	March		
				Live		Still	Wt.	* Wt.	* Wt.	* Wt.	**Nut St.	***Imm St.
				DT	BW	DT		Ch	Ch	Ch		(<1)
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
01	242	C5	2.1				10.5	–	0	0	N	C
02	243	C2	2.7				8.3	+	–	0	I	C
		C3	NB	12/3	2.4						I	IC
03	244	C6	2.1				11.2	+	+	NW	N	IC
04	245	C2	1.8				10.4	–	–	–	N	IC
		C3	0.8				8.2	+	0	–	N	A
05	246	C4	2.9				10.1	–	–	0	I	C
		C5	1.8				8.3	+	+	+	I	C
06	247	C1	2.6				8.5	+		–	II	C
07	248	C4	2.1				7.6	–	0	–	II	IC
		C5	1.1				8.0	+	0	–	I	IC
		C6	0.2				3.4	+	+	–	I	N
Total	x	x	12	1	BW = 1			+ = 7	+ = 3	+ = 1	N = 4	C = 5
					LBW = 1			0 = 0	0 = 4	0 = 6	I = 6	A = 1
								– = 4	– = 3	– = 3	II = 2	IC = 5
								NW = 0	NW = 0	NW = 1	III = 0	N = 1

* WEIGHT CHANGE
\+ = Increase in weight
O = Same weight
– = Decrease in weight

** NUTRITION STATUS
N = Normal
I = First degree malnourished
II = Second degree malnourished
III = Third degree malnourished
NW = Not weighed

Exhibit 15: CHW activities register

Date of visits				Deaths		Married women						
Srs.	Jan.	Feb.	Mar.	Jan-Mar.	Jan.	Feb.	March		***Immunization status		ID No	Number of family members
				ID No.	PR	PR	FP	PR	All	DLVD		
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
01	12/1	15/2	18/3						C			6
				D1	7	8			C	C	M	8
02	12/1	14/2	18/3	25/12								
03	13/1	14/2	12/3						IC		M	3
					4	5		6	C		M	5
04	13/1	14/2	12/3									
									IC		M	6
05	10/1	12/2	13/3									
06	10/1		13/3						IC		M	3
						4			IC		M	5
									IC		M	
07	10/1	13/2	13/3								C1	
	7	6	7	1	2	3		1	C = 3 IC = 5 N = 0	C = 1 IC = 0 N = 0	8	36

*** IMMUNIZATION STATUS
C = Complete
IC = Incomplete for age
A = Appropriate for age
N = No immunization
NB = Newborn

BW = Birth weight
LBW = Low birth weight
PR = Pregnancy month of pregnant woman
DLVD = Women who have delivered during the quarter
FP = Family planning
DT = Date

MODELS 2 AND 3: PICTORIAL CHW AND TBA RECORDS

In some rural areas the TBAs and the CHWs are illiterate or semi-illiterate. In such cases, these workers can use pictorial records to plan and monitor their activities. However, recording should be kept to a minimum, and only those indicators that can be used by the workers themselves or the community should be on the record.

An example of a pictorial CHW record is presented in Exhibit 16, and a TBA record in Exhibit 17. In developing pictorial records, the end users should be involved because pictures should be culturally sensitive and should be understood by the local people.

MODEL 4: LHV ACTIVITY REGISTER

LHVs need a tool to plan their outreach services. Their outreach activities often include support visits or training sessions for community workers, meetings with CHWs or other community members to plan community-based services, home visits to high-risk individuals, and group health education, growth monitoring, and immunization sessions.

An example of a register she can use to monitor and plan her outreach activities has been provided in Exhibit 18.

MODEL 5: COMPUTER-GENERATED LISTS

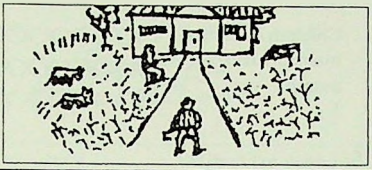
In project areas where it is feasible and cost-effective, computer-generated lists of default or high-risk cases can be used for planning and conducting outreach services. Exhibit 19 shows a list of women who need tetanus toxoid immunizations. This format is currently being used by the Aga Khan Community Health Programme in Bangladesh.

Some advantages of computer lists include the following:

1) they eliminate the burden of having to create the lists manually and maintenance can be relatively simple,
2) the accuracy of the information may improve because computers can reduce human error in the manipulation of data, and
3) computers can also aggregate information and generate different types of indicators for the different levels of workers and managers.

Exhibit 16: CHW activity record (continued, page 48)

Name of CHW: _____ Village: _____ Month: _____



Homes visited this month

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Meetings attended this month

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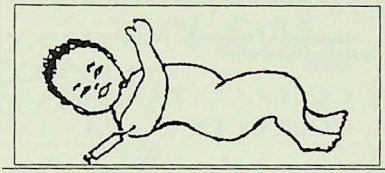

Children who have completed vaccination

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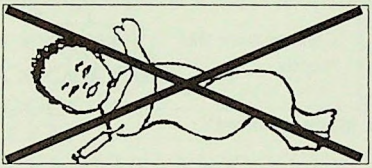

Children who have not had a single immunisation

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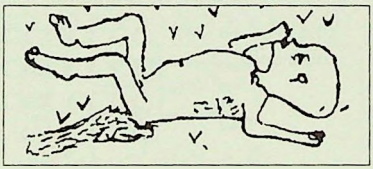

Children suffering from diarrhoea

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INSTRUCTIONS: Fill one circle for every case seen.

Exhibit 16: CHW activity record

Name of CHW: _____ Village: _____ Month: _____

Children identified malnourished this month

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Children suffering from ARI

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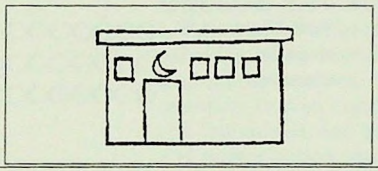

Number of referrals made

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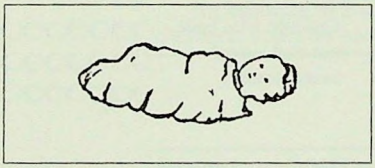

Children born this month

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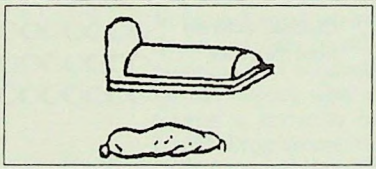

Children who died this month

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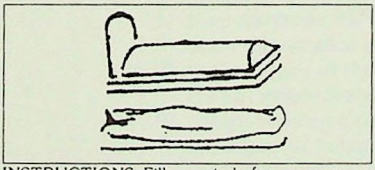

Mothers who died this month

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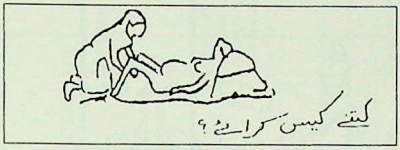
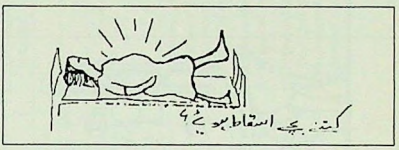
INSTRUCTIONS: Fill one circle for every case seen.

Exhibit 17: TBA monthly record (continued, page 50)

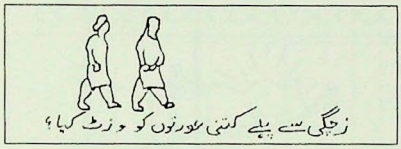
Year: _____ Month: _____ Division: _____ TBA name: _____



Deliveries assisted

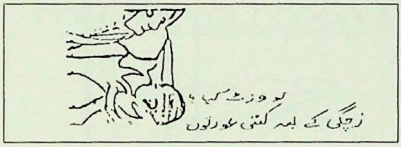


Abortions

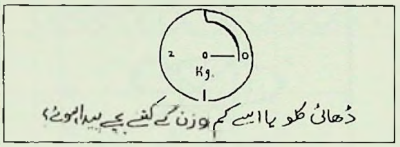


Antenatal visits

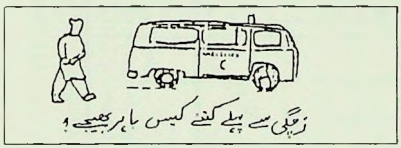
Family planning accepted



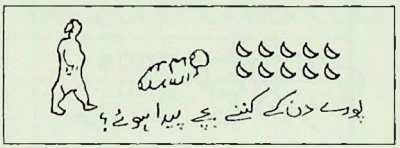
Postnatal visits



Low birth weight



Antenatal referral

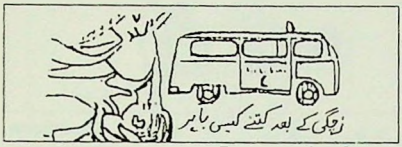


Full term

INSTRUCTIONS: Fill one circle for every case seen

Exhibit 17: TBA monthly record

Year: _____ Month: _____ Division: _____ TBA name: _____



Postnatal referral

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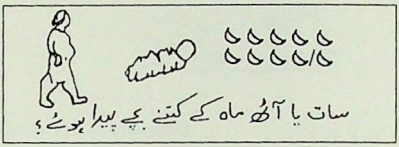

Pre- term

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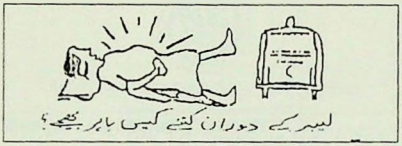

Referral in labour

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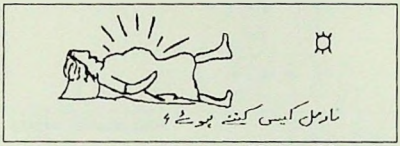

Normal labour

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Still births

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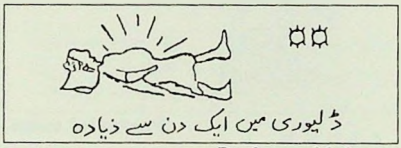

Prolonged labour

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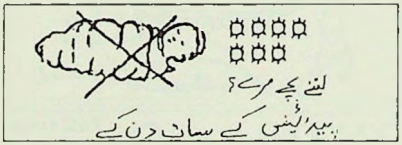

First week deaths

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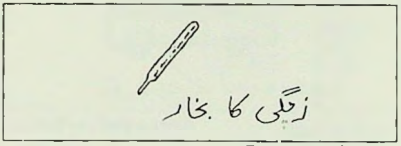

Puerperal fever

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INSTRUCTIONS: Fill one circle for every case seen.

Exhibit 18: LHV activity register

Name of LHV: *Naseem Ali Hyder* **Month:** *November*

Date	Village	Purpose of visit										Actions taken
		Support visit	Training session	Meeting		Visit high risk	Sessions on			Others (specify)	No. of participants or persons visited	
				CHWs	Com-munity		IMM	GMP	Health education			
2	Mosa Goth			X		X					MCHW = 9 VHR = 3	Health talk given to pregnant women and diet info to III degree malnourished child's mother
3	Babu Jo Goth		X					X			TS = 12 SCMP = 7	
4	Ali Goth	X									SV = 3	
5	Allah Goth				X						CM = 10	
6	Nathan G.					X	X				VHR = 2 SI = 11	Full term pregnant with fits, refer to hospital
9	Palijo Goth								X		SHE = 12	
10	Shahjo G.		X								TS = 10 MTBA = 6	
11	Juman Jo Goth	X	X			X					SV = 3 TS = 13 VHR = 3	
12	Shahi Goth			X	X		X				MCHW = 9 MC = 8 SIMM = 15	Immunized women who were present in the session and had not rec'd any
13	Shams Goth		X			X			X		TS = 10 VHR = 3	Gave health talk to pregnant women
16	Mhmd Goth	X				X				Meeting with TBA and teachers	MTBA = 6 VHR = 3 MT = 5	Prepared and gave food to the III degree malnourished child in front of his mother

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LIBRARY AND INFORMATION CENTRE
GALO

Exhibit 19: Target list of women to be immunized

Reg.#	Name	Age	Pregnant	TT1	TT1 Date	TT2	TT2 Date	Booster	Booster Date
90001A	Shahida Akhtar	18		N	/ /		/ /		/ /
90002F	Shohida	36		N	/ /		/ /		/ /
90008F	Husnera	15		N	/ /		/ /		/ /
90009A	Fatema Begum	25		N	/ /		/ /		/ /
90012C	Nurjahan	27		N	/ /		/ /		/ /
90013A	Razia	18		N	/ /		/ /		/ /
90014F	Monni	19		N	/ /		/ /		/ /
90015A	Nayama Chowdhary	45		N	/ /		/ /		/ /
90016D	Mazeda Chowdhary	34		N	/ /		/ /		/ /
90017C	Halima Karim	25	Y	Y	02/31/91	N	/ /		/ /
90018D	Ruma	27		N	/ /		/ /		/ /
90019A	Runa	23		N	/ /		/ /		/ /
90020A	Rita Ahmad	45		N	/ /		/ /		/ /
90021A	Arifa Ahmad	34		N	/ /		/ /		/ /
90022C	Jiauan Naher	24		Y	15/01/92	N	/ /		/ /
90024F	Rupaili	34		N	/ /		/ /		/ /
90025A	Meheri Banu	23		N	/ /		/ /		/ /
90031A	Nagwa Mata	33		N	/ /		/ /		/ /
90035A	Fatema Bebum	23		N	/ /		/ /		/ /
90037A	Jesmin Sultanta	34		N	/ /		/ /		/ /
90038A	Hushneara	19	Y	Y	01/01/90	Y	10/01/90	Y	15/02/92
90043S	Rezia	17		N	/ /		/ /		/ /
90047S	Jaahanara	23		N	/ /		/ /		/ /
90048S	Bebum	24		N	/ /		/ /		/ /
90049A	Almina Arahiim	16		N	/ /		/ /		/ /
90050A	Shilashen	23		Y	20/03/91	Y	30/06/91	Y	01/10/92
90051A	Farhana Karim	19		N	/ /		/ /		/ /
90052A	Afsana	34		N	/ /		/ /		/ /
90055D	Shana	27		N	/ /		/ /		/ /
90059A	Rubina	46		N	/ /		/ /		/ /
90067A	Shanjida	19		Y	/ /	Y	/ /		/ /
90070S	Momitaz	17		Y	01/01/89	Y	/ /	N	/ /
90073A	Peyara	25		N	10/06/91		/ /	N	/ /
90075A	Shahida	31		Y	/ /		/ /		/ /

Identify and plan clinic-based activities

The planning of clinics is an essential part of a PHC programme. It serves the purpose of supplementing field-based preventive services by providing a back-up referral together with centralised preventive services.

It is also important to determine the types of services which are or will be in demand. Examine the services which

are offered at the clinic and compare them to survey results. Are the community's perceived needs being met by the services offered? Are there other services/schedules that would better serve the population?

You should use the second half of the worksheet (Exhibit 13) to complete this step. The sub-steps to plan clinics are listed below.

- Determine client load
- Determine staff capacity and resource requirements
- Determine availability of resources
- Compare availability with need and identify an optimal solution
- Develop tools to plan clinic-based activities

Determine client load. You should project utilisation or demand for various PHC services for a specific time period (month, year, etc). You can base your projections on clinic records from recent years or on community surveys. Keep in mind that demand for services can be influenced by many factors internal and external, to the PHC programme. For example, a new mass media initiative, a social marketing programme, the establishment or closure of another nearby clinic, or a new market place can all positively or negatively influence demand in your area. Some influences cannot be foreseen, so you should plan within a range. Once you are satisfied that your range realistically reflects the current situation and foreseeable influences, this information can be used to estimate requirements for manpower, equipment, and supplies.

You can calculate demand for services or project client load using the following two methods:

Method 1 - The average number of patients/clients expected to come for the various services in a given month can be determined from past records and/or community surveys (Module 2).

Example: If there are 200 pregnant women in a catchment area and past records show that 30% of them come for ANC on a monthly basis, 10% come occasionally, and the rest do not come, the expected ANC visits for the month would be between 60 to 80.

Method 2 - Some people recommend that an arbitrary figure of one adult visit and three child visits per person per year can be used to calculate the clinic load.

Example: If the catchment area population consists of 9,000 adults and 1,000 children, the total number of visits at the clinic per year would be.

9,000 adults x 1 visit/person/year	=	9,000
1,000 children x 3 visits/child/year	=	3,000
Total clinic load (#visits/year)	=	12,000

Look for patterns of fluctuations in client load by days of the week, months, or seasons. For example, market days, religious periods, or planting seasons may prevent clients from seeking service. You should make optimum use of your resources by making them most available when demand is highest. Try to plan other non-service activities, such as training or inventory, during these low demand periods.

Determine staff capacity. Looking at past experience, one can determine on an average how many patients/clients can be seen by the service provider on any one day for the various services. Using this average, the number of clinic days needed for the services can be calculated.

Example: If from past experience we see that a CHN or an LHV takes about 15 minutes to see one ANC case, and that 20% of the ANC cases seen by an LHV or a CHN have to be referred to a doctor, and that the doctor takes about 10 minutes to see a referred cases, then to see 80 cases in a month we would need;

LHV/CHN's time:	4 cases/hour at 15 minutes/case
	4x8 hours = 32 cases/day
	80/32 = 2.5 days
Doctor's time:	6 cases/hr at 10 minutes/case
	20% of 80 = 16 patients
	16/6 = 2.7 hours

Determine resource requirements. The average yearly requirements for drugs, supplies, and other resources can also be determined using past experience. You should determine the average requirement per case and then determine the current year's requirements based on your projection of client load, which was calculated in the previous step. For example, if you determine that the clinic will receive an average of 200 family planning clients per month

who require (based on last year's demand) 144 condoms per client per year, your projected yearly requirement would be about 2,880 (200 clients x 144 condoms/client/year). Again, keep in mind other factors that which could increase or decrease your estimated demand.

Determine availability of resources. When determining availability of resources, keep in mind all health services as they often involve the same resources. For example, besides seeing patients, a nurse may supervise/support field workers, make reports, etc. Different clinics often must be run in the same limited space, making lack of space a problem. Therefore, different clinical services (ANC, immunization, curative care, etc.) may have to be provided on separate days and the availability of resources may have to be determined by the day of the week.

Compare availability with need and identify an optimal solution. The optimal solution is one that best addresses the service need, given the resources available. You should not expect to meet 100% of the need but should look for ways to adjust your service delivery to meet as much of the need as possible without sacrificing the quality of your programme. These adjustments may be long-term (if funds are not available), while others may be short-term (if, for example, trained workers are not available and the training can be done in a few months).

Example. In the example shown in Exhibit 13, 80 ANC cases per month are expected, and if staff capacity is as shown, 15% (three days) of the CHN's time and 3% (five hours) of the doctor's time will be needed to see these cases. Looking at all the other activities of the staff, the CHN is available for three days and the doctor for five hours in a month to see ANC cases; therefore, there is no problem. However, if they were not available, the reasons would have to be identified and the solutions found.

Funds may be available to hire only one LHV rather than two, and the CHN may have to spend time supervising the CHW; therefore, compromises would need to be made. Outreach programmes could be decreased, volunteer manpower could be identified, or curative care clients could be referred to other centres, etc.

If trained manpower is not available, local manpower could receive more training, etc.

Develop tools to plan clinic-based activities. The final step in the planning process is to develop tools to record information which can help in the monitoring process as well as in the making of future decisions. The information needed for clinic-based services could contain:

- **A weekly timetable:** (See Step 6). This can be developed based on expected patient load for a particular service and the availability of personnel.
- **Individual medical records:** The record gives the health provider the information he needs for patient care. It often has two formats. The first is for each encounter (see Exhibit 20), and the second summarises all of an individual's encounters (see Exhibit 21). Blank forms are provided in Appendix E.
- **Daily clinical treatment record:** (See Exhibit 22). This can be designed to show the general profile (age, sex, diagnosis, etc.) of all clients who visit a clinic each day. It helps to determine client load in a specified period. The pattern of diseases or the services that people require will be demonstrated through this format. A blank form is in Appendix E.
- **Drug dispensing form:** (See Exhibit 23). This lists the drugs available at the centre at the the beginning of the month (which is the balance left over from the previous month), the amount received during the month, the amount dispensed on each day of the month, and the balance at the end of the month. A tabulation at the end of the month would help to determine the type of drugs and quantity needed for the following month (see Appendix E for a blank form). A similar format can be used as a daily record with the amount dispensed against each patient if needed.

Similarly, records could be developed for other issues that the PHC team or manager identify as crucial to setting up and monitoring a programme.

Exhibit 20: Individual medical record

INDIVIDUAL MEDICAL RECORD

(Fill this form for every encounter)

Name: Date of visit:

1. History:

2. Physical examination: T:____ P: ____ BP: ____ R: ____

3. Assessment: 4. Plan:

Investigation: Treatment:

Exhibit 21: Individual medical record

Household #:	Individual #:	Medical record#: (for unregistered only)	
Patient Name:		Father/husband name.	
Date of birth:	Sex (M/F):	Height:	Weight:
Past history:	Diagnosis	Hospitalisation	Medication

Drug allergies: Y/N (specify):

Family history (check appropriate boxes):

Hypertension_____ Diabetes_____ TB_____ Others_____

Personal history (check appropriate boxes):

Smoking _____ Alcohol _____ Drug use _____ Occupation_____

VISIT DATES																					
1 Tuberculosis																					
2 Polio																					
3 Diphtheria/pertussis/tetanus																					
4 Measles																					
5 Mumps																					
6 Malnutrition																					
7 Diarrhoea/dysentary																					
8 Intestinal parasites																					
9 Hepatitis/jaundice																					
10 URTI																					
11 Pneumonia/bronch. (LRTI)																					
12 Other LRTI/asthma																					
13 Skin problems																					
14 UTI																					
15 Fever > five days																					
16 Pregnancy-related problem																					
17 Anaemia																					
18 FP complications																					
19 Gynaecological problems																					
20 Hypertension/ischaemic																					
21 Diabetes																					
22 Musculoskeletal disorders																					
23 Mental illness																					
24 Dental problems																					
25 Eye problems																					
26 Errors of refraction																					
27 Ear problems																					
28 Accidents/injuries																					
29 Handicaps																					
30 Other																					

Exhibit 22: Daily clinical treatment record

Name of clinic: *Mt. Vernon*	Date: *28 Nov, 1992*						MO/CHN: *Pamela*				
	Registered										
	1	2	3	4	5	6	7	8	9	10	Total
Household No./Reg. No.	146	128	62	243	416	24	518	661	84		
ID #:	238	216	45	306	610	47	618	721	96		M=4
Sex: M/F	F	M	M	M	F	F	M	F	F		F=5
Age Years > 1			X				X				2
1-5		X			X			X			3
6-15											
16-49	X					X			X		3
Over 49				X							1
Routine ANC	X					X			X		3
Routine well-baby			X		X		X				3
1 Tuberculosis											
2 Polio											
3 Diphtheria/pertussis/tetanus											
4 Measles		X			X			X			3
5 Mumps											
Other diseases				X							1
6 Malnutrition											
7 Diarrhoea/dysentary											
8 Intestinal parasites			X		X						2
9 Hepatitis/jaundice											
10 URTI											
11 Pneumonia/bronch. (LRTI)											
12 Other LRTI/asthma											
13 Skin problems											
14 UTI											
15 Fever > 5 days											
16 Pregnancy-related problem											
17 Anaemia											
18 F. P. complications											
19 Gynaecological problems											
20 Hypertension/ischaemic											
21 Diabetes											
22 Musculoskeletal disorders											
23 Mental illness											
24 Dental problems											
25 Eye problems											
26 Errors of refraction											
27 Ear problems											
28 Accidents/injuries											
29 Handicaps											
30 Other (Specify)											

Exhibit 23: Drug supply record (continued, page 61)

Name of centre:		Previous balance	Rec'vd	Total	Date	Issued	Balance	Cost
1	Acetyl Salicylic Acid Tab. 300 mg							
2	Aluminum and Magnesium Hydroxide Tabs.							
3	Aminophyllin Tab. 100 mg							
4	Benzyl Benzoate 25% solution							
5	Betamethasone Cream							
6	Buscopan 10 mg Tabs.							
7a	Chloramphenicol Eye Ointment							
7b	Chloramphenicol Syrup							
7c	Chloramphenicol Capsule							
7d	Chloramphenicol Eye Drops (Btls)							
8a	Chloroquin Syrup							
8b	Chloroquin Tab. 250mg							
9a	Cotrimoxazole (Double strength)							
9b	Cotrimoxazole Syrup							
10	Chlorpheniramine Tabs. 4 mg							
11	Diazepam 5 mg. Tabs (Relaxipam)							
12a	Ferrous Sulphate Tabs. 200 mg							
12b	Ferrous Sulphate Syrup							
13	Folic Acid Tabs. 5 mg							
14	Gradinal Sodium Tabs. (Phenobarb)							
15	Gentian Violet 1% Aqueous Solution							
16	Mefanamic Acid Tabs. (Ponstan)							

		Previous balance	Rec'vd	Total	Date											Issued	Balance	Cost
17	*Metronidazole Syrup*																	
17a	*Metronidazole Tab. 200 mg*																	
18	*Neomycin and Bacitracin Oint. Skin 15 mg*																	
19	*Nystatin Vaginal Pessaries*																	
20	*Nystatin Oral Drop (Nilstat)*																	
21	*Otosporin Ear Drops*																	
22	*Oxytetracycline Tab. 250 mg*																	
23a	*Paracetamol Tab. 500 mg*																	
23b	*Paracetamol Syrup*																	
24a	*Phenoxymethyl penicillin Tabs. 250 mg*																	
24b	*Phenoxymethyl penicillin Syr. 250 mg*																	
25	*Pyrantel Pamoate susp.*																	
26	*Theophyllin Syr. 150 mg/ 5 ml*																	
27	*Whitefield's Ointment in kg*																	

SIGNATURE OF ADMINSTRATIVE ASSISTANT/CLINICAL ASSISTANT:

Step 5: Develop job descriptions and recruit staff

Skip this step if:

- *Your programme is already set up and you already have work plans for each staff member*

Review this step if:

- *Your job descriptions are out of date*
- *They are not on a programme list*

The purpose of this step is to translate the plan for PHC activities (developed in Step 4) into roles and responsibilities for individual staff. This is done by first developing a "role and tasks" list from the service plan. This list describes the tasks for each staff position and the experience and skills required. Next, the "role and tasks" list is used to develop job descriptions for each position. After these job descriptions are reviewed and approved, they can be "posted" or advertised as "job announcements." Candidates can then be recruited, interviewed, screened, and selected according to your organisation's regular procedures. The purpose of a job description is to:

- Describe the roles and tasks that staff need to carry out to help the programme achieve its objectives;
- Identify the experience, skills and knowledge needed to carry out the tasks; and
- Ensure that management and staff have a mutual understanding of these expectations.

Sub-steps for developing a job description and recruiting staff are listed below.

- Develop a "role and tasks" list

  Identify programme activities/tasks for each staff position
  Identify skills/experience needed for each staff position
- Prepare job descriptions

  Assignments, tasks
  Personal skills/experience requirements

- Post job announcement and recruit, screen, and select candidates
- Agree with selected candidates on role and task expectations

Develop role, tasks and skills list

The first step is to translate the programme plan for clinic and outreach services into staff assignments. Programmes are usually subdivided into components (ORT, ANC, plan-

Exhibit 24: Role and tasks list

PHC programme goals:

1. To improve the health status of mothers and children of under five years of age.
2. To reduce the IMR by 10% in two years.

Service objectives:

1. To increase the children in the normal category by 20% in two years.

Strategies:

1. Growth monitoring during monthly home visits.
2. Vaccination of children and married women.
3. Provision of health education on family planning, breast feeding, control of diarrhoeal diseases.

Position title	Role	Tasks	Experience	Ability/skills
CHW	To provide services and monitor women and children in her assigned target area.	During home visits and at PHC educate and promote health by > growth monitoring > health education: • nutrition • use of ORS solution • breast feeding • immunization • family planning • personal/public cleanliness • identifying at-risk patients and referring to PHC programme > recording/compiling info on: family folder growth cards • CHW daily activity register	Not necessary but know community dynamics	Communication skills. Interest in conducting health education sessions

Position title	Role	Tasks	Experience	Ability/skills
CHN	Training, supervising and supporting the CHW in providing both preventive and curative health care and assisting them in providing basic health services	> Provide services: • vaccination • family planning • basic curative care • antenatal care > Supervise CHWs and TBAs by doing home visits > Assist in continuing surveillance through MIS > Provide on-the-job training and continuous education to the CHWs and mother	Two years experience in community work	Conduct health education. Know local languages
CHD	Co-ordinate and monitor the performance of the entire PHC programme and formulate action plans	> Provide integrated maternal health care > Identify and analyse the present health problems of the community > Set goals, prepare plan of action and implementation strategies > Liaison and maintain co-ordination with the community leaders, govt. and non-govt. agencies for designing, implementing and maintaining community-based primary health care > Monitor progress by using information collected through the MIS and prepare annual progress report. > Provide ambulatory care > Organic continuing education programmes	6 month house job in • medicine • paeds • obs/gyn Some experience working with community	Conduct health education. Attend community meetings

ning, etc.), which are subdivided into activities and tasks. These tasks are the basis for developing job descriptions.

Exhibit 24 illustrates a role and tasks list that management can use to produce this information. Notice how it includes the programme's goals, service objectives, and service strategies.

This is included to ensure that management defines roles and tasks that are consistent with the programme's goals, objectives, and strategies. A blank worksheet is found in Appendix E.

Prepare job descriptions and do feasibility checks

The next step is to develop individual job descriptions for each position, drawing on the roles, tasks, experiences, and skills summarised in the role and tasks list.

Formats for job descriptions

Most agencies have their own formats for job descriptions, and the roles, tasks, experience, and skills can be adapted to fit within any particular format. Exhibit 25 illustrates an example of a job description for a CHW position (see Appendix E for a blank form). Before these job descriptions are finalised and submitted for approval, it is a good idea to conduct a "feasibility check" to make sure that the tasks are feasible and the requirements are realistic. Some test questions are shown below.

- Does the job description adequately reflect programme needs?
- Does the job description include all necessary activities/tasks?
- Is the projected workload reasonable?
- Are suitable candidates available?
- Are they likely to apply, given the terms and conditions of the job?
- Is the job secure; will there be adequate funding to continue it?
- Are there any other factors that could positively or negatively affect recruitment of suitable candidates?

If any problems are identified that would make the job description unfeasible then it should be altered accordingly or the problems should be dealt with before candidates are recruited.

Post job announcement and recruit, screen, and select candidates

After the job description has been approved according to the agency's procedures, a job announcement can be posted or advertised. That announcement should be based on (or be identical to) the job description itself. Recruitment,

Exhibit 25: Job description and announcement

1. POSITION TITLE *CHW*	2. POSITION STATUS 2.1 Full-time a. Permanent 2.2 Part-time b. Temporary	DATE OF PREPARATION *25 Feb. 1992*
4. POSITION SUMMARY	*To provide services and monitor the women and children in designated areas*	
5. REPORTS TO *Community health nurse*	6. POSITIONS DIRECTLY SUPERVISED BY INCUMBENT *None*	

7. SPECIFY REQUIREMENTS:

7.1 Education/professional qualifications
NA

7.2 Experience and training
Not necessary, but a knowledge of community dynamics would be desirable

7.3 Knowledge, skills, ability
Communications
Ability to conduct health education sessions

8. DESCRIPTION OF DUTIES/RESPONSIBILITIES:

List duties under two separate headings: REGULAR DUTIES and PERIODIC DUTIES:
During home visits and at PHC, educate and promote health through:

A. REGULAR DUTIES/RESPONSIBILITIES
Growth monitoring
Health education on nutrition, use of ORS, breast feeding, immunization, family planning personal/public cleanliness, identifying at-risk patients and referring them to PHC programme
Recording and compiling information on family folders, growth cards, CHW daily activity register

B. PERIODIC DUTIES/RESPONSIBILITIES:	% TIME SPENT
Attend ongoing education classes on health	30% GM
	30% Health education
	20% Recording
	20% Ongoing education

9. PREPARED BY:	10. REVIEWED BY:
Jazmi Hosein	*Izhar Sheraz*

screening of candidates, and selection would follow normal agency procedures.

Agree with selected candidates on role and task expectations

Clarify expectations

One step that is very important is for the manager and immediate supervisor to sit down with the selected candidate and discuss the job description openly and frankly. The purpose of this meeting is to clarify expectations on both sides: what management expects from the staff member, and what the staff member understands to be the role and tasks of the job. This will lead to the next portion of the process, described in Step 6: Develop individual work plans and schedules.

Step 6: Develop individual work plans and schedules

Skip this step if:

- *Your programme already uses a performance-based assessment system*

Review this step if:

- *Your staff work plans are out of date*
- *They are not based on priority project tasks, or*
- *You have household registers, but no system for setting priorities.*

The purpose of this step is to translate the individual job descriptions (developed in Step 5) into specific work plans for each staff member. Individual work plans should be based on: 1) the programme's clinic and outreach service plans (Step 4) and: 2) each person's job description (Step 5). Work plans list all planned activities, their sequence, the time when they should begin and end, the resources that will be needed to carry them out, and the person responsible for each task.

Compiling registers

Step 4 showed how valuable information on service demand and needs could be compiled in registers. It also showed how targets could be computed for field workers. That information is used to identify the numbers of people who will probably need services, and those who are high-risk and deserve special attention. It can also be used to

estimate the numbers of people who will need to be served each week or month. Individual work plans would take that information into account in determining how much time each staff person would spend on each task, at the site, and with each targeted individuals.

In most cases, each staff member should develop an annual plan that coincides with the programme's annual plan, and a second plan that is used to schedule monthly, weekly, or even daily activities. These plans may be developed individually, or in a group, depending on how much one person's plans affect another's. Often, the process of planning is as important as the plan. Work planning helps everyone to know what everyone else is doing and can be an effective tool for building team spirit and co-operation.

Advantages of work plans

There are many advantages to work planning, for the project, the team, and the individual:

- To make sure that planned project activities are carried out
- To make sure that they are carried out in the correct sequence
- To make sure that priority tasks are carried out first
- To help the staff manage its time efficiently
- To maximise programme impact
- To enable staff to coordinate their work with one another
- To facilitate monitoring of programme and individual performance.

Step 7 in this module describes how performance assessment can help to improve a programme's effectiveness. Good, realistic work plans are the key ingredient of successful performance assessment. That is because the plan is an obvious and convenient tool for monitoring progress, identifying problems, determining needs for change, and replanning.

List tasks in order of priority

Work plans usually list tasks in some sort of order of priority. This allows the supervisor and worker to agree on high-priority tasks and to focus more attention on monitoring those tasks. The key concept here is to always focus attention on those tasks that are essential to the programme's objectives.

Principles of good work plans

Good individual work plans include the same elements as good project plans:

- A clearly stated purpose or objective
- A list of all activities or tasks that must be carried out to achieve the objective
- Specification of the priority tasks and activities
- A specific time frame for starting and completing all tasks
- Clear indicators for measuring progress
- Specification of resources needed to carry out the work.

Work plans should be written out. That increases commitment to, and understanding of, the work to be carried out. It also helps to summarise the plan in a chart, calendar, or graph that reflects

Exhibit 26: Excerpt from a staff work plan

WORK PLAN

Name of person preparing workplan: *Josephine Baker*
Performance period: *November 1, 1992 - October 31, 1993*
Task No *1* of *3*

Statement of task assignment: *Conduct routine and special home visits to all eligible households in areas C and D.*

Key Sub-tasks and deadlines:

1. *Build awareness of PHC services, advantages, how to get to them*
2. *Motivate eligible women to accept and use GM, immunization, ANC, FP, ORT*
3. *Identify and follow-up high-risk mothers and children*
4. *Refer pregnant women, malnourished children and others as approriate to the health centre*
5. *Conduct village meetings on PHC*

Performance expectations, standards of performance:

1. *Awareness will increase to 90% of households by the end of 1993*
2. *Acceptance and continued use of PHC services will reach the same level as for the programme*
3. *All high-risk mothers and children in the area will be identified and referred - no avoidable deaths will occur*
4. *All high-risk mothers and children will be visited at least monthly*
5. *At least one community health meeting will be held each week.*

Name of supervisor on this task: *Mustafa Bustamante*
Workplan approved by supervisor: *M. Bustamante* Date: *1/11/92*

the passage of time. That makes it easier to monitor progress.

Prepare a workplan with your supervisor. Prepare a separate plan for each task. List the major sub-tasks and performance expectations for each sub-task. There are no set number of sub-tasks, but 3-5 is common. Each time you are given a new task, you should prepare one of these work plans.

Scheduling of work

There are hundreds of variations of work plans, most of which include the elements described above. The difference is usually in formatting and emphasis. Some plans emphasise time, others emphasise tasks. The following examples illustrate both approaches.

- **Gantt charts**

The Gantt chart is one of the oldest and most useful tools for summarising work plans. In PHC it is especially useful for summarising an annual, semi-annual, or quarterly plan. All major project activities can be displayed together with a schedule and persons responsible. These charts are also useful for special projects, such as research and training projects. An example is shown below.

Exhibit 27: Gantt chart of research project

	Months									
Baseline study activities	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1. *Plan survey*	XXXXX									
2. *Design forms*		XXXXX								
3. *Recruit interviewers*		XXXXX								
4. *Train interviewers*			XXXXX							
5. *Conduct survey*				XXXXXXXXX						
6. *Data entry and analysis*							XXXXXX			
7. *Feedback to team*								XXXX		
8. *Final report*									XXXX	

- **Time and task charts**

These charts are especially useful for short-term planning of a week or month. Both charts are self-explanatory. The first emphasises time. The left column lists the hours in a day, and the rows show the days in a week or month. The

chart can be modified for any time schedule: ¼ hour, ½ hour, etc. on the vertical axis; Monday-Friday, Sunday-Saturday, Day 1-31, etc., on the horizontal.

Exhibit 28: CHN weekly work plan and schedule

Time	Monday	Tuesday	Wednesday	Thursday	Friday
07:00					
08:00	Gen clinic	Community	Prenatal	Immuniz.	Com ed
09:00		health ed			
10:00					
11:00	Reports		Reports	Reports	
12:00	Lunch	Lunch	Lunch	Lunch	Lunch
13:00	PHC meet	Continued	Home visit	Lane meet	Reports
14:00					
15:00	Home visit	Home visit	Home visit	Home visit	Home visit
16:00	(#6-17)	(#18-29)	(#30-41)	(High-risk)	(#42-50)
17:00	End	End	End	End	End
18:00					
19:00		Community			
20:00		Meeting			

The second version shows the tasks on the vertical axis instead of time. The days are placed on the horizontal axis, as before.

Exhibit 29: Bi-weekly CHN work plan and schedule

Tasks: July 1-12	Days									
	Mo	Tue	We	Th	Fri	Mo	Tue	We	Th	Fri
Gen clinic	8-11					8-11				
Community ed		8-12			8-12		8-12			
Prenatal			8-11					8-11		8-11
Immunization				8-11					8-11	
Reports	11-12		11-12	1-12		1-12	1-12	1-12	1-12	1-12
PHC meeting	13-15									
Lane meeting							3-15		13-15	
Continuing ed		13-15				3-15				
Home visits	15-17	15-17	13-17	3-15				13-17		
High-risk visits								15-17		15-17
Lane meeting										
Com. meetings	19-21					19-21				

Routine scheduling of CHW household visits is especially important, and the above tools can also be used for that. The following example from Pakistan illustrates how a supervisor and four CHWs might develop a coordinated schedule.

Example: A CHW in charge of monitoring the health of 200 families who live in four lanes (L) also conducts lane health education sessions in her area. These are informal gatherings held outside, often in someone's front yard. It is a good way to reach small groups of neighbours.

Exhibit 30: Coordinated schedules of several workers

MONTH	CHW A	CHW B	CHW C	CHW D
January	*L1*	*L1*	*L1*	*L1*
	Jan 5	*Jan 12*	*Jan 19*	*Jan 26*
February	*L2*	*L2*	*L2*	*L2*
	Feb 2	*Feb 9*	*Feb 16*	*Feb 23*
March	*L3*	*L3*	*L3*	*L3*
	Mar 3	*Mar 9*	*Mar 16*	*Mar 23*
April	*L4*	*L4*	*L4*	*L4*
	Apr 6	*Apr 13*	*Apr 19*	*Apr 27*
May	*L1*	*L1*	*L1*	*L1*
	May 4	*May 11*	*May 28*	*May 25*

Assigning CHWs

There are four CHWs in the programme who conduct these sessions. The supervisor is required to be present to assist in answering questions. Thus, the supervisor and CHWs need to coordinate their schedules.

The chart shows that CHW A will hold a lane session in the first week of the month, CHW B in the second week, and so on until all four CHWs have held a session in a lane. This process is repeated until all lanes have been covered.

Many projects assign CHWs to cover a certain geographic area. Typically, they are expected to visit periodically all of the households in that area. What often happens is that

they visit homes that are close more frequently than those that are far away. Some homes are never visited.

The following schedule, which is adapted from the Swarnivar Project in Bangladesh, illustrates one way to ensure that all houses are covered on a regular basis. Assuming that the area has been mapped and each house given a number, the work plan can specify which houses to visit each day. The example shows the schedule of one CHW who visits 15-20 houses each workday. Time is also allocated staff meetings and other activities.

This type of schedule can also be used to schedule selective visits to high-risk women and children, as described in Step 4.

Exhibit 31: Simplified CHW monthly workplan

Workplan for: *Lekha* **Month:** *May*		**Village: Banglapur** **No. HH: 413**	
Day	**Schedule**	**Day**	**Schedule**
1	*Holiday*	16	*Supervision session, #188-197*
2	*#1-#17*	17	*#189-212*
3	*#18-36*	18	*#220-240*
4	*#37-56*	19	*Day off*
5	*Day off*	20	*Day off*
6	*Day off*	21	*#241-256*
7	*#57-76*	22	*#257-275*
8	*#77-95*	23	*#276-299*
9	*#96-114*	24	*#300-321*
10	*#115-132*	25	*#322-345*
11	*#133-150*	26	*Day off*
12	*Day off*	27	*Day off*
13	*Day off*	28	*#346-369*
14	*#151-169*	29	*#370-390*
15	*#170-187*	30	*#391-413*
		31	*Staff meeting*

- **"To do" lists**

These lists are especially useful for daily planning. Once again, they use the same two popular versions: one emphasising time, the other tasks.

Exhibit 32A: To do list

Time	To Do Today Monday, July 3
07:00	
08:00	*Prepare monthly report*
09:00	
10:00	
11:00	*Design training plan*
12:00	
13:00	*CHW meeting*
14:00	*CHN meeting*
15:00	
16:00	*Review TT/ANC printout*
17:00	
18:00	
19:00	
20:00	

Exhibit 32B: To do list

Tasks Priorities	To Do Today Monday, July 3
1	*Prepare monthly report*
2	*Design training plan*
3	*Meet with CHWs to plan next week's HH visits*
4	*Review printout of women needing TT, ANC visits*
5	*CHN meeting*

- **Duty rosters**

These are used to distribute routine work equally among several staff members. This is particularly useful when services have to be provided continuously and where the work is either extremely interesting or boring.

Example: Staff normally work from 8 a.m. to 5 p.m. at the PHC centre. Due to community demand, an evening clinic is also provided. One of the six CHNs or LHVs (Lady Health Visitors) must be on duty during the evening clinics. The duty roster could look as follows, where a letter is used for each staff person (A - F).

Exhibit 33: Duty roster

Duty roster: Evening clinic: January					
	Mon	**Tue**	**Wed**	**Thurs**	**Fri**
Jan 3-7	*A*	*B*	*C*	*D*	*E*
Jan 10-14	*F*	*A*	*B*	*C*	*D*
Jan 17-21	*E*	*F*	*A*	*B*	*C*
Jan 24-28	*D*	*E*	*F*	*A*	*B*

Step 7: Assess job performance

Skip this step if:

- *Your program already uses a performance based assessment system*

Review this step if:

- *Your staff appraisal system is out of date*
- *Your system does not compare planned with actual job performance*

The purpose of this step is to help staff to improve their job performance. By that we mean to help them to improve their effectiveness in reaching their (and the programme's) objectives and to increase their efficiency in carrying out their work (getting more done with less effort). The vehicle for doing this is continuous feedback on the staff person's work, comparing actual accomplishments with those set out in the work plans.

This type of continuous assessment is sometimes called "supportive supervision," coaching, or mentoring. The objective is not to find fault, but to work together with the staff to help them figure out how to do a better job.

The work plan is the key assessment tool because it links the worker's tasks to the programme's objectives. The better the worker does in accomplishing those tasks, the better the programme does in reaching its objectives. For that reason, assessments should be designed to examine how well the worker has done in carrying out the tasks agreed upon in the work plan.

Principles of performance assessment

Health workers, supervisors, and managers are usually aware of the performance and problems of their staff long before a formal review is undertaken. This is one reason why continuous, supportive performance assessment is more important than periodic, formal job evaluations.

Good performance assessment is an ongoing process that depends on open communication between the supervisor and staff. It begins with feedback on work plan achievements but includes identification of problems, possible solutions, staff needs for training and skill development, and mutual agreement on steps that will be taken by both parties to improve job performance.

Obtain feedback on workplan achievement

The attitude and communication skills of the supervisor are very important in this process. If subordinates sense that they are being criticised rather than helped, they tend to withdraw, close off communication, and become defensive. Some key principles of effective performance assessment are shown below:

- Focuses on improving worker performance
- Supportive rather than critical
- Praises accomplishments as well as identifies weaknesses
- Educational rather than judgemental
- Regularly and frequently conducted
- A collaboration between the supervisor and subordinate, not a top-down, parent-child relationship
- Based on open, frequent communication, and mutual trust
- Designed to find solutions to problems, not to fix blame for them.

Continuous performance assessment

Every encounter between a supervisor and a staff member is an opportunity to assess performance and to provide constructive feedback, guidance, and coaching. Assessments can be informal discussions about assigned tasks, built into weekly work-planning sessions, or a team review of overall accomplishments.

As already noted, individual work plans should be the basic instrument for assessment, and changes agreed upon can be incorporated immediately into the next work plan.

Although this seems obvious, it is not done as often as one would expect. Assessments are frequently based on standardised criteria that may be unrelated to the job: loyalty, neatness, morality, and civil service test scores. If a CHW's main job is to visit 413 households every month to deliver six key health messages and to identify women and children who are high-risk, then those should be the assessment criteria. Did the CHW visit all 413 households? If not, why not? Is the caseload too much? What can be done to make it possible for her to visit everyone; should everyone be visited? Did she deliver the six key messages, and were they understood? If not, why not? Are some messages unclear, unnecessary? What can be done to help her deliver the messages clearly? Did she identify all of the women and children at risk? If not, why not? Are the criteria too vague? Does she need additional training?

By using the work plans, household registers, clinic registers, and other planning and recording instruments, the supervisor and staff can continually examine performance, identify problems, if there are any, and work together to find ways to solve those problems.

Formal performance assessment

At least once a year, most organisations require a formal assessment. If performance has been assessed continually throughout the year, the formal assessment should be nothing more than a summary of those assessments.

Standardised assessment criteria

The informal, continuous performance assessments are not usually documented, however, and then a supplementary form may be needed. The following performance review form is actually the second part of the Work Planning form shown earlier (Exhibit 26). Together they make up a Work Planning - Performance Review form (WPPR). A complete form is provided in Appendix E. This form is convenient for summarizing both the general work plan and the annual assessment of performance.

Schedule a review of each task after it is completed or at the time of your annual review. Complete the self-assess-

ment and submit it to your supervisor. Make sure to discuss the assessment with your supervisor.

Exhibit 34: Excerpt from a staff performance review form

PERFORMANCE REVIEW

Self-assessment:
I believe that my performance has been very good this year. Awareness, motivation, and acceptance of PHC services all increased in my area. Several high-risk cases were referred and successfully treated, which made me feel good and also helped convince the community that our programme really works. My major problem is a lack of time. Based on the discussions we have had, I will recruit some mothers to help me visit some of the households that don't need special attention.

Supervisory assessment:
Josephine is one of the hardest working CHWs in the programme. She has made a special effort to learn how to identify high-risk infants, and that has resulted in several referrals that might otherwise have had a sad outcome. Josephine agrees that she needs to find someone to help her so that she will have more time to devote to high-risk cases. Her idea to recruit mothers is an excellent one and if it works, other CHWs may follow suit.

Supervisory approval: *M. Bustamante*
Date: *28/10/93*

Appendix B: Risk factors

Characteristics

Some health problems occur more often in certain sub-populations. For example, malnutrition often afflicts children under the age of five from poorer households. A healthy individual in a particular sub-population has a greater chance of contracting or developing health problems that are prevalent in the group. Examples of risk factors of pregnancy are early or late reproductive age, poverty, and high parity. A list of characteristics of risk factors is given below:

- Usually, risk factors reflect some kind of cause-effect relationship with the health problem, but other risk factors may reflect only the circumstances (such as geographical location in leprosy) which are associated with the development of a particular health problem. These risk factors may only indicate that a risk exists. For example, increasing age is a risk factor for developing osteoarthritis. This can only indicate that a risk exists, but is not amenable to change. Therefore, provision has to be made to cope with problems due to increasing age. Since nothing can be done to reverse the natural aging process, all one can do is learn the best ways to cope with the problems that may accompany it.
- Increased risk may be ascribed to characteristics of the individual (e.g. smoking), household (crowding, inadequate ventilation), or community (inadequate supply of drinking water).
- We see more diseases occurring and a higher IMR in the shanty towns of big cities. The people living here have a greater risk of having tuberculosis and diarrhoeal diseases than those living in other areas. In these shanty towns we usually see a high prevalence of the common risk factors (e.g., maternal illiteracy, unemployment, poor socioeconomic status, poor housing and sanitation). These reflect community risk factors.
- Often, only a combination of risk factors leads to a health problem while individual risk factors do not. For example, while most people in Pakistan are exposed to the tuberculosis organism, certain risk-groups are more likely to develop active tuberculosis. Although people may continue to be exposed to pathogens, their risk may change due to other factors. A polluted environment, for example, does not pose the same risk for adults as it does for children. This is because adults have developed immunity against a variety of pathogens.

- Many risk factors may only have harmful effects after some years, e.g., smoking, which makes their identification and control difficult.
- Risk factors may contribute to various outcomes:
- Multiparity – contributes to various complications of maternity, e.g., abnormal position of the foetus, postpartum hemorrhage, and premature birth.
- Similarly multiple risk factors can contribute to a similar outcome, e.g., first pregnancy, high parity, poor outcome of previous pregnancy, malnutrition, age of mother < 20 and > 35 years may all contribute to maternal complications.
- Risk factors often act as a chain of events. Any stage in a chain of events could be a risk factor for a subsequent stage.

Infection ———> Diarrhoea ———> Dehydration——> Death
Poverty ———> High Parity ——> Low birth weight baby

The distinction between outcome and risk factor is not always clear. Sometimes the outcome from one risk factor serves as a risk factor for something else, e.g., low birth weight is an outcome of several risk factors but acts in itself as a risk factor for diarrhoea and death.

Measures of risk

A risk factor is a characteristic pertaining to individuals or groups that is associated with an increased chance of an unwanted outcome, such as illness or death. Risk factors may either **indicate** or **cause** an outcome and form part of the chain leading to illness or death. They may be amenable to change in which case the incidence of disease will drop. Some risk factors, such as age when associated with the occurrence of an unwanted outcome, necessitate the use of methods to compensate for greater care, since these risk factors cannot be changed.

Risk factors may be measured in terms of magnitude by

- Relative Risk
- Attributable Risk

Relative Risk

The "relative risk" (RR) is a measure used to determine the association between the characteristic and the disease in an observational study. To calculate RR it is important to know the number of new cases (incidence) occuring in the area.

$$\textbf{Relative Risk} = \frac{\textbf{Incidence of disease in exposed group}}{\textbf{Incidence of disease in nonexposed group}}$$

Example:	Cases (# of those with lung cancer)		Controls (# of those without lung cancer)	
Smokers	(a)	200	(b)	300
Non-smokers	(c)	50	(d)	450
Total		250		750

Using the numerical data above the relative risk would be estimated as follows:

$$RR = \frac{\textbf{Incidence in the exposed}}{\textbf{Incidence in the unexposed}} =$$

$$= \frac{a/(a+b)}{c/(c+d)} = \frac{200/500}{50/500} = 4.0$$

This is interpreted as those who smoke are 4.0 times more at risk of developing lung cancer as those who don't smoke. A RR of 1.0 therefore means that there is no risk associated with the suspected factor. A RR < 1.0 confers a protective association with the factor.

Although incidence rates are not determined in a retrospective study (looking at past data of those who are affected and those not affected with respect to exposure status); the relative risk can be estimated by (a x d)/(b x c). This cross-product estimate or "odds ratio" (OR) can be made with either actual numbers or percentages. It is important for the cases and controls to be representative of the overall cases and controls respectively.

If you wanted to estimate the relative risk through the odds ratio, you would first have to go to existing data sources to determine the number of lung cancer cases in the community (cases). The next step would be to find controls (those without lung cancer) from records. These controls should be similar to the cases in mostly aspect except the factor that you suspect of increasing the risk of disease occurrence.

If the data in the above table were to come out from such a "case-control" design, you could use the OR to estimate the RR.

$$OR = \frac{a/b}{c/d} = \frac{a \times d}{b \times c} = \frac{200 \times 450}{300 \times 50} = 6$$

The interpretation of the OR show that the estimated RR is 6 times greater in smokers than non-smokers.

Attributable Risk

This measure of association is influenced by the frequency of a characteristic in the population. It is the additional incidence of disease following exposure over and above that experienced in an unexposed group.

The attributable risk (AR) is useful for PHC teams as it helps to estimate the extent that a specific factor contributes to a particular disease. As such, AR can be used to predict the impact a of control programme in reducing the disease incidence by reducing exposure to the factor.

The AR can be calculated using the formula:

Attributable risk (AR) = Incidence in an exposed group — Incidence in a non-exposed group

AR can also be calculated from a formula which uses relative risk:

$$AR = \frac{b\,(r-1)}{b\,(r-1)+1} \times 100$$

where r = relative risk
b = proportion of the total population with the characteristic

Thus the AR depends on the frequency of a characteristic in a population and the relative risk for disease given this characteristic.

Example: The proportion of the total population that smokes cigarettes is 30%, i.e. 0.3, and the RR (as determined in the above example) is 4.0, the Attributable Risk (AR) is

$$AR = \frac{0.3\,(4.0-1)}{0.3\,(4.0-1)+1} \times 100 = 0.47 \text{ or } 47.4\%$$

The interpretation is that smoking cigarettes contributes to 47% of lung cancer, while the remaining 53% is probably due to other risk factors.

Risk factors for selected diseases

The following reference sheet can serve as an information source for risk factors associated with the more common diseases.

Reference sheet for risk factors for selected diseases (continued pages 88-89)

Biological	Environmental	Socio-economic	Behavioural	Health care-related
Malnutrition				
• *Age* • *Malabsorption* • *Infections* • *Pregnancy-related nutritional disorders* • *Infections and disease during pregnancy* • *Decreased gut immunity due to lack of breast feeding*	• *Unsanitary conditions* • *Drought* • *Desertification*	• *Poverty* • *Illiteracy* • *Large family* • *Working mothers* • *Violence/war*	• *Feeding boys before girls* • *Preference of adults in food distribution* • *Unwillingness to weigh children due to belief in evil eye* • *Attributing malnutrition to supernatural causes and not food-related* • *Breast feeding boys longer than girls* • *Diet* • *Inactivity, smoking, etc.* • *Dietary beliefs*	• *Lack or improper antenatal care* • *Distant health care facility* • *Drugs* • *Lack of drugs and diagnostic equipment* • *Other diseases which are untreated* • *Inadequate use of services*
Diarrhoea/dehydration				
• *Age* • *Malabsorption* • *Infections/infestations* • *Gut immunity soon after birth* • *Malnutrition*	• *Unsanitary* • *Lack of water supply* • *Lack of access to clean water*	• *Poverty* • *Illiteracy* • *Working mothers* • *Larger families*	• *Improper hand washing* • *Bottle feeding* • *Delayed initiation of breast feeding* • *Withholding food during diarrhoea* • *Beliefs in spiritual healing* • *Diet* • *Inadequate use of ORS and other service*	• *Distant health care/facility services* • *Lack of ORS, drugs* • *Other untreated diseases* • *Inadequate health care delivery system with no education* • *Prescription for anti-diarrhoeal to stop diarrhoea*

Reference sheet for risk factors for selected diseases (continued page 89)

Biological	Environmental	Socio-economic	Behavioural	Health care-related
Immunizable Diseases				
• *Immune system deficiency* • *H/o seizures*	• *Unsanitary conditions* • *Lack of water*	• *Poverty* • *Illiteracy* • *Large family*	• *Fear of complication of immunization* • *No need for immunization, as previous generations have survived without it* • *Belief that the TT for adult women is really a contraceptive* • *Belief that immunizable diseases are not preventable*	• *Access to services* • *No outreach* • *Improper cold chain* • *Untrained personnel* • *Lack of supplies* • *Lack of education of people regarding immunization* • *Lack of diagnostic treatment of cases*
Breast feeding				
• *Malnourished mother* • *Cracked, inverted nipples* • *Breast abscess* • *Cleft palate* • *Anxious mother* • *Quick secession of pregnancy* • *Malabsorption* • *Cerebral palsy in infant*	• *Advertisement of formula milk*	• *Poverty* • *Illiteracy* • *Working mothers*	• *Beliefs of hot/cold imbalance bad milk, etc.* • *Peer pressure or pressure from in-laws* • *Belief that colostrum is bad* • *Delayed initiation* • *Belief of insufficient mother's milk* • *Bottle fed babies are fat babies* • *Convenience of bottle feeding*	• *Failure to advise breast feeding* • *Improper or lack of breast care in pregnancy* • *Failure to advise family spacing* • *Advocating bottle (top feeds/ formula feeds)*

Reference sheet for risk factors for selected diseases

Biological	Environmental	Socio-economic	Behavioural	Health care-related
Maternal mortality				
• *Irregular menstrual cycle* • *Suppressed lactation leading to quick pregnancy* • *Short maternal structure* • *Previous H/o caesarian section*	• *Sanitary* • *Drought/famine*	• *Illiteracy* • *Potential earning members* • *Poverty* • *Large families*	• *Early age of marriage* • *Religious taboo* • *Man's strength lies in ability to procreate* • *Mother's strength lies in ability to bear children (fertile) especially sons* • *Improper diet* • *Improper use of services*	• *Distant health care facilities* • *Expense of contraceptive* • *Supplies not available* • *Improper/lack of training on use of contraceptives of workers in FP methods* • *Targeting mainly couples who have completed their families for FP* • *Failure to advise FP to those in need* • *Failure to advise breast feeding* • *Inability to reduce child mortality* • *Untrained TBAs (improper delivery practices)*
ARI				
• *Decreased immunity* • *Cerebral palsy* • *Drug resistance*	• *Unhygienic condition* • *Variation in humidity*	• *Poverty* • *Illiteracy* • *Large family/ crowding*	• *Spitting on ground* • *Smoking* • *Beliefs of illness causation and subsequent training*	• *Improper training of health workers* • *Lack of treatment of facilities, e.g., drugs*

Appendix C: Assessment of community health facilities

The purpose of these instruments is to gather basic information about the availability, accessibility, and adequacy of health facilities in the programme catchment area. The first instrument can be used to identify and gather accessibility information about public and private health facilities (hospitals, health centers, dispensaries, and so forth). The second instrument can be used to take a quick inventory of the type of services offered by a facility.

C 1: Identification of community health facilities

- Community: _____
- Union council: _____
- Name of surveyor: _____
- Name of the village headman/community leader: _____

_____

- Facility survey

Sl no.	Facilities	In community Y/N	Accessible to community Y/N	Approximate distance
6.	Government health facility			
7.	D.C. dispensary			
8.	Private dispensary			
9.	Boys school			
10.	Girls school			

11. How far away is the nearest health unit or health worker?
_____(1) < 5 km/60 min. walk _____(2) > 5 km/60 min. walk
_____(9) DK/NR

12. Which of the following health services are available?
12.1 Maternal and child health
_____(1) Yes _____(0) No _____(9) DK/NR
12.2 Family planning
_____(1) Yes _____(0) No _____(9) DK/NR

12.3 Immunization
_____(1) Yes _____(0) No_____(9) DK/NR
12.4 Medical care services
_____(1) Yes _____(0) No_____(9) DK/NR

13. Where are the nearest emergency care facilities? (Probe for correct answer)
_____(1) Yes (respondent knows correct answer)
_____(2) No (respondent does not know correct answer)
_____(9) DK/NR

14. Locally available resources:

Personnel	Yes/No	Quantity
14.1 Trained TBA		
14.2 Untrained TBA		
14.3 Teachers		
14.4 Dispenser		
14.5 Compounder		

15. Is there any social organisation in the village?
_____(1) Yes_____(0) No_____(9) DK/NR

15.1 If yes, specify: _____

15.2 How many members does it have? _____

16. Is there a bus to town at least twice a day?
_____(1) Yes_____(0) No_____(9) DK/NR

17. Does somebody in the village own a car or vehicle?
_____(1) Yes_____(0) No_____(9) DK/NR

18. Is that vehicle used as an ambulance in emergencies?
_____(1) Yes_____(0) No _____(9) DK/NR

19. How far is it from village to main road from where one can get the transport? _____

20. Is there any electricity in the village?
_____(1) Yes _____(0) No_____ (9) DK/NR

21. Any other important information about village? _____
_____

C 2: Community health facility inventory

Fill this inventory out for each health facility in the catchment area.

1. Type of facility: _____ 3. Total population in catchment area: _____

2. Catchment area: _____ kms 4. Type of service and referrals: _____

Function	Provision of services*	Number of patients seen/year	Number of patients referred onward
1. Outpatient medical services			
1.1 Curative care			
1.2 Maternal care			
1.3 Dental care			
1.4 TB clinics			
1.5 Injections			
1.6 Dressings			
1.7 Dispensary/pharmacy			
1.8 Minor surgery			
2. Preventative/promotive services			
2.1 EPI			
2.2 Diarrhoeal diseases control			
2.3 Growth monitoring			
2.4 Family planning			
2.5 Health education			
3. Inpatient medical services			
3.1 Medical			
3.1.1 Male			
3.1.2 Female			
3.2 Surgical			
3.2.1 Male			
3.2.2 Female			
3.3 Paediatric			
3.4 Eye			
3.5 Labour room			
4. Diagnostic services			
4.1 Laboratory			
4.2 X-rays			
5. Training			
5.1 TBA training			
5.2 CHW training			
5.3 Dispenser training			

* Codes: 1. Centre 2. Outreach 3. Both centre and outreach

6. Do you encounter major problems with

6.1	Drugs	(1) Yes	(2) No
6.2	Vaccines	(1) Yes	(2) No
6.3	Staff shortage	(1) Yes	(2) No
6.4	Equipment	(1) Yes	(2) No
6.5	Vehicles	(1) Yes	(2) No

7. What transport is available at the centre (please check all that apply)

7.1	Ambulance	(1) Yes	(2) No
7.2	Car	(1) Yes	(2) No
7.3	Motorcycle	(1) Yes	(2) No
7.4	Bicycle	(1) Yes	(2) No
7.5	Others	(1) Yes	(2) No

8. Staff positions:

Category	Staff positions					
	Sanctioned		Posted		Vacant	
	M	F	M	F	M	F

Appendix D: CHW activity register

Instructions for filling out the CHW activity register

Form location:	Health centre
Data recorder:	Community health worker
Data provider:	Adult female family member taking care of the children in the family and CHW
Supervisor:	Lady Health Visitor (LHV)/Community Health Nurse (CHN)
Initial recording:	1st month of the year
Updating:	During routine home visits

Purpose

- To help CHW monitor the health status of her target population
- To help CHW evaluate her own performance
- To help LHVs/CHNs identify problems and support the CHW
- To help in summarising information for preparation of quarterly reports

Procedure

- **Initial recording**

To be filled by the CHW at the **beginning of each year** using the family folders. Information on new births, newly married women and migration-ins should be included when they become a part of the registered population. Children reaching an age greater than three years, women who come out of the married child bearing age category and migration-outs should be excluded by crossing out the ID and making a note in the remarks.

Serial No.	Serial number given to each family listed
House No.	Sector (division) number and house (structure) number separated by a point, e.g., S.123, AF.266. -where **S** and **AF** are the sector numbers and **123** and **266** are house numbers
I.D. No. 3	I.D. of under 3 child. e.g., **C1**
Married women	I.D. of married women e.g., **M** (extreme right)

- **Children < 3 years of age**

1 **Age of child.** Three years at the beginning of the quarter in years and months separated by a point, e.g. 2.6 (i.e., 2 years and 6 months)

2, 3 and 4 **Newly identified live births.** Birth date (dd/mm/yr) of all new borns identified during the visit. (Enter the child's information in family folder and make a yellow child growth card for the mother). The births recorded in this column do not necessarily have to have occurred during the month/quarter the visit took place. For example, the birth date of a child born in a registered household and identified three months after the birth should also be recorded in this column in the quarter that the child was identified. However, the age of the child at the beginning of the quarter should be recorded in the age column.

Birth weight of child if child was weighed within 48 hours after birth. Circle if the child was a low birth-weight baby, that is < 2.5 kg.

Still birth. Date of delivery of the stillborn child. A still birth is a child born dead during or after the seventh month of pregnancy.

5 **Weight** of < 3 child in first month of the quarter.

6-8 **Weight change.** Appropriate code for change in weight of the child compared with its weight in the previous month:

Code:

+	=	gain
0	=	stable
-	=	loss
NW	=	not weighed

9 **Nutritional status.** Appropriate code for nutritional status of the child last month of quarter.

Code:

N	=	normal
I	=	First degree (mild) malnourished
II	=	Second degree (moderately) malnourished
III	=	Third degree (severely) malnourished

10 **Immunization.** Appropriate code for immunization status, last month quarter of children < 1 year.

Code:

C = Complete with BCG, DPT/polio (1,2 &3) and measles

A = Appropriate # of doses of vaccines for age of the child according to the following schedule.
At birth: BCG
1 ½ months (6 wks): 1st dose DPT and polio
2 ½ months (10 wks): 2nd dose DPT and polio
3 ½ months (14 wks): 3rd dose DPT and polio
9 months (40 wks): measles

IC = At least one dose but not appropriately immunized for age (incomplete)

N = No immunization (none)

- **General**

11-13 **Date of visit.** Date of first positive visit, i.e., when mother is available during the visit, under the appropriate month.

14 **Deaths.** ID of all identified deaths that occurred at anytime during the quarter. Record the approximate date and age at the time of death in the family folder.

The deaths recorded in this column do not necessarily have to have occurred during the month/quarter the visit took place. For example, if the death of an individual who died in October is identified in January, then record the death in the January-March quarter; but write the month of death next to the ID.

- **Married women 15-49 years**

15, 16 and 18 **Pregnant.** If the woman is pregnant, record month of pregnancy

17 **Family planning.** Tick for couples practicing family planning last month of quarter.

19 **Immunization status** (for all women last month of quarter): Appropriate code for tetanus toxoid.

20 **Delivered** (any time during quarter). Appropriate code for tetanus toxoid immunization status of woman who delivered in this quarter.

Code:

C = **Married women:** Completed two doses of TT,
Women who delivered: Complete with two doses during pregnancy. Or two doses before pregnancy and a booster dose during pregnancy (at least 15 days before delivery) till a maximum of five doses of TT

IC = **Married women:** Only one dose of TT (incomplete) for women who delivered. No doses before pregnancy and only one dose during pregnancy or one to four doses before pregnancy and no dose during pregnancy

N = **All women:** No dose of TT (none)

- **No. of family members**

  Total number of family members in the household. Update as and when this changes.

- **Totals**

  Total the columns according to the following schedule:
  1st month of the quarter: Column # 1, 6 and 11
  2nd month of the quarter: Column # 1, 7 and 12
  End of quarter: Column # 1, 2, 3, 4, 6, 8, 9, 10, 13, 17, 18, 19, 20, 21 and 22.

Exhibit 15: CHW activities register (continued, page 100)

			Children < 3 years									
Srs.	Household No.	ID No.	Age	Newly identified birth (Jan.-Mar.)			Jan.		Feb.	March		
				Live		Still	Wt.	* Wt.	* Wt.	* Wt.	**Nut St.	***Imm St.
				DT	BW	DT		Ch	Ch	Ch		(<1)
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Total												

* WEIGHT CHANGE
+ = Increase in weight
O = Same weight
– = Decrease in weight

** NUTRITION STATUS
N = Normal
I = First degree malnourished
II = Second degree malnourished
III = Third degree malnourished
NW = Not weighed

Exhibit 15: CHW activities register

Date of visits				Deaths	Married women							
Srs.	Jan.	Feb.	Mar.	Jan.- Mar.	Jan.	Feb.	March		***Immunization status		ID #	Number of family mambers
				ID#	PR	PR	FP	PR	All	DLVD		
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)

*** IMMUNIZATION STATUS
- C = Complete
- IC = Incomplete for age
- A = Appropriate for age
- N = No immunization
- NB = New born

- BW = Birth weight
- LBW = Low birth weight
- PR = Pregnancy month of pregnant woman
- DLVD = Women who have delivered during the quarter
- FP = Family planning
- DT = Date

Appendix E: Blank worksheets

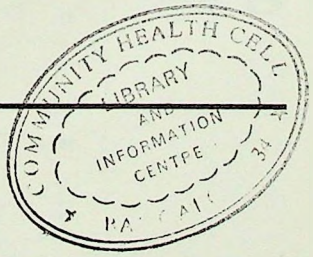
Exhibit 1: Worksheet for defining catchment area

a) Select criteria to define the boundaries of your catchment area.
- _____ Fixed distance of____ kms around health facility
- _____ Administrative unit (specify level and name) _____(sub-district) in _____(district)
- _____ PHC service target group, socio-economic or geographically defined population
- _____ A practically defined population (please specify)

b) Define sub-catchment areas for different services:
- _____ Curative care
- _____ MCH
- _____ Family planning
- _____ TB
- _____ Other

Exhibit 2: Worksheet for describing catchment area

Level	Information	Data sources
District		
Facility		
Community or village		



PHC-100
10641
N93

Exhibit 3: District level map - Map A

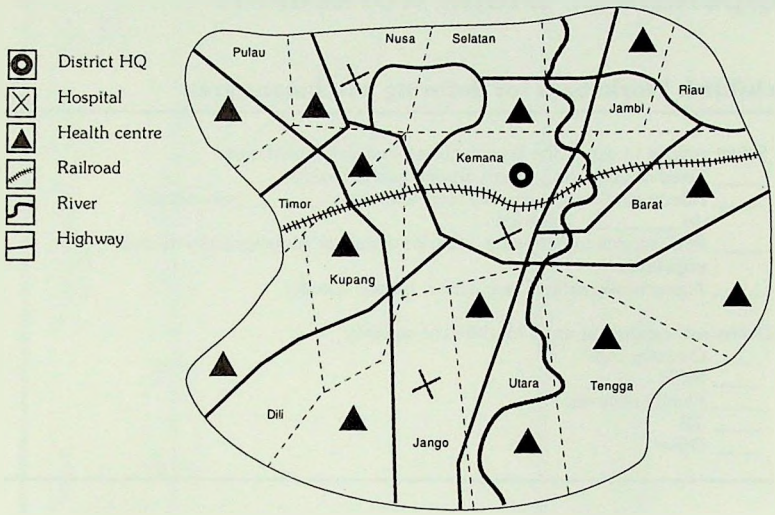


Exhibit 4: Health facility level map - Map B

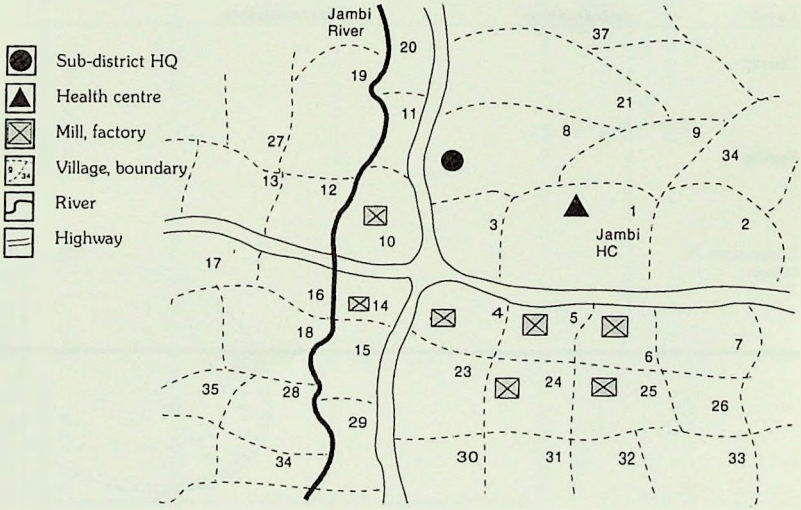


Exhibit 5: Community/village level map -Map C

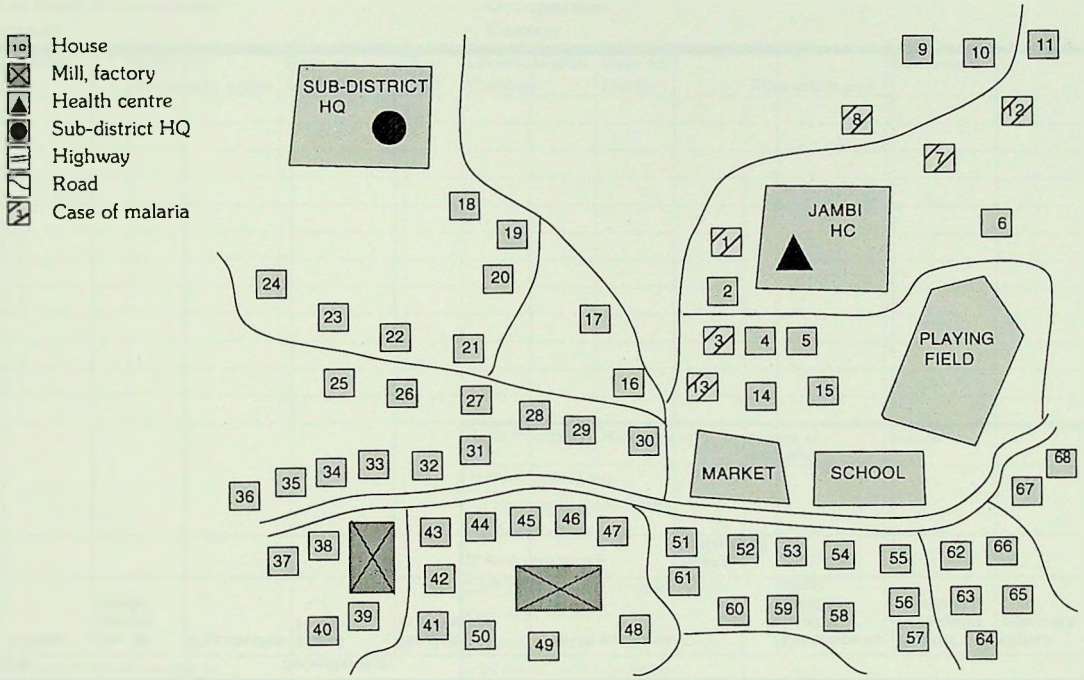


Exhibit 8: Worksheet for determining indicators and source of indicators

INDICATORS	SOURCE
1. Health status indicators	
2. Demographic indicators	
3. Risk factors	
4. Health service-related	

Exhibit 9: Worksheet for setting priorities among health problems

INSTRUCTIONS:

- List the different health-related problems.
- Select the criteria used to assess the magnitude and importance of the problem (e.g., prevalence, seriousness, etc.).
- Decide what scale to use for scoring, i.e., 0-4 or 0-10, etc., and the method to use for totalling (addition or multiplication).
- Assign scores to each problem for the different criteria and calculate the totals.

WORKSHEET FOR SETTING PRIORITIES AMONG HEALTH PROBLEMS						
Health problems	**Criteria**					**Scoring method**

Exhibit 10: Risk factors

Biological	Environmental	Socio-economic	Behavioural	Health care-related

Exhibit 11: Worksheet to develop risk profiles of households

CONDITIONS	SCORE IF PRESENT	HOUSEHOLD NO.			
Total risk score					

Rating scale: **Low risk** 0-3 **Moderate risk** 4-6 **High risk** >7

Exhibit 12: Worksheet for identifying services, strategies and activities

Service/component	Strategy	Activities		
		List	Who will do it	How and when

Exhibit 13: Planning PHC activities (continued, page 112)

Services/activities needed			Manpower			Logistics/supplies			Optimal level of services given resource constraints
A. Community-based	Target group	Frequency	Required		Available	Required		Available	
			Type	Number (FTEs)		Type	Amount		
B. Outreach									

Exhibit 13: Planning PHC activities

Services / activities needed			Manpower			Logistics / supplies			Optimal level of services given resource constraintS
C. Clinic-based	Target group	Frequency	Required		Available	Required		Available	
			Type	Number (FTEs)		Type	Amount		
Total									

Exhibit 14: Worksheet to determine staff requirements

Number of households in PHC catchment area = ?

Frequency for visiting each household = ?

Number of days when outreach will be provided = ?

Staff capacity per month = days/month x HH visits/day per CHW
Staff capacity = ?

Staff requirement = HHs to be covered/staff capacity per month
Staff requirement = ?

Exhibit 15: CHW activities register (continued, page 115)

			Children < 3 years									
Srs.	Household No.	ID No.	Age	Newly identified birth (Jan.-Mar.)			Jan.		Feb.	March		
				Live		Still	Wt.	* Wt.	* Wt.	* Wt.	**Nut St.	***Imm St.
				DT	BW	DT		Ch	Ch	Ch		(<1)
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Total												

* WEIGHT CHANGE
+ = Increase in weight
O = Same weight
– = Decrease in weight

** NUTRITION STATUS
N = Normal
I = First degree malnourished
II = Second degree malnourished
III = Third degree malnourished
NW = Not weighed

Exhibit 15: CHW activities register

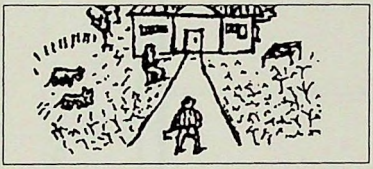
Date of visits				Deaths	Married women							
Srs.	Jan.	Feb.	Mar.	Jan.- Mar.	Jan.	Feb.	March		***Immunization status		ID #	Number of family mambers
				ID#	PR	PR	FP	PR	All	DLVD		
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)

*** IMMUNIZATION STATUS
C = Complete
IC = Incomplete for age
A = Appropriate for age
N = No immunization
NB = New born

BW = Birth weight
LBW = Low birth weight
PR = Pregnancy month of pregnant woman
DLVD = Women who have delivered during the quarter
FP = Family planning
DT = Date

Exhibit 16: CHW activity record (continued, page 117)

Name of CHW: _____ Village: _____ Month: _____



Homes visited this month

○○○○○○○○○
○○○○○○○○○
○○○○○○○○○

Meetings attended this month

○○○○○○○○○
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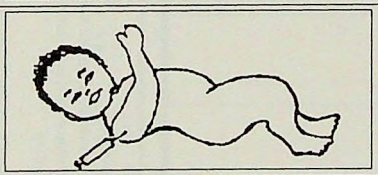

Children who have completed vaccination

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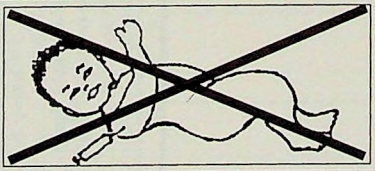
○○○○○○○○○



Children who have not had a single immunisation

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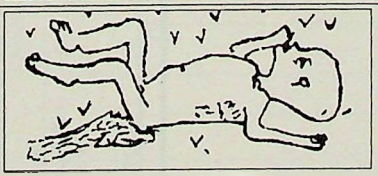
○○○○○○○○○



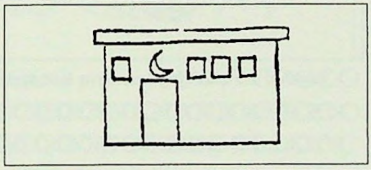
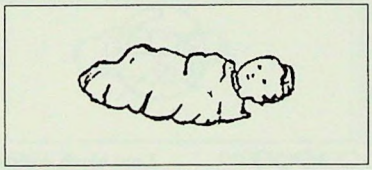
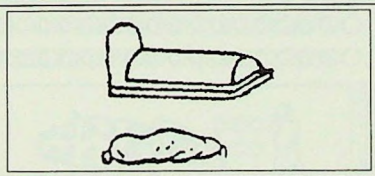
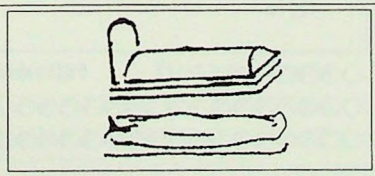
Children suffering from diarrhoea

○○○○○○○○○
○○○○○○○○○
○○○○○○○○○

INSTRUCTIONS: Fill one circle for every case

Exhibit 16: CHW activity record

Name of CHW: _____ Village: _____ Month: _____

	Children identified malnourished this month	○○○○○○○○○ ○○○○○○○○○ ○○○○○○○○○
	Children suffering from ARI	○○○○○○○○○ ○○○○○○○○○ ○○○○○○○○○
	Number of referrals made	○○○○○○○○○ ○○○○○○○○○ ○○○○○○○○○
	Children born this month	○○○○○○○○○ ○○○○○○○○○ ○○○○○○○○○
	Children who died this month	○○○○○○○○○ ○○○○○○○○○ ○○○○○○○○○
	Mothers who died this month	○○○○○○○○○ ○○○○○○○○○ ○○○○○○○○○

INSTRUCTIONS: Fill one circle for every case

Exhibit 17: TBA monthly record (continued, page 119)

Year: _____ Month: _____ Division: _____ TBA name: _____

○○○○○ **Deliveries assisted**

○○○○○○○○○○○○○○○○○○○○

○○○○○○○○○○○○○○○○○○○○

○○○○○ **Abortions**

○○○○○○○○○○○○○○○○○○○○

○○○○○○○○○○○○○○○○○○○○

○○○○○ **Antenatal visits**

○○○○○○○○○○○○○○○○○○○○

○○○○○○○○○○○○○○○○○○○○

○○○○○ **Family planning accepted**

○○○○○○○○○○○○○○○○○○○○

○○○○○○○○○○○○○○○○○○○○

○○○○○ **Postnatal visits**

○○○○○○○○○○○○○○○○○○○○

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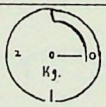


○○○○○ **Low birth weight**

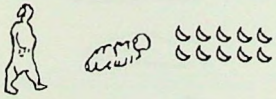
○○○○○○○○○○○○○○○○○○○○

○○○○○○○○○○○○○○○○○○○○

○○○○○ **Antenatal referral**

○○○○○○○○○○○○○○○○○○○○

○○○○○○○○○○○○○○○○○○○○



○○○○○ **Full term**

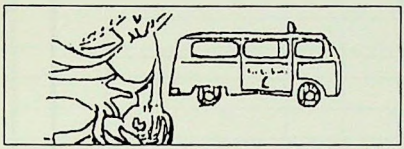
○○○○○○○○○○○○○○○○○○○○

○○○○○○○○○○○○○○○○○○○○

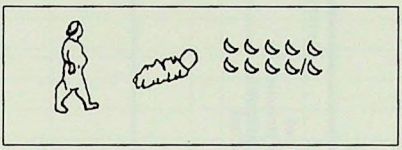
INSTRUCTIONS: Fill one circle for every case

Exhibit 17: TBA monthly record

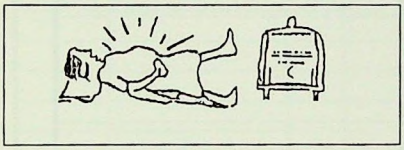
Year: _____ Month: _____ Division: _____ TBA name: _____



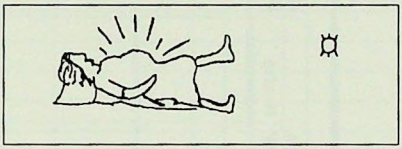
Postnatal referral



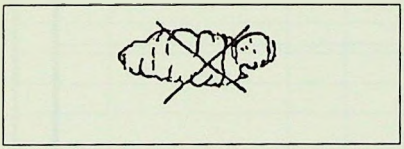
Pre-term



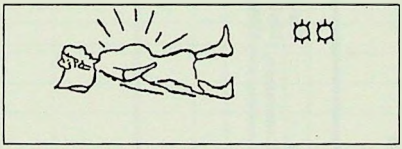
Referral in labour



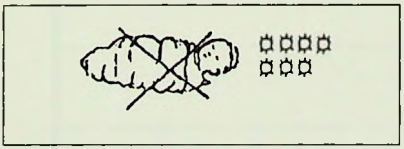
Normal labour



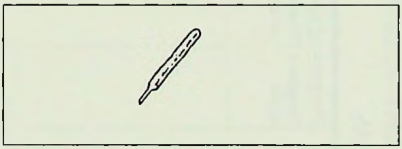
Still births



Prolonged labour



First week deaths



Puerperal fever

INSTRUCTIONS: Fill one circle for every case

Exhibit 18: LHV activity register

Name of LHV: **Month:**

Date	Village	Purpose of visit										Actions taken
		Support visit	Training session	Meeting		Visit high risk	Sessions on			Others (specify)	No. of participants or persons visited	
				CHWs	Community		IMM	GMP	Health education			

Exhibit 19: Target list of women to be immunized

Reg.#	Name	Age	Preg-nant	TT1	TT1 Date	TT2	TT2 Date	Booster	Booster Date

Exhibit 20: Individual medical record

INDIVIDUAL MEDICAL RECORD

(Fill this form for every encounter)

Name: Date of visit:

1. History:

2. Physical examination: T:____ P:____ BP:____ R:____

3. Assessment:

4. Plan:

Investigation	Treatment

Exhibit 21: Individual medical record

Household #:	Individual #:	Medical record#:	
Patient Name:		Father/husband name:	
Date of birth:	Sex (M/F)	Height:	Weight
Past history:	Diagnosis	Hospitalisation	Medication
Drug allergies: Y/N (specify):			
Family history (check appropriate boxes):	Smoking___	Alcohol___	Drug use___ Occupation___
Personal history (check appropriate boxes):	Smoking___	Alcohol___	Drug use___ Occupation___

VISIT DATES																				
1 Tuberculosis																				
2 Polio																				
3 Diph./pertus./tetanus																				
4 Measles																				
5 Mumps																				
6 Malnutrition																				
7 Diarrhoea/dysentary																				
8 Intestinal parasites																				
9 Hepatitis/jaundice																				
10 URTI																				
11 Pneumonia/bronch (LTRI)																				
12 Other LTRI/asthma																				
13 Skin problems																				
14 UTI																				
15 Fever > 5 days																				
16 Pregnancy-related problem																				
17 Anaemia																				
18 FP complications																				
19 Gynaecological problems																				
20 Hypertension/ischaemic																				
21 Diabetes																				
22 Musculoskeletal disorders																				
23 Mental illness																				
24 Dental problems																				
25 Eye problems																				
26 Errors of refraction																				
27 Ear problems																				
28 Accidents/injuries																				
29 Handicaps																				
30 Other																				

Exhibit 22: Daily clinical treatment record

Name of clinic: Date:	MO/CHN:										Registered:
	1	2	3	4	5	6	7	8	9	10	Total
Household No./Reg. No.											
ID #:											
Sex: M/F											
Age: (Years)											
< 1											
1-5											
6-15											
16-49											
Over 49											
Routine ANC											
Routine well-baby											
1 Tuberculosis											
2 Polio											
3 Diph./pertus./tetanus											
4 Measles											
5 Mumps											
6 Malnutrition											
7 Diarrhoea/dysentary											
8 Intestinal parasites											
9 Hepatitis/jaundice											
10 URTI											
11 Pneumonia/bronch. (LTRI)											
12 Other LRTI/asthma											
13 Skin problems											
14 UTI											
15 Fever > 5 days											
16 Pregnancy related problem											
17 Anaemia											
18 FP complications											
19 Gynaecological problems											
20 Hypertension/ischaemic											
21 Diabetes											
22 Musculoskeletal disorders											
23 Mental illness											
24 Dental problems											
25 Eye problems											
26 Errors of refraction											
27 Ear problems											
28 Accidents/injuries											
29 Handicaps											
30 Other (Specify)											

REFERRED BY (Code**) *F = First visit for a disease *R = Repeat visit for the same disease
REFERRED TO (Code***) **1. CHW 2. TBA 3. Others (specify) ***1. Azam Basti 2. AKU 3. Other (specify)

Exhibit 23: Drug supply (continued, page 126)

	Name of centre:	Previous balance	Rec'vd	Total	Dates	Issued	Balance	Cost
1	Acetyl Salicylic Acid Tab. 300 mg							
2	Aluminum and Magnesium Hydroxide Tabs.							
3	Aminophyllin Tab. 100 mg							
4	Benzyl Benzoate 25% solution							
5	Betamethasone Cream							
6	Buscopan 10 mg Tabs.							
7a	Chloramphenicol Eye Ointment							
7b	Chloramphenicol Syrup							
7c	Chloramphenicol Capsule							
7d	Chloramphenicol Eye Drops (Btls)							
8a	Chloroquin Syrup							
8b	Chloroquin Tab. 250mg							
9a	Cotrimoxazole (Double strength)							
9b	Cotrimoxazole Syrup							
10	Chlorpheniramine Tabs. 4 mg							
11	Diazepam 5 mg. Tabs. (Relaxipam)							
12a	Ferrous Sulphate Tabs. 200 mg.							
12b	Ferrous Sulphate Syrup							
13	Folic Acid Tabs. 5 mg							
14	Gradinal Sodium Tabs. (Phenobarb)							
15	Gentian Violet 1% Aqueous Solution							
16	Mefanamic Acid Tabs. (Ponstan)							
17	Metronidazole Syrup							
17a	Metronidazole Tab. 200 mg							

| | | |

Exhibit 24: Role and tasks list

PHC programme goals:

Service objectives:

Strategies:

Position title	Role	Tasks	Experience	Ability/skills

Exhibit 25: Job description

1. POSITION TITLE	2. POSITION STATUS 2.1 Full-time a. Permanent 2.2 Part-time b. Temporary	DATE OF PREPARATION
4. POSITION SUMMARY		
5. REPORTS TO	6. POSITIONS DIRECTLY SUPERVISED BY INCUMBENT	
7. SPECIFY REQUIREMENTS: 7.1 Education/professional qualifications 7.2 Experience and training 7.3 Knowledge, skills, ability		
8. DESCRIPTION OF DUTIES/RESPONSIBILITIES: List duties under two separate headings: REGULAR DUTIES and PERIODIC DUTIES: A. REGULAR DUTIES/RESPONSIBILITIES B. PERIODIC DUTIES/RESPONSIBILITIES		% TIME SPENT
9. PREPARED BY:	10. REVIEWED BY:	

Exhibit 27: Gantt chart

	Months									
Activities No	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**June**	**July**	**Aug**	**Sep**	**Oct**
1										
2										
3										
4										
5										
6										
7										

Exhibit 28: Weekly work plan and schedule

Time	Monday	Tuesday	Wednesday	Thursday	Friday
07:00					
08:00					
09:00					
10:00					
11:00					
12:00					
13:00					
14:00					
15:00					
16:00					
17:00					
18:00					

Exhibit 29: Bi-weekly CHN workplan and schedule

Tasks:	Days									
	Mo	Tue	We	Th	Fri	Mo	Tu	We	Th	Fri
General clinic										
Community education										
Prenatal										
Immunization										
Reports										
PHC meeting										
Lane meeting										
Continuing ed										
Home visits										
High-risk visits										
Lane meeting										
Community meetings										

Exhibit 30: Coordinated schedules of several workers

MONTH	CHW A	CHW B	CHW C	CHW D
January				
February				
March				
April				
May				

Exhibit 31: Simplified CHW monthly work plan

Day	Schedule	Day	Schedule
1		16	
2		17	
3		18	
4		19	
5		20	
6		21	
7		22	
8		23	
9		24	
10		25	
11		26	
12		27	
13		28	
14		29	
15		30	
		31	

Exhibit 32A: To-do list

Time	To Do Today
07:00	
08:00	
09:00	
10:00	
11:00	
12:00	
13:00	
14:00	
15:00	
16:00	
17:00	
18:00	
19:00	
20:00	

Exhibit 32B: To-do list

Tasks Priorities	To Do Today
1	
2	
3	
4	
5	
6	

Exhibit 33: Duty roster

Month	Mon	Tue	Wed	Thurs	Fri

Exhibit 34: Work plan performance review instructions

Purpose: The purpose of the WPPR system is to make sure that you and your supervisor have a common understanding of your assignments, performance expectations, and actual performance. This system was designed to help you as much as your supervisor. It is your responsibility to keep your WPPR up to date and to schedule work planning and performance reviews with your supervisor.

Work plan: Prepare a work plan with your supervisor. Prepare a separate plan for each task. List the major subtasks and performance expectations for each sub-task. There are no set number of sub-tasks, but 3-5 is common. Each time you are given a new task you should prepare one of these work plans.

Performance review: Schedule a review of each task after it is completed, or at the time of your annual review. Complete the self-assessment and submit it to your supervisor. Make sure to discuss the assessment with your supervisor.

WORK PLAN
Name of person preparing work plan: Performance period: Task No.____ of ____
Statement of task assignment: Key sub-tasks and deadlines: 1. 2. 3. 4. 5.
Performance expectations, standards of performance: 1. 2. 3. 4. 5.
Name of supervisor on this task: Work plan approved by supervisor: *Date* _____

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World Health Organization. *On being in charge: a guide for middle level management in primary health care.* Geneva, 1980.

Wolff, J. A., et. al. (eds). *The family planning manger's handbook: Basic skills for managing family planning programs.* Kumarian Press, Hartford, 1991.

Acronyms and abbreviations

AIDS	Acquired Immune Deficiency Syndrome
AA	Administrative assistant
AKF	Aga Khan Foundation
AKU	Aga Khan University
ANC	Antenatal care
CBR	Crude birth rate
CDR	Crude death rate
CHD	Community health doctor
CHN	Community health nurse
CHW	Community health worker
CO	Community organiser
EPI	Expanded Programme for Immunization
FTE	Full time equivalent
FP	Family planning
GM	Growth monitoring
HH	Household
IEC	Information, education, communication
IMM	Immunization
IMR	Infant mortality rate
KAP	Knowledge, attitudes, practices (behaviour)
LHV	Lady health visitor
LRTI	Lower respiratory tract infection
MCH	Maternal and child health
MIS	Management information system
MOH	Ministry of health
NGO	Non-governmental organisation
OR	Odds ratio
ORS	Oral rehydration salts
ORT	Oral rehydration therapy
PHC	Primary health care
PHC MAP	Primary Health Care Management Advancement Programme
RR	Relative risk
SP	Security person
TB	Tuberculosis
TBA	Traditional birth attendant
TFR	Total fertility rate
TT	Tetanus toxoid
URTI	Upper respiratory tract infection
UTI	Urinary tract infection
WPPR	Work-planning performance assessment

Glossary

Catchment (area): The geographic area surrounding one or more health facilities or service provision sites. It refers to the population residing in that area, which includes all or a portion of the programme's target population.

Community: A group of people having common organisation or interests or living in the same place under the same laws.

Community health worker (CHW): A person indigenous to the community who provides basic health promotion disease prevention and selected curative health services to members of the community. Includes village health workers, health guides, LHVs and other terms.

Coverage: The percent of a target group that has received a service or is protected from a disease or health problem.

Effectiveness: The degree to which desired outcomes are achieved.

Efficiency: The degree to which desired outcomes are achieved without wasting resources.

Goals: The impact your programme hopes to have on health. Goal statements specify improvements desired, target groups, amount of change expected and date for achievement.

Incidence: The number of new cases of a disease in a defined population during a specific period of time.

Indicator: An indirect measure of an event or condition. For example, a baby's weight-for-age is an indicator of the baby's nutritional status.

Inputs: Resources (personnel, materials, equipment, information and money).

Institution: An established organisation, group, agency or other formal entity.

Management: The art and science of getting things done through people.

Objectives: The output and/or effect that a programme hopes to achieve.

Outcomes: Results of programme, including outputs, effects and impacts.

Outputs: Products and services provided by a PHC programme

Effects: Changes in knowledge, skills, attitudes and behaviour, (including coverage) as a result of a PHC programme.

Impacts: Changes in health status, (mortality, morbidity, disability, fertility) as a result of a PHC programme.

Percentage: A proportion multiplied by 100. For example 3,500 children immunized out of 5,000 x 100. (3,250/5,000) * 100 = 65%.

Performance: The actual output and quality of work performed.
Prevalence: The total number of cases of a disease in a defined population at a specified point in time. Also used with "coverage," as with the "contraceptive prevalence rate," meaning the proportion of the target population that is currently practising family planning.
Primary health care: Essential health care, accessible at affordable cost to the community and the country, based on practical, scientifically sound and socially acceptable methods. It includes at least eight components: health education, proper nutrition, clean water and basic sanitation, maternal and child health care, immunization, control of common diseases and injuries, prevention of local endemic diseases, and supply of essential drugs.
Processes: Activities or tasks carried out in programme.
Proportion: A special type of ratio expressing a relationship between a part and the whole. For example, 3,250 children immunized out of 5,000 (3,2500/5,000 = .65).
Rate: A measure of the frequency of occurrence of an event, such as cases per month.
Ratio: Two numbers related to each other in a fraction or decimal, such as the number of cases of measles per 1,000 children. Any fraction, quotient, proportion, or percentage is a ratio.
Register: A written or printed record containing regular entries of events or other items, such as name, address, births, deaths, symptoms, treatments given, and so forth. Typical registers are for households, families, individual visits to health facilities, and daily visits of health workers to households.
Risk factor: A characteristic of an individual or group that is associated with an increased chance of contracting a disease, having a health problem, or dying.
System: A set of discrete, but interdependent, components designed to achieve one or more objectives.
Target group: Specific groups of people designated to receive a PHC service, such as children under age two designated to receive immunizations.

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Ms. Maria Francisco
Dr. Neeraj Kak
Ms. Lori DiPrete Brown
Ms. Pam Homan
Dr. Lynne Miller Franco
Ms. Mary Millar

MODULE 3
USER'S GUIDE

Primary Health Care Management Advancement Programme