



Federal Democratic Republic of Ethiopia  
Ministry of Health

## Health Management, Ethics and Research

Blended Learning Module for  
the Health Extension Programme



# HEAT

Health Education and Training  
HEAT in Africa





## Federal Democratic Republic of Ethiopia Ministry of Health

The Ethiopian Federal Ministry of Health (FMOH) and the Regional Health Bureaus (RHBs) have developed this innovative Blended Learning Programme in partnership with the HEAT Team from The Open University UK and a range of medical experts and health science specialists within Ethiopia. Together, we are producing 13 Modules to upgrade the theoretical knowledge of the country's 33,000 rural Health Extension Workers to that of Health Extension Practitioners and to train new entrants to the service. Every student learning from these Modules is supported by a Tutor and a series of Practical Training Mentors who deliver the parallel Practical Skills Training Programme. This blended approach to workplace learning ensures that students achieve all the required theoretical and practical competencies while they continue to provide health services for their communities.

These Blended Learning Modules cover the full range of health promotion, disease prevention, basic management and essential treatment protocols to improve and protect the health of rural communities in Ethiopia. A strong focus is on enabling Ethiopia to meet the Millennium Development Goals to reduce maternal mortality by three-quarters and under five child mortality by two-thirds by the year 2015. The Modules cover antenatal care, labour and delivery, postnatal care, the integrated management of newborn and childhood illness, communicable diseases (including HIV/AIDS, malaria, TB, leprosy and other common infectious diseases), family planning, adolescent and youth reproductive health, nutrition and food safety, hygiene and environmental health, non-communicable diseases, health education and community mobilisation, and health planning and professional ethics.

In time, all the Modules will be accessible from the Ethiopian Federal Ministry of Health website at **[www.moh.gov.et](http://www.moh.gov.et)**; online versions will also be available to download from the HEAT (Health Education and Training) website at **[www.open.ac.uk/africa/heat](http://www.open.ac.uk/africa/heat)** as open educational resources, free to other countries across Africa and anywhere in the world to download and adapt for their own training programmes.

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Ethiopian Federal Ministry of Health

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# Introduction to the *Health Management, Ethics and Research* Module

The *Health Management, Ethics and Research* Module brings together three important aspects of your work that underpin the practical activities described in the other Modules of the programme. There are 16 study sessions in this Module covering health management, healthcare ethics and health research.

Some people think of management as the responsibility of senior personnel in an organisation; we may think of the ‘boss’ as the manager. In practice, management is a fundamental part of many jobs, including yours as a Health Extension Worker or Practitioner. You need to plan and organise your work and the activities at your Health Post. You will be coordinating and leading volunteers from your community. You will be implementing health programmes and monitoring their outcomes. All these are aspects of management and they are described and explained in this Module.

Study Session 1 introduces the Module and provides the context by describing the current healthcare delivery system in Ethiopia. Study Sessions 2 to 5 explain the functions and roles of health management in more detail. Study Session 6 covers the practicalities of managing the medical and other supplies at your Health Post.

The next three study sessions are about healthcare ethics. Health service providers at all levels need to be aware of the ethical aspects of their work. Privacy, confidentiality and truthfulness are among the important ethical principles that must be respected in any practitioner-client relationship and need to be kept in mind at all times. Study Session 7 introduces the theory and underlying principles of healthcare ethics. Study Session 8 discusses some of the possible ethical dilemmas and conflicts you might have to face and suggests ways of dealing with them. Study Session 9 focuses on your rights, duties and obligations as a community healthcare worker.

The final section of the Module turns to the topic of health research. An important part of your role is to collect data about the health and wellbeing of the people in your kebele and the environment in which they live. This type of research will enable you and others to identify problems, to plan particular programmes and to assess the impact and effectiveness of any interventions that are made. Study Session 10 introduces the general principles of health research and community surveys and the following two study sessions describe the community survey and community profile in more detail. Study Sessions 13, 14 and 15 move on to the planning, design and methods for other types of small-scale research project that you may wish to undertake in your community at some point in the future.

The final study session in this Module is unlike the others. Study Session 16 is an extended case study about an imaginary Health Extension Worker and is designed to illustrate the management, ethical and research aspects of the role. Its purpose is to draw together these three strands by integrating them into a single story to conclude the Module.





# Study Session I | Health Services in Ethiopia

## Introduction

In this first study session of the *Health Management, Ethics and Research* Module you will be able to learn about the current healthcare delivery system within Ethiopia, the historical development of Primary Health Care (PHC) and its application to the Ethiopian situation. This will help you become aware of your place as a healthworker within the Ethiopian Health Service which is currently going through rapid change and development. You will also learn about the overall concepts of Primary Health Care (PHC) and the implementation of the Ethiopian Health Extension Programme, and find out about some of the successes that the country has achieved in improving the health service and the health of its communities.

Ethiopia is committed to working towards the Millennium Development Goals (MDG) and this study session will include some information about the way that the MDG health-related goals are being focused on.

Later in this Module you will be able to learn about the concepts and principles of leadership and management and their application for Health Extension Practitioners as part of their work in rural communities. You will also have an opportunity to study basic healthcare ethics as well as some simple research methods that will be useful in your work.

## Learning Outcomes for Study Session I

When you have studied this session, you should be able to:

- 1.1 Define and use correctly all of the key words printed in **bold**. (SAQ 1.1)
- 1.2 Describe the principles of Primary Health Care that Ethiopia has implemented to date in order to improve the health status of its people. (SAQ 1.2)
- 1.3 Describe the major components of the Health Service Extension Programme that are relevant to your practice in rural communities. (SAQ 1.3)
- 1.4 Describe the role that you as a Health Extension Practitioner have in a case study presented to you. (SAQ 1.4)

## 1.1 Historical development of Ethiopian Health Services

Although you are currently studying this course in comparatively modern times it is important for you to understand the way that the Health Service you will be working in has developed over previous years. This section will also help you understand how recent changes in health policy have helped the development of Primary Health Care in rural areas. Ethiopia is a country with 85% of its population living in rural areas. Between 70% and 80% of the diseases that affect its population are preventable by using simple methods. Despite this, Ethiopia previously had a health policy that focused on curative and urban-centred health services until the Government of the Federal Democratic Republic of Ethiopia launched its new health policy in 1993.

The new health policy gives much more emphasis on prevention and the health promotion components of healthcare that should be able to resolve most of the health problems of the population. The main features of this policy include a focus on decentralisation, expanding the PHC system, and encouraging partnerships as well as the participation of the whole community in health activities. The strategy of the policy has been to expand healthcare delivery at the grass roots level through the implementation of the Health Service Extension Programme (HSEP). The primary aim of the HSEP approach is to bring health service delivery to the rural community at family level where such a big percentage of the total population lives.

## 1.2 Organisation of health service delivery

In this section you will learn about the current organisational structure of the healthcare system. The healthcare service has always consisted of a mixture of public, private and nongovernmental healthcare sectors. However, for this session you will mainly focus on the public sector organisational structure. In the mid-1990s, prior to the implementation of Health Sector Development Programme I (HSDP I), the public healthcare system was structured into a six-tier system. Currently, it is a four-tier healthcare system (Figure 1.1), which is organised into Primary Health Care Units (PHCUs), District Hospitals, General Hospitals and Specialised Hospitals. The PHCU is a Health Centre surrounded usually by five satellite Health Posts. Each Health Post serves approximately 5,000 people and the five together total 25,000 people who are looked after by each Health Centre.



Figure 1.1 The four levels of the current healthcare system in Ethiopia with the number of people served at each level.  
(Source: FMOH/Wondwossen Temiess)

- At which level do Health Extension Workers and Health Extension Practitioners work?
- Health Extension Workers and Health Extension Practitioners work in Health Posts, which are in the fourth tier of the Health Service.

## 1.3 Concepts of Primary Health Care

The term '**Primary Health Care**' (PHC) is the name given to the essential healthcare that is universally accessible to individuals and is acceptable to them at a cost that the country and community can afford. Often, as in Ethiopia, this level of healthcare is free for people living in rural areas. Primary Health Care gained the world's attention after the 1978 International

Conference on PHC held at Alma Ata in the USSR (now called Almaty in the country that has become Kazakhstan). Since then many countries have started to follow the approach of PHC to reach rural communities where most of the health problems exist. PHC focuses on disease prevention and health promotion. It is the type of healthcare delivery sometimes described as ‘by the people, of the people and for the people.’ It involves the community in the whole process of healthcare delivery and encourages them to maintain their own health.

The role of the Health Extension Workers and Practitioners is to work with the community and help them acquire the knowledge and skills that enables them to ensure their own health. In the following sections you will study the principles of PHC that will help you to understand its impact on improving health throughout Ethiopia (Figure 1.2).



Figure 1.2 The health of Ethiopian children has improved since the introduction of effective PHC policies.  
(Photo: SOS Children’s Villages)

- How would you define Primary Health Care? For whom is it available?
- PHC is the lowest tier of the health service. It is where most health services are delivered at village level. Health Extension Workers and Practitioners work at this level. It is available to every member of the community.

### 1.3.1 Principles of Primary Health Care

The Primary Health Care policy has five principles that have been designed to work together and be implemented simultaneously to bring about a better health outcome for the entire population (Box 1.1 on the next page). The first principle is *accessibility* which means universally available healthcare delivery regardless of geographic location. The second principle is *public participation* which encourages the community to participate in making decisions about their own health, identifying their own health needs and finding solutions to their health problems. The third principle of *health promotion* involves health education on subjects such as maternal and child health, immunization, nutrition, sanitation and control of endemic disease.

The fourth principle, *appropriate technology*, emphasises those technologies that are scientifically sound, cost-effective and feasible to be introduced into the community. The fifth principle, *inter-sectoral collaboration*, emphasises integrated work with other sectors, such as the Ministry of Agriculture and the Ministries of Education, Housing and Water Resources.

### Box 1.1 Principles of Primary Health Care (PHC)

- 1 *Accessibility* (equal distribution): this is the first and most important key to PHC. Healthcare services must be equally shared by all the people of the community irrespective of their race, creed or economic status. This concept helps to shift the accessibility of healthcare from the cities to the rural areas where the most needy and vulnerable groups of the population live.
- 2 *Community participation*: this includes meaningful involvement of the community in planning, implementing and maintaining their health services. Through the involvement of the community, maximum utilisation of local resources, such as manpower, money and materials, can be utilised to fulfill the goals of PHC.
- 3 *Health promotion*: involves all the important issues of health education, nutrition, sanitation, maternal and child health, and prevention and control of endemic diseases. Through health promotion individuals and families build an understanding of the determinants of health and develop skills to improve and maintain their health and wellbeing.
- 4 *Appropriate technology*: technology that is scientifically sound, adaptable to local needs, and acceptable to those who apply it and for whom it is used.
- 5 *Inter-sectoral collaboration*: to be able to improve the health of local people the PHC programme needs not only the health sector, but also the involvement of other sectors, like agriculture, education and housing.

- Which of the five principles of PHC in Box 1.1 is the most important?
- None of them is more important than any of the others. They all work together to make a comprehensive and effective policy.

### 1.3.2 Elements of Primary Health Care

In this section you will learn about the elements or functions of PHC (Box 1.2). These are the essential health services designed to be provided to every community.

- Look closely at Box 1.2. Although you haven't yet studied the roles and responsibilities of Health Extension Practitioners, do you know which of these elements or functions of PHC are your responsibility?
- All of these elements are included in the work of Health Extension Practitioners. Of course, some of these functions form a bigger part of your work than others. Remember also that Health Extension Practitioners will get help from other healthworkers and people in their communities.

### Box 1.2 Elements of Primary Health Care

- 1 Education on health problems and how to prevent and control them.
- 2 Development of effective food supply and proper nutrition.
- 3 Maternal and child healthcare, including family planning.
- 4 Adequate and safe water supply and basic sanitation.
- 5 Immunization against major infectious diseases.
- 6 Local endemic diseases control.
- 7 Appropriate treatment of common diseases and injuries.
- 8 Provision of essential basic medication.

## 1.4 Primary Health Care in Ethiopia

Ethiopia is one of the countries in the world which has adopted PHC as a national strategy since 1976. This strategy focuses on fair access to health services by all people throughout the country, with special emphasis on prevention and the control of common diseases, self-reliance and community participation. Since this time the concept of Health Posts (Figure 1.3) and the development of rural health services has been further developed. The government of that time started to construct Health Posts, train Traditional Birth Attendants (TBA) and Community Health Agents (CHA), and assign them to Health Posts. However, this was not sustained due to factors such as insufficient managerial support, lack of in-service training, lack of remuneration and mainly due to centralised health service management and the shift to vertical health programmes.



Figure 1.3 More than 14,000 Health Posts have been constructed as part of the HSEP programme.  
(Photo: Ali Wyllie)

**Vertical health programmes** are centralised, non-integrated and disease-specific health programmes. They are designed to tackle single diseases, such as malaria. Although vertical programmes used to be popular, it is now widely thought that they are not very effective and may even undermine the rest of the health services by using too many resources. In late 1997, the Federal Ministry of Health in Ethiopia started to decentralise the health delivery system from Regional to *woreda* and *kebele* level, while still maintaining the vertical health programme approach. This approach has not brought the required health outcomes. A new initiative, the Health Service Extension Programme (HSEP), was therefore launched in 2003 together with the Health Sector Development Programme II (HSDP II). This new initiative will be discussed in detail in the next section of this study session.

## 1.5 Health Service Extension Programme

The Health Service Extension Programme, (HSEP) is an innovative, community-based programme that was first introduced in Ethiopia in 2003. This programme was launched after realising that the basic health services were not reaching the majority of the population. The objective of HSEP is to improve equitable access to mainly preventive health services through community (*kebele*) based services. These services all have a strong focus on health promotion and preventive health activities, as well as increased community health involvement. The principle behind this programme is to transfer ownership and the responsibility of maintaining health to individual households. This programme has required a sustained political commitment from the government and continued investment that has led to the construction of over 14,000 Health Posts and the training of 30,000 female Health Extension Workers (two for each Health Post) and their deployment in each village (Figure 1.4).



Figure 1.4 More than 30,000 female Health Extension Workers have been deployed. (Photo: Ali Wyllie)

### 1.5.1 Components of Health Service Extension Programmes

The HSEP is an approach that brings healthcare down to the household level. It has been designed to provide a number of health packages which are categorised under four main topics: Disease Prevention, Family Health Service, Hygiene and Environmental Sanitation, and Health Education and Communication. These packages (Box 1.3) have been developed to tackle the main health problems of the country, such as TB, HIV/AIDS, malaria, and maternal and child health, in order to be able to achieve the Millennium Development Goals which the country aspires to achieve by the year 2015 (the year 2008 in the Ethiopian calendar).

#### **Box 1.3 Health Service Packages for the Health Service Extension Programme**

- 1 *Disease Prevention and Control.* Under this component the most dominant communicable diseases are addressed.
  - (a) TB, HIV/AIDS and other STI prevention and control.
  - (b) Malaria prevention and control.
  - (c) First aid and emergency measures.



- 2 *Family Health Service.*
  - (a) Maternal and child health.
  - (b) Family planning.
  - (c) Immunization.
  - (d) Adolescent reproductive health.
  - (e) Nutrition.
- 3 *Hygiene and Environmental Sanitation.*
  - (a) Excreta disposal.
  - (b) Solid and liquid waste disposal.
  - (c) Water supply and safety measures.
  - (d) Food hygiene and safety measures.
  - (e) Healthy home environment.
  - (f) Control of insects and rodents.
  - (g) Personal hygiene.
- 4 *Health Education and Communication.* This is part of all the packages.

- Have a look at the packages that are part of the HSEP and which are set out in Box 1.3. If you are a Health Extension Practitioner working in a rural area, on which of these packages do you think you should concentrate most of your time and resources?
- The whole idea of HSEP is that all these packages are of importance. In any particular area the balance of resources that are put into different packages will be slightly different. The priorities for each area will be decided by the health problems that are found in that area and will be determined after discussion with the local community (Figure 1.5).



Figure 1.5 Delivering the HSEP packages takes a lot of organisation.  
(Photo: Ali Wyllie)

### 1.5.2 Millennium Development Goals

The **Millennium Development Goals** were launched in September 2000 by 189 countries with the aim of eradicating poverty by 2015. The eight goals (Box 1.4) are intended to combat poverty, hunger, disease, environmental degradation and gender discrimination. Ethiopia has adopted this initiative and

set its own eight goals which are: to reduce maternal mortality from greater than 871 to 392 per 100,000 live births, to reduce the under-five mortality rate by 85% and the infant mortality rate from 77 to 45 per 1,000 live births. Infectious disease targets include: maintaining the relatively low prevalence of HIV, reduction of TB-related deaths from 7% to 4% and malaria-related deaths from 22% to 10%.

The Health Service Extension Programme is an approach that is designed to achieve these goals.

#### **Box 1.4 Millennium Development Goals**

- Goal 1: End extreme poverty and hunger
- Goal 2: Achieve universal primary education
- Goal 3: Promote gender equality and empower women
- Goal 4: Reduce child mortality
- Goal 5: Improve maternal health
- Goal 6: Combat HIV/AIDS, malaria and other diseases
- Goal 7: Ensure environmental sustainability
- Goal 8: Develop a global partnership for development.

- Look again carefully at Box 1.4. Which of the Millennium Development Goals do you think may be relevant to the work of Health Extension Practitioners?
- Health Extension Practitioners will be mostly involved in the health goals (4, 5 and 6), but of course all the other goals are interconnected as well. For example, health in any community is unlikely to improve unless gender inequality is also tackled.

## **1.6 Achievements of the Ethiopian Health Service Extension Programme**

The HSEP has had government support and commitment at all levels, from Federal to *kebele* administration, from the start. Because of this it has delivered significant improvements in the health status of the people (Box 1.5).

#### **Box 1.5 Achievements and health outcomes of HSEP until the year 2010**

- 1 34,382 female Health Extension Workers have been trained and deployed to date
- 2 14,192 Health Posts have been constructed so far
- 3 35.2 million insecticide-treated bed nets (ITNs) have been distributed to families in rural areas
- 4 Under five years old mortality has decreased from 160 per 1,000 live births in 2000, to 109 per 1,000 live births in 2010



- 5 Infant mortality in the first year of life has decreased from 77 deaths per 1000 live births in 2005 to 67 deaths per 1,000 live births in 2009
- 6 The Maternal Mortality Ratio has decreased from 673 to 470 per 100,000 live births
- 7 There has been a decrease in malaria epidemics and a decrease in malaria-related deaths
- 8 Antenatal coverage has increased from 30% in 2002 to 71% in 2010
- 9 Increased childhood immunization rates. DPT3 (a measure of health service utilisation as well as childhood immunization) coverage increased from 38% in 2000 to 86% in 2010
- 10 A total of 9,979,706 Model Households have been trained and graduated by 2010
- 11 Latrine coverage increased from 60% in 2009 to 74% in 2010
- 12 Contraceptive usage rate increased from 56% in 2009 to 62% in 2010
- 13 HIV/AIDS-related deaths have been decreasing.

(Source: Ethiopian Federal Ministry of Health Report, 2010)

DPT3 refers to completing the three scheduled immunizations against diphtheria, pertussis and tetanus; in Ethiopia these are given combined (in a single pentavalent immunization) with vaccines against hepatitis B and Haemophilus influenza type B.

- Look again at Box 1.5. Which of the achievements listed in the box is a health outcome?
- Numbers 4, 5, 6, 7 and 13 are all positive health outcomes. These statistics show that the health of people in Ethiopia has been improving since the introduction of the HSEP. All the other statistics show the work that has been done within the HSEP to establish new services and put in place effective preventive measures.

Many elements of the HSEP have been a success and the health of the population has been steadily improving because of the establishment of so many Health Posts and the work of thousands of Health Extension Workers. There have been some particular successes within the programme including:

- Model families
- Community packages
- Interventions at Health Post level.

### 1.6.1 Implementing the model family package

Health Extension Workers identify and train model families. The selection of model families is criteria-based: model families have been involved in other development work; they are accepted by the community as early adopters, and they enjoy the credibility which comes from having adopted health practices and become role models. As role models, model families help in diffusing health messages (Figure 1.6). This leads to the adoption of improved health practices and behaviours by the community.



Figure 1.6 Picture of a model family. (Photo: Federal Ministry of Health)

### 1.6.2 Implementing the community package

Health Extension Workers also work with communities to communicate health messages. They involve the community in different stages, from planning to evaluation. Health Extension Workers rely on traditional and modern associations to coordinate and organise the implementation of community packages, e.g. *idir*, *mahber*, *ekub*, schools, women and youth associations.

### 1.6.3 Implementing interventions at Health Post level

At the Health Post, the Health Extension Workers provide antenatal care, conduct normal and safe deliveries, administer vaccines, conduct growth monitoring, provide nutrition counselling, offer family planning services, and organise referrals for services to the general population of the *kebele* (Figure 1.7).



Figure 1.7 Many different types of health work goes on at each Health Post. (Photo: UNICEF/Indrias Getachew)

- Suppose you have planned to undertake a TB eradication campaign within your community. Which of the three Health Post level approaches do you think you should follow to achieve the desired outcome of your plan? Describe the approach you have selected to follow.
- Your plan will certainly need the involvement of many people and several other stakeholders—therefore, you should follow the *community package* approach. This approach allows you to involve the community in all the different stages. Of course a TB eradication campaign will involve all the Model Families in your *kebele*, but the entire community needs to be involved and therefore the *community package* approach should be used.

## 1.7 Development of the Health Service Extension Programme

Despite the improvements in health outcomes achieved through the implementation of HSEP there are still challenges and problems that limit progress in the healthcare services in rural Ethiopia. In Section 1.6 of this study session you learnt about some of the significant improvements in health outcomes throughout Ethiopia and now in this section you will learn about some of the gaps that are apparent and the measures that are being taken to further improve the services.

According to the Federal Ministry of Health's Health Sector Development III Performance Evaluation Report, there are problems with reading and writing skills amongst some Health Extension Workers, particularly those recruited in pastoralist and semi-pastoralist areas. There have also been requests from the rural community for more curative services to be provided at Health Post level. A lack of in-service training has also been noted. These and other factors have urged the government to improve the knowledge and skills of Health Extension Workers at least to the level that enables them to provide safe and competent preventive and health promotion activities, as well as basic curative services. For this to be realised, these cost-effective blended learning training modules have been created. This module-based training helps you to get your education without having to leave your workplace. Furthermore, this type of learning makes it possible to train significant numbers of Health Extension Workers at the same time.

This study session is the first one that you will study in the *Health Management, Ethics and Research* Module. It will serve as an introduction to all the other study sessions in the Module.

### Summary of Study Session I

In Study Session 1, you have learned that:

- 1 Ethiopia has radically changed the structure of its health service in order to focus on Primary Health Care and preventive services in the rural communities where most people live.
- 2 Ethiopia's health delivery system is organised into a four-tier system. Its first level is the Primary Health Care Unit which is based around one Health Centre and five Health Posts serving a total of 25,000 rural people.
- 3 Primary Health Care is the lowest level of essential health care that is provided to the majority of the population of Ethiopia at a cost that the country and the community can afford. It mainly focuses on prevention and control of communicable diseases, and the promotion of health and wellbeing of individuals and families.
- 4 The Health Service Extension Programme (HSEP) is an innovative community-based programme. It is a country-specific health delivery system designed to reach the rural communities where most of the people live. It uses trained and salaried Health Extension Workers/Practitioners to help the community maintain its own health.

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## Self-Assessment Questions (SAQs) for Study Session 1

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

### **SAQ 1.1 (tests Learning Outcome 1.1)**

What do you understand by the following terms?

- (a) Primary Health Care.
- (b) Millennium Development Goals.
- (c) Vertical health programmes.

### **SAQ 1.2 (tests Learning Outcome 1.2)**

During this study session you have learned that Primary Health Care has five principles including a) accessibility, b) community participation and c) health promotion. Why do you think that each of these principles is important? Give examples if you can.

### **SAQ 1.3 (tests Learning Outcome 1.3)**

Suppose you are a newly assigned Health Extension Practitioner who is about to work in a rural Health Post. Before you start your work you have completed an assessment to identify the priority health problems in the community. From your assessment you have identified the following health problems: tuberculosis, nutrition-related health problems of children, pregnant woman seeking support, malaria, and little use of latrines. Please categorise these health problems under the four major components of HSEP. Remember that these are: Disease Prevention and Control, Family Health Service, Hygiene and Environmental Sanitation, and Health Education and Communication.

### **SAQ 1.4 (tests Learning Outcome 1.4)**

Asmera is a Health Extension Worker in Tensyie. When she first came to Tensyie there were no latrines. Two years later, she had managed to convince all 785 households to construct their own latrines. She also improved family planning coverage from 3% to 25%. Her efforts also led to a 72% increase in breastfeeding within two years. What principles of PHC do you think she might have used to bring about these improvements?

# Study Session 2 Management and Leadership in Community Healthcare

## Introduction

As a Health Extension Practitioner you may not think of yourself as a manager or a leader, but good management and leadership is a key part of any organisation's success, including all levels of the health service. You will be expected to play a leading role in managing health resources efficiently and effectively in your local community.

In order to manage the work, people and operation of local health services, Health Extension Practitioners should be equipped with the knowledge, skills and competencies of management and leadership. Knowing key concepts and functions, such as planning, implementation, monitoring and controlling, will be necessary when dealing with the health of your community and all the individuals within it. You will be a leader when it comes to achieving Primary Health Care goals.

In this study session you will be introduced to the key concepts of management and leadership, the levels and roles of management, and the types of leadership that are most important for your healthcare work in the community.

## Learning Outcomes for Study Session 2

When you have studied this session, you should be able to:

- 2.1 Define and use correctly all of the key words printed in **bold**. (SAQ 2.1)
- 2.2 Briefly describe the main principles of healthcare management. (SAQ 2.2)
- 2.3 Explain the roles and levels of management in healthcare work and why healthcare management is important for your work as a Health Extension Practitioner. (SAQ 2.3)
- 2.4 Describe leadership concepts in community healthcare and understand the differences between management and leadership. (SAQ 2.4)

## 2.1 What is management?

You may have wondered what management actually is. **Management** is quite simply getting things done through people. As a Health Extension Practitioner at community level, your job will involve management because it will help you achieve your intended goals. Using management techniques will help show you how to make changes to improve the health of everyone in your community. When you start your job you may ask yourself, 'What am I supposed to do now?', and you may seek inspiration from people who have written about management. For example Henri Fayol, a French theorist who lived from 1881 to 1925, was one of the first to tackle the question 'What is management?' (Box 2.1).

### Box 2.1 What is management?

**Management** is the process of forecasting and planning, organising, leading, coordinating and controlling the resources of an organisation in the efficient and effective pursuit of a specified organisational goal

*Henri Fayol (1916)*

- Look at the definition in Box 2.1. Although it was written many years ago do you think that it might still apply today?
- This definition has stood the test of time. It's as good as any more recent definition.

Healthcare management theory evolves out of more general theories of management that govern the effective use of human and material resources, and applies them in a healthcare setting. Your key goal in community health management is improving the health of your community. Reaching this goal requires an understanding of the concepts of management and leadership.

## 2.2 Concepts of management

Three of the most important concepts in healthcare management are effectiveness, efficiency and equity. In this section you will learn more about these concepts to help you work successfully with people and resources.

### 2.2.1 Effectiveness

The concept of effectiveness is a measure of how well an organisation, or a person in an organisation, is meeting their goals. For example, if the goal is to provide high quality healthcare and the organisation or person succeeds in doing so, then they are working effectively. If the healthcare provision is poor and people are not satisfied, then the organisation or person is not effective.

The health sector becomes effective when health managers choose the correct goals and then make sure that their health teams can achieve them. Health manager effectiveness involves doing the right things to move the health sector closer to its objectives and at the same time continually learning from that experience. Monitoring and control helps you to measure performance against set objectives and standards and thus assess effectiveness and how well an objective has been achieved. You will learn more about monitoring and control in Study Session 5.

- A Health Extension Practitioner is set an objective to distribute 500 malaria bed nets during one year and succeeds in distributing 100 (Figure 2.1). What do you think went wrong?





Figure 2.1 Healthworker distributing bed nets to a rural family.  
(Photo: FMOH/WT)

- There may be many reasons why the objective has not been reached, but this is a failure of management. The Health Extension Practitioner has not been managed effectively, or she would have achieved her objectives.

### 2.2.2 Efficiency

Healthcare management involves getting things done using human, financial and material resources so that the goal of improving the health of the community can be achieved. Efficiency is a measure of how well the health sector is using its resources to achieve that goal. If money and materials are being used well and there is little wastage, then you are working efficiently. If costs are too high or materials are being wasted, then your activity is inefficient. Efficiency involves doing things right, using resources wisely and with a minimum of waste.

- Health Post A has received an anti-malarial drug with only one month's shelf life remaining. It expires after one month having served only a few people. Is this an efficient use of resources?
- No. In this case there is a waste of resources.

### 2.2.3 Equity

Access to healthcare is the basic right of all people. However, this does not always happen in real life for many reasons. Health inequalities are a result of the unfair distribution of resources and may be associated with low income levels, housing, education, gender, geographically inaccessible areas and sometimes with ethnicity. As a Health Extension Practitioner you have an important role to play in allocating resources equally to all the diversified groups in your community, with a special focus on those who are deprived and denied access to healthcare.

## 2.3 Principles of management

For Health Extension Practitioners the following principles are the most important for you to apply in the field of community health:

### 2.3.1 Team spirit

Team spirit is essential for any organisational work. This principle advocates the benefits of working as a team and building good morale amongst everyone you work with, including volunteers and members of model households. As a manager you will need to ensure that you develop and maintain morale, both individually and communally, and through building team spirit. This helps promote an atmosphere of mutual trust and understanding.

### 2.3.2 Division of labour

The principle of division of labour is that work must be shared or divided fairly amongst the team. Normally, in a team, there needs to be division of labour, where each category of staff exercises their particular skill towards achieving specific objectives (Figure 2.2). The role of management is to assign a balanced proportion of each type of worker to the work to be done.

- There has been an outbreak of diarrhoeal disease in your community. A prevention and control committee has formed in response to the epidemic and identified a number of activities which will be needed to sort out the problem. The work (a–d) must be divided amongst the staff and groups available (1–4), who all have different skills. Who will do which activity? Match (a–d) with (1–4).

(a) Mobilising the community	(1) Water committee
(b) Check medicine supplies	(2) <i>Kebele</i> administration
(c) Ensure water is treated and safe	(3) Health Extension Worker/Practitioner
(d) Give health education and advocacy	(4) Health personnel

- You should have:
  - (a) The *kebele* administration and the Health Extension Worker/Practitioners must mobilise the community.
  - (b) Health personnel must assure the supply of medicine.
  - (c) The water committee should ensure that the water is treated and safe.
  - (d) The Health Extension Worker/Practitioner should give health education and advocacy.

### 2.3.3 Focus on results not activities

One of the principles of management is to make sure that everybody within the organisation has a clear understanding of the goals and objectives, and makes each person aware of their own roles and responsibilities in achieving those objectives. This is commonly called management by objective, which is a systematic and organised approach that allows management to focus on achievable goals (Figure 2.3). Deciding and saying what is to be accomplished is setting an objective (a goal, a purpose or a target). There are many kinds of objectives. For example, you may have an objective that 80% of the pregnant



Figure 2.2 Teams of healthworkers require division of labour to make sure people know the tasks they should focus on. (Photo: Carrie Teicher)



women in your *kebele* will attend antenatal care and be delivered by Health Extension Practitioners next year.

Objectives	Activities	Resources	Monitoring
To increase the number of women attending antenatal care	To increase the number of women delivered by Health Extension Practitioners		
To increase the number of women attending family planning sessions	To increase the number of women attending family planning sessions		
To increase the number of women attending health extension practitioner services	To increase the number of women attending health extension practitioner services		

Figure 2.3 Setting appropriate objectives and activities can help you achieve a health goal. (Photo: Ali Wyllie)

## 2.4 Management functions

From the definition in Box 2.1 you have learnt that management is a process that can be divided into five distinct parts involving interrelated activities. Health Extension Practitioners play various roles in the Primary Health Care system. You will be expected to be a manager, leader, coordinator, planner, supervisor and also monitor of the health services in your community. Management consists of the following functions.

### 2.4.1 Planning

Planning is forecasting and thinking about things that you want to happen in the future and then working out ways to get there. It will be your job to help develop the plans that determine the goals you pursue to improve the health of all the people in your community. As a first step you need to prepare plans for the future and this is best done together with community groups that share a common purpose.

### 2.4.2 Organising

After a plan is developed it needs to be translated into action. As part of the implementation process, organising the various administrative structures and community group members is crucial. Furthermore, you need to construct a set of formal relationships with different groups in the community (Figure 2.4). This process will help you in deciding how the plan will be carried out and who will do it.



Figure 2.4 All good managers will communicate their plans to the community. (Photo: FMOH/WT)

### 2.4.3 Leading

Leading is directing, influencing and motivating a team. At the community level, the health delivery system includes various community groups, such as model households, volunteers and development workers. As a Health Extension Practitioner you are a leader and you will play a leading role in working with these groups, to carry out the different activities involved in maintaining community health. You need also to create an environment that encourages your teams to do their best work so their performance inspires other members of the community.

### 2.4.4 Coordination

To coordinate activities is to ensure that everything that needs to be done is done and that no two people are trying to do the same job. Coordination will help you to see whether the things that you and your team are doing are consistent with your overall plan. You may arrange meetings with your team as a coordination mechanism to discuss how jobs and responsibilities are progressing.

### 2.4.5 Monitoring and control

Monitoring and control will be an important part of your role as a Health Extension Practitioner, otherwise you won't know how well you are doing as you try to achieve your goals and objectives (Figure 2.5). **Monitoring** is the regular observation and recording of activities. **Controlling** is ensuring that work has been accomplished according to plan. If your monitoring and control activities indicate that you aren't being very effective then you may have to change the way that you are working or ask for extra help from your supervisors.

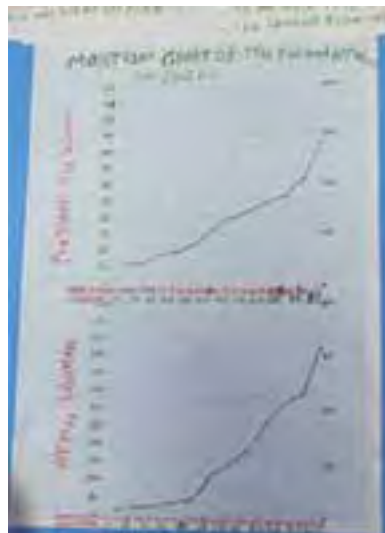


Figure 2.5 Monitoring health goals through the regular observation and recording of activities. (Photo: Ali Wyllie)

- Look again at the list of management functions. Imagine that you are trying to increase the number of people in your community who use latrines regularly. Which of the management functions do you think is the most important?
- All these functions are important when you try to achieve your health objectives. Good management involves the use of all these functions.

## 2.5 Management roles and levels

A **health manager** is someone who spends a substantial proportion of their time managing areas of healthcare provision such as:

- coverage of services (planning, implementation and evaluation)
- resources (staff, budgets, drugs, equipment, buildings, information)
- external relations with partners, including service users.

A manager's effectiveness is significantly influenced by their insight into their own work. Health sector managers often become managers after working in a technical role within healthcare. Indeed, many healthworkers combine management with clinical or other technical work.

### 2.5.1 Management levels

In healthcare management there are three levels of managers: top, middle, and frontline. Together they are responsible for the work and performance of the health sector. These managers have formal authority to use health sector resources and to make decisions appropriate to their level.

#### Top-level managers

Top-level managers are often called senior management or executives. In Ethiopia, the Federal Ministry of Health and Regional Health Bureau include top-level managers and they hold titles such as Minister, Head of Regional Health Bureau, and Director. Often, a group of these managers will constitute the top management team. Top-level managers make decisions affecting the entirety of the health sector. Top managers do not direct the day-to-day activities of the sector; rather, they set goals for the health sector and direct others to achieve them.

#### Middle-level managers

Middle-level managers are those in the levels below top managers. Middle-level managers are responsible for carrying out the goals set by top management. They also set goals at their level and perhaps for other units they are responsible for. Middle-level managers can motivate and assist frontline managers to achieve the sector objectives. They may also communicate upwards, by offering suggestions and feedback to top managers.

#### Frontline managers

First-level or frontline managers are responsible for the daily management of health activities in the community. Health Extension Practitioners, for example, are frontline managers of the primary healthcare services. Although lower-level managers typically do not set goals for the nation, they have a very strong influence on the sector and do have to set goals for their own work. These are the managers that interact most with the larger community on a daily basis.

- What level of management is each of these: Health Extension Worker, Health Centre Director, Health Extension Practitioner, Minister of Health, Health Volunteer, Head of Regional Health Bureau?
- Health Extension Practitioners and Workers are frontline managers. The Head of the Regional Health Bureau and the Minister of Health are top-level managers. The Health Centre Director is middle-level. Although Health Volunteers don't have a formal management role they still do

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important work within the health service and may have to help organise what actually happens in your community.

## 2.5.2 What do managers do?

So, what do health managers actually do? Managers play various roles in their day-to-day activities which are generally categorised as *interpersonal roles*, *informational roles* and *decisional roles*. As a Health Extension Practitioner, who is also a frontline manager, you will have a role to play at community level. The different roles are briefly described as follows.

### Interpersonal roles

Working together with other people in your team is sometimes the most rewarding part of the job, but it does require skill. *Interpersonal roles* require you to direct, support and supervise your team, and work together with people from other agencies. This role is particularly critical for Health Extension Practitioners, who must often compete with other managers (in agriculture) for important resources, yet also maintain successful working relationships with them. Interpersonal roles are categorised as the *leader role*, *figurehead role* and *liaison role*.

The *leader role* involves all the leadership and motivational activities that are essential for the effective management of people. The people that will expect you to fulfill a role as leader include model householders and the health volunteers. A leader acts as an example for other team members to follow. You may have to give directions to those who you are working with, make decisions, and mobilise community support.

The *figurehead role* deals largely with ceremonial and symbolic activities such as attending opening ceremonies or taking a special part in community celebrations (Figure 2.6). The figurehead may be a top or middle manager at Federal level. At village level, however, frontline managers such as Health Extension Practitioners also play a figurehead role within the community.



Figure 2.6 You may have to play a figurehead role in ceremonies in your community. (Photo: Last Ten Kilometres Project)

The third type of interpersonal role is a *liaison role* which includes those activities which you as a Health Extension Practitioner need to undertake in order to develop and maintain a network of contacts inside and outside the community. For example, maintaining contact and good relationships with District Health Offices and Health Centres is always important. In your liaison role, you will need to coordinate the work of others in different sub-*kebeles*; establishing alliances between other sectors, such as agriculture, education, and working together to share resources.

- You are asked to give out the certificates to the health volunteers who have completed their training. What role is this?
- Attending ceremonies in your own community and having a formal role is a figurehead role. People in your community will look up to you and expect you to support and encourage them when they work to improve the health of the community.

### Informational roles

*Informational roles* are those in which you gather and then pass on information. These roles have changed dramatically as technology has improved. These roles mainly involve the movement of information. As a Health Extension Practitioner, you are placed in a strategic position to obtain and disseminate critical information about health promotion and disease prevention. Under the informational role you play a *monitor*, *disseminator* and *spokesperson role*.

Your role as a *monitor* deals with the search for and collection of information that is of value to the health of your community.

The *disseminator role* entails passing on relevant information to those in the community that have a need to know. The dissemination process may be written or oral, formal or informal.

The third type of informational role that you may play is in the *spokesperson role*, which involves the dissemination of information to others outside the community.

- Imagine that there is an outbreak of diarrhoeal disease in your community. What informational roles do you think it would be important for a Health Extension Practitioner to perform?
- They should *monitor* information about the outbreak and find out as much as possible about how to deal with the outbreak. They also need to *disseminate* information so that everyone knows how to deal with it. They may also have to be a *spokesperson* and seek additional resources so that the outbreak is contained and further outbreaks possibly prevented in the future.

### Decisional roles

Decisional roles include the roles of: *resources allocator*, *negotiator*, *entrepreneur* and *disturbance handler*. It is important to recognise that these roles are highly interrelated, as suggested in Figure 2.7.

The *resource allocator* role entails the prioritisation and allocation of scarce resources in response to the many demands on those resources. The *negotiator* role is to negotiate resolutions to important disputes, both inside and outside the community. The *entrepreneur* role is to seek and identify opportunities to promote improvement and needed change. The entrepreneur role requires you to assign community resources to develop innovative services.

The *disturbance handler* role involves taking corrective action when needed to resolve unexpected disturbances. In this role, the health manager must handle problems and conflict among team members.

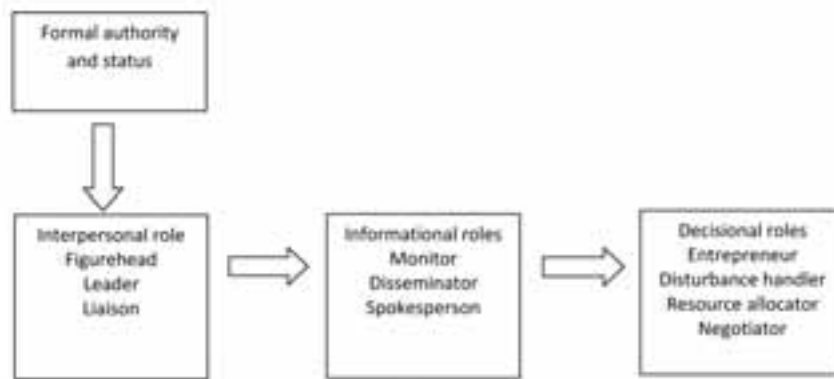


Figure 2.7 Complexity of health manager roles. (Source: Mintzberg, H. (1973), *The Nature of Managerial Work*, New York: Harper and Row)

- Look again at Figure 2.7. Imagine that there is an outbreak of an infectious disease in your community. Which role or roles do you think that the Health Extension Practitioner would have to take on?
- In many instances the Health Extension Practitioner might be engaged in several different roles at the same time. If there is an outbreak of an infectious disease they would have to take on almost all these roles.

## 2.6 What is leadership?

**Leadership** is concerned with influencing the thoughts, attitudes and behaviours of other people. Each Health Extension Practitioner is a leader of Primary Health Care in their village and will set a direction for the community; you help the community see what lies ahead; you help them visualise what they might achieve; you encourage them and inspire all the community members. Leadership is the ability to get other people to do something significant that they might not otherwise do.

To carry out their roles effectively, leaders need a combination of characteristics including: intelligence, initiative, self-confidence and the ‘helicopter trait’, which is the ability to rise above immediate events and try to work out longer term or strategic ways forward.

### 2.6.1 Leadership functions

As a health manager you have three main leadership functions within your group or community:

- *Strategic function*: To develop a sense of direction in the group or community. You must provide a mission (what needs to be done) and a strategy (a path for how to accomplish the mission and a way for the group to get there). But developing a clear vision and a careful strategy is not enough, you must also clearly communicate them to your community.
- *Tactical function*: This involves identifying and choosing the most appropriate means to persuade the group or community.
- *Interpersonal function*: It is important to maintain the morale, cohesion and commitment of the group or community.



- What do you consider are the main differences between a manager and a leader?
- The main aim of a manager is to maximise the output of an organisation through a formal, rational method. The main aim of a leader is to motivate others to bring about change.

## Summary of Study Session 2

In Study Session 2, you have learned that:

- 1 Management is getting things done through people.
- 2 The most important concepts of management are effectiveness, efficiency and equity. Effectiveness is a measure of the appropriateness of the goals chosen. Efficiency involves doing things correctly using resources wisely and with a minimum of waste. Management principles include: team spirit, division of labour and a focus on results.
- 3 Management has five main functions: planning, organising, leading, coordinating and control.
- 4 In healthcare management there are three managerial levels: top-level, middle-level and frontline managers. The three roles of health managers are interpersonal, informational and decisional.
- 5 Management deals with planning, budgeting, organising and staffing, controlling, and problem solving, in order to achieve results. Leadership is establishing direction, aligning people, and motivating and inspiring them in order to bring about change.

## Self-Assessment Questions (SAQs) for Study Session 2

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering the following questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

### SAQ 2.1 (tests Learning Outcome 2.1)

Fit the following words (A–D) into their correct sentences (1–4):

- A Management
- B Leadership
- C Health manager
- D Controlling

- 1 The ... enjoyed helping the rest of her team to achieve their goals and objectives.
- 2 ... expenditure on the health campaign became difficult because of the rising costs.
- 3 Every healthworker can demonstrate their ... qualities and become an important part of the team.
- 4 Although most Health Extension Practitioners enjoy looking after people in their community they also need to develop their .... skills so that the health of everyone in their community can be improved.

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**SAQ 2.2 (tests Learning Outcome 2.2)**

What are the main principles of healthcare management?

**SAQ 2.3 (tests Learning Outcome 2.3)**

What are the main levels of managers in the healthcare system? What level of management do Health Extension Practitioners fit into and why is their management role important?

**SAQ 2.4 (tests Learning Outcome 2.4)**

Describe leadership and its principles. How does it differ from management?



# Study Session 3 Planning Health Programmes

## Introduction

Planning is an important skill for Health Extension Practitioners because it is a key management function for all healthworkers and health managers.

**Planning** is the process of determining in advance what should be accomplished – when, by whom, how and at what cost.

Regardless of whether it is planning long-term programme priorities or a two-hour meeting, the planning aspect of management will be a major contributor to your success. Stated simply: ‘If you don’t know where you are going, then you won’t know whether you have arrived!’

In this study session you will learn the basic ideas about planning, whether related to a particular task or project, or to your ongoing work. You will study an eight-stage model of the planning process and learn useful techniques for planning and allocating work. You will also learn how to engage individuals, groups, community members and different stakeholders in the planning process.

## Learning Outcomes for Study Session 3

When you have studied this session, you should be able to:

- 3.1 Define and use correctly all of the key words printed in **bold**. (SAQs 3.1, 3.2 and 3.4)
- 3.2 Explain the importance of planning in healthcare management. (SAQs 3.1 and 3.4)
- 3.3 Describe the difference between strategic and operational planning. (SAQs 3.2 and 3.3)
- 3.4 Describe the eight stages of operational planning, as they relate to healthcare management. (SAQ 3.3)

### 3.1 Planning processes

- What is planning? Remember you learned something about planning in Study Session 2.
- Planning is forecasting and thinking about things that may happen in the future. The planning process will help you to decide what needs to be done to achieve health improvements in your community.

However, knowing what planning is will not be enough. It is also important to know *why* you need a healthcare plan in the first place. As a Health Extension Practitioner assigned to a village your aim is to achieve the health goals of that specific community. Primarily, you need a clear understanding of what needs to be done and why you need to do it. Secondly, you can’t do everything at one time, so you will need to prioritise and make decisions. Thirdly, you may have limited resources that will prevent you from doing everything, so you need to decide which actions will bring most benefit in your work. Fourthly, you need to communicate your intentions to others, and finally, you need a guide for the day-to-day implementation of your health work.

These are five very good reasons why healthcare planning is important for you to reach the health goal of your community.

- What do you think are the most important parts of planning for Health Extension Practitioners?
- In order to plan their activities properly Health Extension Practitioners have to understand what needs to be done, then decide which are the most important things to do first and which will bring most benefit to their community. They need to let everyone know what they are doing and develop a stepwise plan of action.

## 3.2 Types of planning

There are two types of planning commonly used in the health sector: *strategic planning* and *operational planning*. In this study session you will learn what strategic planning means, and then focus in detail on operational plans as these are most important for Health Extension Practitioners.

### 3.2.1 Strategic planning

**Strategic planning** is the process of determining what the health sector should be achieving in the future and how it will carry out the actions necessary to bring about those achievements. Top-level managers develop strategic plans in order to achieve their strategic goals. Usually strategic planning covers the long term and the specific actions to be taken in the next five to ten years. It is about the ‘bigger picture’ and it shows a ‘map’ of where the health sector is aiming to be in the future.

It is through strategic planning that the health sector determines its priorities and the strategies that are likely to help the nation to achieve its overall health. The Ethiopian Health Sector Development Plans (HSDP I, II, III and IV) are typical examples of strategic planning for the health sector at national level.

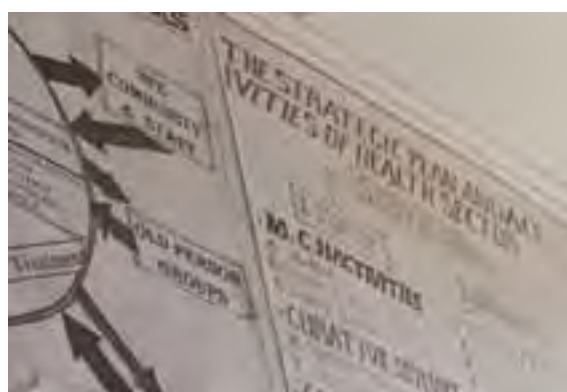


Figure 3.1 When you have your strategic plan it is a good idea to put it on the wall so you can refer to it during your work. (Photo: Carrie Teicher)

- Who is responsible for strategic planning?
- Strategic planning is usually done by senior managers at Federal Ministry of Health (FMOH) level, or the politicians responsible for the health of entire regions. Extension Practitioners need to be aware of strategic plans so they can implement them, but usually they won't be involved in setting out those plans in the first place.

### 3.2.2 Operational planning

**Operational planning** refers to the action plans that guide your day-to-day work. Without a strategic plan you don't know where you are going or why you are going there. But without an operational plan, it is likely that the strategic plan will remain a distant dream and you will not get there anyway.

An operational plan is an instrument for implementing the strategic plan. Operational plans are developed by managers nearer the frontline in order to establish actions that are necessary for the achievement of operational goals. Operational plans are short-term plans that cover time periods of up to one year, so they are usually referred to as *annual* operational plans. Good operational plans should comprise eight stages, as you will see in the next section. The stages of planning can be applied in the planning of any health programme.

## 3.3 Stages of operational planning

Once the Ethiopian FMOH sets a strategic plan, you may be involved in the district (*woreda*) planning process to develop operational plans for improving the health of your community (Figure 3.2).



Figure 3.2 Planning your activities will always be more effective if you discuss them with the community. (Photo: AMREF/Sophie Zeegers)

An operational plan outlines important answers to such fundamental questions as:

- What needs to be done?
- How will it be done?
- Who will do it?
- By when must it be done?
- What resources are needed to do it?

There are eight stages in the operational planning process (Box 3.1).

#### Box 3.1 Stages in planning processes

- Stage 1 Situational analysis
- Stage 2 Problem identification and prioritisation
- Stage 3 Setting objectives
- Stage 4 Strategy formulation
- Stage 5 Identify and sequence activities
- Stage 6 Identify resources

Stage 7 Prepare action plans and schedules  
Stage 8 Monitoring

### 3.3.1 Situational analysis

**Situational analysis** is the first stage in the operational planning process. It is the stage where you need to:

- Gather reliable information about the causes of health problems in the community, including from local people who will benefit from any interventions.
- Identify the health situation of the community and identify where affected population groups are located geographically.
- Discover what is currently being done to resolve the identified needs and who is doing it.
- Investigate how well identified needs have been addressed in the past and consider how you could collaborate with others in the community in order to address current needs.

### SWOT analysis

**SWOT analysis** is a tool that can help you analyse situations more easily in your planning process. SWOT stands for: S = Strengths, W = Weaknesses, O = Opportunities, T = Threats.

The purpose of the SWOT analysis is to identify the *internal* strengths and weaknesses of an organisation or project, and the *external* opportunities and threats the organisation or project faces.

The best time to do a SWOT analysis is after you have reviewed progress and completed an environmental scan. The process can be done for the Health Post and the community.

### Case Study 3.1 Village level SWOT analysis

In village A community members and *kebele* leaders are concerned about health issues and work closely with their Health Extension Practitioners.

Several health promoters have volunteered to work with the HEPs. Most community members make their living from selling coffee, which makes them economically stronger than similar nearby villages, and literacy rates are higher than in neighbouring villages. In summer there is frequent flooding and it is also a malarial area. The FMOH has developed a five-year strategic plan for the health sector in this region. However, although the Health Extension Practitioners are busy and work hard, they don't have a health plan and they don't know how to measure their performance. Communication skills amongst them are weak.

- Read the case study and attempt a SWOT analysis of the situation in village A. Construct a table under the headings: Strengths, Weaknesses, Opportunities and Threats, and enter your analysis in the relevant boxes.
- When you have finished, compare your analysis with Table 3.1, which shows a SWOT analysis of village A. You can see how setting out the analysis like this helps to clarify the situation and points the way to possible ways to improve things.

Table 3.1 SWOT analysis of village A.

Strengths	Weaknesses
Hard working Health Extension Practitioners Motivated workers and volunteers Good support from <i>kebele</i> leaders	Absence of a health plan Weak recording systems Poor communication skills
Opportunities	Threats
Good strategic health policy Literacy rate high High monthly income in community Volunteer health promoters recruited	Flood Malaria

### 3.3.2 Problem identification

A problem is a perceived gap between what something is and what that thing should ideally be. Gathering information about the root causes of health problems is necessary to identify the health problems that exist in the community. Information gathered should also include those people who will benefit from the interventions.

#### Case Study 3.2 Identifying a local problem

There is a flood in your village which may result in an acute outbreak of diarrhoeal disease. The community may not realise that this could contaminate the river water they are using for drinking. But as a Health Extension Practitioner you understand what this situation could develop into. Hence, you are able to identify this as a potential problem.

- Why is the flood in the village identified as a potential problem?
- Many people in the village have diarrhoea and sanitation in the village is poor. If faeces get into the river water used for drinking, then the infection may spread resulting in a widespread outbreak of diarrhoeal disease.

In order to solve the identified problem, first try to define it properly. You should identify all possible causes and try to address or remove the causes of the problem. A useful technique is to group the identified health problems together under specific headings. Table 3.2 shows an example of this approach.

Table 3.2 Problem identification.

Health problems	Health service problems	Community problems
Malaria Diarrhoea Malnutrition	Lack of supervision Insufficient drugs Lack of trained personnel	Lack of safe water supply

- How could problem identification help you tackle health problems?
- Unless you understand the full extent of the problems, as set out for example in Table 3.2, you won't be able to plan ways to tackle them effectively.

### 3.3.3 Prioritisation

As a Health Extension Practitioner you will be expected to prioritise and make strategic choices in order to implement your health plan. One of the important skills you need is the skill of **prioritising**. When you set priorities, you decide what is most important to tackle first.

You might think every problem is a priority and find it difficult to choose. One way to determine priority problems is to apply a set of **selection criteria** that establish a standard by which something can be measured. You can ask yourself the questions in Box 3.2 to help understand how serious and urgent a problem is.

#### Box 3.2 Selection criteria for evaluating a health problem

Does the problem:

- affect a large number of people, e.g. malaria, AIDS?
- cause high infant mortality, e.g. malnutrition, neonatal tetanus?
- affect maternal health, e.g. postpartum haemorrhage?
- affect rural development?
- cause great concern to the whole community?

- In your community there is a lot of infestation with intestinal parasites. How could you use the criteria in Box 3.2 to evaluate this health problem?
- Intestinal parasites do affect a large number of people, but they are not a direct cause of infant mortality and they don't usually affect maternal health seriously either. But they may cause low energy levels and therefore be of general concern to your community, and they may also affect rural development to some extent. You could therefore say that intestinal parasites do need tackling, but other diseases may take priority because they are even more severe or more urgent.

### 3.3.4 Setting objectives

In order to plan effectively you need to be clear about what you and your work group are trying to achieve. You will need to review what needs to be done, and determine your priorities. Objectives include the steps to be taken in pursuit of agreed goals, such as those in the strategic plans set by the wider

health service. However, you need to base your objectives on the local context and the capacity of your community.

There are two important reasons for setting objectives:

- 1 A clear objective is essential to create a definite plan. For example, the objective could be to increase the number of families in your community using insecticide treated bed nets.
- 2 Setting objectives enables results to be evaluated. When a programme has no stated or known objectives its outcome cannot be evaluated. For example, the objective could be to increase the number of families using insecticide treated bed nets by 50% in one year (Figure 3.3). Objectives are usually time-limited, i.e. to be achieved in a certain number of weeks, months or years.



Figure 3.3 Your objective may be to increase the number of bed nets distributed to families in your community. But are you sure they are being used correctly? (Photo: AMREF/Demissew Bezuwork)

- If 84 families in your community currently use bed nets and your objective is to increase this by 50% over the next year, how many families in your community should be using the nets by this time next year?
- $50\% \text{ of } 84 = 42$ . Therefore another 42 families should be protected, bringing the total to  $84 + 42 = 126$  families.

### SMART objectives

Objectives must satisfy certain criteria; they must be relevant, feasible, and observable or measurable.

An objective is *relevant* if it either fits in with general health policy or relates to a problem that needs to be solved. An objective is *feasible* if it can be achieved, if the resources are available and any obstacles can be overcome. An objective is *measurable* when the outcome or result can be stated in numbers. For example, the objective that infant mortality will be reduced by 66% is measurable.

- Consider this objective: ‘All babies delivered at the Health Post should be vaccinated with BCG.’ Is it measurable?
- Yes, this is a measurable objective – but only at the end of a specified time period, such as a year, when the number of babies born and the number of babies vaccinated can be compared.



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All objectives should be SMART, which stands for:

S = Simple or Straightforward (understandable by everyone involved)

M = Measurable (the outcomes can be measured to demonstrate that the objective has been achieved)

A = Attainable (the outcome is possible to achieve)

R = Realistic (achievable with available resources)

T = Time-framed (achievable within the time).

- Your SMART objective is to train at least 180 model households in all the health extension packages by the end of next year. Is this objective measurable (M) and time-framed (T)?
- Yes. The number of model households that have been trained by the target date can be counted to demonstrate if the objective has been achieved, and it is time-framed because it has to be completed by the end of next year.

### 3.3.5 Reviewing your objectives

You need to constantly review your objectives by measuring the outcomes, so that you can change the way that you are working, if necessary. While the vision and overall goal is fixed by the health sector strategic plan, your community-level strategy is not. You can and should change it if it doesn't seem to be working.

#### **Case Study 3.3 Using SMART objectives to review your performance**

Your SMART objective is to increase condom use by 40% among couples in your community within one year. You have chosen the strategy of training 15 peer educators on how to use condoms consistently and correctly to achieve this purpose. You met all your training targets and in monitoring and evaluating the outcomes you found that condom use among couples has increased by 55% after a year.

- Are your objectives being met by the way that you have chosen to tackle this problem in your community?
- Yes; your strategy of training peer educators to achieve behaviour change among couples is succeeding and does not need to be altered.



### Case Study 3.4 SMART objectives can identify a problem

Your SMART objective is to increase the uptake of contraceptive pills by 25% within one year among the women of childbearing age in your village. You chose the strategy of using outreach workers to distribute the pills from house to house. In monitoring and evaluating the outcomes at the end of the year, you found that most women in the community were not using the pills they received.

- Are your objectives being met by the way that you have chosen to tackle this problem in your community, or should you redirect some of your resources to offer more choice of family planning methods?
- Your objectives are not being met and you should think about a change of strategy and perhaps redirect your resources.

### 3.3.6 Identify and sequence activities

This is the stage where you already know what you are trying to achieve and need to list all the activities and place them in the correct sequence according to their importance and timing. You should identify any dependencies, i.e. which activities cannot start until others have been completed, since this is the factor that will determine your overall sequencing. Identify if any activities could possibly be undertaken at the same time. Table 3.3 sets out an example of a checklist of sequenced activities.

Table 3.3 Planning of training for model households.

Sequence of activities	Time target	Responsible person
Visit the community for discussions with community members to identify model households for training	January 12	Health Extension Practitioner
Identify model households	January 12	Community
Meet the <i>kebele</i> leader to secure the community hall	January 13	Health Committee
Prepare health education materials and posters to teach model families	January 14–16	Health Extension Practitioner
Educational materials ordered	January 17	Health Extension Practitioner
Educational material received	January 27	Health Extension Practitioner
Funds requested for Health Extension Practitioners daily expenses	January 27	Health Extension Practitioner
Funds obtained	February 10	
Programme start date	February 20	

- Look closely at the list of activities in Table 3.3. Why do you think that setting out a detailed timing checklist like this will help with planning the training of these model households?
- By looking through this detailed checklist you can think through all the stages of preparing for the training. Not all plans work to the schedule you have planned and changing the dates may be necessary – but the sequence should remain the same.

### 3.3.7 Identify the resources

This is the time when you have to consider what resources will be needed to complete your health project activities. Once you have clarified the tasks to be done and the sequence in which the tasks must be carried out, you should be able to calculate what resources you will need more accurately (Figure 3.4).

The resources you need to carry out an action plan include: staff, accommodation, power, equipment and materials. Time, skill and information are also important to be considered in resource calculations. What all this usually means is money. Your budgets will summarise the monetary resources that you need in order to carry out your action plan (Table 3.4). You cannot prepare a budget until you have an action plan.



Figure 3.4 When setting out your budget you might want to plan for the costs of celebrating the achievement of your health goals. Or perhaps the cost of this will be donated by the community. (Photo: Last Ten Kilometres Project)

Table 3.4 Budget for training of model households.

		Cost (birr)
People (salary)	25 birr per day $\times$ 15 days $\times$ 2 Health Extension Workers	750
Health education materials		100
Transportation allowance	30 birr on average round trip $\times$ 2 Health Extension Workers	60
Refreshment	5 birr/day $\times$ 2 times $\times$ 2 Health Extension Workers	20
Use of village hall		30
Total cost		<b>960.00</b>

- Look again at Table 3.4, which sets out the budget for training model households. What will happen if the costs are greater than this?
- All budgets should be provisional and you should be prepared to revise them. Most budgets also have an item for ‘contingencies’ (possible unforeseen events) that can be used if more money is needed.

### 3.3.8 Prepare action plans and schedules

You now need to develop a practical action plan with respect to the objectives you have set (Figure 3.5). The following steps should help you do this.

Box 3.3 shows an example of how the plan can be stated.



Figure 3.5 Your action plans can be pasted on the wall of the Health Post so everyone knows what you hope to achieve. (Photo: Tom Heller)

### Box 3.3 Hygiene and sanitation plan

The problem	Village J has no access to safe water and there is a high rate of neonatal death from diarrhoea. The community is difficult to reach because of poor roads.
Objective	To provide health education on hygiene and sanitation to 75% of mothers at household level.
Strategy and activities	The work is to be done by model households. The strategy is to train a Health Extension Practitioner who will then train the model households.
Resources	Health Extension Practitioner X will deliver refresher training on hygiene and sanitation to households.
Organisation	The training of model households will take place in the village hall.
Control	Each model household will keep a simple record of the number of women reached.

- Look at the plan in Box 3.3. How will you know if a plan has been effective?
- If lots of mothers are taught about hygiene and sanitation the plan could be considered to be effective. But the real test will be if there are fewer deaths from diarrhoea in the future.

### 3.3.9 Monitoring

Monitoring is a technique by which you can check that everything is continuing to go according to plan.

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Monitoring, in the context of the action plan, addresses questions such as:

- Are outputs being achieved within the timeframes?
- Are resources being efficiently and effectively used?
- Have you maximised the use of resources?
- Are you doing what you said you would do and if not, why not?
- Are you collaborating with other services?

When you do your monitoring, you need to identify what information should be collected (Figure 3.6). Don't just collect information for the sake of having it; you must have a purpose, a reason for collecting the information. The questions to ask are:

- What sort of information do we need?
- How will we use the information?
- How can it be collected with the least possible trouble?
- Who will collect it?
- Who will analyse it?



Figure 3.6 Monitoring your activities will tell you how you are doing in your work. (Photo: Tom Heller)

## Summary of Study Session 3

In Study Session 3, you have learned that:

- 1 Planning is forecasting and thinking about things that may happen in the future.
- 2 In healthcare management you need to plan in order to have a clear understanding of what needs to be done and why you need to do it. Furthermore, it helps you to prioritise health problems so that limited resources are used for actions that will bring most benefit.
- 3 In healthcare management there are two types of planning process: strategic planning and operational planning. Strategic planning is set at a higher level, while operational planning is done by people doing the frontline work, such as Health Extension Practitioners.
- 4 There are eight stages of healthcare planning: situational analysis, problem identification and prioritisation, objective setting, strategic formulation, sequencing of activities, resource allocation, action planning, and monitoring and control.

- 5 Objectives are essential for making plans and for measuring results. An objective has to be SMART which means Specific, Measurable, Attainable, Realistic and Time-framed.

## Self-Assessment Questions (SAQs) for Study Session 3

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering the following questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

### **SAQ 3.1 (tests Learning Outcomes 3.1 and 3.2)**

Why do you think planning your health activities and developing a healthcare plan is important to the health of your community?

### **SAQ 3.2 (tests Learning Outcomes 3.1 and 3.3)**

What is the difference between strategic planning and operational (or annual) planning?

### **SAQ 3.3 (tests Learning Outcomes 3.3 and 3.4)**

What are the steps involved in operational healthcare planning and why are they important to consider when planning your health activities?

### **SAQ 3.4 (tests Learning Outcomes 3.1 and 3.2)**

In your village there is a high incidence of malaria. Explain why you might carry out a situational analysis followed by a SWOT analysis to focus on this problem.



# Study Session 4 Implementing your Health Plans

## Introduction

In the previous study session you learned how to plan health programmes in your community. This study session builds on that knowledge.

**Implementation** is a central part of healthcare management. It is the stage where you translate planned activities into action, using key concepts to help you determine how best to use your group activities and resources, and motivate members of your team to work in the best interests of the health of the community.

In this study session you will be briefed and equipped with the concepts and skills that will help you to learn how you can organise the volunteers, model family members and others in your community. You won't be able to improve the health of your community on your own, but it will be possible to do this by directing and building a team, then leading, motivating and training them.

You will learn how to translate a healthcare plan into activities that you can implement in your own community. In order to do this you need basic skills and knowledge on getting organised, setting up activities, finding resources, building a team, and leading, motivating and training that team. Later in the study session you will be introduced to the importance of conducting meetings and some useful skills for the management of meetings.

During this study session you will be able to learn how to put into place, or implement, your planned healthcare activities.

## Learning Outcomes for Study Session 4

When you have studied this session, you should be able to:

- 4.1 Define and use correctly all of the key words printed in **bold**. (SAQs 4.1 and 4.2)
- 4.2 Discuss how to implement a health management plan by organising relevant activities and resources. (SAQ 4.2)
- 4.3 Describe team building concepts and stages so that you can effectively implement your health management plan. (SAQ 4.4)
- 4.4 Explain how to lead and motivate team members such as volunteers, primary healthcare workers and model families. (SAQ 4.5)
- 4.5 Briefly describe the importance and procedures of health-related meetings. (SAQ 4.3)

### 4.1 Getting organised

As you might expect, getting organised is the first stage in bringing together the right combination of human, physical and financial resources to successfully undertake your planned activities. Your health plan will require the involvement of different members of your community to make up a team and you will also need a variety of other resources (Figure 4.1). As the Ethiopian proverb says, 'When spiders' webs unite, they can tie up a lion.'



Figure 4.1 You will always need a team of people to be able to implement the health plans for your community, although your team will not always be as big as this one. (Photo: Carrie Teicher.)



You will find that organising activities or groups of activities involves planning all your activities in order to avoid any duplication of jobs. For instance, if activities are not properly arranged, two or more people may end up doing the same job at the same time.

### **Box 4.1 Getting organised**

Organising is the means by which:

- the right things are done (what)
- in the right place (where)
- at the right time (when)
- in the right way (how)
- by the right people (by whom).

- Look closely at Box 4.1. How else could you describe getting organised?
- The box shows that organising is the means of distributing authority, providing channels of communication and arranging the work in order to achieve the correct outcome.

One of a Health Extension Practitioner's most important functions when working in the community is the distribution of tasks among the members of their health team. Work should be arranged in such a way that team members make best use of their individual skills and talents. It is important to distribute work fairly. You may need to prepare a checklist which describes tasks among the health team. The checklist can state the objectives, activities and responsibility of each person.

### **Case Study 4.1 Allocating tasks to the health team**

As the Health Extension Practitioner in your Health Post you have planned to conduct an immunization day. You have groups of community members to assist you, such as volunteers and health promoters, as well as you and your team in the Health Post.

Your first role is to identify all the activities which have to be performed and you will have to assign duties to your team of Health Extension Workers, volunteers, model household members and so on. You may need to group the tasks in such a way that you form committees or teams for particular activities.

The first team could do community mobilisation and awareness creation work; the second team could work on the practical arrangements of the immunization day; a third team could carry out the actual immunization activity.

Your next role is to select a team leader for each team. The role of the team leader is to coordinate the team members and also to communicate with you on the activities that the team is carrying out. Depending on the situation the team leader may also be responsible for finances.

Your final step is to allocate the resources (time, money, people, space and equipment) needed by each team. In summary, by being well organised you will be able to implement what you have planned (Figure 4.2).



Figure 4.2 Making sure that your immunization campaigns run efficiently will require a lot of organisation. (Photo: UNICEF Ethiopia/Indrias Getachew)

- What is the objective of the activity to be carried out in the case study?
- To mobilise members of the community to participate in the immunization day and particularly to bring their children for vaccination.

You can use the checklist in Box 4.2 to help you when organising your health teams.

### Box 4.2 Organising your team

Organising activities:

- What is to be done?
- Where will the action take place?
- When will the action take place?
- What equipment is needed?
- How will the activity be arranged?

Organising people:

- Which members of the health team will be involved?
- Who outside the health team will be involved?
- Who will do what?
- Who will lead?

Communicating:

- Is all necessary information available?
- Has the information been communicated?

- Look back carefully at Box 4.2. Which of these activities is the most important to make sure that your team is organised to take part in health activities?
- The whole point of organising your activities in this way is that *all* of these activities are equally important. Unless all these activities are undertaken your plan will not be implemented because people won't know what to do, or how to do it.

## 4.2 Building a team

Health Extension Practitioners work with a variety of community groups and your job will often require you to create health teams from your community in order to achieve community health goals. In this section you will consider why team building is important, the different kinds of teams, and the ways that teams can come together to get their work done.

A team is two or more people who work together to achieve a common goal. A health team is a group of people who share common objectives, determined by community need. Each member of the team contributes to the achievement of the common goal.

Your health team members include, for example, health promoters, model households, opinion and political leaders, and various community association members. It is always important that their work and contributions are recognised.

### 4.2.1 Types of health team

In Primary Health Care management you will find that teams work best when they involve those people who are closest to the community in making decisions that are important for their community. Because teams like this include the most appropriate community members, the team will have the authority it needs to achieve its aims (Figure 4.3).



Figure 4.3 Senior members of your community should always be involved in decision making about health issues. They will have the authority to make sure that your health plans are implemented. (Photo: Ali Wyllie)

Formal teams are teams assembled to address a specific problem or issue, or to achieve specific health goals. An example of a formal team is a task force or committee.

A committee is usually a small, deliberately assembled group of people who are organised to consider and take decisions about a specific set of issues. These can be long-term or permanent teams designed to perform ongoing, specific organisational tasks. For example, as a Health Extension Practitioner you might form a committee composed of a model household representative, a *kebele* leader, a religious leader and representatives of community-based associations, such as a youth or women's group.

The members of a health team should work closely with workers from other sectors concerned with community health, such as teachers, agriculture extension workers, community devolvement workers and religious leaders (Figure 4.4).



Figure 4.4 Teachers and other significant people in your community can be included in your health activities when this is appropriate. They will be able to mobilise the school children and use the resources of the school in your health work. (Photo: Ali Wyllie)

## 4.2.2 Stages of team building

**Team building** usually refers to the process of selecting and creating a team within a community. To improve the performance of any health teams that you are keen to develop it is helpful to use the structured four-stage team building model described below.

### Forming

The first stage in team development is the forming stage. During this stage your health team members get to know each other and find out which behaviours will be acceptable to the rest of the group members. Members establish initial rules and ways of working with each other. This exercise helps the team to create trust among team members.

### Storming

During the storming stage, team members are encouraged to participate and engage with the issues and decisions that are key to the success of the community health team in achieving its goals. This is the stage when health team members may challenge, disagree with, and question one another. This stage can be uncomfortable for some members, but it is an important stage in tackling problems.

### Norming

At this stage the team comes to an agreement on its purpose and plans. Members are clear what their roles and responsibilities are and how they fit into the team. The team has a sense of identity and tries to work together. By the time the team reaches this stage they know how to work with each other.

### Performing

Group structure, norms and behaviour are understood and accepted. Members know how to work with each other and can effectively handle disagreements and misunderstandings. Differences have minimised and members have dealt with them. The group is now focused on accomplishing its purpose.

Look at Table 4.1 to see a detailed checklist of what to do at each stage of team building.

Table 4.1 Stages of team building (adapted from Tuckman, B.W and Jensen, M.A (1977) Stages of small group development revisited. *Group Org. Studies* 2; pp 419–27).

Stage of team building	Member issues	Team tasks	Team behaviour
Forming	Who are these people?	Identify member skills, talents, behavioural preferences	Develop trust
	How do you relate to them and they to you?	Establish base level expectations and operating ground rules	Bonding
	Are you in or out?	Establish common goals Establish roles	Greater bonding
Storming	Who's in control here?	Develop communication skills	Expressing different ideas, feelings and opinions
	How will the rules really work ?	Test ground rules	Responding to leadership and followership
	Are you up or down ?	Clarify roles, goals and resources in and outside the team Power and control issues	Becoming dependent on each other
Norming	How are we doing?	Utilise the ground rules and hold people accountable	Checking with members to assure understanding
	Are we all clear about what we each bring to the team?	Continue to clarify goals	Clarifying, gatekeeping, encouraging participation and honesty
	Are we able to work effectively with each other?	Processes for decision making and problem solving	Comfortable with differences of opinion or style
Performing	I know my value to this team	Achieve tasks efficiently	Use each other as sounding boards
	We need each others' expertise	Exercise effective communication, problem solving and decision making skill	Rotate leadership and fellowship
	We are a cohesive group	Give and receive performance and personal feedback effectively Share power and control	Demonstrate caring collaboration and independence

### Case Study 4.2 Four stages of team building

You are assigned to a rural village and as part of your work you are planning to establish a health team who can work with you to achieve the goal of improving the health of everybody in the community. You have already identified the members of your health team and need to start building your team. You want to apply the four stages of team building so that you will have an effective team.

- As a Health Extension Practitioner selecting and creating this team within your community, what are the steps that you would follow to build a strong team?
- First, form a team by identifying community members who are well informed about health issues. They are interested in participating in the community health work, and are willing to become volunteers (the *forming* stage). After you have identified them, try to build trust and set ground rules and common goals for why you are coming together. Secondly, in the *storming* step, you may want to call a meeting and let everyone express their ideas, feelings and opinions. Do not worry if you find that people hold different views at this stage. Thirdly, in the *norming* stage, every team member should try to understand each other, as they go about decision making about health issues in the community. Fourthly, during the *performing* stage, the team should be able to go about the required work and demonstrate collaboration and independence.

## 4.3 Leading a team

**Leading** is the management function that you will use when influencing, motivating and directing people in your team towards the achievement of your organisational goals. All teams benefit from direction and as a leader you must deal with and motivate the people you work with in your health teams.

- You have studied the concept of leadership in Study Session 2. What critical role do leaders play in healthcare management?
- Leaders in primary healthcare management give a direction for the community about health issues. They help them see what lies ahead and help them visualise what they might achieve; they encourage and inspire all the community members

### 4.3.1 Different styles of leading a team

There are three main styles of leading a team: autocratic, anarchic and democratic. Box 4.3 shows some characteristics of each of these styles.

### Box 4.3 Styles of leadership

Autocratic: 'Do what I say'  
Anarchic: 'Do what you like'  
Democratic: 'Let us agree on what we are to do'

Autocratic leaders tend to be dictatorial, saying for example 'Do what you are told, and don't ask questions!' Anarchic leaders tend to say things like, 'I don't care what you do, so long as you keep out of my way!' Democratic leaders are consultative and take advice from their team, saying things such as, 'These are the goals we have to achieve. Let us agree how best to work together.'

- Think about the leadership style that might be most effective when working with health teams in your community. Which style do you think it would be best to adopt?
- A consultative or democratic style is most suitable for any team work that demands creativity and community involvement. Effective Health Extension Practitioners have a democratic style and help to build teams that are happy and hard working.

## 4.4 Motivating a team

As most of your team members are likely to be unpaid volunteers, motivation of team members is going to play an important role in the success of any health plan for your community. When each team member feels important to the team and trusts the team they will bring their best skills to the group. This will boost the team and motivate its members to succeed (Figure 4.5).



Figure 4.5 A well-motivated health team in a Health Centre or in the community will work well together and be able to achieve their health goals.

(Photo: I-Tech/Julia Sherburne)

In Box 4.4 you will find a checklist of some effective methods you can use to keep your team motivated.



### Box 4.4 Keeping your team motivated

- Take the time to meet with and listen to team members.
- Provide teams with specific and frequent feedback about their performance, and support them in improving their performance.
- Recognise, reward and promote high performance; deal quickly with poor performance so that they can improve and learn from mistakes.
- Provide information on how the organisation has achieved or failed to achieve the community health goals.
- Involve teams in decisions, especially those decisions that affect them.
- Give members of the team the opportunity to grow and develop new skills.
- Provide team members with a sense of ownership in their work and their working environment.
- Strive to create a work environment that is open, trusting and fun.
- Encourage new ideas, suggestions and initiatives.
- Celebrate individuals' successes and take time for morale building team meetings and activities.
- Personally thank team members for doing a good job.

- Look through the list of motivational ideas in Box 4.4. Which of these methods do you think will be the most difficult to achieve?
- Lots of these ideas are actually interconnected. If the entire team works in a good atmosphere and is used to giving help and support to all its team members then most of these motivational ideas will become routine and the team should go from strength to strength.

## 4.5 Training your team

Training a local health team is one of the Health Extension Practitioner's responsibilities. The Health Extension Programme uses community member training as a means of making the best use of people in the community. The quality of healthcare and its equitable distribution in a population depends upon the staff employed by the health services, and upon community members trained with some knowledge and skills of health.

A team leader uses training to make sure that each member of the team can play their part in achieving their goals, both as an individual and with other members of the team. Training as a means of solving health problems must be closely related to work in the field, and to the management of priority health problems.

- Why do you think it is important to provide training for members of your team?
- To make sure that each member of a team knows and can play their part in achieving the goals of the health system. This can be difficult to do but with practice you will be able to provide interesting and effective training for your team.

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## 4.6 Conducting meetings

Meetings are a necessary part of the Health Extension Programme because meetings are the way in which health teams communicate with people in their locality (Figure 4.6).



Figure 4.6 Meetings are the usual way that you can get your messages across to large numbers of people at the same time. (Photo: Henk van Stokkom.)

In the delivery of health services to the community you may be able to use a variety of different types of meetings:

- Large public meetings, often held in the open air, to encourage people to express their views on a community health problem or to inform and explain something new to the community.
- Small meetings often held with community leaders to identify health problems and needs.
- Meetings with special groups, such as young people or mothers, for the specific purposes of health education.
- Regular meetings of the health team.
- Committee meetings, which may be important in making decisions about new ideas.
- Discussion groups to learn new skills, techniques and approaches.

### Box 4.5 Planning your meetings

When preparing for a meeting it is useful to plan the following:

- purpose of meeting
- main subject matter
- type of meeting
- size of meeting
- place, time and duration of meeting
- who is convening and organising the meeting
- announcement or information about the meeting.

- Look carefully at Box 4.5. Imagine that you want to hold a meeting to tell local mothers about their contraceptive choices. What planning would you do before the meeting started?
- The more planning that you do before the meeting the more likely it is to run smoothly. You certainly need to cover all the points in this box and be sure that all these items are clear in your mind.

### 4.6.1 Purpose

Some meetings are called to communicate information, others to exchange views and ideas, and others to make decisions about plans or activities (Figure 4.7).



Figure 4.7 Meetings go best if you can demonstrate what you are talking about. A good demonstration will help you put across your health messages. (Photo: Marie Stopes International)

In all cases, the purpose of the meeting should be made clear. For a formal committee, the agenda should state the purpose. However, it is worth writing a brief summary of the purpose, stating what it is hoped to achieve.

### 4.6.2 Have an agenda

If a meeting is to be useful, each person present must have as much information as possible about the agenda to be discussed. Distribute the agenda to participants before the meeting so participants can be prepared for the meeting. If this is not possible then spend a few minutes at the start of the meeting creating the agenda and taking suggestions from the people who are present.

### 4.6.3 Start on time and end on time

Every meeting should have established start and end times. Be sure to start your meetings at the appointed time and run no longer than the end time. You may want to estimate a period of time for each agenda item so that all agenda items can be covered in the time available.

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#### 4.6.4 Maintain focus

Stay on topic and avoid the temptation to get diverted by interesting but unproductive points of view. Stick to the topic and the timelines you set for each item on the agenda.

#### 4.6.5 Capture action points

Have a system for capturing, summarising and assigning action points to individual team members. This can often be handled by assigning specific roles to people who are at the meeting, such as timekeeper and reporter. Check on progress at the next meeting.

#### 4.6.6 Get feedback

Get feedback on your meeting management. Remember that feedback tells you not only what you did right but also what you did wrong, providing you with ideas on how to make your future meetings more effective.

### Summary of Study Session 4

In Study Session 4, you have learned that:

- 1 Getting organised involves bringing together the right combination of human, physical and financial resources to successfully undertake planned health activities to achieve a common goal.
- 2 Building a team usually goes through four stages: forming, storming, norming and performing.
- 3 Motivation encourages health teams to participate and produce good results. There are a number of different mechanisms for motivating teams.
- 4 Training is used by health managers to make sure that local people are equipped to deliver health services at the community level.
- 5 Running effective meetings will help you to achieve your health goals.

### Self-Assessment Questions (SAQs) for Study Session 4

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering the following questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

#### **SAQ 4.1 (tests Learning Outcome 4.1)**

What do you understand by the term ‘implementation’? Say why it is important in the work of a Health Extension Practitioner.

Why do you think that Health Extension Practitioners should be involved in leading their communities in health matters?

**SAQ 4.2 (tests Learning Outcomes 4.1 and 4.2)**

Imagine you are planning a project to test school students for HIV. How would you implement this health plan? Fill in the grid below to help you plan the things your team should do to help you in this task.

Organising your team	HIV testing project
What is to be done?	
Where will the action take place?	
When will the action take place?	
What equipment is needed?	
How will the activity be arranged?	
Which members of the health team will be involved?	
Who outside the health team will be involved?	
Who will do what?	
Who will lead?	
Is all the necessary information available?	
Has the information been communicated?	

**SAQ 4.3 (tests Learning Outcome 4.5)**

Using the grid below, describe how you would plan a meeting to discuss latrine use in your village.

Purpose of meeting	
Main subject matter	
Type of meeting	
Size of meeting	
Place, time and duration of meeting	
Who is organising the meeting?	
Information about the meeting	

**SAQ 4.4 (tests Learning Outcome 4.3)**

What are the main stages of team building? How do you think knowledge of these stages will help you develop the teams to help you implement your health plans?

SAQ 4.5 is on the next page.

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**SAQ 4.5 (tests Learning Outcome 4.4)**

Imagine you were trying to run a health club in a school in your village. How would you motivate the health team involved? It might help you to look at the list of motivational methods in Box 4.4.

# Study Session 5 Monitoring and Control

## Introduction

Monitoring and controlling performance is widely accepted as one of the most important managerial functions. In this study session you will learn about the key managerial tasks related to monitoring and control. These include activities and resources that will ensure that your healthcare work is effective in achieving planned objectives and will enable you to better understand the link between planning, implementation and control of your health plans. Monitoring and control of your work will also help you to decide the actions that need to be taken when any deviation from objectives occurs.

In this study session you will explore the factors that need to be considered when setting up an effective system of monitoring and control for your own practice. You will also consider how to monitor and control the volunteers and model families in your community who contribute to the healthcare of your community.

Finally, you will learn how to generate information through observation and the collection of routine statistics and reports, in order to monitor performance against set standards.

## Learning Outcomes for Study Session 5

When you have studied this session, you should be able to:

- 5.1 Define and use correctly all of the key words printed in **bold**. (SAQs 5.1, 5.2 and 5.4)
- 5.2 Explain the importance of monitoring and control for your healthcare practice. (SAQs 5.1 and 5.2)
- 5.3 Identify the main ways of gathering the information you need for monitoring and performance control of your health work in the community. (SAQ 5.3)
- 5.4 Describe how you would provide constructive feedback to someone whose performance you are monitoring. (SAQ 5.5)

## 5.1 Monitoring in healthcare management

**Monitoring** is about collecting information that will help you answer questions about the health-related performance of you and your team. As a Health Extension Practitioner you will be expected to check on how well your activities are progressing. It is important that you record and monitor the services you are providing in a planned, organised and routine way so that you can use this information to report on your team's performance.

- What is monitoring?
- Monitoring is the regular observation and recording of activities that will help you answer questions about your team's performance.



Each Health Extension Practitioner needs to keep records and notes, and you should also discuss with the people around you what you are doing in your work. This simple checking becomes known as ‘monitoring’ when information is collected routinely and systematically against a plan. The information might be about the services you are providing, for example the number of children vaccinated or number of bed nets distributed, or about other activities such as training volunteers and model families, or even organising health education events. You can collect monitoring information on a daily, monthly or quarterly basis. Monitoring also involves giving information to your supervisors and managers about the health services that you are providing for the community (Figure 5.1). For example reporting the number of children vaccinated in the village.



Figure 5.1 Even when you are very busy you need to collect information about the number of people attending your clinic and the reason why they came. This simple form of monitoring will inform your supervisor about the work you are doing. (Photo: UNICEF Ethiopia/Indrias Getachew)

- Which of these items should be monitored as part of your work as a Health Extension Practitioner?
  - The number of vaccinations given to children in your *kebele*.
  - The number of bed nets distributed.
  - The number of people attending your health education activities.
  - The number of model families that you have trained.
- In fact all these functions are important parts of your work and should be regularly monitored.

Reporting enables gathered information to be used in making decisions to improve service performance. For example, if monitoring identifies the shortage of bed nets in the village you should report this to your supervisor.

### 5.1.1 The purpose of monitoring

Monitoring is very important in Primary Health Care service planning and implementation.

Box 5.1 sets out some of the ways that monitoring information can be used by you and your team of village level health workers such as model families and other volunteers. Getting information in this way will also be useful for your supervisor and other managers in the health services.

### Box 5.1 The uses of monitoring information

- Understanding the health situation in your community and how the health services are performing.
- Determining whether the resources in the health services are being well used.
- Ensuring that all activities are carried out properly by the right people and at the right time.
- Ensuring that activities and tasks are performed in accordance with set standards.
- Identifying health problems facing the community and starting to find solutions.
- Ensuring community groups and local individuals participate appropriately in health activities.

- Look closely at the uses of monitoring information that are set out in Box 5.1. Which of these uses will be helpful to you as a Health Extension Practitioner, and which will be of use to your supervisor and managers in the health service?
- In fact all these items will be of use to you when you are trying to record and report back on the work that you do. Information on all these activities will also be useful for your supervisor and other managers in the health service.

Here are some basic points for successful monitoring:

- Build simple information collection methods.
- Understand why you collect all those pieces of information.
- Make sure that all your monitoring records are completed fully and accurately.
- Give people who are providing you with information feedback on the monitoring results and explain to them how monitoring is being used to make the service more effective.
- Check that the service is not collecting the same piece of information more than once.
- Why do you think it is important to be accurate in your collection of information about the services that you are providing?
- Inaccurate information may lead to the wrong action being taken in the future. If the correct data is not collected then it becomes impossible to plan proper healthcare for the people in your community.

### 5.1.2 Methods of gathering information for monitoring

In reporting your health-related activities, you need to collect information that will tell you how well you have done in terms of your targets, and compare this information with the things you planned to achieve.

Some of the sources of information available to you include:

- Examining records: for example health service records, financial and administrative records.
  - Documentation: for example letters, reports, plans, attendance lists, forms, invoices, receipts, minutes of meetings and official reports.
  - Continually observing work progress, staff performance and service achievements.
  - Discussing progress and any problems with staff and with the community.
- When doing your monitoring, what information is routinely collected and what information will you have to collect specially for monitoring?
- The whole idea of monitoring is that you do not need to collect special information. All the information you require should be collected on a routine, systematic basis. No special information is required, just the regular statistics that should be gathered during your usual work.

Standard reporting formats, such as tally sheets (Figure 5.2), need to be designed to collect health information data from the client or patient records.

Name of Health Post \_\_\_\_\_

Date of report: mm/dd/yy \_\_\_\_\_

Form I Monthly tally sheet on immunizations given to children under five				
Type of vaccination	Sex		Total	Notes
	Female	Male		

Report prepared by \_\_\_\_\_ Approved by \_\_\_\_\_

Signature \_\_\_\_\_ Date of submission \_\_\_\_\_

Figure 5.2 An example of a simple tally sheet used for collecting data on the number of children vaccinated.



Figure 5.3 Some of your monitoring records can be recorded on tally sheets. (Photo: Yesim Tozan)

Standardisation of the reporting format is usually done by the Ministry of Health or Regional Health Bureau. However, as a Health Extension Practitioner you may need to develop some data collection forms yourself so that you can collect information about the work that you and your team are doing (Figure 5.3).

In order to obtain a comprehensive picture of the health status of people in your community, information from additional sources may be needed. You should always have a notebook to collect data as you go about your work (Figure 5.4). It may also be necessary to collect extra information from sources such as non-governmental (NGO) community-based organisations and nearby health facilities. For example, if a community-based organisation trains peer educators on social mobilisation, or provides services for orphans and vulnerable children, you should collect this information from them so that you can report to the next level about your community health services as a whole.



Figure 5.4 You should always be prepared to gather information that will help you monitor all your activities. (Photo: Marie Stopes International/Susan Shulman)

Information obtained from monitoring can be used to identify day-to-day problems, as well as for regular planning of the health work in your community. It is essential to be aware of the significance of the information you collect and to be confident of its correctness. Records must be reviewed at regular intervals and information must be verified. For example, you may be able to confirm the accuracy of your records by asking questions such as:

- Is the programme or service operating as needed?
  - Are the volunteers completing the model household checklists correctly?
  - Is training of model households being carried out as intended?
  - Does the Health Post receive adequate vaccination kits?
- What other organisations do you think might provide information that could help you with monitoring the work of the health services within your community?
  - Not all health service activity is provided by the Federal Ministry of Health; there may also be NGO health-related organisations at work in your area. Other government agencies and community groups may also be involved in keeping people healthy. Your monitoring activities should also include their work.

### 5.1.3 Using a checklist

As a Health Extension Practitioner you may need to use checklists to observe performance and recognise problems in work standards (Figure 5.5). A checklist is a set of criteria that you can prepare to assist you in monitoring your own activities. A checklist can also be a record or a reminder of what has been happening so that you can follow the progress you are making. This will help you to trace the causes of any work problems. Problems may be caused by personal, administrative, technical or organisational difficulties. For example, receiving expired drugs is a technical fault.



Figure 5.5 The best village level healthworkers will always be taking notes that can be used for monitoring their performance – wherever they are. (Photo: Yesim Tozan)

### Case Study 5.1 Monitoring vaccination coverage rates

In *kebele* X the objective for this year is to vaccinate 85% of the children under six months of age with oral polio vaccine (OPV).

There are a total of 550 eligible children in the village, so the target figure is  $85/100 \times 550 = 468$  children to be vaccinated in the year.

The monthly checklist for vaccination of these children is shown in Table 5.1. The first column shows the number of children who have been newly vaccinated each month. The second column is a cumulative total of the actual number of children vaccinated to date. The checklist records the monthly figures for the past six months and you can see that 263 eligible children have been vaccinated so far.

This number can be compared with the target of 85% of all 550 children, which is 468, to see whether the work is progressing as expected.

Table 5.1 Monthly checklist of number of children vaccinated.

Months	Number of children vaccinated each month	Cumulative total number of vaccinated children
January	20	20
February	23	43
March	35	78
April	50	128
May	55	183
June	80	263

- Looking at the monthly checklist in Table 5.1, is the trend of numbers of children being vaccinated increasing or decreasing?

If the current trend continues over the next six months, will you achieve your target? Explain how you would show this in your report.

- Yes, the figures in the table show an increasing trend over the last six months of newly vaccinated children under six months of age. In January only 20 children were vaccinated, while four times this number (80) were vaccinated in June.

Comparing what has been achieved (263) with what has been planned (468) you can calculate that a vaccination target of 57% has been achieved in the first six months ( $263/468 \times 100 = 57\%$ ). This shows that if the current trend continues, you are likely to achieve the target of 85% by the end of the year.



Figure 5.6 A good supervision session is part of your monitoring work. It should help you understand how your work is progressing and determine ways of helping if there are any problems. (Photo: I-Tech/Julia Sherburne)

#### 5.1.4 Supervision

Monitoring information can also be gathered through supervision. **Supervision** is usually a meeting at which you are able to sit down with a senior colleague and discuss issues that are important in your work (Figure 5.6). It is one way to make sure that your objectives correspond to the health needs of your community. It might also be that as a Health Extension Practitioner you find



yourself doing supervision of other members of your team. During that sort of supervision you can discuss, explain, justify, and obtain the commitment of community workers to the objectives of the programme. Supervision makes sure that there are no divergences between the objectives and the team's standard of performance. It seeks solutions to any conflict that may have arisen between the health practitioners and community workers or members of your community regarding the programme objectives.

Supervision is one way to discover how tasks entrusted to different categories of worker are carried out, and under what conditions. You should be able to analyse the factors that result in satisfactory performance and uncover any obstacles to meeting your objectives. It helps you to determine the causes of difficulties.

- What is the similarity between running a supervision session for a member of your team and being supervised yourself by a more senior colleague?
- In both instances it should be possible to have an open discussion about work plans and how you and your team are working towards improving the health of your community.

## 5.2 Steps of managerial control

**Control** is a basic managerial function involving setting standards, evaluating against standards and taking corrective action. It is the process of regulating service activities so that your performance conforms to expected standards and goals, and it ensures that the necessary corrective action is taken whenever deviations occur.

In managerial terms, control ensures that your health work is accomplished according to agreed action plans. It is a process of ensuring that the work that you do produces the desired results. Control is a continuous activity. As a Health Extension Practitioner you will need to control your local primary healthcare services and the resources you have in order to minimise mistakes, inefficiency and wastage.

If there are things going wrong with your services, monitoring will point the way to timely corrective action which should lead to an improvement in the performance of your health team.

- How can monitoring information accurately help maintain effective control?
- From the previous section, you know that monitoring performance on a regular basis helps you to know where you are in term of work progress, staff performance and service achievements.

As a Health Extension Practitioner you will be involved in the four steps of controlling. First of all, you should establish the necessary standards required to ensure that achievements are in accordance with your overall plan. In the second step, you measure performance. In the third step you compare that performance with the predetermined standards. If there is any deviation you will be able to take corrective action, which is the final step in the controlling function.

### 5.2.1 Establishing standards of performance

The first step in the control process is the establishment of standards for the measurement of performance. Standards must be established and expressed in such a way that the people concerned can easily understand them and the outcomes can be measured without difficulty.

Your standard might be to increase the number of pregnant women attending antenatal care by 20% in the village this year.

- Do you think this a suitable standard?
- Yes, standards of performance should be simple and capable of achievement with a reasonable commitment of cost, effort and time.

### 5.2.2 Measuring performance

The second step in the control process is the accurate measurement of performance (Figure 5.7). You should measure your actual performance and compare it with the standards you have set. Quantitative measurements should be done in cases where standards have been set in numerical terms; for example 500 pregnant women should attend your antenatal care service this year. This will make measuring performance quite easy and simple. In other cases, the performance can be measured in terms of qualitative factors, for example, how well the model household training went.



Figure 5.7 Accurate record keeping is always important when monitoring and controlling performance. (Photo: Henk van Stokkom)

- Which of these performance measurements is quantitative?
  - (a) 16 couples had HIV testing before marriage.
  - (b) 326 ITNs (insecticide treated bed nets) were distributed in the *kebele*.
  - (c) All the women who came for antenatal care gave positive feedback.
- (a) and (b) are quantitative measurements because they have numbers attached to them. (c) is qualitative because it tells us about the quality of the service that has been provided.

### 5.2.3 Comparing performance with standards

The third step in the control process is the comparison of performance with established standards. You can base your comparison on the monitoring information you collected for services that you have provided or activities you have organised. Then you summarise the outcomes as *planned* versus *actual* results. See Table 5.2 for an example.



Table 5.2 Comparison between planned activity and actual performance.

Activities	Planned (target)	Performed (actual)	Percentage achieved
Antenatal visits during the year	500	250	50%
Train model households during the year	180	120	66%
Number of community events conducted	3	2	66%

### 5.2.4 Taking corrective action

The fourth and final step in the control process is taking corrective action. When problems are identified, corrective action is obviously called for. This involves those in management roles taking appropriate decisions, such as the replanning or redrawing of goals or standards and perhaps changing the way that things are done. This may also require further training of the healthworkers in your team.

- Look closely at Table 5.2. How do you think these figures could help you to plan your future activities?
- None of the targets have been met during the year. But the number of antenatal visits is the target that has been missed by the greatest amount. This will require the most effort during the coming year.

## 5.3 Constructive and effective feedback

We all need feedback to help us improve. As a Health Extension Practitioner you will have colleagues and team members working at your Health Post and in your community. If a member of your team does something well you will want to praise and reward them, but if they are performing poorly you should let them know so they can improve. Try to be specific. People generally want to know about their performance but giving negative feedback can be difficult – you don't want to hurt feelings or cause offense.

### 5.3.1 Giving effective feedback

Using your monitoring and control mechanisms you have determined the success or failure of your groups' performance. Your feedback to individuals must be based on the evidence you have gathered from the monitoring and controlling process. Feedback must also be timely – it is no good giving the feedback after the opportunity for improvement has already passed.

Once expectations have been established that feedback will be a routine part of your management function, it should be given regularly, whether good or bad. A summary of key principles is given in Box 5.2.

### Box 5.2 Giving effective feedback

Effective feedback should be:

- based on previously established performance goals/standards
- timely
- regularly given
- specific
- constructive
- motivating
- a routine part of your management function.

- Look at the features of effective feedback in Box 5.2. Which of these do you think it is most difficult for managers to deliver?
- If this type of feedback is a routine part of management it should become easier, with experience, to deliver feedback. Corrective, constructive criticism is harder to provide than positive, reinforcing feedback. It needs to be handled sensitively.

### 5.3.2 Giving constructive criticism

Giving effective, constructive criticism usually involves three main steps:

#### Step 1 Provide feedback in a one-to-one meeting

Always try to give your feedback during a one-to-one, private session. Deliver the message in a single, focused conversation and go directly to the point. For example: *'I want to give you some feedback on your work. You planned to conduct three community meetings last quarter, but have only done two so far. I want to help you to perform better in the coming quarter. If you need any help I would be happy to assist.'*

#### Step 2 Be specific

Be specific about what's wrong and how it can be improved. Constructive criticism should focus on specific actions or behaviours that the person can change or do something about. Instead of general criticisms say something more specific, such as *'When Mr. Kebede arrived at the Health Post, you did not greet him or shake his hand. He may have thought that you were rude.'*

#### Step 3 Reinforce the relationship

In order to maintain a good relationship, your criticism needs to focus on an action or level of performance, not on the person. You want a change in behaviour. You should send the message that you value the person but not the specific behaviour or performance in question. Effective feedback requires direct, truthful communication which will help build honest, open relationships between you and your team.

## Summary of Study Session 5

In Study Session 5, you have learned that:

- 1 Monitoring and controlling performance are important managerial functions for measuring performance against targets and standards.
- 2 Corrective action should be based on the evidence obtained by your monitoring processes.
- 3 Monitoring can be done with the help of a tally sheet or by means of interviews and discussions, and by studying records and reports.
- 4 Giving effective feedback is an important part of monitoring and control.

## Self-Assessment Questions (SAQs) for Study Session 5

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering the following questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

### **SAQ 5.1 (tests Learning Outcomes 5.1 and 5.2)**

What is monitoring and why is it important for improving your local health services?

### **SAQ 5.2 (tests Learning Outcomes 5.1 and 5.2)**

How do you think that you should monitor and control the health services that are your responsibility?

### **SAQ 5.3 (tests Learning Outcome 5.3)**

What sorts of information will you need to collect in order to monitor and control your health activities?

### **SAQ 5.4 (tests Learning Outcome 5.1)**

In what ways do you think that supervision can add to the effectiveness of your monitoring and control activities?

### **SAQ 5.5 (tests Learning Outcome 5.4)**

Zewde, a Health Extension Worker, who is a member of your health team, has not been performing well over the last few months. None of her recent targets have been met and members of the community have told you that she is rude to them. How would you give constructive feedback to her?



# Study Session 6 Management of Supplies at Health Post Level

## Introduction

This study session will introduce you to some of the aspects of resource management that will be relevant to your work as a Health Extension Practitioner. You have already learned about managing your own time and performance, and that of other people in your team (i.e. human resource management) in Study Sessions 4 and 5. In this study session we will focus on resource management of the drugs and equipment needed at your Health Post.

An important aspect of your work is getting the best use out of the resources that you are in charge of. The successful performance of your healthcare activities will depend on using your resources in the most efficient way, because, obviously, limitations of resources will prevent the full attainment of your objectives. But how can you avoid resource problems from happening? This study session will equip you with the knowledge and skills to apply to resource management problems at Health Post level, so you can ensure that your healthcare activities are supported by adequate resources. We will teach you a system for estimating quantities, ordering supplies and preventing wastage that should enable your work to run smoothly.

## Learning Outcomes for Study Session 6

When you have studied this session, you should be able to:

- 6.1 Define and use correctly all of the key words printed in **bold**. (SAQ 6.1)
- 6.2 Describe the actions you would take to maintain essential Health Post equipment and prevent breakdowns. (SAQ 6.2)
- 6.3 Describe how you would manage Health Post stores in order to maintain essential health services in your community and reduce wastage. (SAQ 6.3)
- 6.4 Explain how you would estimate quantities of drugs and other consumable supplies on the basis of rates of use. (SAQ 6.4)
- 6.5 Explain why it is important to educate Health Post staff, volunteers, patients and parents about the correct use of drugs and other consumable supplies issued to them. (SAQ 6.5)

## 6.1 What are the supplies at your Health Post?

At each Health Post and health centre there are stores of essential equipment, drugs and other supplies that you will need to use during your routine healthcare work. It would make your work very difficult if one day the things you needed were not available, so it is important to plan and manage these stores as accurately as possible. You have already learned a lot about planning, implementing and monitoring your healthcare activities (Study Sessions 3 and 4). Here we focus on a specific aspect of this process: the management of your Health Post supplies.

The standard Health Post kit containing essential equipment and other supplies was developed by the Ethiopian Federal Ministry of Health (FMOH) in 2005. These kits are of two types: *Health Post Kit A* and *Health Post Kit B*. The only difference between Kits A and B is that Health Post Kit A has a refrigerator, while Health Post Kit B has a cold box instead of a refrigerator.

There are two main types of supplies in your Health Post, referred to as *non-consumables* and *consumables*. We will look at each of these in turn.

### 6.1.1 Non-consumables

**Non-consumables** are items of equipment that can be used for years, but may eventually have to be replaced or updated. Table 6.1 shows the list of equipment issued to Health Posts by the FMOH in 2005 in Kit B, for use by Level-III Health Extension Workers. There may be local differences in the equipment issued to you and new items will be added relating to your greater responsibilities as a Level-IV Health Extension Practitioner (HEP). The list may also change in future in accordance with changing FMOH policies. But Table 6.1 will give you a good idea of what a standard equipment list for your Health Post will be like.

Table 6.1 List of non-consumables in Health Post Kit B, FMOH, 2005.

Catalogue no.	Non-consumable items	No.
S0481053	Thermometer, clinical, digital, 32–43°C	2
S0157000	Steriliser, steam, 24 litre	1
S0170000	Stove, kerosene, single-burner, pressure	1
S0141020	Scale, electronic, mother/child, 150 kg × 100 g	1
S0145555	Scale, infant, spring type, 25 kg × 100 g	1
S0189000	Weighing trousers/PAC-5	1
S0350000	Arm, circumference insertion tape/PAC-50 Spec. for Ethiopia	1
S0101000	Bed, labour/delivery, w/access	1
S0630000	Flashlight, pre-focused	1
S1802212	Battery, dry cell, alkaline, D, 1.5 Volt	2
S9910005	Surgical instruments, dressing, SET	1
S9902218	Midwifery kit	2
S0334700	Jug, measuring, 1 litre	1
S0237000	Bowl, stainless steel, 180 ml	4
S9975020	First Aid Kit A	1
U439410	Membrane micro-filter, water, small scale, 1EA	1
0010089	Vaccine carrier, large, capacity 1.5–3.0 litre, PIS Ref: E4/83-M	1
0010015	Vaccine cold box: Blow Kings Model, PIS E4/76-M	1

In addition, your community members will provide some simple furniture for your Health Post, such as a table, chairs, shelves, etc., like those shown in Figure 6.1.



Figure 6.1 This Health Post near Butajira in the Oromiya Region of Ethiopia has been well equipped with furniture and shelves by the local community members. (Photo: Ali Wyllie)

### 6.1.2 Consumables

**Consumables** are items that are used within a short period of time, so they need to be regularly replaced. They include all the medicines, drugs, vitamin supplements and infusion fluids (for intravenous use) that you will be trained to give to your patients in specific circumstances, and also the disposable (single-use) items of equipment and other supplies. Table 6.2 shows the list of consumables issued to Health Posts by the FMOH in 2005 in Kit B, for use by Level-III Health Extension Workers. Remember that there may be local differences in what is issued to you and new items will be added relating to your greater responsibilities as a Level-IV Health Extension Practitioner.

Table 6.2 List of consumables in Health Post Kit B, FMOH, 2005.

Catalog no.	Consumable items	No.
S1555965	Paracetamol 500 mg tabs, PACK, 1000	1
S1550020	Ferrous salt + folic acid 60 + 0.4 mg tablets, PACK, 1000	16
S1561121	Oral rehydration salts (ORS), new formula, 1 litre, BOX, 1000	1
S1555370	Albendazole 400 mg tablets/PACK, 100	10
S1553105	Povidone iodine solution 10%, BOTTLE, 500 ml	5
S1531505	Chlorhexidine conc. sol. 5%, BOTTLE, 1000 ml	2
S1510000	Tetracycline eye ointment 1%, TUBE, 5 g	10
S0330102	Gloves, gynaecological, size 7.5, sterile, disposable, pairs	100
S0566005	Tape umbilical, 3 mm wide × 50 m long, non-sterile	4
S0319000	Extractor, mucus, 20 ml, sterile, disposable	50
S0523055	Compress, gauze, 10 × 10 cm, sterile, PACK, 5	60
S0523005	Compress, gauze, 10 × 10 cm squares, non-sterile, PACK, 100	5
S0503010	Tape, adhesive, ZO (zinc oxide), 2.5 cm wide × 5 m long	12
S0519600	Cotton wool, 500 g roll, non-sterile	10
S552000	Soap, toilet, bar, approx. 110 g, wrapped	36
S1588350	Water purification tablets (NaDCC) 8.5 mg tablets, PACK, 100	10
S0330011	Gloves, examination, latex, medium size, disposable, BOX, 100	5



Note, that as a Level-IV Health Extension Practitioner, when your training is complete you will also be issued with additional consumable items for your Health Post. These higher-level consumables include the oral antibiotic *amoxycillin*, the injectable drug *oxytocin* (to help the uterus contract after childbirth), sterile bags of intravenous infusion fluids, and the intravenous tubing, cannulae and other equipment for pre-referral treatment of haemorrhage (e.g. following childbirth or an injury causing excessive bleeding), and the catheter and special tubing for draining urine from the bladder in cases of obstruction during labour and delivery.

- Look closely at Figure 6.2. Make a list of all the health-related equipment that you can see. Which of these items are consumables and which are non-consumables?



Figure 6.2 Items on the table in a rural Health Post. (Photo: Basiro Davey)

- The disposable syringes, the vials on the table and the pen and papers are consumable items. The blood pressure apparatus, stethoscope and the table are non-consumable equipment.

## 6.2 Management of equipment

As a Level-IV Health Extension Practitioner you will be involved in the maintenance of non-consumable equipment in the Health Post, i.e. keeping it in good working condition. What skills do you need in order to fulfil this responsibility?

### 6.2.1 The importance of good maintenance

All equipment must be cleaned, inspected and kept in good order. Defects must be identified and reported to the *woreda* Health Office immediately. Equipment must always be returned to its correct place after use.

- Can you suggest any reasons for maintaining equipment efficiently? Look again at the list in Table 6.1 to help you think about what could go wrong if the items of Health Post equipment are not in good working order when needed?
- You may have thought of:
  - Drugs, vaccines and other consumables that need to be kept cold will be unusable if the refrigerator breaks down or the cold box is damaged.
  - If the steam steriliser (Figure 6.3) is not working properly, infection could result from the use of dirty instruments from the midwifery kit.



Figure 6.3 A steam steriliser in a rural Health Post. (Photo: Basiro Davey)

- If the torch and battery are not properly maintained, you may not be able to see the client adequately if you are called to a house that has no electricity or kerosene lamps.
- Dirty or damp equipment deteriorates more rapidly than equipment that is kept clean and dry – poor maintenance leads to more breakdowns; equipment that is well cared for and returned clean and in good order to its correct place after use will last longer and has to be replaced less often.

The maintenance of all equipment is essential to ensure that it functions correctly and efficiently. Simple maintenance of equipment may be carried out by you at Health Post level, but in most cases trained or assigned technicians or engineers will be sent to the Health Post by the *woreda* Health Office, to maintain equipment such as the refrigerator or steriliser if they break down.

### 6.2.2 Using an inspection checklist and inspection schedule

How often equipment should be checked depends on its purpose and rate of usage. Long-lasting equipment such as the labour/delivery bed, table and chairs may be checked only once a year. Equipment and machinery that is liable to break down (e.g. refrigerator, steam steriliser) need regular and more frequent check-ups.

It is more efficient to carry out or request maintenance of equipment on a preventative basis, according to your inspection schedule, rather than after a breakdown. A major breakdown can be a sign that the maintenance and servicing programmes have failed.

In summary, a good Health Extension Practitioner managing a Health Post takes care of equipment by instructing and motivating her team of Health Extension Workers and community volunteers to feel responsible for the equipment they use, and for inspecting and maintaining it according to the agreed schedule.

In the next section, we consider your responsibilities for ordering supplies when needed, recording and monitoring stocks efficiently, storing them safely, and controlling their use.

## 6.3 Ordering and controlling supplies

This section applies particularly to consumable items, which are frequently used in your healthcare work and therefore need to be restocked regularly (Figure 6.4). Ordering supplies for the Health Post must be done efficiently to ensure that you do not run out of essential items and to avoid wastage due to ordering too much. This is particularly important in relation to items that have a limited lifespan and must be used before a certain date (a subject we return to later).



Figure 6.4 Knowing what supplies of consumable items and long-lasting equipment are needed in your Health Post is an essential aspect of stock control. (Photo: Lesley-Anne Long)

### 6.3.1 Ordering, recording and controlling supplies

You should include the following information when you order supplies from the *woreda* Health Office:

- List the *number* of items you require, based on past use and estimates of current use.
- You may also need to order *replacements* for equipment, e.g. a new thermometer if the one originally issued has broken or been lost.
- State the exact *type* of each item, e.g. torch battery, 1.5 volt.
- State the *quantity* of each item, e.g. kerosene, 20 litres per month.

Each item delivered to the Health Post (whether consumable or non-consumable) will be accompanied by either an invoice or a delivery note. You must place invoices and delivery notes in separate files normally kept for that purpose and labelled appropriately. Receipt of the new item should be entered in the stock book (Table 6.3). After the supplies have been ordered, received and recorded in the stock book, they may be issued for use when needed and the balance remaining in stock recorded in the book (see the right-hand columns in Table 6.3).

Table 6.3 Example of an entry in the stock book at a typical rural Health Post.

Item	Date received	Received from	Invoice number	Quantity received	Quantity issued, date	Balance in stock
Cotton wool rolls, non-sterile	1/4/2010	Woreda store	456	10 rolls		12 rolls
					2 rolls 5/4/2010	10 rolls
					4 rolls 28/4/2010	6 rolls

When you are first deployed to a Health Post, you should make an inventory of the consumables and equipment (Figure 6.5). An **inventory** is a list of items that are kept in your Health Post – the name of each piece of equipment or consumable item and the number in stock (see Tables 6.1 and 6.2 for examples). Each Health Post should keep an inventory of its supplies and new items are added to the list as they arrive.



Figure 6.5 Making an inventory of new equipment is an essential step in opening a new Health Post, as this Health Extension Worker is doing. (Photo: Lesley-Anne Long)

### 6.3.2 Detecting discrepancies and explaining them

A **discrepancy** is a difference between what is reported and what is found. For example, imagine that 18 bottles of paracetamol syrup (Figure 6.6) were issued to a Health Post and entered into the stock register. After one month the Health Extension Worker took an inventory and found that she had issued nine bottles, but only five bottles remained. Four bottles were missing. This is a discrepancy in the stores.



Figure 6.6 Bottles of paracetamol syrup in a Health Post store. (Photo: Basiro Davey)

- Can you think of some possible explanations for this discrepancy?
- You may have thought of several reasons, including:
  - Perhaps the bottles were badly packed and were broken or lost.
  - One of the Health Post staff may have been careless and broken the missing bottles and not reported it.
  - The missing bottles may have been stolen.

If you find a discrepancy when you check your stores, it is important that you try to identify the cause and take appropriate actions.

- Suppose you find out that a volunteer at the Health Post has broken the bottles, but was afraid to report it to you. What should you do? (Think back to Study Session 5.)
- It is your responsibility to manage and improve the performance of this individual, by first discussing with them the circumstances in which the bottles were broken, and advising on how to prevent such an accident from happening again. Then you would discuss the reasons for reporting the breakage and encourage the volunteer to be honest with you about any such incident in the future. Remember to praise the person for admitting what happened and keep his or her performance under closer observation in future appraisals.

### 6.3.3 Ordering supplies to avoid wastage

All drugs, vaccines, vitamins, infusion fluids (etc.) are unsafe to use if they pass their **expiry date**, i.e. the date printed on the package or bottle when the item must either be used or discarded. Therefore, efficient ordering and stock control is essential to avoid wastage. The same principles apply to ordering all the consumable items in your stock – for example, rolls of cotton wool, vials of vaccine or a box of surgical gloves.

You should be able to predict with reasonable accuracy the quantity of each consumable item that has to be ordered. The purpose is to ensure that your Health Post has adequate supplies to deliver the treatments and other health services that you have been trained to give to people in your community.

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Consider the following example of how you would estimate the quantity to order of a particular drug.

More detailed instructions on estimating the quantity required for vaccines, based on their expiry date and rate of usage, can be found in the Module on Immunization.

- If you are treating two new adult cases every day for parasites in the intestines, and the standard treatment in an adult is a total of six 100 mg tablets of mebendazole, how many tablets will you need for a three month (90 day) period?

- The calculation is as follows:

$$2 \text{ (patients)} \times 6 \text{ (tablets)} \times 90 \text{ (days)} = 1,080.$$

So you will need 1,080 tablets of mebendazole for a three-month period.

Calculations like the one above will enable you to estimate the ordering requirements for all the supplies in your stores, based on usage rates.

## 6.4 Management of pharmaceutical supplies in your Health Post store

Pharmaceutical is pronounced 'farm-ah-syoo-tik-al'.

In this section, we are using the term **pharmaceutical supplies** to include all the drugs used for the treatment of defined health conditions or problems (e.g. paracetamol, mebendazole, Coartem, etc.), the vaccines used in the Expanded Programme on Immunization (EPI), and the other tablets or liquids that you may prescribe for patients, such as vitamins, iron supplements and infusion fluids. These items are ordered from the pharmacy at the nearby Health Centre, or from the *woreda* Health Office.

### 6.4.1 Why pharmaceutical supplies must be managed carefully

Drugs, vaccines and other pharmaceutical supplies are a special resource that you need to manage carefully for many reasons, including the following:

- Some drugs (e.g. antibiotics) are expensive resources and must be used wisely.
- All pharmaceutical supplies can expire (i.e. pass their 'use-by' date), so ordering and stock control is essential to avoid wastage.
- Some drugs (e.g. oxytocin) and all vaccines need to be stored at the right temperature, otherwise they will become useless.
- Furthermore, most drugs are much-wanted items and you will have to ensure that good security is in place at all times to avoid theft of your supplies.

Most vaccines must be stored at between 2°C to 8°C.

Your pharmaceutical supplies at the Health Post should be properly managed to ensure that they are available when and where needed. You should calculate the remaining balance and check against what remains on your shelf before requesting more drugs or other pharmaceutical supplies.

You must also consult and get support from the nearby Health Centre or *woreda* Health Office for safe ways of discarding expired drugs, or drugs that have been dispensed to patients but remained unused.

- Can you think of some common reasons for wastage of pharmaceutical supplies?
- You may have identified some of the following reasons that you think could be investigated and perhaps improved:
  - Improper selection of drugs and other supplies, i.e. the wrong items are ordered.
  - Supplies are ordered at the wrong time or in the wrong amounts.
  - Damage, loss or theft of supplies occurs at any stage during transportation from the manufacturer to the Health Post.
  - Spoilage of supplies by wrong storage practices, e.g. failing to refrigerate drugs and vaccines that must be kept cold.
  - Poor explanation to the patient during dispensing, so the patient takes the drug or supplement incorrectly.

### 6.4.2 Storing pharmaceutical supplies safely

You should store pharmaceutical supplies in an orderly manner and record them in the stock book as soon as you collect them or receive them. Drugs should be kept in a cupboard, dry and cool and away from direct sunlight (Figure 6.7). Keep tablets in airtight tins or jars and clearly label each container. Clearly mark all containers with drugs that will expire this year. Vaccines should always be kept in the refrigerator.



Figure 6.7 A drug store at a rural Health Post. (Photo: Basiro Davey)

When storing and using drugs and other pharmaceutical supplies, remember the **FIFO and FEFO principles**:

- **FIFO**: First-In, First-Out (first use the drug that first went into the cupboard or refrigerator)
- **FEFO**: First-Expired, First-Out (first use the drug that will expire first).

### 6.4.3 Monitoring the use of pharmaceutical supplies

Efficient monitoring enables you to:

- Notice when stocks need re-ordering.
- Check drug use against patient treatment.
- Become rapidly aware of discrepancies in drug treatment.



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Discrepancies in drug usage are identified in the same way as discrepancies in equipment stocks. The amount of drug expected to be used is compared with the amount actually used. If there is a significant difference, this is a discrepancy.

### Controlling life-saving drugs and fluids

Sometimes a patient's condition becomes severe or critical so suddenly that only the immediate use of certain drugs or fluids can save his or her life. It is very important that such supplies are always in stock. The absence of these supplies in an emergency may result in a patient dying. This is an unnecessary tragedy and a failure of health service management. To avoid this it is essential to:

- Make a list of life-saving drugs and fluids.
- Place them together on one shelf in the drugs cupboard or the refrigerator.
- Check the shelf frequently or whenever supplies are issued.
- Order a new supply when stocks are depleted by half.

An emergency supplies list for a rural Health Post managed by a Level-IV Health Extension Practitioner might include:

- Normal saline solution (given intravenously through a vein) for pre-referral treatment of severe dehydration or haemorrhage.
- Oxytocin (intramuscular injection) for pre-referral treatment of abnormal bleeding after delivery (postpartum haemorrhage).
- Rectal artesunate or intramuscular injection of artemether lumefantrine for pre-referral treatment of severe malaria.
- Amoxicillin or co-trimoxazole antibiotics for pre-referral treatment of severe pneumonia.
- Paracetamol for pre-referral treatment of severe pain.

## 6.5 Education about drugs and other medications

### 6.5.1 Education for the Health Post team

It is very important that all your staff and volunteers in the Health Post are educated on the importance and use of drugs, as well as the way to handle them safely. In your staff meetings, you should regularly discuss standard drug treatments for common conditions that you are supposed to manage in Health Posts. Make sure that the common standard treatments are clearly displayed on wallboards, for example, the standard treatment guidelines for malaria with the anti-malaria drug, Coartem. Refer to the standard drug lists for your Health Post. Each Health Post should constantly work on standard drug lists and standard treatment guidelines.

### 6.5.2 Special education for patients and parents

Patients with tuberculosis, leprosy or HIV/AIDS who have to take drugs for many months need a great deal of explanation and encouragement. They must continue to take tablets even when they feel better, in case the disease becomes active again. Parents need to be educated about treatments for their children, for example, to kill intestinal worms, and also about bringing their young children regularly for vitamin A supplements.

Malaria treatment at Health Post level is covered in the *Communicable Diseases Module, Part I*.



Patients and parents need to be educated about taking drugs or other medications at the correct time (Figure 6.8). You should also inform them of any special precautions, such as advising pregnant women to take iron tablets with food to reduce the risk of nausea.



Figure 6.8 Educating patients about treatments is a vitally important role for all healthworkers. (Photo: Basiro Davey)

It is your responsibility to ensure that all your patients are fully informed about their treatment and to help them to comply with treatment that has been prescribed for them – either by you or by doctors at the health centre or hospital. Failure of a healthworker to educate patients about essential information regarding their health and treatment is unethical behaviour. In the next three study sessions, we turn to the important subject of ethics in healthcare.

## Summary of Study Session 6

In Study Session 6, you have learned that:

- 1 Consumables and non-consumable equipment and supplies are provided for Health Posts according to lists published by the Ethiopian Federal Ministry of Health.
- 2 Health Post staff are responsible for ensuring that non-consumable equipment (e.g. refrigerator, steriliser) is regularly maintained and that breakdowns are reported quickly.
- 3 Health Post staff are responsible for all aspects of the management of consumables, including ordering stocks to ensure essential services are maintained and to minimise wastage, recording when items are issued so that usage rates can be calculated, and ensuring correct storage to preserve the efficacy of drugs and other medications.
- 4 Effective stock control involves regular inspection of supplies and taking an inventory to detect any discrepancies between the expected stock levels and the actual stock levels. Reasons for any discrepancies should be investigated and corrective action should be taken.
- 5 Drugs and other medications should be used according to the FIFO (first-in, first-out) and FEFO (first expired, first-out) principles to avoid wastage.
- 6 Special attention should be given to stocking adequate supplies of life-saving drugs and intravenous fluids.
- 7 Health Post staff, volunteers and all patients and parents of child-patients should be educated about the standard treatment guidelines and how to take medications correctly.

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## Self-Assessment Questions (SAQs) for Study Session 6

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

### **SAQ 6.1 (tests Learning Outcome 6.1)**

Which of the following items is consumable and which is non-consumable?

- A Antiseptic wipes
- B Oral polio vaccine
- C Thermometer
- D Stethoscope
- E Paracetamol syrup
- F Fetoscope

### **SAQ 6.2 (tests Learning Outcome 6.2)**

During a Friday vaccination session, the Health Extension Worker found that one of the ice packs in the vaccine carrier was leaking and the foam pad became wet. After the session was over, she left the vaccine carrier on the floor of the Health Post with the lid closed and went home for the weekend. What problem could result from her actions? What should she have done?

### **SAQ 6.3 (tests Learning Outcome 6.3)**

Make a list of what actions are expected from you as a Health Extension Practitioner in managing stocks of drugs and other pharmaceutical supplies at Health Post level.

### **SAQ 6.4 (tests Learning Outcome 6.4)**

If on average you are treating five adults per day for malaria and the standard treatment in an adult is a total of 12 tablets of Coartem, how many tablets will you need for a three-month (90-day) period?

### **SAQ 6.5 (tests Learning Outcome 6.5)**

If you do not educate patients or parents of child-patients carefully about their drug treatment, what problems could arise?

# Study Session 7 Principles of Healthcare Ethics

## Introduction

Ethics is about the values that should be respected by all healthcare workers while interacting with individuals, families and communities. Ethics may sometimes be considered a scary term by some healthcare professionals because it is a word that may bring to mind an accusation of wrongdoing or mistakes, but this is not the case.

In this study session you are going to cover the concepts and principles of ethics that are relevant to your work as a Health Extension Practitioner. This will enable you to identify some of the most important ethical issues and then find out how to work to resolve them. Working to clear, consistent ethical principles is one of the most important components for delivering quality healthcare for individuals, families and the community at large.

This study session mainly focuses on ethical issues that you may face in your day-to-day practice and introduces some of the mechanisms you can use in order to resolve them.

## Learning Outcomes for Study Session 7

When you have studied this session, you should be able to:

- 7.1 Define and use correctly all of the key words printed in **bold**. (SAQs 7.1, 7.2, 7.3 and 7.4)
- 7.2 Describe the basic principles of confidentiality and truthfulness. (SAQ 7.1)
- 7.3 Describe the basic principles of autonomy and informed consent. (SAQ 7.2)
- 7.4 Describe the basic principles of beneficence and nonmaleficence. (SAQ 7.3)
- 7.5 Describe the basic principles of distributive and social justice. (SAQ 7.4)
- 7.6 Illustrate your understanding of the ethical theories covered in this study session through the use of examples and case studies. (SAQ 7.5)

## 7.1 Ethical issues in healthcare work

Your work as a Health Extension Practitioner will involve ethical issues – even if you are not really aware that this is the case. Everybody has ethical issues in their lives and ethical theory can help us all to understand these issues – and work out ways of dealing with them.

**Ethics** is the branch of philosophy (Box 7.1 on the next page), which takes a systematic approach to define *social* and *individual morality* – the fundamental standards of right and wrong that a whole society, as well as individuals, learn from their culture and peers. Perhaps you have already started to think about some things in your own life where you have had to take important decisions that might have an ethical component? For example, how should you look after your family when conflicts arise?

How should you deal with people in your community who present you with problems that are difficult to resolve? All these aspects of living your life involve ethical issues (Figure 7.1).



Figure 7.1 Ethics is not a remote subject but is part of everyday life. The way that any society looks after its families, for example, is an ethical issue. (Photo: FMOH/WT)

### Box 7.1 What is philosophy?

Philosophy is the study of general and fundamental problems, such as existence, knowledge, values, reason, mind and language. It is distinguished from other ways of addressing such problems by its critical, generally systematic approach and its reliance on *rational argument*.

#### 7.1.1 Two important ethical theories

In this study session you will learn about two of the most relevant ethical theories for your professional practice as a Health Extension Practitioner. These are called *utilitarianism* and *deontology*.

*Utilitarianism* considers an action as morally right if its outcomes or consequences are good for the greatest number of the population. It focuses on ‘*the greatest good for the greatest number*’. This theory disregards individual rights and considers the welfare of the greatest majority to be the most important factor. For example, it might be necessary to drain a particular pond because it is the breeding ground for mosquitoes – although this might be difficult for the farmer on whose land it is situated (Figure 7.2). In this situation the welfare of the greatest number of people is more important than the rights of the individual farmer.



Figure 7.2 Draining a mosquito breeding ground may be difficult for the farmer but be good for the health of everybody in the community. (Photo: Ali Wyllie)

*Deontology*, on the other hand, considers the way that things are done rather than focusing just on the consequences. This type of ethics holds at its core *the respect for fundamental rights*, such as the right to truth, privacy and the fulfilling of promises (Figure 7.3). Deontology considers the rightness or wrongness of an action. For instance, someone who believes that lying is always wrong, even if a lie might accomplish some good for individuals and society, is following the principles of deontology – although they may never have heard of the theory.



Figure 7.3 It is always important to be clear and truthful about health issues such as the use of contraception. (Photo: Ali Wyllie)

- Imagine that a healthworker tells a mother of ten children that if she takes oral contraceptive pills they will be 100% effective in preventing another pregnancy, and that the pills have no side-effects. Is this approach an example of utilitarianism or deontology?
- The healthcare provider has given wrong information (lying) because there is no 100% effective contraceptive which is without side-effects. However, using contraception has a great benefit to the health and wellbeing of the mother in particular and her family in general. Therefore, the approach taken by the healthworker is an example of utilitarianism, because it contains a lie (so it cannot be deontology), but it may yield a benefit to the woman, her partner and her ten children.

## 7.2 Ethics in practice

In this section you will be able to learn some of the key principles that will help you to think about ethical decisions which you may come across in your work.

The five main principles of ethics are usually considered to be:

- Truthfulness and confidentiality
- Autonomy and informed consent
- Beneficence
- Nonmaleficence
- Justice.

Some of these are difficult words, but in this study session you will be able to consider each of them in turn, using examples that will be familiar to you. This will help you to see how ethical principles are present in almost every aspect of your health work and daily life.

### 7.2.1 Truthfulness and confidentiality

Two concepts that you may commonly face in your day-to-day practice are truthfulness and confidentiality. **Truthfulness** is about telling the truth to someone who has the right to know the truth. For example, if you have been informed about the result of an HIV test taken by someone in your community who then asks to know his/her result, you should tell the person the truth even though this might be very upsetting to that person. The concept of *truthfulness* urges the professional not to lie.

On the other hand, the concept of **confidentiality** urges you to keep a secret – by which we mean knowledge or information that a person has the right or obligation to conceal (Figure 7.4). For example, if the family of a person who has had an HIV test demands that you give them the result, you must not tell them. You must keep the result *confidential* unless your client gives you permission to tell their family.



Figure 7.4 If the client knows that the healthworker is always going to work with the ethical principle of confidentiality in mind, then they will be able to talk freely about sensitive issues. (Photo: UNICEF/Indrias Getachew)

The professional obligation to keep a secret arises from the fact that harm will almost certainly follow if the information is revealed. There are three types of secrets:

- *Natural secret*: information which, if revealed, is harmful by its nature.
- *Promised secret*: information that we have promised to conceal which, if broken, leads to public mistrust.
- *Professional secret*: knowledge which, if revealed, will harm the client, the profession and the society that obtain services from the profession. A professional secret is the most serious of all secrets, because its violation can cause the greatest harm.

#### Case Study 7.1 Chaltu faces a dilemma

Chaltu, a Health Extension Practitioner, is responsible for providing community healthcare for 2,500 households including Mr Gadisa's family.

Mr Gadisa's life is based on farming. He does not have any extra income other than the income he gets from farming. One morning Chaltu went to Mr Gadisa's house to provide health education on family planning to W/ro Bekelech, wife of Mr. Gadisa. While she was having a conversation with her, Almaz, their sixteen-year-old daughter, interrupted



the conversation and asked Chaltu to sit and discuss a private health issue with her.

Almaz began by telling Chaltu that this is a private issue and that she should not tell this to anyone, even her parents and other family members. She said, 'I have a serious problem. Please listen to me attentively. Three months ago, when I went to fetch water for my parents from a lake which is located 3 km away from my house, I was raped by someone whom I don't know. I saw my last menstruation three months ago. In addition I have a foul-smelling discharge from my birth canal. I regularly wash my genitals to remove the discharge, but I can't get rid of this discharge. Now I am asking you to provide me with medicine for my problem and help me with sisterly advice.'

Chaltu sat sadly for a long period of time without giving her a response, thinking about what to do in her mind.

- (a) What ethical issues do you think are raised in Case Study 7.1?
- (b) Which of the following do you think that Chaltu should do? Explain your reasons.
  - 1 Do nothing and hope that someone else deals with this problem.
  - 2 Tell Almaz that she must immediately tell her parents what has happened to her.
  - 3 Refer Almaz to the health centre for pregnancy testing and treatment of her infection.
  - 4 Ask Almaz to come to see her at a place that will be confidential so that more details can be found out.
- You may have raised the following issues:
  - (a) There are immediate ethical issues of confidentiality involved in this situation. Chaltu cannot keep these problems to herself, she has to share her concerns with the healthworkers at the health centre who will be able to treat any infection that Almaz has in her birth canal, and also check if she is pregnant from the rape. But she needs to maintain confidentiality on Almaz's behalf and not tell her parents or anyone else about the rape that has occurred, or the problems that have followed on from the rape.
  - (b) Option 1 is certainly not correct. As a Health Extension Practitioner Chaltu has a duty to help the people in her community. This is especially the case when their problems are difficult. You will have an opportunity to learn more details about the rights and responsibilities of Health Extension Practitioners in a future study session.

Option 2 is probably not a good idea either. Almaz needs to know that she will get support for her problems and will pick her time to tell her parents.

Option 3 is certainly essential because Almaz has problems that need to be sorted out, but which are above the competence of an Health Extension Practitioner.

Option 4 is a good idea as well. Supporting Almaz is not just a matter of referring her for help at the health centre. She will need ongoing help and



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needs to know that her Health Extension Practitioner is willing to offer this support in a comforting and confidential manner.

Case Study 7.1 clearly concerns the issue of confidentiality between a health practitioner and a client. It also raises a number of issues about autonomy and informed consent which you will learn about next.

### 7.2.2 Autonomy

**Autonomy** is another ethical principle that you may already be aware of, but not know by that name. The term refers to every individual's right of self-determination, independence and freedom to make their own choices. In the context of healthcare, the concept of autonomy is most concerned with the ethical obligation of the practitioner to respect their clients' right to make decisions about their own health. Autonomy must be respected even if you, as the healthcare provider, do not agree with the client's decision. For example, in Case Study 7.1, Chaltu may feel that Almaz's parents should know what has happened to their daughter, but you must respect Almaz's right to maintain confidentiality about her condition.

However, there are conditions in which that personal choice or autonomy may be restricted because of concern for the wellbeing of the community. For instance, if a communicable disease, such as tuberculosis, is diagnosed, clients can be required to take prescribed medication and may have to be isolated to prevent the spread of the infectious agent to others.

### 7.2.3 Informed consent

**Informed consent** means that each person who has any sort of procedure done to them in a healthcare context should give their approval for that procedure to be done to them. In order to be fully informed, it is the duty of the healthcare worker to tell the person exactly what the procedure will involve as well as the things that might happen if the procedure is not carried out. In Case Study 7.1 it is clear that Almaz will need further treatment at the health centre and that she will need to give her informed consent for this to take place. There is an ethical obligation on Chaltu, her Health Extension Practitioner, to explain to Almaz what will happen at the health centre, but also the possible consequences if she does not attend.

- Which of the following healthcare procedures that might be undertaken by a Health Extension Practitioner require informed consent?
  - (a) Getting the community together to construct a new latrine.
  - (b) Immunizing a pregnant woman with tetanus toxoid.
  - (c) Testing a young boy to see if he has malaria.
  - (d) Distributing an Insecticide Treated Bed Net (ITN) to a family.
- Procedures (b) and (c) certainly require informed consent to be given. The Health Extension Practitioner should explain the procedure to their patient on each occasion and be prepared to answer their questions and concerns. If the patient is under the age of consent, the parents have to give their informed consent. Constructing a new latrine or supplying ITNs are important parts of the preventive work of every Health Extension Practitioner, but do not require such a degree of informed consent. However, even these preventive activities need to be explained so that they will be adopted by members of the community.

Informed consent is implied in much of the work that Health Extension Practitioners do. In other words if a mother brings her child to the Health Post to be immunized, informed consent is necessary because the Health Extension Practitioner is performing a procedure that has benefits, but may also have side-effects. However, the act of bringing the child for the procedure implies consent, as does attending for a contraceptive injection (Figure 7.5). But Health Extension Practitioners should always explain what they are doing and how it impacts on individuals, their families and the wider community.



Figure 7.5 Informed consent for immunization must be given before any procedure is undertaken. (Photo: Ali Wyllie)

#### 7.2.4 Beneficence and nonmaleficence

In this section you will be able to learn about two important ethical concepts which may be new to you, but which are relevant for your practice. These are called beneficence and nonmaleficence. The term **beneficence** tells you about ‘doing good’ for your client, for instance by providing immunization.

Beneficence is pronounced ‘be-neffi-sens’.

- From your own experience of receiving or witnessing health services at community level, can you suggest some examples of health interventions that demonstrate beneficence by health workers?
- We cannot know for sure what examples you suggested, but here are some you may have thought of:
  - Providing antenatal care for pregnant women.
  - Teaching new mothers about breastfeeding.
  - Health education about family planning, personal hygiene, preparing nutritious food with little money, etc.
  - Immunization.

On the other hand, the concept of **nonmaleficence** tells you to ‘do no harm’ either intentionally or unintentionally to your clients, for instance, not abandoning a client who is in need of your services. As you have seen in Case Study 7.1, Chaltu must not abandon Almaz and leave her to manage her problems without professional help. However, there are circumstances in which it is impossible to ‘do good’ and ‘avoid doing harm’ all at the same time. For instance, you may plan to provide birth control to all the women in your locality who are in need of it, but resource availability, cultural beliefs of the community, clients’ reaction to the service and other factors can limit you from doing good to the greatest number. Moreover, you cannot always avoid doing harm to a client; for instance, in times when a communicable disease

Nonmaleficence is pronounced ‘nonma-leffi-sens’.

arises in your vicinity, you may have to suggest isolating individuals with the infection against their will to contain the spread of the disease and for the good of the majority.

### 7.2.5 Justice

In Sections 7.2.1 to 7.2.4 you studied the concepts of confidentiality, autonomy, informed consent, beneficence and nonmaleficence. In this final section, you will be able to learn about the concept of *justice*, which is an important concept that will help you during your interaction with individuals, families and communities at large.

**Justice** is a complex ethical principle and it entails fairness, equality and impartiality; in other words, it is the obligation to be fair to all people. Most Health Extension Practitioners will understand about justice without necessarily having come across the word itself. The concept of justice will become clearer if you understand the meaning of two categories of justice: distributive justice and social justice.

**Distributive justice** means that individuals have the right to be treated equally regardless of ethnic group, gender, culture, age, marital status, medical diagnosis, social standing, economic level, political or religious beliefs, or any other individual characteristics. Everyone should be treated in the same way.

**Social justice** is based on the *application* of equitable rights to access and participation in all aspects of goods and services provided in a society, regardless of their individual characteristics. Everyone should have access to the same things that might improve their health. As a Health Extension Practitioner, you will be able to carry out distributive and social justice by enabling the inclusion and empowerment of all people living within your area to exercise their rights (Figure 7.6). You can understand the concept of justice from the examples in Case Study 7.2.



Figure 7.6 Justice will have been delivered when all individuals and members of all society are treated in exactly the same way by the health service. (Photo: Ali Wyllie)

#### Case Study 7.2 Justice challenge

*Example 1:* Suppose a Health Extension Practitioner, Fantaye, visits Mr Lemma's family to carry out routine antenatal care and check the pregnancy status of Mr Lemma's wife, W/ro Lemlem. The family of the Health Extension Practitioner has a family dispute with Mr Lemma's family and she only spends a few minutes with W/ro Lemlem and

doesn't tell her about all the services that are available for women when they are pregnant.

*Example 2:* Another Health Extension Practitioner is working in a community which is spread out over a large rural area. She is too lazy to go to the farthest homes to invite them to participate in an environmental sanitation campaign.

- Look at the two examples in Case Study 7.2. Are these examples where social justice or distributive justice is not being carried out?
- In both these examples justice is not being carried out. It is not fair that someone gets poorer services because they come from a particular family that is in dispute with the Health Extension Practitioner (lack of social justice) or live too far away (lack of distributive justice) to be included in preventive health activities.

### Why is justice important?

If you are not fair to individuals and community groups in your vicinity while practising your profession, you will not be able to gain public trust and this will negatively affect your practice. As a Health Extension Practitioner you should be fair and maintain high ethical standards at all times, including confidentiality and truthfulness towards all your clients equally. However, as some of the examples in this study session have shown, you will be faced with dilemmas that are difficult to resolve in harmony with the concepts of respecting autonomy and informed consent, and reconciling the demands of beneficence and nonmaleficence. In Study Session 8 there will be further examples of ethical dilemmas for you to think about and learn from.

## Summary of Study Session 7

In Study Session 7, you have learned that:

- 1 Ethics is the branch of philosophy that takes a systematic approach to help decide what is right or wrong for society as well as for each individual. Utilitarianism considers an action as morally right if its outcomes or consequences are good for the greatest number. Deontology considers duty above the consequences or outcomes of any action and gives priority to respect for fundamental rights, such as the right to truth, privacy and the fulfilling of promises.
- 2 Confidentiality and truthfulness are fundamental to the work of healthcare workers at every level of the health service. Without working to these basic principles healthcare workers will not gain the respect of their community.
- 3 Beneficence is about 'doing good', for example by providing immunization for babies and children in your community. Nonmaleficence is about 'doing no harm', for instance not abandoning your client and making sure all your actions are carefully considered.
- 4 Justice is the obligation to be fair to all people regardless of their individual characteristics, such as age, gender, religion, ethnicity, culture, economic status or political views.

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## Self-Assessment Questions (SAQs) for Study Session 7

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering the following questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

### **SAQ 7.1 (tests Learning Outcomes 7.1 and 7.2)**

Why do you think it is important for health workers to stick to the ethical principles of confidentiality and truthfulness at all times?

### **SAQ 7.2 (tests Learning Outcomes 7.1 and 7.3)**

What is informed consent?

### **SAQ 7.3 (tests Learning Outcomes 7.1 and 7.4)**

Can you give an example of beneficence and an example of nonmaleficence that a Health Extension Practitioner might demonstrate?

### **SAQ 7.4 (tests Learning Outcomes 7.1 and 7.5)**

What is the difference between distributive justice and social justice? Give an example of each type of justice that relates to the healthcare system.

### **SAQ 7.5 (tests Learning Outcome 7.6)**

Imagine that Hamelmal, a 17-year-old, is now three months pregnant as the result of a rape attack. She had a baby last year that she decided to keep with the help of her family, with whom she lives. She has been attending High School and had hoped to complete next year. However, she dropped out of school recently as she had not been feeling very well with this pregnancy.

You are the Health Extension Practitioner caring for Hamelmal. Her mother wants her to have an abortion because of the rape and because she already provides most of the care for Hamelmal's first child. Hamelmal, however, refuses to have an abortion, saying that she loves this baby and is praying the baby will be healthy.

What are the ethical issues or concerns in this situation?

# Study Session 8 Ethical Dilemmas in Health Service Delivery

## Introduction

In Study Session 7 of this Module you learnt about some of the basic concepts and principles of healthcare ethics that you will meet in your work with individuals, groups and communities. In this study session you are going to learn more about some of the ethical dilemmas that you may well face in your day-to-day activities while providing healthcare services as a Health Extension Practitioner.

This study session will also help you to identify some of the common ethical conflicts that may arise in your day-to-day practice and hopefully learn how to resolve them. You will be able to learn additional useful ethical theories and a specific method of decision making that should help you resolve ethical problems that arise in your work.

## Learning Outcomes for Study Session 8

When you have studied this session, you should be able to:

- 8.1 Define and use correctly all of the key words printed in **bold**. (SAQ 8.1)
- 8.2 Identify the ethical dilemmas that exist in a case study presented to you. (SAQs 8.2, 8.3 and 8.4)
- 8.3 Describe two theories that can help you resolve ethical dilemmas that may arise in your health work. (SAQ 8.3)
- 8.4 Understand a decision making process that may be able to help you to resolve ethical conflicts. (SAQ 8.4)

## 8.1 Ethical dilemmas and conflicts

In the previous study session you learnt about some of the core ethical concepts. You will remember that these are autonomy, beneficence, nonmaleficence and justice. In this section you will study more about ethical dilemmas, sometimes called ethical conflicts.

**Ethical dilemmas** arise when a difficult problem cannot be solved in a way that will satisfy everyone who is involved. The same dilemma might occur when a situation arises that involves a choice between equally unsatisfactory alternatives.

In ethical conflicts, the decision maker is confronted with more than one course of action that respects personal, professional and societal morality, but by deciding on one course of action the other course is harmed in some way. For example, as a Health Extension Practitioner you may face confidentiality conflicts. You are morally and legally obliged to keep patient information confidential; at the same time, you may be required to disclose sensitive information because breaking the rules of confidentiality would benefit the family or the wider community. You will be able to understand the subject better when you go through each of the following common ethical issues listed in Box 8.1. For each of these issues you will be presented with a case study to think about.



### Box 8.1 Common ethical issues

- 1 Practitioner–client relationship.
- 2 Privacy and confidentiality.
- 3 Shared decision making.
- 4 Allocation of scarce resources.
- 5 Stigma and illness.
- 6 Reproductive health care.

## 8.2 Practitioner–client relationship

In the previous study session you learnt about the core ethical concepts of autonomy, beneficence, nonmaleficence and justice. These basic principles should always form the basis for your working relationships. In addition to the above principles there are issues like confidentiality, privacy and trust that you also have to think about at all times.

The following case study will help you to explore some ethical conflicts and ways it might be possible to resolve these conflicts.

### Case Study 8.1 Difficult patients

Lemlem, a Health Extension Practitioner at Laelay Michew *kebele*, Central Zone, Tigray Regional State, is approached by Hailemariam, the son of Ato Gebregziabher, a well known Gena player in his locality. Hailemariam asks Lemlem to provide him with some paracetamol tablets because of pain in his knees. In fact Hailemariam doesn't have any pain, but he is trying to accumulate enough tablets to commit suicide. He has also bought additional tablets at a market and asked another Health Extension Practitioner for even more tablets. Sometime later Hailemariam swallowed all the tablets at one time and for a while he was very ill, near to death. Hailemariam didn't die and when he recovered he didn't want others in the community to discover that he had attempted suicide. He began to spread rumours that Lemlem, the Health Extension Practitioner, was incompetent and had prescribed medication that she does not know how to use and that she had harmed him.

Although this is quite a complicated situation, and hopefully you will never be faced with such a difficult case, people in the community may make false accusations against you. For poor Lemlem the dilemma is something like this: she has done nothing wrong at all. She has prescribed some painkilling tablets with the best of intentions when Hailemariam pretended to have some pains. It is Hailemariam who has deceived her, but then gone on to accuse her, falsely, of being an incompetent practitioner. If she does not defend herself then her position in the community may be damaged. People might believe Hailemariam and start to think that she is not very good at her job. But how can she defend herself while still being professional and ethical in relation to her relationship with her patient Hailemariam?

Can Lemlem's ethical principles help her in this situation? Perhaps there are principles of justice involved? Lemlem is certainly in the right and



should have the opportunity to defend herself against these charges. But defending herself might harm her patient. If she successfully wins her struggle against Hailemariam he might lose face in the community and feel that he has to try to commit suicide again. He does sound as though he is very troubled. He has deep psychological problems and has already tried to kill himself - and now he's making trouble for Lemlem. Lemlem doesn't want to harm him (nonmaleficence), but she also feels that she should keep her job and continue to help lots of people in the community (beneficence).

- Which of the following actions do you think that it would be ethical and appropriate for Health Extension Practitioner Lemlem to do? Explain your reasons.
  - (a) Nothing, but let the accusations pass without further comment.
  - (b) Attack Hailemariam publicly and make sure that everyone knows about his psychological troubles.
  - (c) Ask for help from an experienced healthworker at the hospital or health centre.
- It would be a really good idea for Health Extension Practitioner Lemlem to get some help from an experienced practitioner. They will be able to help clarify her ideas and support her in any action she takes in the future to clear her name. If she responds to her patient in any public way then this could be considered to be a breach of confidentiality and may bring about a complaint against her that would be hard to defend.

### 8.3 Privacy and confidentiality

The professional relationship between a Health Extension Practitioner and a client in a rural community is frequently long-term, and may involve the wider families and mutual friends. This closeness may well affect professional responsibilities (Figure 8.1). In this section you will study the ethical conflicts involving privacy and confidentiality in rural healthcare relationships. Confidentiality may involve more complex issues in rural rather than urban settings. People who live in rural areas may well know many of the details of each other's lives and this intimacy makes ethical conflicts related to privacy and confidentiality more challenging compared to urban settings.



Figure 8.1 In rural areas, living arrangements may be very close and confidentiality may be a problem. (Photo: Ali Wyllie)

## Case Study 8.2 Confidentiality and trust

Ali has been a soldier for the last five years. He's now returned to his rural village and started to help his father on their farm. He's a strong and handsome man and soon starts to see a new girlfriend Kedija. Ali comes to the Health Post and shows the Health Extension Practitioner, Workinesh, the results of his recent HIV test – which is positive. Workinesh also has information through her work that neither Kedija nor Ali have asked for, or been given any, condoms. What should Workinesh do?

Almost anything that Workinesh does actively will risk breaking confidentiality. But doing nothing will potentially harm one of her patients, Kedija. If she doesn't warn Kedija that Ali is HIV positive then Kedija might become infected and become seriously ill and even die (Figure 8.2). Several ethical principles are at stake here including trust, confidentiality and autonomy. Nobody can force Kedija or Ali to act in a particular way because they each have their own autonomy.



Figure 8.2 Who has HIV/AIDS? From the outside it isn't possible to tell who has been infected with this sexually transmitted virus. (Photo: Carrie Teicher)

- Which of the following actions do you think that it would be ethical and appropriate for the Health Extension Practitioner to do? Explain your reasons.
  - (a) Do nothing and hope that her patient Kedija doesn't get infected.
  - (b) Make sure that Ali is aware of his responsibilities and also offer him condoms.
  - (c) Go round to Kedija's house and tell her that Ali is HIV positive and that she should use condoms.

- (d) Ask for help from an experienced healthworker at the hospital or Health Centre.
- Although answer (d) is appropriate in this case and Workinesh should always seek appropriate support and assistance in difficult matters, perhaps she can also use her ethical principles to help her decide what else to do. Answer (a) is not appropriate ethically. This course of action risks harming her patient. If she does make sure that Ali is made aware of his responsibilities (answer (b)), and that he will always use condoms in the future, then she has followed ethical principles and protected her patients to the best of her abilities. Answer (c) is probably only possible ethically if she also does (b). To tell Kedija the test results of her partner is not ethically acceptable unless this is cleared by the person who has been tested.

## 8.4 Shared decision making

The key feature of the shared decision making process is a dialogue in which both client and practitioner share information, leading to a decision regarding the client's healthcare. Shared decision making is based on trust, truthfulness and respect for the client's choice. For this to be effective, good communication skills are crucial. If some decisions have to be made, for example about transfer to a hospital for further treatment, the patient might be concerned about their own issues, such as their values, religious and cultural beliefs and finances (Figure 8.3). For the Health Extension Practitioner, the discussion should include the risks and benefits of being transferred for better treatment as well as the likely outcome of no treatment. How information is shared, and what information is shared, may influence the patient's choice. At an ethical level, there is a tension between client autonomy, beneficence and confidentiality that may not be easily resolved. Ethical conflicts, especially involving family members, should be anticipated in shared decision making.



Figure 8.3 This person is being taken to hospital. Although the person is very weak they should still have the autonomy to decide what happens to them. (Photo: AMREF/Mekuanent Fentie)

### Case Study 8.3 Managing your own decisions

Tadelech is a member of your local community. She is usually a strong woman who is a good mother to her seven children and an active member of the community. Recently she has become seriously ill with a chest infection that has turned into pneumonia. Although the Health Extension Practitioner, Hadas, has tried to convince her that she needs to go to hospital, Tadelech is determined to stay in her own home.

Hadas is in a difficult position. Of course Tadelech should be able to decide about her own health and her own body – this is the basic ethical value of autonomy. But the healthworker knows that without proper treatment she might die and then all Tadelech's children would suffer. Indeed the whole community would lose one of their important members.

- Which of the following actions do you think that it would be ethical and appropriate for Hadas to do? Explain your reasons.
  - (a) Do nothing and hope that Tadelech recovers from the pneumonia.
  - (b) Force Tadelech to go to the hospital by carrying her there against her will.
  - (c) Explain to Tadelech's husband and parents about the serious nature of her chest infection and hope that they will be able to persuade her to take up the offer of hospital treatment.
  - (d) Ask for help from an experienced healthworker at the hospital or health centre.
- Answer (d) will always be appropriate if you are having problems with an ethical dilemma. Seeking the advice of someone more senior or more experienced is almost always helpful. But before seeking advice, answer (c) would be well worth trying. Doing extra tasks in order to try to save a life (beneficence) is an ethical principle that is always worth pursuing. Using force, as in answer (b), is not correct. This would certainly be against the ethical principle of autonomy. However ill the person is, they still have rights to decide about their own issues.

## 8.5 Allocation of scarce resources

Health resources, such as financial or human resources, are always scarce whether you are working in developed or developing countries. Using resources to their best effect needs appropriate planning and allocation of resources to areas where they bring about the best outcomes. As a manager and healthcare provider in the Health Post you may be faced with a scarcity of resources (Figure 8.4) and need to make judgements to use your resources wisely so that you are able to satisfy the healthcare needs of the majority of your community (the principle of utility). As a manager and healthcare provider in your community, you may face ethical conflicts with regard to resource allocation.

Following some simple steps for decision making may help you resolve these difficulties (Box 8.2).

### Box 8.2 Steps for decision making

- 1 Identify the nature of the problem.
- 2 Gather information and consider the possible ways to resolve the problem.
- 3 Communicate openly and honestly with the community served.
- 4 Involve an expert if possible.
- 5 Implement the decision.

### Case Study 8.4 Deciding priorities

Imagine that you are a Health Extension Practitioner in a rural area and you are planning to conduct a vaccination campaign and also a malaria control campaign. Both are necessary to improve the health of your local community, but there are only limited human resources available and it is not possible to do both of these campaigns immediately.

In this situation you need to decide: should you continue with the malaria campaign or the vaccination campaign, or share your resources in some way between both campaigns? There may be ethical principles that you can use to help you make your decision. Both campaigns may be beneficial for members of the community (beneficence), and none of the decisions seem to involve potential breaches of confidentiality. You may need to gather more information about the situation in order to be helped to make the correct decision.



Figure 8.4 In every Health Post there may be issues about scarce resources. (Photo: Ali Wyllie)

- Box 8.2 sets out the steps that can be used in decision making over ethical issues. How might following these steps help you to make the best decision about how to proceed in Case Study 8.4?
- Following these steps might give you additional information that will help you take the decision. For example, you might find out that doing both campaigns using reduced resources would make both campaigns ineffective. When you consult both the community and the expert it might become apparent that you should give priority to the malaria control campaign, because this disease cannot wait. If it is not controlled speedily it may kill, or make many people in the community ill within a short period of time. Vaccination of children, on the other hand, can be postponed for another time because if the children are not vaccinated right away this will not necessarily bring about a disastrous health outcome. Remember that there will always be other people who can help you make important decisions, including ethical problems. Often it will help you if you ask your community what they prefer when there are options.

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## 8.6 Stigma and illness

As a Health Extension Practitioner, you will be working in the rural areas where 80–85% of the population of Ethiopia lives. The healthcare practice in rural areas is different from that of urban centres. The closeness you create with individuals, families and the community may make it difficult to decide about any ethical conflicts (dilemmas) that may occur in your day-to-day practice.

One of the serious ethical issues that you may encounter is stigma. **Stigma** is defined as a negative perception that is assigned to an individual because of any feature that, in the view of others, discredits and diminishes them from other people. The stigmatised person becomes a person who is discounted. In rural healthcare settings, stigma takes on special importance because of the close relationships that exist in small communities. To be viewed negatively by others, to be avoided, and to be seen as less than a full member of the community is a major burden for a person in a rural community.

### Case Study 8.5 HIV and stigma

Jemila, a Health Extension Practitioner who is working at one of the Health Posts in Gambella Regional State, attends Ato Ojul's family. When she visited Ato Ojul's family she found that W/ro Hawa, the wife of Ato Ojul, is very depressed and tearful. Jemila tried to reassure her but Hawa was not willing to tell her the reason why she was depressed and crying. Later in the course of their discussion, Hawa told Jemila that she is HIV positive and that she is worried what will happen to her because of the stigmatising effect of HIV. If people in the wider community find out that she is HIV positive she fears that she will be an outcast and treated badly.

This is a complicated situation for Jemila to cope with, but there are some ethical principles that she can use to help her. Firstly, Hawa is her patient and must not be harmed by anything that Jemila does now or in the future. She must reassure Hawa about total confidentiality and establish a situation of trust between the two of them. Hawa's status is safe with Jemila and she can get treatment for her HIV without anyone else being aware.

- What steps could Jemila take to address a stigmatising illness such as the HIV that has infected Hawa?
- In the short term it is important that trust is established and that Hawa knows that she can rely on Jemila to support her without her problem becoming widely known. In the longer term Jemila can put in place a series of community-based educational activities designed to reduce stigma about diseases such as HIV. When the correct facts about HIV are known by the community they should be able to accept Hawa and not fear or reject her.



## 8.7 Reproductive healthcare

One of the primary healthcare services that Health Extension Practitioners are expected to provide is reproductive healthcare. During this part of your work it is essential to develop trust with each individual and with the community as a whole. This service requires appropriate levels of care, confidentiality and truth-telling—possibly more than any other part of the health services.

However, you may face conflicting situations and ethical issues that hinder you from providing appropriate reproductive healthcare services.

### Case Study 8.6 Conflict in the family

Leila, a Health Extension Practitioner, works in a Health Post within the Southern Nations, Nationalities and People's Region (SNNPR) and provides community health services including family planning support. One Friday she had made a visit to Ato Olano's family to discuss family planning issues with Ato Olano's wife, W/ro Abebech. When she finished her discussion, Ato Olano's oldest daughter, Bekelech (aged 15), came over to Leila and talked about something that was obviously worrying her. She confided in Leila that she has started a loving relationship with Wajo, a student, over the last six months. She says that she really likes him a lot. However she has not started sexual relations, but she has been thinking about it. She is wondering if she could start taking birth control pills. Bekelech also explained that her parents do not know anything about this relationship. She says her mother would be very upset if she knew about it, and asked that this information should not be told to her parents. At the doorway on the way out Abebech and Olano ask Leila what their daughter has been talking about with her.

Although this is a potentially difficult situation for Leila to deal with, this is a common problem and Leila will be able to use some ethical principles to work out the way that she should act in these circumstances. There is definitely a conflict of ethical principles involved in this situation. Ato Olano and his wife Abebech need to be sure that Leila, their healthcare worker, will always tell the truth. Truthfulness is a very important part of all health work. However, Bekelech has been discussing issues that she wants to keep secret from her parents who might be angry. Confidentiality should be expected of all health workers. If Leila tells Bekelech's parents about the content of the discussion then this is a clear breach of confidentiality whatever the age of the client. Bekelech is exhibiting her own autonomy that is separate from that of her parents.

- In this situation how should Leila react? Explain your reasons.
  - (a) Say nothing and just walk past Bekelech's parents at the door.
  - (b) Tell the parents the truth about the discussions she has been having with their daughter.
  - (c) Tell the parents that they will have to find out what the conversation has been about from their daughter themselves.
  - (d) Tell the parents that their daughter was worried about some spots on her face or some other common problem to avoid telling them the truth.



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- Each Health Extension Practitioner will find ways for themselves of dealing with difficult situations. Some people may think that (d) is an acceptable solution because they feel that telling a lie (about the spots) will cause less damage for Bekelech than telling the truth in this situation. Solution (a) is almost certainly going to lose Leila her good reputation as an approachable healthworker, while (b) involves a breakdown in trust between her and her patient, Bekelech. If Leila tells the parents that they will have to find out the subject of the discussion from their own daughter (answer (c)), this accepts the autonomy of the daughter herself. Bekelech will be put in a situation of having to decide for herself whether to tell her own parents what she has been thinking about and the reality of her relationship with Wajo. In an ideal world, of course, the parents would come to accept that asking advice about family planning has been a responsible thing for Bekelech to do and support her decision to ask before starting a sexual relationship.

## Summary of Study Session 8

In Study Session 8, you have learned that:

- 1 Healthworkers will be faced with difficult decisions during their working lives. Some of these will involve ethical dilemmas or conflicts.
- 2 Using ethical principles may help to resolve some of the complex problems that may occur during your work.
- 3 Confidentiality, privacy and trust are issues that all healthworkers should strive to maintain at all times.
- 4 There are some areas of responsibility in healthworkers' lives that are more likely to cause ethical dilemmas than other parts of their work.
- 5 Asking for help when difficult ethical matters arise is almost always a good idea.

## Self-Assessment Questions (SAQs) for Study Session 8

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering the following questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

### **SAQ 8.1 (tests Learning Outcome 8.1)**

Can you give an example of a stigma that can be caused by a medical condition? How might stigma be avoided?

**SAQ 8.2 (tests Learning Outcome 8.2)**

What is an ethical dilemma or ethical conflict? Identify the main ethical dilemmas and conflicts in Case Study 8.7.

**Case Study 8.7 Ethical dilemmas**

Amarech is providing antenatal care for W/ro Alemach, wife of Ato Feleke. Alemach is 26 weeks pregnant. This is her third pregnancy and the previous two deliveries were safe. When W/ro Alemach comes to the Health Post for her appointment, she complains of a burning sensation during urination and a yellowish discharge from her birth canal. Amarech has told W/ro Alemach that this is almost certainly caused by an infection acquired by sexual intercourse. She asks W/ro Alemach to tell the truth if she has had extra-marital sex because this might be the source of infection and the cause of her symptoms. W/ro Alemach eventually admits that she has had an affair with Ato Tadesse, a well-known community member, who is the likely source of the infection. Her husband does not know about the extra-marital relationship and she does not want him to know. She is certain her husband is the father of the child she is carrying. She asks Amarech to provide treatment for her infection and not to tell her husband about her situation.

**SAQ 8.3 (tests Learning Outcomes 8.2 and 8.3)**

Which ethical theories might be helpful to resolve the ethical dilemmas that you have identified in Case Study 8.7? Describe at least one theory that might be helpful.

**SAQ 8.4 (tests Learning Outcomes 8.2 and 8.4)**

Describe how the decision-making steps found in Box 8.2 might help the resolution of the ethical conflicts that you have identified in Case Study 8.7.



# Study Session 9 Rights and Obligations of Health Extension Practitioners

## Introduction

In Study Sessions 7 and 8 you learnt about some of the key ethical principles in healthcare as well as ethical conflicts and dilemmas that you may face in your day-to-day practice. You have also been introduced to some of the ways that might show you how to resolve these ethical conflicts and do your work in an ethical manner. In this study session you will learn about some of the ethical rights and obligations that you, as a Health Extension Practitioner, have. These rights and obligations emerge from the core ethical principles that you have learned in Study Session 7 of this Module. What you will learn from this session will also help you understand the rights of others and your obligations not to violate them. In this way you will be able to provide a safe and competent healthcare service to individuals, families and your whole community.

This study session will equip you with sufficient knowledge about the most important ethical obligations that a Health Extension Practitioner will need to be aware of in their work in the community. Understanding these issues will give you confidence in your work and help you to defend and stand up for your clients when their rights are violated by others.

## Learning Outcomes for Study Session 9

When you have studied this session, you should be able to:

- 9.1 Define and use correctly all of the key words printed in **bold**. (SAQs 9.1 and 9.2)
- 9.2 Discuss the difference between ethical and legal rights. (SAQ 9.2)
- 9.3 Understand the difference between ethical and legal obligations. (SAQ 9.3)
- 9.4 Describe the professional obligations and rights regarding confidentiality and truthfulness in your work as a Health Extension Practitioner. (SAQ 9.4)
- 9.5 Identify ethical obligations that exist in a case study presented to you. (SAQ 9.3 and 9.4)

## 9.1 Rights and obligations

The rights and obligations of individual people can be thought of as the rules that each person needs as they relate to other people within the wider human community. People have **rights** to certain basic provisions and services; meeting these needs places **obligation** or responsibilities on others. Making a human community work so that each person can live and develop to their maximum potential can be thought of as a balance between rights and responsibilities. The list of individual rights claimed in today's world is almost endless. Rights, as entitlements, are claimed to privacy, to life, to a healthy environment and to healthcare. Sometimes people may not be able to claim rights for themselves and a community or society may decide that these groups of people need special protection. For this reason special rights may be claimed by various groups such as: children (including the unborn child), the poor, people living with illness, the elderly and the dying.

Within the health service itself people should be able to rely on a certain level of service that is based on their rights. For example a person attending for healthcare has the right not to be assaulted or insulted by the Health Extension Practitioner. On the other side of the coin, the Health Extension Practitioner has the obligation not to assault or insult the client and a duty to avoid doing them harm. A client has the right to your safe and competent service while under your care and you have a corresponding legal and moral obligation to provide safe and competent healthcare (Figure 9.1).



Figure 9.1 Each healthworker has a duty to maintain their level of competence.  
(Photo: Ali Wyllie)

These rights and obligations extend to the general level of service that is provided by healthworkers such as Health Extension Practitioners (Box 9.1). For example, you may have made an agreement with your community to supply insecticide treated bed nets (ITNs) and it is therefore your duty or obligation to make sure that these are supplied in an effective and timely manner. In the same way the community has the right to receive these nets from the health service as a result of your work.

- Imagine that you are a Health Extension Practitioner working in a rural community where there are lots of health problems. What are your obligations? What are the rights of your community?
- In simple terms it is your obligation to provide the very best health service that you are able to provide. The community also has the right to receive the best health service possible within the constraints of the service.

### Box 9.1 Definitions and types of rights and obligations

- 1 Rights are generally defined as something that is owed to an individual according to just claims, legal guarantees, or moral or ethical principles. The two main categories of rights includes:
  - **Legal rights** are based upon a legal entitlement to some good or benefit. These rights are guaranteed by laws and if violated can be punished by the legal system.
  - **Ethical rights** are based upon moral or ethical principles. Ethical rights usually do not have the power of law to enforce the claim.
- 2 Obligations are demands made upon individuals, professions, society, or government to fulfill and honour the rights of others. The two main categories of obligation include:
  - Legal obligations are those obligations that have become formal statements of law and are enforceable under the law.

For example, all healthworkers have a legal obligation to provide safe and competent care for patients assigned to them.

- Moral obligations are those obligations that are based upon moral or ethical principles, but are not usually enforceable under the law. For example, there is no legal obligation for a health provider on a vacation trip to stop and help an automobile accident victim.

(Adapted from: Aiken, T. and Catalano, J. (1994) *Legal, Ethical and Political Issues in Nursing*. Philadelphia: F.A. Davis & Co. pp. 25–6.)

- Look again at Box 9.1. What is the main difference between ethical rights and legal rights?
- Legal rights have the force of the law behind them. If these items are not delivered the law can become involved. Ethical rights, on the other hand, do not usually have the power of the law behind them. The same can be applied to the difference between moral and legal obligations, in which case only legal obligations have the power of the law to back them up.

## 9.2 Duties and obligations of Health Extension Practitioners

In Section 9.1 you have learnt about the concept of rights and obligations; in this section you will study in more detail the duties and obligations of the Health Extension Practitioners based on the values set out in Box 9.2.

### Box 9.2 Ethical values for Health Extension Practitioners

- 1 Safe, competent and ethical service: Health Extension Practitioners should value the ability to provide a safe, competent and ethical healthcare service that allows them to fulfil their ethical and professional obligations to the people they serve.
- 2 Health and wellbeing: Health Extension Practitioners value health promotion and wellbeing, and assisting people to achieve their optimum level of health.
- 3 Choice: Health Extension Practitioners respect and promote the autonomy of people and help them to express their health needs. They also help them to obtain desired information and services so they can make informed decisions.
- 4 Dignity: Health Extension Practitioners recognise and respect the inherent worth of each person and advocate the respectful treatment of all people.
- 5 Confidentiality: Health Extension Practitioners safeguard information learned in the context of a professional relationship, and ensure it is shared outside the healthcare team only with the person's informed consent or as may be legally required, or where the failure to disclose would cause significant harm.
- 6 Justice: Health Extension Practitioners uphold principles of equity and fairness to assist people in receiving a share of health services and resources proportionate to their needs.

- 7 Accountability: Health Extension Practitioners are answerable for their practice, and should act in a manner consistent with their professional responsibilities and standards of practice.  
(Adapted from: Canadian Nurses Association: *Code of Ethics for Registered Nurses*, 2002)

- Look carefully at the contents of Box 9.2. Which ethical value would you say was the most important for Health Extension Practitioners to use in their work?
- Each one of these ethical values are really important and will ensure that the work of Health Extension Practitioners is carried out to the highest possible standards.

### 9.2.1 Providing a safe, competent and ethical service

As a Health Extension Practitioner you should value your ability to provide safe, competent and ethical care that allows you to fulfill your ethical and professional obligations to all the people in your community (Figure 9.2). You must strive for the highest quality of care you can achieve, at the same time recognising that you have moral choices that you have the right to express and exercise.



Figure 9.2 Giving the highest possible standard of care is satisfying for health workers and for the families they look after. (Photo: UNICEF Ethiopia/Indrias Getachew)

- Suppose you are planning to provide family planning services to all female clients who are in need of it. However, the amount of contraceptives supplied to you is limited and also you don't have all the different types of contraception that the women might want to use. It doesn't satisfy the needs of all your clients. What is your moral choice as a Health Extension Practitioner?
- As a Health Extension Practitioner your moral obligation will be to provide all your clients with contraceptives of their own preference, but you have resource constraints that influence the standard of your service. You will have to do the best that you can to provide the most effective service that you can for the greatest number of people. At the same time it should be your obligation to inform the managers of your service of your difficulties and press for increased resources for your community.



In order to make moral choices, you should be clear enough about your personal values to be able to recognise potential *value conflicts* in your work. These value conflicts are issues occurring in everyday working life which will force you think about how they can be resolved. For example, if a pregnant woman in your care insists on giving birth at home even though you counsel her that she and her baby are in possible danger because of complications, there is clearly a conflict of values here. She values the right to give birth in her familiar surroundings, despite the health risks. You value protecting her life and that of the baby more than you value giving in to her opinion.

- In the example given above, the woman wants to deliver her baby at home despite the potential risks that you have pointed out. How do you think this value conflict could be resolved?
- The woman who is about to give birth clearly has the right to autonomy over her own body. You will remember that this principle was discussed earlier in the Module. It is her body and she has the right to take decisions about her own health. However in this situation the rights of the unborn baby are also important. This baby also has rights although is unable to express them at this stage. The baby might be protected by law (a legal right), although in practice it is very unlikely that the law could be enforced in this situation.

During your course of study as a Health Extension Practitioner, you will acquire sufficient knowledge and skill that will enable you to practice competently; this is your moral right. Your teachers and trainers have a moral obligation to tell you all about the things you will need to know in order to be able to work competently in your community. On the other side of the coin you are expected to work only within the level of competency that you have been trained for, and this is your moral obligation. You should not attempt to perform things that are more difficult than the level of skill that you have been trained to do. For instance, if a labouring mother with a transverse lie comes to give birth in your Health Post, you have a moral obligation to refer her to an institution where she can get better care (Figure 9.3). Your competency as a Health Extension Practitioner should include the ability to recognise when a situation is too difficult for you to handle by yourself and when, therefore, you need to make a referral.



Figure 9.3 During antenatal care and at the time of giving birth all healthworkers need to be especially careful about ethical considerations. (Photo: AMREF/Demissew Bizuwork)

- Suppose a mother brings her five-year old child to your Health Post with the main complaint of cough and fever of three days' duration. When you examine the child, you find that the child has a temperature of 39°C, flaring nose and shortness of breath. You reach the conclusion that the child's problem is an Acute Respiratory Infection (ARI), possibly pneumonia. What will be the next step that you are expected to do as a Health Extension Practitioner?

- You should provide the tablets that can control a fever that are available at your Health Post and refer the child to the next referral level (health centre), where they can get more advanced treatment. In this case your obligation and competence has ensured that you have made a diagnosis and a referral as well as given all appropriate immediate care.

### 9.2.2 Health and wellbeing

As a Health Extension Practitioner, your work mostly focuses on the prevention of diseases and the promotion of health as well as providing some basic curative services. Your care is always directed towards the health and wellbeing of individuals, families and your entire community. When you deal with health problems you need to explore the social, economic, psychological, cultural and behavioural factors that can affect the health and wellbeing of the people under your care, and you have an obligation to inform and involve individuals, families and your entire community to help them make decisions on their own health problems (Figure 9.4).



Figure 9.4 Talking through health matters in detail will help the members of your community decide for themselves about the things that affect their own health. (Photo: I-Tech/Julia Sherburne)

- Why do you think you have an obligation to consider a large number of factors when trying to improve the health of your population?
- The health of your population will depend on many different factors including social, cultural and economic factors. Although you may not have direct control over these factors you should take them into account when working with your community.

### 9.2.3 Choice

Communities in your locality have a fundamental right to receive certain healthcare services, for instance immunization and family planning services. They also have the right to choose the ways that they work towards the improvement of the health of their own community. As a Health Extension Practitioner you have an obligation to respect both sets of rights. Part of your work will include an obligation to provide health information and support to the individuals and the entire community so they are able to make informed decisions about health issues (Figure 9.5). For instance, if a mother with seven

children refuses to use family planning services, you have a moral obligation to inform her about the physical, social and economical consequences of having more children. However, it remains her choice under the principle of autonomy whether or not she uses contraception.



Fig. 9.5 If people are taking medication they may need special consideration of their rights and should give their informed consent.

(Photo: I-Tech/Julia Sherburne)

- If you are working in a community where there is a lot of malaria, how do you think you will be able to help your community to make choices about ways that this might be tackled?
- Your work should include helping the community decide where they can best use their resources. Perhaps your knowledge will help them look for possible wet areas near the village where the mosquitoes will be breeding. Together they may decide to drain these areas rather than use their energy in ways that are not going to be effective in reducing the amount of malaria.

### 9.2.4 Confidentiality

Many people think details about their own health are really personal matters and they certainly do not want other people to have access to these intimate details about themselves. **Confidentiality** is the control of disclosure of this personal health information and limiting access of these personal matters to others. It is one of the ethical principles that any healthcare provider must follow. If healthworkers do not follow this principle, clients may decide not to seek their help for fear of their private details becoming widely known.

As Health Extension Practitioners, you will be dealing with individual, family and community health problems, and you may come across health issues that need to be kept confidential (Figure 9.6). You certainly do have the moral obligation to respect the principle of confidentiality for people under your care. You should always keep health problems confidential unless you get informed consent from your client to tell others.



Figure 9.6 Healthworkers need to ensure confidentiality as they move from house to house in their locality. (Photo: I-Tech/Julia Sherburne)

- Imagine you are working at a Health Post and one of the young women comes in to tell you that she thinks that she may be pregnant. Later in the day her mother asks you whether you think her daughter is pregnant or not. How should you respond?
- It would certainly be a serious breach of confidence if you gave your opinion to the mother of your patient. You must not give any clues about the consultation that took place earlier in the day, even if you are sure that the mother is really well meaning. You can tell her kindly that this information is confidential between you and your client. Hopefully this will also teach the mother about the meaning of confidentiality and she may not put you in this difficult position again.

### 9.2.5 Justice

Justice is the obligation to be fair in your health work to all the people for whom you are responsible. **Justice** means that individuals, families or communities should be treated fairly regardless of their ethnicity, culture, spiritual beliefs, social or marital status, gender, age, health status, and mental or physical disability. Even if something happened to you and you developed a disability, you would still be the same person and would want to be treated fairly. As a Health Extension Practitioner, you also have a moral obligation to be fair to all people in your locality while providing health services (Figure 9.7). You should look on ways that all health resources are used and try to bring about maximum good (beneficence) and serve the largest number of people (utilitarianism).



Figure 9.7 All healthworkers should treat everyone equally, especially in their group work. (Photo: AMREF/Sophie Zeegers)

- Imagine that you are a Health Extension Practitioner and your *woreda* has given you a sum of money to improve the health of your population. You also need a new water supply for the sink in your Health Post. How should you spend the money?
- Although you need water for your sink you should think carefully if this is the best way to spend the extra money. The way to decide would be to ask the people in your community what they think would be the best way that this extra money should be spent. Perhaps they will agree with you that a clean water supply to the Health Post is a priority!



### 9.2.6 Accountability

As a Health Extension Practitioner you are responsible to the people in your community to promote, protect and meet the health needs of individuals and those of the whole community. You are also accountable to them to justify how you go about your work. Are you doing your best for the welfare of the people (beneficence)? You have a moral obligation to respect and practice within your professional standards and meet the competencies established for all healthworkers in your position. Moreover, you are required to provide timely and adequate feedback to your professional colleagues, to report colleagues' incompetence and unethical practices, and to withdraw when you are feeling unable to provide satisfactory healthcare services.

- Sindhu is a Health Extension Practitioner. She had been a good and competent practitioner, loved and respected by her clients, colleagues and everybody in the neighbourhood. She has now become very low in her mood and the service she is providing to her clients is below what is expected by her professional standards. Her work is becoming disorganised and it is clear that many of her competencies are not being met. Some of her colleagues would like her to stop practising, but do not wish to tell her so. As a Health Extension Practitioner working in the next village, what should you do?
- This is a very sad situation, but it is clear that something has to be done so that the health of Sindhu's community is protected. Accountability is an important part of the work of all healthworkers. It is also clear that your responsibility includes taking the steps that will ensure that the standard of the Health Extension Programme is maintained. You should talk with your other colleagues and consider whether you need to talk to Sindhu or one of your supervisors about this problem.

## Summary of Study Session 9

In Study Session 9, you have learned that:

- 1 Rights and obligations are two terms that are inseparable. If there is a right claimed by some individuals then there will also be somebody else's obligation to fulfill that claim. For instance, if a pregnant woman requests antenatal care you have a moral obligation to provide that service.
- 2 Some rights are legally enforceable and others are ethically or morally important, although not backed up by the weight of the law.
- 3 Obligations can similarly be either morally or legally enforceable. Although some obligations may not be legally enforceable it doesn't mean that they should not be considered to be necessary.
- 4 Health Extension Practitioners have an obligation to provide safe and competent services to individuals, families and their whole community. This includes an acceptable level of respect, confidentiality and accountability.

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## Self-Assessment Questions (SAQs) for Study Session 9

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering the following questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

### SAQ 9.1 (tests Learning Outcome 9.1)

Fit these words into the following short paragraph: justice; rights; obligation; confidentiality.

The Health Extension Worker was aware of her \_\_\_\_\_ to provide a high quality service to the people in her community. She knew that all the people she was looking after had \_\_\_\_\_ and could expect her to keep their health problems secret and maintain \_\_\_\_\_ at all times. They knew that she would treat them all equally and be fair. They respected her sense of \_\_\_\_\_ and were confident that she would be able to sort out any value conflicts that might occur.

### Case Study 9.1 Chaltu faces an ethical issue

Chaltu, a Health Extension Practitioner, is approached by Almaz, a young woman in her community, to discuss an issue regarding the termination of her pregnancy. Almaz says, 'My abdomen is increasing in volume and is reaching a visible size. I am becoming anxious and frustrated because if my parents know my problem they will automatically send me away from home. If this happens I will have to commit suicide because I don't have any place to go. I come here to ask for your assistance in terminating the pregnancy, but please don't tell anyone about this issue – including my parents.'

### SAQ 9.2 (tests Learning Outcomes 9.1 and 9.2)

Look at Case Study 9.1. What rights does Almaz have in this situation? Does she have legal or ethical rights?

### SAQ 9.3 (tests Learning Outcome 9.3 and 9.5)

What ethical and legal obligations does Chaltu, the Health Extension Practitioner, have in this case?

### SAQ 9.4 (tests Learning Outcome 9.4 and 9.5)

What professional obligations does Chaltu have regarding confidentiality and truthfulness in this situation?

# Study Session 10 General Principles of Health Research and Introduction to Community Surveys

## Introduction

One of the very first tasks that you will do as a Health Extension Practitioner when you are deployed to a *kebele* is to find out everything you can about the people in your community and the factors that influence their health. This information is vitally important because the services you provide must be targeted to meet the community's needs. The way you begin to find out this information is to conduct a *community survey*, which is a specific type of health research. The purpose of the survey is to generate data to help you construct a *community profile* – a report on the households in the community, their inhabitants and their health needs and problems. Your knowledge of what data to collect, how to collect it and how to make sense of your findings by analysing and interpreting the data, will be covered in detail in Study Sessions 11 to 15.

However, before you can conduct your community survey, you need to understand the general principles of health research, which apply not only to community surveys, but to other types of health research which you may wish to undertake in the future. This study session will introduce you to those principles and prepare you for later study sessions. You may be asking yourself why it is necessary for you to learn about health research. You can think of health research as a problem solving tool, to focus your efforts on health interventions in areas that will be of most benefit to your community. In order to know what these interventions are, you require accurate information on community health needs, and reliable knowledge about the possible consequences of any actions you take to address those needs. The community survey is the most important form of health research that you will undertake, but you may also be able to conduct some small-scale health research projects to investigate specific health issues in your community. This study session will help to prepare you for these possibilities.

## Learning Outcomes for Study Session 10

When you have studied this session, you should be able to:

- 10.1 Define and use correctly all of the key words printed in **bold**. (SAQs 10.1, 10.2, 10.3 and 10.4)
- 10.2 Describe the general principles and purposes of health research, distinguishing between basic and applied, quantitative and qualitative, and cross-sectional and longitudinal health research. (SAQs 10.1, 10.2 and 10.4)
- 10.3 Describe the types of data collected in national censuses, large-scale surveys and local community surveys, and the common methods and questions used to collect survey data. (SAQs 10.3 and 10.4)



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## 10.1 What is health research?

**Research** is the collection, analysis and interpretation of data with the aim of answering certain questions or solving certain problems. **Health research** is aimed at investigating health-related problems *systematically* and using this knowledge to design better solutions for these problems. It is concerned with improving the health of people and communities by improving the efficiency and effectiveness of the health system, and supporting the community's own ability to take actions that preserve and protect the health of community members.

When we say that research has to be **systematic**, this means that a clear 'system' is used for collecting, recording, analysing and interpreting all the data, that the system does not change during the research, and that everyone involved handles the data in exactly the same way.

The focus of health research that will be of most interest to you as a Health Extension Practitioner includes:

- The health needs in your community, including for health promoting services such as family planning and antenatal care (Figure 10.1).
- Resources necessary to provide the essential health services that your community needs.
- The effective organisation and management of the health services you provide.
- The monitoring and evaluation of your health education initiatives and health service provision in terms of their outcomes and impact on community health.



Figure 10.1 The reasons for acceptance or rejection of antenatal care or family planning services are important subjects for health research. (Photo: UNICEF Ethiopia/Indrias Getachew)

### 10.1.1 Guidelines for health research

The essential guidelines for every health research study (including your community survey) are listed below.

- Research should focus on priority health problems in the community, and there should be a clear statement of the problems.
- A research study needs clear objectives and a plan; it should not be aimlessly looking for something in the hope that you will come across a solution.
- The research plan should be action-oriented, i.e. aimed at discovering solutions for a priority health problem.

- It should be participatory in nature, involving all stakeholders (see Section 10.1.2).
- Simple, short-term research designs that are likely to yield practical results quickly should be used wherever possible.
- The planned research should be cost-effective, i.e. affordable within available budgets and offering good ‘value for money’ in terms of its likely outcomes.
- The researcher(s) should have appropriate expertise in the data collection methods and study design; the work should be carried out systematically and with patience, and should not be hurried.
- The results should be based on observable evidence; observations, descriptions and results should be carefully recorded and accurately reported without any bias.
- The research should be scheduled in such a way that results will be available in time to take the necessary actions recommended by the research findings.
- Results should be presented in formats that are most useful for administrators, decision makers and community members to understand (see Study Session 13).
- The research should be reproducible, so that the same result could be obtained by different investigators if they used the same methods.

### 10.1.2 Stakeholder participation in health research

Many health-related problems and concerns are interrelated and are influenced by factors in other areas beyond those directly connected to health. For example, health may be affected by problems concerning agriculture, water, roads, environmental factors, poverty and so on. It is better if everyone directly or indirectly concerned with a particular health or healthcare problem is involved in designing and implementing a health research project (including your community survey). The stakeholders may include policymakers, managers from the health and other public services, healthcare providers, and community leaders and members. Their close involvement helps the research findings to be relevant and accepted by all stakeholders, and the resulting solutions are more likely to make a difference to the health problems identified by the research.

Here are some examples of what can go wrong *without* full stakeholder participation in health research in a community:

- If decision-makers are only involved after a study is completed, the report may just be shelved and the results ignored.
- If the staff of health and other public services are only involved in data collection, but not in the development of the survey or research proposal, or in the analysis and interpretation of the results, they will have less interest in the research and may not be motivated to collect accurate data or carry out the recommendations.
- If community members are only asked to respond to questions determined by the researchers, the recommendations from the study may not be acceptable because the local cultural context, beliefs and wishes have not been taken into account.

- If community members are not involved in the implementation of recommendations, they may have little concern for whether the actions are feasible, affordable or cost-effective.

The roles that various types of participants will play in the health research will depend on its area of focus and also on the level and complexity of the particular study. For example, the health needs in your community may be connected with problems or deficiencies elsewhere, such as agriculture (e.g. whether there has been a good harvest), water (e.g. whether clean drinking water is available, Figure 10.2), roads (e.g. how long it takes to get to the health centre), or broader environmental factors (e.g. how much rain there has been). Health research to identify problems that have a connection to factors outside the health system will require collaboration with all the concerned parties in order to design effective solutions.



Figure 10.2 The availability of clean water and road transport are very important influences on a community's health. (Photo: Ali Wylie)

In the sections that follow, because of the participatory nature of health research, especially your community survey, we will use the term 'researcher' to mean anyone actively involved in planning and conducting the survey or other research – which of course includes you!

## 10.2 Types of health research

There are different ways of classifying health research. You will learn more about these in Study Session 14, but here we will give a brief outline of some of the key terms and principles.

### 10.2.1 Basic and applied research

Research can be basic or applied depending on its objectives. **Basic** (or pure) **research** is designed to extend knowledge for the sake of understanding itself. The results may not have any applications – discovering new knowledge and understanding is the objective. **Applied research** is carried out in order to solve specific and practical problems. Applied research is sometimes called *action research*. Of course, some of the new knowledge obtained through basic research may later be applied to solve practical problems.

**Applied health research** is mainly intended to improve community health and health services, and add to greater professional effectiveness in a practical manner. Most of the problems faced by healthcare providers, policymakers and administrators are investigated through applied health research. Applied health research emphasises the identification of priority health problems, evaluation of the effectiveness of health programmes and policies, and managing the optimal use of available resources. As you will see later, a community survey is a type of applied health research.

## 10.2.2 Quantitative and qualitative research

**Quantitative research** is a type of research that utilises quantitative (numerical) data and seeks answers to questions such as ‘How many?’, ‘How much?’ and ‘How often?’ It involves measurement or counting, for example: ‘What is the average number of people living in households in your *kebele*?’, ‘How many women are there in the childbearing age groups?’ and ‘What percentage of the children have been fully immunized by the age of one year?’ Quantitative research can be used to describe current situations, to investigate relationships and to study causes and effects. When you conduct your community survey, the majority of the data that you collect will be quantitative data that you can present in tables and charts like the one in Figure 10.3.



Figure 10.3 Charts like this one present quantitative (numerical) data. In this example, the data refer to the planned activities managed by the staff of a rural Health Post in a particular year. (Photo: Basiro Davey)

**Qualitative research** is a type of research that utilises qualitative (descriptive) data and seeks answers to questions such as ‘Why?’ and ‘How?’ It is concerned with what people think and how they feel. For example, you might need to know why some parents are not bringing their children for immunizations, or why some pregnant women are reluctant to see you for antenatal care (Figure 10.4). You may need to conduct interviews or focus groups to find the answers, which you will report by writing about your findings.

There is more about the application of qualitative research in Part 2 of the *Health Education, Advocacy and Community Mobilisation Module*.



Figure 10.4 Qualitative research can help you to find out how people's beliefs and circumstances may be influencing their use of health services.

## 10.3 An introduction to surveys

A **survey** is a method of gathering information about a large number of individuals in a population. Surveys can differ in their scale (how many people are questioned), whether the survey occurs once at a single point in time or is repeated again and again, and in the methods used to collect the data. All of these points will be discussed and illustrated in more detail in later study sessions, but it will be easier for you to grasp the details if we first give you a general overview.

### 10.3.1 Censuses, large-scale surveys and community surveys

A **census** is a collection of information on *everyone* in a population – usually everyone in a national population, such as the whole of Ethiopia, or everyone in a national region such as Oromiya or Tigray. Census information is collected in order to gain important data that is relevant to the population as a whole and is ideally collected from every household, although this is not always possible in remote rural areas or where nomadic people are moving from place to place. **Large-scale surveys** are similar to a census, but the large numbers of people who are questioned are selected to be *representative* of the population (i.e. not everyone is questioned). In a **community survey**, the aim is to obtain information about everyone in a local community, usually by questioning an adult member of each household.

The national census, large-scale population surveys and local community surveys all tend to collect *demographic* and/or *epidemiological* data.

**Demographic data** are counts of certain social characteristics of a human population: for example, the number of people in a household, their age, gender, ethnic group, whether married, single or divorced, when children were born, etc. – and sometimes also the religion, economic circumstances and other personal characteristics of the population. **Epidemiological data** refers to counts of diseases, disorders and disabilities in the population, including those leading to deaths. The combination of demographic and epidemiological surveys can shed light on factors that increase the risk of developing particular diseases, or dying from certain causes. The data can be collected at the national level in a census or large-scale survey, or at the local level in a community survey.

An example of a large-scale national survey is the Ethiopian Demographic and Health Survey (EDHS), which is a nationally representative household survey that collects data on health and population characteristics every five years (Figure 10.5). The EDHS collects data from a large number of households spread throughout the whole of the country on a wide range of factors, including birth rates, average family size, knowledge of issues such as family planning, mortality (death) rates in different age groups, and the main causes of death and illness.

### 10.3.2 Cross-sectional and longitudinal surveys

In addition to the size and distribution of the population surveyed (e.g. national or local), surveys can also be either cross-sectional or longitudinal. **Cross-sectional surveys** are used to gather information on a population at a single point in time, for example, on a certain date, or during a particular month. An example of a cross-sectional survey would be a questionnaire that collects data in a single month on how parents feel about adolescent reproductive health services. Alternatively, a questionnaire might try to determine the relationship between two factors at a particular point in



Figure 10.5 The Ethiopian Demographic and Health Survey published in 2005.



time, such as the religious views of parents and whether they accept or reject family planning services.

**Longitudinal surveys** gather data over a period of time, which may be several months or even several years. The researcher may then analyse changes in the population's demographic or epidemiological features as time passes, and attempt to describe and/or explain these changes. For example, a longitudinal survey could discover that the birth rate in a particular region was falling steadily over time, and that this seemed to be related to a rise in the acceptance of family planning methods in the community.

- Is a national census a cross-sectional or a longitudinal survey?
- It is cross-sectional, because it takes place at one point in time (e.g. every five years).

A community survey may be cross-sectional (e.g. you will conduct a community survey to collect data for your community profile when you are first deployed to a *kebele*), but if you continue to collect data on the same topics every year for several years, your survey will become longitudinal.

Usually several people are trained to collect the data for a survey, because a large number of individuals have to be asked the same questions and this would take a long time if one person tries to do it alone. The common survey data-collection tools are questionnaires, interviews and focus groups.

### 10.3.3 Questionnaires, interviews and focus groups

**Questionnaires** are a list of questions with a space under each one for the researcher to write the answers given by the **respondent** (the person 'responding' to the questionnaire). Alternatively, questionnaires can have several possible answers to each question and the respondent chooses which one best represents their status, knowledge or opinions. **Interviews** are less formal and the interviewer has a structured conversation with one or more respondents about topics of interest, and writes down the answers based on what the respondent says. **Focus groups** are guided discussions in a group of people who have agreed to 'focus' on a particular subject, sharing their views and experiences in order to shed light on a problem and its possible solutions. The group has a facilitator, who keeps the group focused on the agreed topic and records the points made in the discussion (Figure 10.6). You will learn more about these (and other) data collection methods in Study Session 12.



Figure 10.6 A focus group is a good way of collecting qualitative data for your community survey.

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### 10.3.4 Basic questions to ask in a community survey

The responses to questionnaires, interviews and focus groups in your community will help you to understand and tackle the priority health problems locally. Questions that relate to these problems might include:

- What are the most important *health needs* of different groups of people in your community? It is important to establish these health needs from the point of view of people living in your community, as well as the needs expressed by health professionals. Your community survey can be seen as a form of *health needs assessment*.
- Does the current set of *health interventions* cover these needs? Are the interventions *acceptable* to local people in terms of culture and cost, especially to the poorer members of the society? Are the interventions provided as *cost-effectively* as possible?
- Given the *resources* available, could your health service cover more needs, or more people, in a more cost-effective way?
- Is it possible to better *control the environmental factors* that influence health and healthcare? Can other sectors help (education, water, agriculture, public works/roads, etc.)?

Information collected through health research help these questions to be answered better. That is why research is done and why you will be doing a community survey of your own when you have completed your training and are deployed to a *kebele*. After you have completed your community survey and analysed the results, it will probably raise questions in your mind about the reasons for certain health problems and what you could do about them. One way of finding the answers is to conduct small-scale health research projects, to investigate health-related problems in your community more closely, and to see whether the results help in finding better solutions.

## Summary of Study Session 10

In Study Session 10, you have learned that:

- 1 Health research investigates health needs and health-related problems and aims to develop better solutions to resolve them. A community survey is a type of health research aimed at investigating local health needs and suggesting solutions to priority health problems.
- 2 Community surveys and other forms of health research should begin with a clear statement of the problem, have clear objectives and a plan that is directed towards the solution of a particular problem. They should be simple to carry out and the results should be based on observable and accurate evidence.
- 3 Researchers should have appropriate expertise in data collection methods and study design, their findings should be carefully recorded and reported, and the research should be reproducible by different investigators using the same methods.
- 4 Participation of community members, healthworkers, policymakers and other stakeholders in the design, data collection, data analysis and interpretation of health research results is important for maximum acceptability and effectiveness of decisions based on the outcomes. Local stakeholder participation is essential for the success of a community survey.



- 5 Different types of health research can be conducted, including pure or applied research, quantitative or qualitative studies, with cross-sectional or longitudinal designs.
- 6 The results of health research (including community surveys) have most impact if they can influence policy and practice by health professionals and community members at a local level.
- 7 National censuses, large-scale surveys and local community surveys are types of health research that involve the systematic collection of demographic and epidemiological data. The main data collection methods are questionnaires, interviews and focus group discussions.
- 8 The basic questions asked by health researchers focus on the health needs of the respondents, the available interventions and resources, and the possibility that environmental management or collaboration with other sectors could help to resolve identified health problems.

## Self-Assessment Questions (SAQs) for Study Session 10

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering the questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

First read Case Study 10.1 and then answer the questions that follow it.

### Case Study 10.1 A community survey of conditions leading to diarrhoeal diseases

Aster (the Health Extension Practitioner) was concerned that she was referring a large number of cases of severe diarrhoeal diseases to the nearby health centre. Despite the good access of health services in this community, the average number of visits to the health centre for severe diarrhoeal diseases was two to three times for each household every year. Aster noticed that some community members were using the river and unprotected springs as a source of drinking water. She also noticed the practice of open defecation (passing stools in the open fields) by community members. She decided to investigate why these behaviours were happening.

In October 2009, she trained and deployed volunteer data collectors from the community to conduct a household community survey. She gave them all the same questionnaire, which asked simple questions about access to safe drinking water and access to a latrine. The volunteers questioned people in all the households, wrote down the answers given by the respondents and brought Aster the results. She carefully recorded and analysed the data herself, using the same method for all the questionnaires.

The survey showed that 68% of the households did not have access to a safe water supply, and 25% did not have a latrine near their home. Of the 75% of households who had a latrine, many people were not using it due to the following reasons: they preferred open defecation, they disliked being forced to dig the latrine, and they hated squatting over the hole in the latrine (they described it as 'like calling death to oneself').

Lack of awareness on the mode of transmission of diarrhoeal diseases from drinking water contaminated with faeces was also identified among the community members.

Based on the findings of her survey, Aster made the following recommendations to the community leaders:

- 1 She planned a health education programme at the community level on:
  - Awareness creation on the modes of diarrhoeal disease transmission.
  - The importance of handwashing with soap and always using latrines in the control and prevention of diarrhoeal diseases.
  - The use of household-level water treatment chemicals available in the local market to prevent transmission.
- 2 Community mobilisation for construction of latrines for the 25% of households without a latrine, using locally available resources.
- 3 Promotion of a policy to stop open defecation in the fields.

#### **SAQ 10.1 (tests Learning Outcomes 10.1 and 10.2)**

- (a) Is the type of research used in Case Study 10.1 applied or basic?
- (b) Is it cross-sectional or longitudinal?

In each case, explain your answers by referring to details of the case study.

#### **SAQ 10.2 (tests Learning Outcomes 10.1 and 10.2)**

- (a) Give two examples of quantitative data collected in the community survey in Case Study 10.1.
- (b) Give one example of qualitative data collected in the community survey.

#### **SAQ 10.3 (tests Learning Outcomes 10.1 and 10.3)**

If Aster wanted to follow up the results of her community survey by investigating people's reasons for not using their latrines, what methods could she use to collect more in-depth qualitative data?

#### **SAQ 10.4 (tests Learning Outcomes 10.1, 10.2 and 10.3)**

What features of Aster's conduct of her community survey show that she was being *systematic* in her approach to data collection and data analysis?

# Study Session 11 Developing Your Community Profile

## Introduction

In Study Session 10, you were introduced to the community survey, which is the data collection tool you will make use of in developing your community profile.

The community profile is essential in producing evidence-based information for planning, implementation and evaluation of health programmes in your catchment area. It can also be a basis for suggesting further small-scale research into local health problems and their possible solutions.

As a Health Extension Practitioner you need to have the knowledge and skill to develop a community profile, which will enable you to identify important health-related factors in your community. You are also expected to update and develop further the *kebele*-level community profile at regular intervals after your deployment to the Health Post. This is what the following study session will teach you to do, besides helping you understand the basic terminologies related to different data types used in developing your community profile.

## Learning Outcomes for Study Session 11

When you have studied this session, you should be able to:

- 11.1 Define and use correctly all of the key words printed in **bold**. (SAQ 11.1)
- 11.2 Describe the main features and purposes of a community profile. (SAQ 11.4)
- 11.3 Describe the different types of data that you may use in developing or updating your community profile. (SAQs 11.1, 11.2, 11.3 and 11.4)

### 11.1 What is a community profile?

A **community profile** is the analysed and reported results of the data collected by a community survey, which describes a combined picture or profile of the population in your community. It may include such features as:

- *kebele* boundaries (Figure 11.1)
- the numbers of people and households
- the ages and genders of the population
- birth and death rates
- income and socioeconomic advantage/disadvantage data
- social/community needs
- access to services (e.g. health, education, water supply)
- knowledge, attitudes and beliefs on important health topics affecting the population.



Figure 11.1 A sketch map of the *kebele* can be used to show boundaries and key features of the community. (Photo: Pam Furniss)

- Think back to Study Session 10. In order to generate a community profile, will the community survey collect quantitative data, qualitative data or both? Explain your answer.
- It will collect both types of data: quantitative data (counts) of the number of households, people, ages, genders, education level, etc., and qualitative data on people's knowledge, attitudes and beliefs on health issues and other related topics.

## 11.2 What is the purpose of the community profile?

The purpose of developing your community profile at the Health Post level is to collect baseline data for understanding health and health-related problems in your community. **Baseline data** means the data that is collected at the start of any programme or intervention that can later be used for comparison to assess what has changed. The baseline data will help you in the planning, implementation and evaluation of your health programmes. It may also help you in identifying problems that could be further investigated and addressed through small-scale research projects.

In your profile, the community may be summarised by population numbers and distribution, income, age, or education level. If the surveys are repeated at intervals it can tell you whether the population is increasing or declining in numbers.

- Can you suggest some reasons why the population of a *kebele* might be rising, and some reasons why it might be falling?
- The population might be rising because more babies are being born than in the past (i.e. the birth rate is increasing), and more babies and young children are surviving (i.e. the under-five child mortality rate is falling); it might also be rising due to migration of people into the *kebele*. The population might be falling for the opposite reasons: if fewer babies are born (e.g. due to greater use of family planning), or more of the babies and young children are dying, or people are leaving the *kebele* to live elsewhere.

The data in the community profile should give you an accurate picture of what is happening within the *kebele* at that point in time. The profile is expected to show the economic condition of the *kebele*. Health and educational resources may also be documented to reflect the availability of these services to the *kebele* population. For example, if there is a limited preventive or curative service, how are the people going to get healthcare? The profile may also shed light on a wide range of issues such as:

- Are there any free or low-cost health facilities for drought-prone areas?
- Are there graduates of model households who can teach other families how to promote their health and prevent common diseases?
- Are there voluntary community health service providers who can be used more effectively?
- What percentage of the children has been fully immunized at one year old?
- The community profile may also highlight the status of the housing and the physical environment surrounding it (Figure 11.2).
- It may contain information on the status of public safety in the *kebele* (local crime, alcohol abuse, substance use, mental health problems, etc.).

In summary, the *kebele* community profile should show the direction in which the community is going and the important issues that are currently affecting the health of the population.



Figure 11.2 The community profile may include assessment of the size and condition of housing. (Photo: Janet Haresnape)

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## 11.3 What types of data will you collect for a new community profile?

You will learn much more about data collection techniques and data analysis in Study Session 12. Here we will focus on what needs to be included in preparing your community profile at *kebele* level for planning, implementing and evaluating health programmes. We gave a general overview of the data in Section 11.2, but here we are going to discuss these data types in detail. The knowledge and skills you develop here will be expanded and reinforced in Study Sessions 12 to 15.

The types of data that we will describe in this study session are:

- Demographic data
- Epidemiological data
- Health service data
- Data on knowledge, attitudes and practice (also known as behavioural data)
- Data on physical characteristics in the environment.

### 11.3.1 Demographic data

**Demography**, which was introduced in Study Session 10, is the scientific study of characteristics and dynamics pertaining to the human population. These characteristics include births, deaths, age, income, education and gender. Other relevant characteristics include occupation, family size, housing, ethnicity, language and religion. As a Health Extension Practitioner you need to collect data on these characteristics. Demographic factors are among the easiest to measure and are the most widely used basis for subdividing population groups.

Some of the demographic data that you will collect and report in a community profile for the health system include the following.

#### Age distribution of the community

Data collection for the health system typically categorises the population of a country, region or local community into fixed age ranges in years as follows: 0–4, 5–9, 10–14, 15–19, 20–24, 25–29, 30–34, 35–39, 40–44, 45–49 and 50 years and above.

- Using this type of classification, which age range data do you need at Health Post level to plan for immunization programmes to protect against vaccine-preventable diseases such as tuberculosis, measles and polio?
- Children in the age range 0–1 year are the target group for these immunizations, which protect against some major childhood infections. You need to know how many children in the *kebele* are in this age range so you can plan your immunization service effectively, and without wasting vaccines by ordering too many vials.

#### Gender

**Gender** is the term used to identify whether a person is male or female. Classification of the population in your *kebele* into the two genders is useful in your community profile because it enables you to plan for gender-specific services (Figure 11.3).





Figure 11.3 Data on gender and age distribution within your community are important elements of the community profile. (Photo: Janet Haresnape)

- Can you think of any types of health service or health education that are focused mainly on one gender?
- You may have thought of antenatal care, labour and delivery care, and postnatal services, which are provided for women. You may also have thought of health education programmes focused on educating men about the dangers of alcohol abuse or cigarette smoking, since these activities are rare among rural women.

### Family size of the household

One reason for classifying households on the number of people living there is that it gives you some information on the type of health services they may need. For example, if the household has a large number of children, you may need to focus your health messages on advice about family planning to limit their family size. In developing countries like Ethiopia, limiting family size using contraceptives is one strategy to alleviate poverty, prevent sexually transmitted diseases, and reduce the risk of pregnancy-related deaths and under-five child mortality.

- Can you think of any other reasons why knowing household size could be useful in organising the provision of healthcare?
- If a household is overcrowded (too many people living in a small space), there is a greater risk of transmission of diarrhoeal and respiratory diseases through lack of hygiene, and close contact with anyone who is coughing or sneezing. If there are many mouths to feed, there is a greater risk of malnutrition affecting health, particularly among the children. Knowing which households are at greatest risk enables you to focus your home visits and use your time more efficiently.

### Income

The health-promoting behaviour of people in your community can be affected by family income; for example, it affects the quality and quantity of the diet they can afford, and whether they have the money to build a latrine. Also, those with a good income can afford to seek health services if they are ill; poor families may not be able to afford the costs of transport to the health centre, or the charges for drugs or items such as surgical gloves.

### Occupation

Collecting data on occupations in each household can give useful information about potential health risks and the likely needs for health services. Some



occupations have direct impacts on health. For example, farmers and labourers are at higher risk of accidental injury from tools and heavy weights; people working at leather tanning are exposed to hazardous chemicals and possible infection from the hides. Don't forget that the nature of your own work may put you at risk of health problems. For example, as a health professional, you are at risk of infection if you do not practise infection prevention techniques such as regular handwashing with soap, and using surgical gloves when dressing an infected wound or delivering a baby.

### Religion

Some Christian churches will not support the use of condoms for family planning, or to prevent the transmission of HIV. This is one example of how a person's religion can influence their health and demonstrates why recording the religion in a household is part of the community profile.

### Educational status

The educational attainment of girls is particularly important to record in the community profile for several reasons. Better education generally enables people to understand and accept health education messages; it can also lead to better employment and higher income. Female education is associated with improved survival rates of a woman's children and increased uptake of family planning. It is also associated with delay in the age of marriage and therefore delay in the birth of the first child (Figure 11.4).



- Can you suggest why delayed first birth is beneficial to the health of both the mother and the baby?
- Very young girls can have difficulty giving birth because their bodies have not yet developed sufficiently; this poses a risk to them and to the baby. Delaying the first birth until the girl is older gives a better chance of survival for them both.

### 11.3.2 Epidemiological data

Epidemiology is the statistical study of the occurrence, distribution, potential causes and control of diseases and disabilities in human populations. The population under investigation could be the entire world, as in the case of a global influenza epidemic, or it could be a relatively small group of people – a single high school, for example, with an unusually high number of adolescents with asthma. Epidemiological data includes:

- counts of illnesses and disability (morbidity data)
- counts of deaths from specific causes (mortality data)
- risk factors for health problems (i.e. factors such as smoking or exposure to toxic waste that increase the likelihood of a disease or disability occurring)
- health promoting factors (e.g. balanced diet, physical activity).

All of these types of epidemiological data are useful for developing your community profile.

### Why is it important to document morbidity?

While it is important to identify and prevent health problems that kill people, it is also important to address causes of illness and disability that occur in your community without leading to death. To get a complete view of problems

Figure 11.4 Delaying the age of first giving birth until girls are older gives a better chance of mother and baby surviving. (Photo: Janet Haresnape)

facing you as a health service provider, both mortality and morbidity must be considered. Morbidity is far commoner than mortality. By studying morbidity, it is possible to get a better idea of the pattern of disease and its possible causes as well as identifying incorrect management of cases that result in mortality. In conditions where deaths are uncommon, it is particularly useful to study patterns of morbidity. The causes and avoidable factors of mortality and morbidity are usually the same.

### 11.3.3 Health service data

**Health service data** (as the name suggests) tells you what health services are available in the *kebele* and what use is made of these services by the population. For example, it counts the number of times each client is seen by a health worker, the reason for each visit, whether it was in a health facility or in the client's home, and whether the resulting intervention was health advice and reassurance, or the supply of medical drugs or other services (e.g. contraception).

The purpose of collecting health service data is to identify strategies that improve the access of every member of the community to effective healthcare and health promotion. By collecting health service data on coverage you will be better able to understand:

- Do those individuals with healthcare needs get the necessary health interventions? For example, what access to malaria treatment drugs is available for patients who develop malaria?
  - What determines the probability of an individual receiving a needed health intervention? Is it their age, their gender, their social circumstances, etc.?
  - What are the barriers preventing the whole population receiving the required health services? Are the barriers mainly financial problems that prevent access to services, or is there a shortage of trained personnel, drugs or equipment?
  - What specific health services are offered to the community and where are the gaps in services?
  - What is the pattern of healthcare-seeking behaviour of the community?
- Healthcare-seeking behaviour** describes how people interact with the health service and healthworkers. For example, people may be reluctant to seek help from the formal health service or they may be regularly seeking attention from health personnel.

- What different types of health services are being sought by people in your community?
- Some people may seek homemade remedies, such as herbs; others may seek indigenous health services (e.g. spiritual healing from a religious leader or a traditional healer); and some will seek help from the modern health service (at the Health Post, health centre or district hospital).

### 11.3.4 Data on knowledge, attitudes and practice (KAP)

Collecting data on the behaviour or practices of people in your community and on their knowledge, attitudes, beliefs or opinions about major public health problems can be useful in developing baseline data for health education and health promotion interventions. For example, knowledge of how local people think tuberculosis, HIV, sexually transmitted infections and diarrhoeal

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diseases are spread in the community will help you to focus your health education interventions on the areas of greatest ignorance or need.

Your community profile may also include data about your local environment such as:

- the water points in the community (distribution centres) (Figure 11.5)
- the condition of the housing and the number of rooms per household
- the distribution of latrines
- the existence of water collections such as pools and marshy areas where mosquitoes can breed
- the transport links with the nearest health centre
- whether there is a telephone in the *kebele* office, or mobile phone network coverage, etc.



Figure 11.5 Location of water points in the *kebele*. (Photo: Janet Haresnape)

In the next study session, we look in greater detail at data collection methods for your community survey.

## Summary of Study Session 11

In Study Session 11, you have learned that:

- 1 The purpose of developing your community profile is to collect baseline data on health and health-related problems in your community, which helps you in the planning, implementation and evaluation of your health programmes.
- 2 The data to be collected for your community profile include:
  - *kebele* boundaries and locations of key services
  - demographic data (number of people and households, ages and genders, birth and death rates, income and socioeconomic data)
  - epidemiological data on morbidity and mortality rates from different causes
  - social/community needs
  - health service data on provision and access to health services
  - local knowledge, attitudes and beliefs on important health topics
  - behavioural data on patterns of use of health services
  - environmental data affecting health locally.
- 3 The purpose of collecting health service data is to identify strategies that improve the access of every member of the community to effective healthcare and health promotion.
- 4 The questions that the community survey can help you to answer include whether individuals receive the necessary health interventions, what

determines the probability of an individual receiving a needed health intervention, and what are the barriers preventing the whole population receiving the required health services.

## Self-Assessment Questions (SAQs) for Study Session 11

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

First read Case Study 11.1 and then answer the following questions.

### Case study 11.1 A sanitary survey in Gondar town

A cross-sectional community-level study was conducted with the aim of assessing the environmental sanitation status of Gondar town. The researcher developed and used structured questionnaires to collect information. Among the visited households, 985 (65%) were in the high population density *kebeles* and 531 (35%) were in the low density *kebeles*. Respondents interviewed at the household level were 771 (51.9%) male and 745 (49.1%) female. Of the respondents, 868 (57.3%) were found to be literate and 772 (50.9%) of the households had latrines.

The researchers found that households with a higher educational level had a higher availability of latrines whereas households with a lower educational level had lower latrine availability. There was also a strong association between income and availability of latrines, i.e. those with a high income were more likely to have a latrine than those with a low income. 491 (32.4%) of the households had a monthly income of less than 110 Birr.

The average area of a housing unit was 34.96 square metres, with two rooms per housing unit, and an average occupancy of 5.20 persons per household. Only 758 (50%) of the households had a kitchen. Lack of space and high cost were among the reasons stated for not having a latrine. Of the households, 769 (50.7%) were disposing of their faeces (stools) in the open fields. Others used a private pit, or the *kebele's* selected site and municipal collection containers. Of the respondents, a total of 1,432 (94%) washed their hands after passing stools or urine. Of these, 853 (59.6%) washed their hands without soap and 579 (40.4%) washed with soap.

The study was able to indicate the condition of environmental sanitation in Gondar town mainly in relation to water supply, housing, sanitation and hygienic practices. The situation in most cases was very poor. This may be due to social, economic, cultural and relevant knowledge barriers in the study area.

The average consumption of water in the study area was low (12 litres per household) compared to other urban areas of Ethiopia. Inability to pay for water, poor health awareness, and the poor level of personal hygiene might explain the below-average amount of water consumption. Diarrhoea, poor personal hygiene and eye problems were found to be common health problems in the study area. The standards of personal

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and environmental hygiene were very low where water was not adequately used.

(Adapted from Admassu, M., Wubshet, M. and Tilaye, T. (2004) Sanitary Survey in Gondar Town, *Ethiopian Journal of Health Development*, vol. 18, no. 1, pp. 39–42.)

**SAQ 11.1 (tests Learning Outcomes 11.1 and 11.3)**

- (a) From your reading of Case Study 11.1, what demographic and epidemiological data were collected in the study?
- (b) What conclusions were drawn from these data about demographic factors affecting the hygiene and sanitation practices of households in the study area?

**SAQ 11.2 (tests Learning Outcomes 11.3)**

What factors, other than economic or demographic, contributed to poor environmental sanitation in Gondar town?

**SAQ 11.3 (tests Learning Outcomes 11.3)**

What were the common illnesses (morbidity) identified by the researchers that were associated with a low average amount of water usage?

**SAQ 11.4 (tests Learning Outcomes 11.2 and 11.3)**

Can this research study described in Case Study 11.1 be used as part of the community profile for the sanitary situation in the study area? Explain why or why not.

# Study Session 12 Data Collection and Analysis for Your Baseline Community Survey

## Introduction

Study Sessions 10 and 11 have given you some background information about the community survey which you will be undertaking in your *kebele*. In this study session you will learn techniques of data collection and how to manage and analyse data.

You need to approach your community survey in a systematic and organised way. If data are collected haphazardly, they will be of little value to you or the community. The first step, before you start collecting data, is to plan your survey and prepare resources such as data collection forms. The forms and other records need to be standardised so that you collect information uniformly from all the respondents. This is particularly important if some of the data is being collected by volunteers in your community; you need to ensure they all follow the same procedures. The need for good organisation continues after the initial data collection stage; for example, the completed forms will need to be stored in an organised way (Figure 12.1).



Figure 12.1 Storing health service data in an organised way using files.  
(Photo: I-TECH/Julia Sherburne)

## Learning Outcomes for Study Session 12

When you have studied this session, you should be able to:

- 12.1 Define and use correctly all of the key words printed in **bold**. (SAQs 12.1 and 12.2)
- 12.2 Describe various techniques for collecting data and state their uses and limitations. (SAQ 12.3)
- 12.3 Explain how bias can occur in data collection and how it can be avoided. (SAQs 12.1 and 12.4)
- 12.4 Describe basic concepts and procedures required for data analysis and interpretation. (SAQs 12.2 and 12.5)
- 12.5 Identify ethical issues involved in data collection as part of a community survey. (SAQ 12.6)



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## 12.1 Collecting data

Data collection methods may vary according to whether you adopt a quantitative or qualitative approach. A **quantitative approach** to data collection usually uses structured questionnaires, while a **qualitative approach** uses unstructured interviews or discussions (see Section 12.1.2). If the purpose of the data collection is to assess how widespread a problem is, or how many people are affected by a disease, or if you want to use the data to describe a particular group of people, then you will need quantitative data. On the other hand, qualitative data may be more appropriate if your plan is to:

- address an issue that is not well understood (e.g. people's beliefs or perceptions)
- provide a deeper understanding of an issue (such as how or why people are dying of HIV/AIDS)
- ask the community members for their own perspectives and feedback.

You will also need to consider how the data will be processed, analysed and interpreted, otherwise collecting it will serve no purpose. Thinking about what you are going to do with the collected data before you start will help to ensure that nothing important is missed out. Other aspects to consider are how to fit the data collection into your work plan, whether there are cost implications and whether you have sufficient budget, and whether there might be any ethical considerations to address.

When you are planning your community survey, the first decision will involve the method of data collection to be used. Methods of collecting community survey data include:

- observation
- interviewing (face-to-face)
- written questionnaires
- focus group discussions.

This study session will introduce you to these methods of data collection.

### 12.1.1 Observation

Observation of human behaviour is a commonly used data collection technique; however, it is time consuming. It is most often used in small-scale surveys. The **observation** method of data collection simply means to gather information by your own direct observation without asking questions of the respondent. It is important to record your observations carefully using a checklist. The purpose of using a checklist is to make your observation as objective as possible, so that you note down what you see in a consistent way when you are observing different people.

### 12.1.2 Interviewing

**Interviewing** involves oral questioning of respondents, either individually or as a group. This is a face-to-face or personal interview method and requires a person, the **interviewer**, asking questions to the other person, the **respondent**. The questions are usually initiated by the interviewer who then records the responses, as shown in Figure 12.2.





Figure 12.2 Collecting data in an interview. (Photo: Yesim Tozan)

The collection of information through personal interviews is usually carried out in a structured way. **Structured interviews** involve the use of a set of predetermined questions in an interview schedule (list of questions) and use standard techniques of recording the respondent's answers. These are usually written in a notebook (ideally a tape recorder would be used, but this is not always available). The interviewer asks the questions in a prescribed order and the respondent gives answers in their own words. The interviewer is allowed to ask 'follow-up' questions only if something the respondent says is not clear, or if the question wasn't understood, but otherwise keeps to the questions on the interview schedule. An example of a possible structured interview question and a follow-up question are given below:

'If you or a female relative is expecting a baby, would you prefer the labour and delivery to be at home or in the Health Post? Can you say why?'

Note that when presenting questions like the one above, it is important not to 'prompt' the respondent (i.e. suggest or hint at a possible answer) because this might influence their response. They may try to give you the answer they think you want to hear.

In contrast, **unstructured interviews** are characterised by a flexibility of approach to questioning. An example of an unstructured interview question is given below:

'Please tell me about giving birth to your first child.'

In unstructured interviews you do not follow a system of pre-determined questions, but simply begin a conversation with the respondent on a particular topic. The respondent is free to explore the topic in their own words and in their own way, without being restricted by specific questions that must be answered. The interviewer can prompt the respondent to say more with phrases such as 'Tell me more about that' or 'This is interesting – please go on', but does not ask specific questions about the topic.

### 12.1.3 Written questionnaires

A **written questionnaire** is a data collection tool in which written questions are presented to be answered by the respondents in written form. The questions are directed towards collecting simple factual information, which

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can be answered either by writing a few words on the questionnaire, or ticking a box next to the chosen answer from a list of options. You can use this form of data collection in many different ways, for example:

- Through mailing to respondents who are asked to post their responses back to you.
- Gathering your respondents in one place at one time, giving oral or written instructions, asking them to fill out the questionnaires and collecting them when completed.
- Delivering your questionnaires to the respondents by hand and collecting them later.

As with questions presented in interviews, the questions on a written questionnaire can be either structured or unstructured, but they are always simple to answer directly. Questionnaires do not usually seek complex information about people's attitudes, beliefs or preferences, or explanations about why they behave in a certain way. (Complex information is best collected through interviews or focus groups.)

- In a written questionnaire, the following question was asked:

From which of the following sources do you get your water? Tick all options that apply to you.

- A Well
- B River
- C Pond
- D Standpipe
- E Another source

Is this a structured or unstructured question?

- It is a structured question because a rigid choice of answers is presented and the respondent must choose from them.
- How would you ask this same question in an unstructured way? How are the answers recorded, and what further questions might this enable you to ask?
  - You could ask 'Where do you get your water from?' This is an unstructured question because there are no prepared responses already written down. The respondent either writes their answer in their own words on the questionnaire, or the interviewer writes it for them on the questionnaire. Further questions you may have thought of might include:
    - A 'How far do you have to go to collect your water?'
    - B 'How often do you collect water?'
    - C 'How long does it take you to collect water?'

The unstructured question therefore enables you to explore the respondent's answer further. Note that all the questions require very simple factual answers, e.g. (in the example above) the answers might be:

- A 'Two kilometres',
- B 'Once a day',
- C 'Two hours'.

Table 12.1 summarises the advantages and disadvantages of the methods of collecting data that you have learned about so far.

Table 12.1 Advantages and disadvantages of different data collection techniques.

Technique	Advantages	Disadvantages
Observation	<ul style="list-style-type: none"> <li>• Gives detailed information in a particular context</li> <li>• Permits collection of information which may not be appropriate to ask in a questionnaire</li> </ul>	<ul style="list-style-type: none"> <li>• Ethical issues concerning confidentiality or privacy may arise</li> <li>• Observer bias may occur (observer may only notice what interests him or her)</li> <li>• The presence of the data collector can influence the situation being observed</li> </ul>
Interviewing	<ul style="list-style-type: none"> <li>• Suitable for use with illiterate people</li> <li>• Permits clarification of questions</li> <li>• Has higher response rate than written questionnaires</li> </ul>	<ul style="list-style-type: none"> <li>• The presence of the interviewer can influence responses</li> <li>• Reports of events may be less complete than information gained through observations</li> </ul>
Written questionnaires	<ul style="list-style-type: none"> <li>• Not expensive</li> <li>• Permits anonymity and may result in more honest responses</li> <li>• Is not labour-intensive, so does not require assistants</li> <li>• Eliminates bias as questions are phrased in the same way for all respondents.</li> </ul>	<ul style="list-style-type: none"> <li>• Cannot be used with illiterate respondents (unless they are helped)</li> <li>• There is often a low rate of response</li> <li>• Questions may be misunderstood</li> </ul>

## 12.2 Focus group discussions

A **focus group discussion** is a loosely structured interview conducted by an experienced moderator with a small number of people who all sit together at the same time in the same place. For a focus group discussion the participants will be guided through an unstructured, spontaneous discussion on a particular topic. The information obtained is qualitative data.

### 12.2.1 Ideal characteristics of a focus group discussion

The ideal characteristics for a focus group are as follows:

- The group consists of eight to twelve members.
- The people in the group are similar in terms of demographics and socioeconomic factors (e.g. consisting of all women, or all adolescents, etc.) but are likely to have a range of different views.
- Discussion generally lasts for 90 minutes to two hours.
- The moderator has experience of the issues being discussed.
- Conversation should be videoed and/or audio-taped, or notes taken.
- Emphasis is on the *interaction* between the group members, rather than their individual perspectives.
- The goal is not for everyone to reach agreement; instead, the aim is for the participants to reflect on the discussion topics, present their opinions, and respond to the comments of other group members.

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### 12.2.2 The value of focus groups

Focus group discussions can offer an effective qualitative data collection method for a number of reasons. They are good for generating ideas; for example, they may act as a starting point for introducing a new product (e.g. condom) or discussion of ideas, uses or improvements. Focus group discussions can reveal community needs, perceptions and attitudes to health services that are currently provided. They can therefore be used to assess needs and gaps, and enable the service-provider team to rethink the way they operate in order to improve the service. The discussions can also be useful for evaluating programmes and guiding programme development.

The qualitative information obtained from focus group discussions is likely to be in the form of written or spoken text. The best way to analyse such information is generally to try to identify central concepts or themes which came out of the discussions. The qualitative information obtained from such discussions may complement data collected by quantitative methods.

### 12.3 Bias in data collection

If you ‘hand pick’ your study subjects when you are collecting data, then it is likely that you are introducing bias in your study. **Bias** in data collection is a distortion which results in the information not being truly representative of the situation you are trying to investigate. Sources of bias can be prevented by carefully planning the data collection process.

- Can you think of a way that bias might be accidentally introduced into a survey?
- In interviews, when you are asking questions, it is important not to prompt respondents into giving particular answers because this could introduce a source of bias.

To avoid bias you need to collect data as objectively as possible, for example, by using well-prepared questions that do not lead respondents into making a particular answer. If you are selecting a sample of people for your research (i.e. not including everyone) then you must ensure the sample is representative of the population or group you are studying. If you are using volunteers to help in collecting data, you should ensure that everyone is collecting and recording data in the same way and that they all understand the need to avoid prompting the respondents to particular answers.

Once you have collected your data, you are ready to start processing and analysing it.

### 12.4 Data processing and checking for errors

**Data processing** refers to recording or entering your data (e.g. on to a master sheet or computer), and data checking and correcting. You may be concerned about the quality of some of the data which has been collected. For example, some of your data will probably have been collected by the volunteers who are helping you and it is possible that some may not clearly understand the objective of the data collection, and may be recording it in different ways. It is important to check your data for consistency and missing values as you collect it, and once collected, check again for errors.

No matter how carefully the data have been collected, some errors are inevitable. **Errors** (mistakes) can result from incorrect reading of the data, incorrect reporting, incorrect filing or incorrect typing. In addition, the data entered may be *incomplete* (some of the data was never collected, or has been lost). The aim of the checking process is therefore to produce a reliable set of data that you can be confident is accurate for the purposes of your analysis.

Once the data has been checked for errors and completeness, all the answers of individual respondents are entered on a data master sheet. An example is shown in Table 12.2.

Table 12.2 Data master sheet showing individual answers to eight questions, Q 1 to Q 8.

Individual respondent no.	Q 1 Gender	Q 2 Ethnicity	Q 3 Age	Q 4 Education	Q 5 Marital status	Q 6 Occupation	Q 7 House type	Q 8 Water source
1	F	Oromo	35	Illiterate	Married	Farmer	Tukul	River
2	M	Tigre	67	7 <sup>th</sup> grade	Married	Merchant	Tukul	Protected well
3	M	Oromo	34	3 <sup>rd</sup> grade	Single	Farmer	Tukul	River
4	F	Amhara	33	Illiterate	Divorced	Farmer	Tukul	River
5	F	Wolayta	42	Illiterate	Single	Farmer	Tukul	Well
6	M	Sidama	23	5 <sup>th</sup> grade	Widowed	Labourer	Tukul	Well
7	F	Hadiya	56	6 <sup>th</sup> grade	Widowed	Housewife	Corrugated iron	Protected spring

## 12.5 Data analysis

The data in Table 12.2 is for only seven people. Imagine how large the table would need to be for a whole community! Analysing data enables you to present information in a clearer and more useful way. **Data analysis** means describing and summarising your findings in an unbiased way. The results obtained from the analysis will not only help you to meet your community survey objectives, they will also enable you to:

- Monitor and evaluate your activities and establish whether you have progressed as planned.
- Assess the effect of your activities on the knowledge, perceptions, behaviour, and ultimately on the health, of the individuals within your community.
- Share your results with interested stakeholders in your community and local government officials.

To analyse your data, you first need to identify the type of data you have. You may have collected quantitative or qualitative data. Qualitative data use names or descriptions to describe variables, while quantitative data usually use numbers. A **variable** is any measured characteristic or attribute that differs between different people, households, etc.

- Give an example from Table 12.2 of quantitative data and an example of qualitative data.
- An example of quantitative data would be the column listing the respondents' age. An example of qualitative data would be ethnicity, occupation, house type or water source.

Several terms are used to describe types of variable. For some variables, called **categorical variables**, there are a limited number of possible responses that can be given, in other words, a limited number of categories. For example, 'gender' is a categorical variable because it has two categories: 'male' and 'female'. Other variables, known as **continuous variables**, have lots of different possible responses, though usually within a certain range. For example, age is a continuous variable, within the range of a normal human lifespan.

Variables that are described by a number are, unsurprisingly, also known as **numerical variables**. For example, the number of new AIDS cases reported during a one-year period, the number of beds available in a particular hospital, or a person's weight or temperature are all numerical variables.

- Of the variables given in Table 12.2, gender is one categorical variable. Can you find another?
- Another categorical variable would be marital status, because everyone can be categorised into single, married, divorced or widowed, or cohabiting (living together without being married).
- 'Blood group' is a variable. People may have one of four blood groups and these are A, B, AB and O. Is blood group a categorical or a continuous variable?
- Blood group is a categorical variable because it has four categories. Each person has one of the four blood groups – A, B, AB or O.

At times, you may find it useful to transform numerical data into categorical data. You can do this by dividing the range of values of the variable into *intervals*, i.e. by grouping the data. For example, the numerical variable 'age' might be transformed into a categorical variable 'age group', which consists of categories such as under 30 years, 30–44, 45–59 and over 60 years. This transformation is useful if the researcher is interested in the number of people falling into each of these four categories (Figure 12.3).



Figure 12.3 The age group of community members is often used in surveys. (Photo: Janet Haresnape)

- Suppose you find that the ages of a group of people you interviewed about tuberculosis in your *kebele* are as shown in Table 12.3. How many of these people would be in each of the age groups under 21, 21–30, 31–40, 41–50, 51–59 and over 60? Put your answers in Table 12.4a. Which age category has the most people in it?

Table 12.3 Ages of people interviewed about tuberculosis.

Age (years)	Number of people
19	2
20	3
21	4
22	3
23	4
24	4
25	3
26	2
28	3
30	1
32	3
35	3
38	3
45	1
49	1
55	1

Table 12.4a Age groups of people surveyed about tuberculosis (for completion).

Age group (years)	Number of people
under 21	
21–30	
31–40	
41–50	
51–59	
over 60	



- Your completed table should look like Table 12.4b below. The age group with the most people in it is the 21–30 years category, with 24 people.

Table 12.4b Age groups of people surveyed about tuberculosis (completed).

Age group	Number of people
under 21	5
21–30	24
31–40	9
41–50	2
51–60	1
over 60	0

## 12.6 Summarising quantitative data

We mentioned above that a complete set of raw (unanalysed) data from a whole community survey would be large and unmanageable. You need to summarise the findings so that they are useful to you and others. In this section, we will describe some of the most common methods for summarising quantitative data.

### 12.6.1 Frequencies

**Frequency** means the number of times an event occurs or the number of responses in a particular category. In other words, a frequency is a count of events in a given time frame. For example, if you report ‘Our Health Post sees 130 patients each month’, the frequency of patients seen is 130 per month.

Frequency data is often presented in tables, graphs or pie charts.

- Suppose you find that in a particular area, 14 out of 25 adults aged under 30 years have had malaria, whereas 19 out of 25 adults between the ages of 30 and 50 years, and 20 out of 25 adults over 50 years, have had malaria. Present these data in the form of a table.
- Your table should look something like Table 12.5.

Table 12.5 Age distribution of malaria cases from the imaginary example given above.

Age category	Number of people sampled	Number who have had malaria
over 50 years	25	20
30 to 50 years	25	19
under 30 years	25	14

### 12.6.2 Mean, median and mode

To summarise numerical variables, there are three measures that are commonly used: mean, median and mode. To explain how to proceed with these measures, let’s look at some examples.

The **mean** is the average of a series of measurements or scores. To calculate the mean, you add up all the individual measurements or scores and then divide this total by how many scores there are (it is the *sum* divided by the *number of individual values*). Although the mean is the most commonly used of the measures mentioned here, the median or the mode may sometimes be more appropriate. The **median** is a measure of central location, where half of the measures are below and the other half are above this value. The **mode** is the most common result (the most frequent value) of a test, survey or experiment.

For example, imagine a school exam taken by 10 students with possible scores from 0 to 100. Nine students score 95 but one person scores 5. The mean is calculated by adding up the total scores ( $9 \times 95 + 5 = 860$ ) and dividing by the number of scores (10), which gives a mean of 86. That one person with the low score really throws off the final statistic! The median, however, is 95 and in this case is a better description of how most people did in the exam. The mode would be the most common score which would also be 95 in this example. In this case the median or mode might be more useful than the mean.

- Seven farmers in your *kebele* keep goats (Figure 12.4). You record how many goats each farmer has and the results are 8, 1, 3, 7, 1, 6 and 9. What is the mean number of goats owned by these farmers and what is the median number?
- The mean is 5. It is the sum of the scores (35) divided by the number of farmers (7). If you put the numbers in order they are 1, 1, 3, 6, 7, 8, and 9. The middle value is 6 and therefore the median is 6.

Note the difference in the values between the mean and median. The mean or average can be influenced by extreme or outlying values at either end of the scale, but the median is not. If the number of values is even, there isn't a middle value, so to calculate the median you take the mean of the two middle numbers.

For example, if there were only six farmers and the number of goats they owned were 10, 12, 14, 16, 18 and 20, the two middle numbers are 14 and 16, so the median is  $14+16$  divided by 2, which equals 15.



Figure 12.4 How many goats? (Photo: Janet Haresnape)

- Supposing the numbers of goats owned by the seven farmers are 3, 4, 7, 7, 7, 9 and 10. What is the mode of the numbers of goats?
- Looking at these scores, you can see that 7 is the most common number of goats because three farmers have 7 goats. The mode of the numbers (also referred to as the modal number) of goats is therefore 7.

Sometimes it is more appropriate to think about the modal number since this represents the most common situation.

### 12.6.3 Proportion and percentage

A **proportion**, sometimes called relative frequency, is simply the number of times the observation occurs in the data, divided by the total number of responses. Proportions are very often converted to percentage values because this makes comparison easier between different sets of data. **Percentage** means the number of occurrences or responses, as a proportion of the whole, multiplied by 100. For example, if 30 people respond to a survey out of a total of 100, the frequency of respondents is 30, the proportion is 30/100 or 0.3, and the percentage of respondents is 30%. If the total number of people surveyed was only 60 and there were 30 respondents, the proportion is 30/60 or 0.5, and the percentage of respondents is 50%.

- Approximately what percentage of the seven people whose answers are summarised in Table 12.2 are illiterate?
- Three of the seven people are illiterate. So the percentage of people who are illiterate is  $3/7 \times 100\%$  which is approximately 43%.
- Go back to Table 12.4b, which showed the number of people who have had malaria in different age categories, and add a column to show the *percentage* of each age category that have had malaria. Which age category has the highest percentage of people who have had malaria?
- Your table should look something like Table 12.5 below.

Table 12.5 Age distribution of the number and percentage of people who have had malaria in an imaginary example.

Age group (years)	Number of people sampled	Number who have had malaria	Percentage who have had malaria
over 50	25	20	80%
30 to 50	25	19	76%
under 30	25	14	56%

To calculate the percentage, you take the number who have had malaria and divide it by the total number sampled, then multiply your answer by 100. For example, in Table 12.5, for those aged over 50 years, the calculation is 20 (who have had malaria), divided by 25 (people sampled)  $\times 100\%$ , which is 80%. This is the age group with the highest percentage of people who have had malaria.

Table 12.6 shows the percentage of women in each of four age groups in a certain population. It shows that more women fall in the age group 30–40 years than in any other category.

Table 12.6 Percentage of females by age group.

Age group	Number of women	Percentage of total
under 30	200	17
30–40	400	33
41–50	35	29
over 50	250	21
all ages	1200	100

In the example in Table 12.5, only 25 people in each age group were sampled. When reporting percentages, you should also always report *how many* observations there were. For example, if you say that 50% of women seen by the clinic this month had diabetes, it is important to know *how many* women were seen. If it is 50% of 500 women, this means that 250 women with diabetes were seen, but if it is 50% of two women, then only one woman with diabetes was seen!

### 12.6.4 Cumulative percentage

The cumulative percentage for a given category means the percentage of people who fall into that category, or a *lower* category. To work out the cumulative percentage for each category, you just have to add the percentage for that category to all of the percentages for the categories which are lower. Table 12.7 shows an example of cumulative percentages using the same data as in Table 12.6. It is a way of presenting the same data in a more descriptive way.

Table 12.7 Percentage and cumulative percentage of females by age group.

Age group	Number of women	Percentage of the total	Cumulative percentage
under 30	200	17	17
30–40	400	33	50
41–50	350	29	79
over 50	250	21	100
all ages	1200	100	100

## 12.7 Ethical considerations

You have learned about the ethical issues that you need to be aware of in your role as a Health Extension Practitioner in Study Sessions 7, 8 and 9. These issues must also be considered in the context of research. There are many established codes of practice that cover the ethics of research. These are codes that protect the rights of respondents either in research or in a community survey. Some of the widely accepted ethical principles include:

- The study should be conducted appropriately and data analysed in an unbiased way.
- Findings should be presented honestly; investigators should not fabricate data or distort their results.
- Contributions of others should be acknowledged.
- Investigators should not suppress unwanted findings.

- Investigators should declare any conflicts of interest.

Furthermore, as we develop our data collection techniques, we need to consider whether our data collection procedures are likely to cause any physical or emotional harm. Harm may be caused, for example by:

- Violating respondents' right to privacy by posing sensitive questions or by gaining access to records which may contain personal data.
- Allowing personal information that respondents would want to be kept private to be made public.
- Failing to observe or respect certain cultural values, traditions or taboos valued by your respondents.

You will need to be aware of these ethical considerations when you collect data for your community survey or in other research. For example, in questionnaires, it may be advisable to omit names and addresses if sensitive questions are asked about such things as family planning or sexual practices, or about opinions of patients on the health services provided. Some other suggestions for dealing with difficult ethical considerations are:

- Obtain *informed consent* from participants before the study or the interview begins.
- Avoiding exploring sensitive issues until you have established a good relationship with the respondent.
- Ensure that the data obtained is kept confidential (Figure 12.5).
- Ensure that the culture of respondents is respected during the data collection process.



Figure 12.5 Personal information must be kept confidential. (Photo: Janet Haresnape)

## Summary of Study Session 12

In Study Session 12, you have learned that:

- 1 Collecting data for a community survey or other purpose needs to be carefully planned.
- 2 The main methods of data collection are observation, interviews, questionnaires and focus group discussions. Each of these methods has different advantages and limitations.
- 3 Data may be quantitative or qualitative. Quantitative data is appropriate if you want to quantify a health problem or to quantify background information about your community. Qualitative data is appropriate if you want to find out more detail about a particular community health problem.

- 4 While collecting data it is important to avoid bias. Questionnaires used in a baseline community survey should be used in a standard way to ensure that the data are reliable.
- 5 Data must be checked for errors and completeness, during and after collection.
- 6 Data analysis means describing and summarising the findings so they can be presented in a way that is understandable and useful. It should enable you to compare one set of data with another in a meaningful way.
- 7 Quantitative data can be summarised and presented using methods such as frequency, mean, median, mode, proportion and percentages.
- 8 Consideration should be given to ethical issues as data is collected.

## Self-Assessment Questions (SAQs) for Study Session 12

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering the following questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

### SAQ 12.1 (tests Learning Outcomes 12.1 and 12.3)

Explain what is meant by bias in the collection of data, and why it should be avoided.

### SAQ 12.2 (tests Learning Outcomes 12.1 and 12.4)

In a survey of ten households, the numbers of children in each family were found to be:

3, 1, 6, 4, 0, 3, 3, 5, 8, 4.

- (a) What is the mean number of children per household?
- (b) What is the median number?
- (c) What is the modal number?
- (d) What proportion of households has more than three children?
- (e) What percentage of households has more than four children?

Now read Case Study 12.1 and then answer the questions that follow it.

### Case Study 12.1 Nutritional problems of women and children

You suspect that a large proportion of women and children in your *kebele* are malnourished, in particular women of childbearing age. You would like to determine the extent of this problem, and whether women perceive it as a problem. Furthermore you would like to know whether the women themselves could contribute to improving their nutritional status and how they might do this.



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**SAQ 12.3 (tests Learning Outcome 12.2)**

What data collection methods might be appropriate to collect data for this investigation?

**SAQ 12.4 (tests Learning Outcome 12.3)**

Describe some biases that could occur during collection of data on nutritional problems of women and children in a situation like the one described in Case Study 12.1. How could these biases be avoided?

**SAQ 12.5 (tests Learning Outcome 12.4)**

What sort of checks should be done on the data which has been collected before it is analysed and interpreted?

**SAQ 12.6 (tests Learning Outcome 12.5)**

What ethical issues might you encounter while collecting data on the nutritional problems of women and children in Case Study 12.1?

# Study Session 13 Writing Your Community Profile Report and Moving on to Small-Scale Research

## Introduction

In Study Sessions 10 to 12 you have been learning about the principles and guidelines for conducting health research, and the specific example of conducting a community survey using quantitative and qualitative survey techniques in your *kebele*. In this study session, you will learn how to make use of your community survey data.

First, we show you how to develop your community profile by writing the report of the survey data that you and your volunteers have collected from all the households in your community. Then you will learn how to use your community profile report to identify and implement small-scale research projects to suggest solutions for the health problems in your community. But how do you decide which topics to prioritise for further research and who should participate with you in making this decision? What should your research objectives be and what other sources of information should you consult? This study session will help you to make these choices.

## Learning Outcomes for Study Session 13

When you have studied this session, you should be able to:

- 13.1 Define and use correctly all of the key words printed in **bold**. (SAQs 13.1, 13.2 and 13.3)
- 13.2 Describe the main components of a research report, such as your community profile, and the order in which they should appear. (SAQ 13.1)
- 13.3 Explain how you would identify and prioritise criteria for selecting health-related problems for further investigation through small-scale research. (SAQ 13.2)
- 13.4 Describe how you would clarify the objectives for a small-scale research project. (SAQ 13.3)

### 13.1 Writing a report on your community survey

Your community survey has generated a large amount of survey data. Analysis of the results forms the basis of the report that you will write, summarising the findings and making recommendations for tackling the health problems in your community. This report is called the **community profile**. The report should address the directives of the health managers at *woreda* and strategic levels, and also refer to the interests of key members of the community who are opinion leaders and ‘gatekeepers’ locally.

Before you start writing your report, you should make a plan of what you intend to write. Use the report headings, described in the following sections, and jot down a few notes under each of them to guide you when you come to write the full report. You will also need to check that you have gathered together all the data and that it has been processed and analysed appropriately. Consider the best way to present your data, for example, using tables or graphs for numerical data; if you have qualitative data, you may want to include a few direct quotes that illustrate a point you want to make. Spend

some time thinking about the findings and what they reveal. Can you relate the findings to any reports or documents you have read about community health? Think about your possible conclusions and recommendations and check they relate to the original objectives. Considering each section of the report in turn and planning the contents will make the task of writing it much easier.

### 13.1.1 Components of a community profile report

Your community profile (i.e. the report of your community survey) should contain the components listed in Box 13.1. Note that this format is exactly the same for the report of a small-scale research project or for a large-scale national survey. It is recognised internationally as the standard format for all forms of research report.

#### **Box 13.1 Components of a community profile report**

- Cover page
- Summary
- Table of contents
- Introduction
- Objectives
- Survey methods
- Results
- Discussion
- Conclusion and recommendations
- Acknowledgements
- References
- Annexes.

The Results, Discussion, Conclusions and Recommendations sections should form the most substantial part of your report. The completed report should contain the following information in each section.

#### Cover page

The cover page of your community profile report should contain the title, your name and the month and year that you submitted the report. The title should include the name of the study area, for example '*Community Profile of Village X: Report of a Community Survey*'.

#### Summary

The summary should contain very brief descriptions (in no more than a few sentences each) in the following sequence:

- 1 The location of the community survey (where it took place).
- 2 The problem (why this survey was needed).
- 3 The main objectives (what the survey set out to achieve).
- 4 The type of survey and methods used (e.g. a community-level survey using questionnaires, interviews and focus groups for data collection).
- 5 A list summarising the major findings and conclusions.

## 6 A list summarising the major recommendations.

You may need to be prepared to write different versions of the summary for health managers, for health staff at your level or lower levels (e.g. volunteers) and for community members.

### Table of contents

The Table of contents provides the reader with a quick overview of the major sections of your survey report, with the page number of the first page in each section. This enables the person reading to go straight to particular sections of interest. Look at the Table of contents for this Module to see the style you should use.

### Introduction

Your introduction should begin by stating the purpose (objectives) of developing a community profile for your *kebele*. Then give some relevant background information about the community, what was previously known about the health status of the population, and any health service data which is relevant to the community profile. You may also include any background information on any relevant environmental, administrative, economic or social issues.

This should be followed by brief descriptions of the main categories of information that you have collected and investigated. Refer briefly to any additional information which you have obtained during the implementation of the survey.

Any relevant reports or documents you have found helpful should be briefly reviewed in your introduction section. It should end with a paragraph on what you hope (or hoped) to achieve by surveying your community and developing a community profile.

### Survey methods

The method you used to collect your data should be described in detail. This section should include a description of:

- The survey type.
- Major survey themes or variables (a more detailed list of variables on which data was collected may be put in an appendix).
- The survey population, which in the case of a community profile will be all members of all households in your area.
- How the data was collected and by whom, including how you trained other data collectors (e.g. volunteers, model family members) to collect the data.
- The procedures you used for data analysis, including any statistical tests (if applicable), as described in Study Session 12.

### Results

The results section should contain a systematic presentation of your findings in relation to the survey purpose and is a crucial part of your report. The description of findings should include a combination of data from qualitative and quantitative components of the survey. They may be best presented as Tables and/or Figures (diagrams, e.g. graphs, flow charts, etc.), each with a unique number (e.g. Table 2, Figure 7, etc.) and a caption describing the Table

or Figure clearly. Figure 13.1 shows two graphs, each with a clear heading. The results should also be described in words, referring to any Tables and Figures you include.

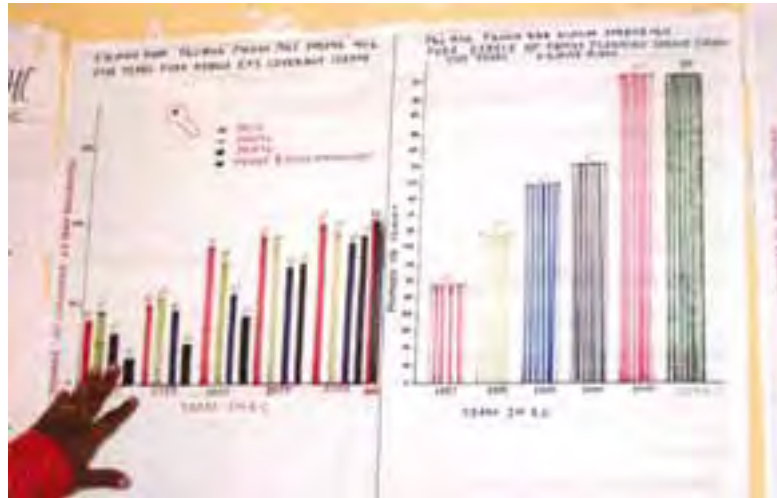


Figure 13.1 Numerical data can be presented in graphs in written reports and also as wall displays. (Photo: Janet Haresnape)

## Discussion

The findings presented in the Results section should be discussed in this section. It is a good idea to refer back to the purposes of the community survey at this stage. The discussion may include findings from other related surveys that support or contradict your own. For example, if there has been a previous community survey for the same area, your discussion should refer to any features of community health, demographic or epidemiological factors, health service use, environmental conditions, etc. that have changed since the previous report.

## Conclusions and recommendations

The conclusions and recommendations should follow logically from the discussion of the findings. Conclusions can be short. For example, if the community survey showed that some parents have not brought their children for immunization, your conclusion could be that additional health education campaigns or more outreach immunization sessions should be organised to improve the coverage rate.

Your recommendations should be placed in the same order as the conclusions, i.e. for every conclusion there should be at least one recommendation. However, the recommendations may be summarised according to the groups to which they are directed (Box 13.1).

### Box 13.1 Groups who need to consider your recommendations

- Health and health-related managers at district or local level.
- Health and health-related staff who could implement your recommended activities.
- Potential partners, e.g. community groups, volunteers, non-governmental organisations (NGOs) or other healthcare providers, etc.
- Community leaders and community members.

In making recommendations, it will strengthen your messages if you can use not only the findings of your own community survey, but also refer to supportive information from other sources. The recommendations should take into consideration the local characteristics of the health system, any constraints on introducing new services or working practices, and the feasibility and usefulness of the proposed solutions. They should be discussed with all concerned before they are finalised.

- Imagine that a community profile demonstrated there is a shortage of insecticide treated bed nets (ITNs) in a *kebele* where there are also many malaria cases. What will be your recommendation and what constraints may delay your recommendation from being adopted?
- Your recommendation would be to distribute ITNs to all households and educate the families on using them correctly. There may be a delay in adopting this recommendation if ITNs are not available locally, or if there is not enough funding to buy a sufficient number of nets. If you don't discuss the policy of distributing nets with all concerned in the community, they may not support your recommendations.

### Acknowledgements

It is good practice to thank those who supported you technically or provided resources for your community survey, including the volunteers or others who were involved in the house-to-house data collection phase.

### References

If you used any reports, documents or any other sources to help you make sense of the data in your survey, you should quote the full references in this section, including the year of publication and the name(s) of the author(s).

### Annexes

The Annex(es) (also known as an Appendix, or Appendices if there is more than one) should contain any additional information needed to enable readers to follow your survey procedures and data analysis. Examples of information that can be presented in an Annex are:

- Tables referred to in the text, but not included in order to keep the report short.
- Questionnaires or checklists used for data collection.



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In the next section, we consider ways in which the community profile can help you to identify problems for further investigation in a small-scale research project, and how you decide which topics to prioritise for further research.

## 13.2 Identifying problems for further investigation

All research starts with the existence of a problem, or a perceived difficulty. For example, in your community survey findings you may be aware that there are a lot of malaria cases, or that female genital mutilation (FGM) is occurring and is causing severe health problems for women later in their lives. A small-scale research study could help you clarify the causes of the problem and perhaps point to ways that the situation could be improved.

- Think for a few minutes about what you consider to be the most important health problems in the community that you live in now. Make a list of three health issues that are present in that community and that you think might benefit from further research.
- Of course the details of health problems in each area are different, so we don't know what you identified in your area. Nationally, the major health problems are malaria, HIV/AIDS and TB, diarrhoeal and respiratory diseases, and deaths among newborns and women during and soon after childbirth. It is likely that at least some of these are priorities in your community.

We have chosen to illustrate how you could research a common health problem by describing an imaginary research project on malaria in a rural community.

### 13.2.1 Clarifying the problem of malaria infection in your community

Perhaps you are concerned about the amount of malaria that is present in your *kebele*. There are two steps that you can take to clarify the problem.

*Step 1:* Find out as much as you can about the problem. For example:

- How many new cases of malaria occur every month or every year?
- How are the cases of malaria distributed in your community? Are they more common in one area than another?
- Do people in your community think that malaria is a health problem that needs to be addressed (or do they think it is a 'fact of life' that cannot be resolved)?
- What available services are there to address malaria in your *kebele* or *woreda*?
- Are there any specific risk factors for malaria locally, e.g. stagnant water bodies in the surrounding community, or perhaps there is a lack of proper utilisation of the ITNs, or perhaps there is low awareness about the way that malaria is spread?

*Step 2:* Discover whether the interventions that are already in place are effective, and if they are not, what are the reasons? For example, with respect to the ITN distribution throughout your *kebele*, you may want to find out:

- What is the standard household coverage of ITNs locally (i.e. how many nets per household)?

- Is there additional coverage of ITNs for pregnant women and children under five years of age?
- Has the training about how to hang and maintain ITNs been well accepted by the community (Figure 13.2)?



Figure 13.2 Research into the way that preventive activities to reduce the amount of malaria in your district might look at the way that training in the use of ITNs has been conducted. (Photo: UNICEF Ethiopia/Indrias Getachew)

### 13.2.2 Criteria for choosing health problems to research

Although health research is not part of the central role of Health Extension Practitioners, it is really important that you are aware of possible research that is relevant to your work. This will help to keep you up to date with the health problems and their solutions elsewhere in the country, and support your work in planning and evaluating your own health service activities. But not all health problems require research. Whether the problem you identified requires research or not depends on three conditions:

- 1 There should be a *perceived difference or discrepancy* between what exists and the ideal or planned situation.
- 2 The *reason(s)* for this difference should be *unclear* (so that it makes sense to develop research questions).
- 3 There should be *more than one possible answer* to a question or more than one solution to the problem (otherwise further research is unnecessary).

These three conditions can be illustrated through an imaginary example of poor sanitary conditions in a rural *kebele*.

### 13.2.3 Poor sanitary conditions: creating a research question

First read the following case study.

#### Case Study 13.1 Latrine coverage in *kebele X*

The sanitary conditions in *kebele X* are poor and very few households have latrines, perhaps only 5%. The diseases connected with poor sanitation, such as diarrhoeal diseases and intestinal worms, are very common. The *woreda* Health Office has therefore initiated a sanitation project that aims to increase the percentage of households with access to latrines by 15% each year. The project provides materials for latrine

building, and the community members of the *kebele* should provide labour. However, two years later, less than half of the target has been reached (Figure 13.3).

*Discrepancy:* 35% of the households *should have* latrines after two years of the latrine-building project, but only 15% *do have* them.

*Research question:* What factors might explain this discrepancy?



Figure 13.3 Research into the building of village latrines might reveal important barriers to their construction and use. (Photo: Carrie Teicher)

- Read Case Study 13.1 carefully. The situation with poor uptake of latrines has produced a clear research question. In Section 13.2.2 you learned about the two steps that might help to clarify a health problem. What two steps of further research do you think might help in clarifying the sanitation problem in Case Study 13.1?
- Step 1: further research to help you find out more about the barriers to latrine construction, and if there are any specific factors affecting the slow progress towards achieving the target. Step 2: researching further details about the interventions that are currently in place will help you work towards answering the key research question about why so few latrines were built in the first two years of the project.

In every locality there will be a number of serious health issues that might benefit from further research. But how should these be prioritised? Which of these problems should be the subject of a small-scale research study?

### 13.2.4 Community participation in prioritising health issues

The selection and analysis of your research topic should involve not only your own judgment and opinions, but also the views of local managers in the health and health-related services, healthcare workers, community leaders and other stakeholders.

Stop reading for a moment and think about which health issues in your community are priorities for further health research. If you asked some of your colleagues and community leaders this question, would they say the same issues that you identified, or could some of them be different?

Perhaps the health issues in your community that you think are important are not high on the priority list of some other people. However, it is likely that there will be a number of serious issues that are shared as a common concern (Figure 13.4). It is therefore essential to discuss the problem with the concerned stakeholders: community leaders, villagers, men and women, rich and poor, to explore their perceptions of the problem.



Figure 13.4 Your research might reveal that people in your community want a clean, protected water supply as their first priority. (Photo: AMREF/Fitsum Melkomu)

### 13.3 Choosing which topic to research

Each topic that is proposed for research has to be judged according to certain guidelines or **research criteria** (Table 13.1). There may be several research projects to choose from and you need to be able to make a considered and logical choice of which one to proceed with. Before deciding on a research topic, each proposed topic must be compared with all other options. The guidelines or criteria below can help you in this decision making process.

Table 13.1 Criteria for selecting your research topic.

Criteria	Questions to consider	Possible responses
<b>Relevance (importance)</b>	How large or widespread is the problem? Who is affected? How severe is the problem?	If a possible research topic is not addressing a priority problem, it is not worthwhile researching it, so you should drop it from your list.
<b>Avoidance of duplication</b>	Has the topic been investigated before within the proposed study area, or in another area with similar conditions?	Can you find answers to the problem in already available, published or unpublished information, or just by using your common sense? If so, you should drop the topic from your list.
<b>Urgency of data needed (timeliness)</b>	How urgently are the results needed for making a decision or developing interventions? Consider which research should be done first and which can be done later.	If the research can't be done in time, then there is no point in doing it.

<b>Political acceptability</b>	In general it is advisable for you to research a topic that has the interest and support of the <i>woreda</i> authorities. This will increase the chance that the results of the study will be implemented.	Avoid any topic which does not have the support of the relevant authorities.
<b>Feasibility</b>	Consider the complexity of the problem and the resources you will require to carry out your study.	If you don't have the manpower, time, equipment and money available, then don't do the research.
<b>Applicability of results and recommendations</b>	Will your study be practically useful?	If your research isn't going to be useful, then don't do it!
<b>Ethical acceptability</b>	You should always consider the possibility of inflicting harm on others while carrying out research. Always consider whether there are any relevant ethical issues to be concerned about.	If you think the research isn't ethical or might cause harm or disturbance then don't do it.

- Look carefully at Table 13.1. Why should you consider these criteria before you undertake any research in your locality?
- Going through each element in the table will help you think carefully whether the research is practical and whether it is worth doing at all.

The criteria for selecting your research topic can be measured by using a **research rating scale**, as shown in Table 13.2. Although the scale suggests that each criterion can be given a numerical rating, these should be used with great caution. For example, if a research topic is not practical or not ethical, then it should not be undertaken even if it is relevant, urgent and avoids duplication with other studies. However, Table 13.2 may help you to decide which of the possible research topics on your list is a higher priority than others.

Table 13.2 Scale for rating research topics.

Criteria	Scale for rating
Relevance	1 = Not relevant to a priority health problem (don't do it) 2 = Relevant 3 = Very relevant
Avoidance of duplication	1 = Sufficient information already available (don't do it) 2 = Some information available, but major issues not covered 3 = No sound information available on which to base your research
Urgency	1 = Information not urgently needed (no need to do the research now) 2 = Information could be used right away, but a delay of some months would be acceptable 3 = Data needed very urgently for decision making
Political acceptability	1 = Topic not acceptable to community members and/or <i>woreda</i> managers (don't do it) 2 = Topic more or less acceptable to all stakeholders 3 = Topic fully acceptable
Feasibility	1 = Study not feasible, considering available resources (don't do it) 2 = Study feasible, considering available resources 3 = Study very feasible, considering available resources
Applicability	1 = No chance of recommendations being implemented (don't do it) 2 = Some chance of recommendations being implemented 3 = Good chance of recommendations being implemented
Ethical acceptability	1 = Major ethical problems (don't do it) 2 = Minor ethical problems 3 = No ethical problems

### Activity 13.1 Choosing a research topic in your own community

Select an important health problem in your community that has been identified by yourself and by others in your community as a priority for action. Use the research criteria in Table 13.2 to 'rate' this health problem and enter the details in the table below. A maximum score for any topic would be 21 points.

Now attempt Activity 13.1 below. You will need a pen or pencil and about 15 minutes to complete this activity.

Topic/health problem:		
Criteria	Score	Notes
Relevance		
Avoidance of duplication		
Urgency		
Political acceptability		
Feasibility		
Applicability		
Ethical acceptability		
<b>Total</b>		



Considering these criteria in more detail will hopefully help you to decide whether to go ahead with your proposed research topic. If you have several possible pieces of research, using a list of criteria like this should help you to decide which one to tackle first. You may want to repeat Activity 13.1 for one or two other health problems in your community so you can compare them. For example, if one of your selected health problems is reducing the cases of malaria in your community, and it scores 20 points, you can see that this is a higher priority than a topic that only scores 15 points. Remember that consideration of some criteria might mean that you should *not* do the research at all; for example, if you don't have the necessary resources or if the outcomes are unlikely to be accepted, then do not research that topic at this time.

## 13.4 Clarifying your research question

In designing your small-scale research project, it is important to state and define your research question clearly (Box 13.2), so that you and other people involved can be certain that the whole project has been well thought out.

### Box 13.2 Benefits of clarifying your research problem

A clearly stated research problem is already 'half solved' because it:

- Helps you narrow down your research study to a manageable size.
- Forms the essential basis for the development of your research plan, choice of methods of data collection and analysis, etc.
- Allows you to further clarify and focus on your chosen topic.
- Allows you to engage community members and other stakeholders in the project.
- Facilitates the presentation of your research proposal to the relevant authorities, community members and partners.
- Makes it easier to find information and reports of similar studies from which your own study design can benefit.

- Look carefully at Box 13.2. What do you think might happen if your research problem is not clarified in the ways stated in the box?
- It is very unlikely that your research proposal will be accepted or given sufficient resources. People will not cooperate if they are not clear what the purpose of the research will be and how it will affect their lives.

### 13.4.1 What other sources should you consult?

At an early stage in your research it would be a good idea to find out what information is already available about the problem that you are researching, for example in:

- National guidelines, reference materials and modules developed and distributed by the national or regional health bureaus.
- Statistics collected at the national, regional, zonal, *woreda* and *kebele* level.
- Community survey data from other *kebeles* in your district.

- Reports from university researchers or NGOs.
- If you were conducting a small-scale research project in your locality about the use of contraception by married couples, what sources might you want to look at as part of your consultation?
- You may find that there are statistics available in your local health centre, or recent reports written by the Federal Ministry of Health or NGOs specialising in family planning.

### 13.4.2 Research objectives

The final part of clarifying your research project involves thinking in more detail about your **research objectives**. Research objectives should be closely related to the statement of the problem and summarise what you hope will be achieved by the study. For example, if the problem identified is low utilisation of antenatal care services, the general objective of the study could be to identify the reasons for this low uptake, in order to find ways of improving it.

Writing your research objectives clearly helps to:

- Define the focus of your study
- Clearly identify variables to be measured
- Indicate the various steps to be involved
- Establish the limits of the study
- Avoid collection of any data that is not strictly necessary.
- What do you think might happen if you started a research project, but hadn't written any clear research objectives?
- Without clearly written research objectives, you might be confused about the limits of the study, what data should be collected, or how to conduct the research.

Objectives can be general or specific. The **general objective** of your study states what you expect to achieve in general terms. **Specific objectives** break down the general objective into smaller, logically connected parts that systematically address the various aspects of the problem. Your specific objectives should specify exactly what you will do in each phase of your study, how, where, when and for what purpose.

#### How should your objectives be stated?

Your objectives should be stated using *action verbs* that are specific enough to be measured, for example: to compare, to calculate, to assess, to determine, to verify, to calculate, to describe, to explain, etc. Avoid the use of vague non-active verbs such as: to appreciate, to understand, to believe, to study, etc., because it is difficult to evaluate whether they have been achieved.

#### Case Study 13.3 General and specific objectives for a counselling project

A research study designed to assess the accessibility and acceptability of the Voluntary Counselling and Testing (VCT) Services for HIV infection in *kebele* X had the following general and specific objectives:

*General objective:* To identify factors that affects the acceptability of VCT services and to assess community attitudes towards comprehensive care and support for people living with HIV/AIDS.

Specific objectives:

- To assess the knowledge, attitude and practice of the community towards HIV/AIDS and VCT services.
- To identify barriers and concerns related to VCT and its uptake.
- To assess the awareness and perception of the study community regarding comprehensive care and support for people living with HIV/AIDS.

- What is the difference between the specific objectives and the general objective of a research project? You can use the example in Case Study 13.3 to help you answer this question.
- Specific objectives are detailed objectives that describe what will be researched during the study, whereas the general objective is a much broader statement about what the study aims to achieve overall.

In the next study session, we will move on to teach you about research strategies and alternative study designs that you may choose to conduct for a small-scale research project in your community.

## Summary of Study Session 13

In Study Session 13, you have learned that:

- 1 The community profile is a report of the findings of your community survey. It should be written in a standard sequence, beginning with the Cover page, then the Summary, Table of contents, Introduction, Objectives, Survey methods, Results, Discussion, Conclusion and recommendations, Acknowledgements, References and Annexes.
- 2 The recommendations of your community profile should be considered by all stakeholders, including health service managers and community leaders.
- 3 A recommendation arising from your community profile may be to conduct a small-scale research project into a priority health problem in the community, with the aim of understanding the issues better and suggesting more effective solutions.
- 4 All research proposals must start with a clear statement of the problem to be addressed and the general objective in conducting the research.
- 5 At an early stage it is necessary to determine if the proposed research is applicable, i.e. it will actually help to tackle the problem that has been identified, and whether it is relevant, urgent, feasible, acceptable politically and ethically, and avoids duplicating existing research findings.
- 6 If several health issues are identified that may be researched, it is important to prioritise them so that the most important issues are dealt with first; a rating scale can help in decision making about priorities, which must also be approved by the relevant authorities.
- 7 Every research project requires clearly written general and specific research objectives; consulting other information sources can help to clarify your thinking about your research objectives.

## Self-Assessment Questions (SAQs) for Study Session 13

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

### SAQ 13.1 (tests Learning Outcomes 13.1 and 13.2)

Below are some extracts from a report of a community survey, but they are placed in the wrong order. Read each extract (labelled A to I). Then list the correct order in which each extract should appear in the report and state the title of that section of the report. For example, F = the cover page, which should come first.

- A Proper usage of latrines, handwashing, personal hygiene and sanitation are crucial features of hygienic practice. All the visited households in the survey were observed to have poor management of domestic hygiene.
- B Our thanks also go to the water and health sectors at all levels who took part in the survey process.
- C Development of a joint plan between the water and health sectors for the control and prevention of outbreaks of diarrhoeal diseases is recommended.
- D This survey was conducted because there were frequent outbreaks of diarrhoeal diseases in the *kebele* in all seasons of the year, and this was a concern to the community members, the *woreda* health officials and the Regional Health Bureau.
- E The low awareness of the community, low access to safe water supplies and the poor utilisation of latrines contributed to diarrhoeal diseases outbreaks.
- F Community Survey Report on Diarrhoeal Disease Outbreak in *Kebele X* in the Amhara Region of Ethiopia, by Abebe Belaw, January 2009.
- G To assess the knowledge, beliefs and practices of the community on the control and prevention of diarrhoeal diseases.
- H Some respondents reported the following belief on the cause and mode of transmission of diarrhoeal diseases: 'Diarrhoeal diseases are transmitted by bad smells'.
- I All the adults in the selected households were interviewed using a questionnaire to identify their knowledge, perceptions and practices about diarrhoeal diseases and their transmission and prevention.

### SAQ 13.2 (tests Learning Outcomes 13.1 and 13.3)

What criteria would prevent you from conducting a research project, based on the rating scales in Tables 13.1 and 13.2?

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**SAQ 13.3 (tests Learning Outcomes 13.1 and 13.4)**

Read the following general objective for a small-scale research project.

‘The general objective of this research is to identify the reasons for malnutrition among children aged under one year in the community.’

Write at least three *specific* objectives that would be relevant to achieving this general objective.

# Study Session 14 Research Strategies and Study Designs for Small-Scale Research

## Introduction

In the previous study sessions you became familiar with conducting a community survey and using the data to create a community profile for the *kebele* in which you will be working. You were also introduced to the general principles of health research and how they apply to any small-scale research projects that you may be able to conduct as a Health Extension Practitioner in a rural area at some time in the future. Although you may not be involved directly in research at an early stage in your career, it is important that you know about some simple research methods and how you could use them to inform your understanding of health problems in your area.

Selection of a research strategy and study design is the most important decision a researcher has to make before beginning any research activity. The main focus of this study session is to outline the essential components of research strategies and study designs, which include defining the *population of interest* and the *study variables*. These terms will be fully explained in this study session. You will also learn about the selection of an appropriate study design for your particular study population and variables, and how to collect useful data that has the potential to improve the health services you provide in your community.

## Learning Outcomes for Study Session 14

When you have studied this session, you should be able to:

- 14.1 Define and use correctly all of the key words printed in **bold**. (SAQs 14.1, 14.3 and 14.4)
- 14.2 Identify and define appropriate study populations for a specific type of research study. (SAQ 14.1)
- 14.3 Identify the study variables in descriptions of small-scale research projects presented to you. (SAQs 14.1, 14.2 and 14.3)
- 14.4 Describe the three survey designs most commonly used in small-scale health research and comment on their relative advantages and disadvantages. (SAQ 14.4)

### 14.1 What is the study population?

In your work you may have identified something interesting that you would like to investigate further and which could form the basis of a possible research problem. It will probably involve particular groups, for example young people, or people with a specific health problem such as malaria. So, investigating the problem will almost certainly require a research project. These particular groups of interest are referred to as the study population. This **study population** is the total members of a defined class of people, objects, places or events selected because they are relevant to your research question. For example, if you want to study maternal healthcare, the study population would be all the pregnant women who are under your care. However, a study population may consist of villages, institutions, records, or events such as death due to accidents, etc.



In any research study, the study population has to be clearly defined according to particular characteristics such as age, sex, residence or geographical accessibility to health services (Figure 14.1). The way you define your study population depends on the problem you want to investigate and on the objectives of the study. For example to investigate health problems of orphans whose parents have died of HIV/AIDS, then your study population could be all children below twelve years of age whose parents have died as a result of HIV/AIDS. On the other hand, to investigate the problem of worm infestation in primary school children your study population could be all primary schools in your *kebele*.



Figure 14.1 Your study population could be any definable group that is relevant to your study, for example, teenage boys might be the study population for research on awareness of contraception. (Photo: Janet Haresnape)

- If you want to make a study of malaria in your *kebele*, what would be your study population?
- Your study population would be all the people in your *kebele*. Some of these people will have malaria, but you will probably want to consider the situation of everyone in your community.

When considering what your study population might be, there may also be practical questions to consider such as how easy is to get access to the study population you are hoping to study (Figure 14.2).



Figure 14.2 Transport in rural areas can be problematic, especially in the rainy season. Can you easily reach the study population? (Photo: Janet Haresnape)

## 14.2 Variables in health research

If you do have a chance to do some research in your village, then you will need to know about what sorts of variables might be suitable for study. A **variable** is something that can take on different values. A variable may be in the form of numbers (such as weight or age), or non-numerical characteristics (such as occupation, ethnicity, education level or gender). It can be a characteristic of a person, object, place, event or phenomenon. For instance, a water filter is an object that exists in several different types (or variables), so you could study the effectiveness of different water filters as the variable in a research study on prevention of diarrhoeal diseases. The type of house that people live in is a variable 'place' that affects health, and an accidental injury is an example of a variable 'event or phenomenon' that you could study.

Variables may take numerical (quantitative) or non-numerical (qualitative) values. Measurements such as weight expressed in kilograms or pounds, height expressed in metres or centimetres, income expressed in dollars or birr, and number of children per family are examples of numerical or **quantitative variables**.

- Which of these is a quantitative variable? Explain why.
  - A Marital status.
  - B Temperature of person suffering from fever.
  - C Travel time to the nearest health centre.
  - D Number of visits to a Health Post in one year.
  - E Family support from grandparents and other elders.
- B, C, D are quantitative variables, because we can use numbers to express, count or measure them.

**Qualitative variables** are attributes described in terms of the presence or absence of certain characteristics, such as diseased or non-diseased, smoker or non-smoker, married or unmarried. Qualitative variables may also be descriptive, such as occupation or political views. In the question above, items A (marital status) and E (family support) are qualitative variables.

Knowing about variables is very important, because you will not be able to undertake useful research or discuss your research findings unless you understand which variables you are dealing with. The identification of variables as non-numerical or numerical determines whether the data is qualitative or quantitative, and this in turn determines the method of analysing the data. Remember that you have already learned about qualitative and quantitative data in Study Session 12.

- Why do you think it is important to know what your variables are before starting any research?
- Knowing your study variables will help you to identify clearly what measurements to make or what data to collect from the study population.

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## 14.3 Types of study design

If you are interested in doing some small-scale research in your *kebele*, then you will certainly need to think carefully about the design of your study. Study designs can be *observational* (in which the researcher simply observes what is going on), or *experimental* (in which the researcher intervenes in some way and then observes what happens as a result).

### 14.3.1 Observational and experimental studies

In an **observational study** you just observe and analyse your study subjects or situations in their natural condition, but the researcher does not intervene in any way. However, the observations should not just be a haphazard collection of facts; observational studies should apply the same rigour as experimental studies by recording the observations in a systematic way that can lead to meaningful interpretations. You are more likely to be involved in observational studies than in experimental studies.

An **experimental study** is a type of research design in which some of the conditions are under the direct control of the researcher. He or she intentionally alters one or more factors (e.g. the behaviour of participants, or their circumstances and situations), and then measures the outcomes to analyse the effects of the alteration. For example, you could implement a health education campaign on the benefits of immunization (this is the intervention), and then measure any improvement in immunization coverage rates (by analysing the outcomes of your intervention).

- A study in your village is set up to see whether people are using their insecticide treated bed nets (ITNs) correctly (Figure 14.3). You also want to know whether the number of malaria cases is influenced by incorrect use of ITNs. Is this an experimental study or an observational study?
- This is an observational study, because you are observing how people use ITNs without any intervention from you, and you are counting the number of malaria cases associated with incorrect use of ITNs.



Figure 14.3 Investigating the proper use of bed nets could be an informative subject for research. (Photo: UNICEF Ethiopia/Indrias Getachew)

- Next, you teach people how to use ITNs correctly and you distribute new nets to households where the ITNs were damaged. Then you measure the outcomes in terms of any reduction in malaria cases. Is this an experimental study or an observational study?
- It is an experimental study. You intervened in the situation by giving education about ITNs and distributing new nets; then you measured the outcome in terms of any reduction in malaria cases.

One thing we have to remind you here is that it would not be *ethical* to introduce ITNs to some households in your community and intentionally leave other households without nets, in order to conduct an experimental study on the effect of ITNs on preventing malaria. The knowledge that ITNs protect people from the mosquitoes that transmit malaria is already well established by research. Therefore, there is no need for you to duplicate this research and deny protection to some families by leaving them out of the ITN distribution programme. This example reminds you that your actions in designing a research study must observe strict ethical guidelines (refer back to Study Sessions 7 and 8).

- Another study in your village is set up to measure how much malnutrition or stunting there is in the children aged six months to three years (Figure 14.4). Is this an observational study or an experimental study?
- This is an observational study, because you are describing malnutrition or stunting without any intervention, such as introducing nutritional supplements.



Figure 14.4 A research study could look at the nutritional status of all children under three years. (Photo: Janet Haresnape)

### 14.3.2 Types of observational studies

As a Health Extension Practitioner you will probably only be directly concerned with observational studies. These generally take the form of *sample surveys* (of selected individuals) or *population surveys* (covering everyone in the population), where the sample or the population is observed for various characteristics. This may be done by interviewing study subjects, using questionnaires or focus groups, by obtaining measurements of physical

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characteristics (e.g. height or age), or by simply extracting information from existing sources, such as disease registries or hospital records. The most common type of study design you will be involved in is the **observational survey**, in which information is systematically collected from your study population on a specific topic.

There are three types of observational survey which are most likely to use if you conduct a small-scale research project, and each has a different study design. They are:

- cross-sectional study
- case-control study
- cohort study.

These are just three of many types of research study. These three will be covered in more detail in the sections that follow.

### 14.3.3 Cross-sectional studies

You may remember from Study Session 10 that cross-sectional studies look at something that is going on at a particular moment in time. If you do a cross-sectional study, you would collect information about the *current* situation, for example the current state of a particular disease in a particular section of your community, or the current exposure of a certain group of individuals in your community to an infection. Therefore, in cross-sectional studies the information on the possible cause and the possible effect is collected at the same time. However, the problem with cross-sectional studies is that there is no way of knowing whether the possible cause is really responsible for the effect you measured – or could it be the other way around? The following example illustrates what we mean by this problem.

- A cross-sectional study has been set up in your village to see if children who are underweight are more likely to get measles than other children of normal weight. The study finds that more children who are underweight have measles than those who are of normal weight. Does this mean that underweight children are more likely to get measles, or that children become underweight because they have been ill with measles?
- You would not know whether they had become infected with measles because they were underweight, or whether they were underweight because they had been ill with measles. A cross-sectional study cannot resolve this uncertainty because the information was collected at just at one point in time.

Cross-sectional studies aim at describing the distribution of certain variables in a study population at a certain time, for example in the last month. Examples might include studies of:

- *Physical characteristics of people*: e.g. surveys of the occurrence of tuberculosis, HIV, malnutrition, high blood pressure, diabetes, anaemia, etc.
- *Physical characteristics of the environment*: e.g. evaluation of latrine usage, access to safe water supply, distance from the nearest health centre, etc.
- *Demographic or socio-economic characteristics of people*: e.g. their age, education, marital status, number of children and income.



- *The behaviour or practices of people and their knowledge, attitudes, beliefs or opinions*, which may help to explain that behaviour: e.g. attitudes to contraception, or harmful traditional practices, healthcare-seeking behaviour if a child has measles or diarrhoea, etc.
- *Adverse events* that occurred in the population, e.g. the occurrence of road traffic accidents or burns, and natural disasters like flooding or drought.

Cross-sectional studies usually cover a selected sample of the population. For example, it would be impossible to study all children with measles in a country, so a sample of children with measles is chosen *randomly* without any bias in the selection. Data are collected at the same time from the sample of children on the risk factor or characteristic (in the example above, it is being underweight) and the disease condition (having measles). If a cross-sectional survey covers the total population of a country it is called a **census** (as you already learned in Study Session 10). A cross-sectional survey of a sample of the population is cheaper than doing a census because it consumes fewer resources. A cross-sectional survey may be repeated at a later date in order to measure changes over time in the characteristics that were studied. Case Study 14.1 gives a simple example of a cross-sectional study.

### Case Study 14.1 A cross-sectional study on household characteristics

A questionnaire was sent to 250 individuals who had visited a Health Post. They were asked information about the layout of their home, such as type of floor covering and number of windows. The investigators wished to determine the number of people affected with fever and cough in the previous month and whether there was any relationship between household characteristics and the risk of having these symptoms, which may possibly indicate tuberculosis.

- What feature of Case Study 14.1 indicates that the study design is cross-sectional?
- A population sample was surveyed and asked questions about diseases suffered during a short period of time (the last month). So this is a cross-sectional study design.

### 14.3.4 Case-control studies

If you want to find out more about health conditions in your village it would be necessary to use a slightly more complicated research design than a cross-sectional study. Usually, this will involve a **case-control study**. You begin by selecting two groups for comparison: one group of the population (the **cases**) who have a characteristic that you wish to investigate (such as mothers whose child died within one month of birth, or children with malnutrition), and another group (the **controls**) where that problem is absent. The aim of a case-control study is to find out what factors have contributed to the problem under investigation. Case Study 14.2 gives an example to illustrate this type of study.



### Case Study 14.2 A case-control study of the causes of newborn deaths

If you want to study the causes of neonatal (newborn) deaths in your area, you would first select the cases (babies who died within the first month of life) and the controls (babies who survived their first month of life). Then you would interview their mothers to compare the history of these two groups of babies, to determine whether certain factors are more common among the babies who died than among those who survived.

- What feature of Case Study 14.2 indicates that this is a case-control study?
- Two groups were compared to see if there were any differences in their situation that could explain why the *cases* died within the first month of life and the *controls* survived the first month. So this is a case-control study.

It is important to ensure that cases and controls in your study come from the same study population. For example, in a case-control study of vaccination of pregnant women against tetanus, where cases of unvaccinated women are being selected from a particular health centre, controls should be selected from mothers who have attended vaccination at the *same* health centre. If controls are selected from another centre, they would not be from the same study population and therefore they would not be directly comparable to the cases.

### 14.3.5 Cohort studies

In order to study a health issue in more detail, it may be necessary to follow a group of people over a long period of time to see which members of the group (or *cohort*) develop the condition. As you can imagine this type of study is complicated and may be very expensive because it covers a long time. Usually this type of study is done by external agencies such as university researchers or NGOs.

The term **cohort** describes a specific group of people who are all in a particular situation during a certain period of time, for example, everyone who was born in a particular year, or everyone who shares a particular characteristic (e.g. all farmers, or all women of childbearing age). If these people are studied over a long period of time to see what diseases they develop, this is called a **cohort study**. The most common type of cohort study begins with a population who share the same general characteristics (e.g. all men aged between 40 and 50 years), but then compares those individuals in the cohort who are exposed to a disease risk factor (e.g. the tobacco smokers) with those individuals in the cohort who are not exposed to the risk factor (in this example, the non-smokers). Then you follow everyone in the cohort over a period of months or years, and compare the occurrence of the problem that you expect to be related to the risk factor (for example, lung cancer or pneumonia) in the two groups. This allows you to determine whether a greater proportion of those with the risk factor (in this example, smoking) are indeed affected by the disease.

- What is the main difference between the health of ‘smokers’ in a cohort study and that of the ‘cases’ in a case-control study?
- Everyone in a cohort study is well at the outset – including the smokers in our example – whereas the cases in a case-control study all have the disease ‘problem’ at the outset of the study.

Cohort studies may take a long time to yield meaningful results, so they are generally expensive to conduct. However, they have the great advantage of resolving the ‘cause or effect’ problem we mentioned earlier in relation to cross-sectional studies. Because everyone in the cohort is well at the beginning of the research period, it is possible to say that (for example) being a smoker is a contributory cause of lung cancer, if the smokers develop more lung cancers than the non-smokers over time.

## 14.4 Selecting the appropriate study type to investigate a particular problem

The choice of your study design may depend on the following factors:

- type of problem
- knowledge already available about the problem
- resources available for the study.

For example, as we said earlier, cohort studies are very expensive because they have to follow-up a large number of individuals over a long period of time until the results become clear. Some possible investigations, and the type of study design which would be most suitable in each case, are shown in Table 14.1.

Table 14.1 Examples of some investigations and the appropriate type of study design.

Investigation	Appropriate study type
Investigation of current practice, e.g. treatment of fever at a household level	Cross-sectional study
Investigation of a disease which is rare in the community, e.g. breast cancer	Case-control study
Investigation of multiple exposures to a single disease agent, e.g. HIV/AIDS	Case-control study
Investigation of outcomes of an intervention, e.g. protecting a water source (Figure 14.5) and observing the number of diarrhoea cases in a community over time	Cohort study



Figure 14.5 Installation of a protected water source should have an impact on the number of cases of diarrhoea. (Photo: Richard Adam)

## Summary of Study Session 14

In Study Session 14, you have learned that:

- 1 Defining the study population and study variables, and choosing the study type, are an essential starting point for every research project.
- 2 The way you define your study population depends on the problem you want to investigate and on the objectives of your study.
- 3 Variables may be numerical or non-numerical, so the data collected may be quantitative or qualitative, and this determines the appropriate method of analysing the data.
- 4 Study designs may be observational or experimental. Observational studies involve making observations. Experimental studies involve modifying or changing something about the study participants and looking at the effect of this intervention.
- 5 The three common observational study designs are cross-sectional, case-control and cohort studies, all of which involve a survey of some kind.

## Self-Assessment Questions (SAQs) for Study Session 14

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering the following questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

First read Case Study 14.3 and then answer the questions that follow it.

### Case Study 14.3 Nutritional problems of women and children

You suspect that a large proportion of women in your *kebele* are malnourished, in particular women of childbearing age. You would like to determine the nutritional status of the women, assessing this in terms of their weight relative to their height.

**SAQ 14.1 (tests Learning Outcomes 14.1, 14.2 and 14.3)**

- (a) In Case Study 14.3, who will be your study population?
- (b) What study variable would you investigate? Is this a numerical or a non-numerical variable?
- (c) What type of study design will you choose and why?

**SAQ 14.2 (tests Learning Outcome 14.3)**

You also want to know whether the women perceive their nutritional status as a problem. Furthermore you would like to know whether and how the women could contribute to improving their nutritional status.

- (a) What questions could you ask mothers in order to shed light on the causes of malnutrition?
- (b) What research tool would you use to ask these questions to ensure that the same data are collected from every respondent? (Think back to Study Session 10.)

**SAQ 14.3 (tests Learning Outcomes 14.1 and 14.3)**

What other possible study variables will you investigate in Case Study 14.3?

**SAQ 14.4 (tests Learning Outcomes 14.1 and 14.4)**

Now read Case Study 14.4 and then answer the question that follows it.

**Case Study 14.4 Reducing the number of cases of malaria**

In your area an indoor spraying programme was completed recently to try to reduce the mosquito population. Nevertheless, the number of malaria cases shows peaks in certain households in the *kebele*, which you cannot explain. You suspect that there may have been opposition to the spraying in some households, and want to find out if there is a relationship between the houses that were sprayed and the occupants who have suffered from malaria since the spraying was done.

Describe the study design that you would use in Case Study 14.4 and explain why you chose it.



# Study Session 15 Sampling Methods and Sample Size in Small-Scale Research

## Introduction

In Study Session 14 you learned some of the basic study designs that you could use to start to do some small-scale health research in your community. In this study session you will learn about the next stages of doing research and why this may be relevant for your work as a Health Extension Practitioner. Of course your research should be able to find out lots of things about your entire community, but studying large numbers of people takes a lot of resources. It uses a lot of time and costs a lot of money. Studying the whole of the population of interest is therefore not usually possible. For this reason, researchers usually study a representative number of the whole population, which is called a **sample**. To achieve a *representative* sample for a research study, the people who will be studied (i.e. the **subjects**) have to be carefully selected using appropriate sampling methods.

In this study session you will learn about different types of sampling methods and how to determine the appropriate *sample size* (i.e. the number of subjects) needed to generate reliable results from your research. This will help you to extract information from any research on community health and healthcare interventions in your locality.

## Learning Outcomes for Study Session 15

When you have studied this session, you should be able to:

- 15.1 Define and use correctly all of the key words printed in **bold**. (SAQs 15.1, 15.2, 15.3 and 15.4)
- 15.2 Identify and describe common probability and non-probability methods of sampling populations for research studies, and illustrate the reasons for choosing each method. (SAQs 15.1, 15.2, 15.3 and 15.4)
- 15.3 Decide on the best sampling method and the sample size appropriate for a study design in examples presented to you. (SAQs 15.1, 15.2, 15.3 and 15.4)

### 15.1 What is meant by sampling?

**Sampling** is the process of selecting a number of study subjects from a defined **study population** (i.e. the population being investigated). In most research projects it is not possible to include all the study population in the research design. Therefore, you need to look at a sample of individuals who will give you the necessary information that you can then apply to everyone in the study population. As you have already learned in Study Session 14, it is first necessary to define the study population being investigated and only then can you begin to think about how you might take a sample from it.

- Why do you think that sampling may be necessary if you want to study health issues in your locality?
- If it is not possible to study everybody in your locality, a representative sample of people has to be studied.



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As you have learned in previous study sessions, study variables can be categorised as quantitative and qualitative, and the data you collect in a research study may also be categorised in this way. Your sampling methods should follow different techniques depending on whether the data is quantitative or qualitative. In this section you will learn about sampling methods for both types of data, and also how to avoid bias in the sampling process.

- How might bias arise in data collection? (You may want to refer back to Study Session 12.)
- Bias means that data is distorted in some way. This may happen if you are collecting data by interview and you prompt respondents to make particular answers. It can also happen if you ‘hand pick’ your study subjects, for example, by only choosing people who live nearby or people you know.

## 15.2 Why do you need a representative sample?

We turn now to consider why it is so important to make sure that your sample is *representative* of the study population. This is essential if you want to draw conclusions which are valid for the whole study population. This applies whenever you are conducting a *quantitative survey*, such as a cross-sectional, case-control or cohort study design. You can ensure that your sample is representative by using *random selection* of subjects from the population.

**Random sampling** means sampling based on each individual in the population having the same chance (or probability) of being selected to be included in the sample. You will learn about *probability* sampling methods in Section 15.3.

- Why do you think that it is important to make sure that the sample that you study is representative of all the people in your locality?
- If the sample is not representative then you will not be able to say anything about the rest of the community. You will just have studied a number of people from your community, but they will not necessarily represent the community as a whole.

For *qualitative data* it is not necessary to ensure that your sample is representative, because the purpose of the research is to learn about those individuals specifically, and their knowledge, beliefs and practices. Therefore, samples for qualitative research studies are usually selected using *non-probability* sampling methods (described in Section 15.4).

Next we will describe probability and non-probability sampling methods in detail, so you can see different methods of deciding how the members of your sample will be selected (sampling methods) and how many individuals must be included (sample size).

## 15.3 Probability sampling methods

**Probability sampling** involves using random selection procedures to ensure that each member of the sample is chosen on the basis of chance. All members of the study population should have an equal (or at least a known chance) of being included in the sample. For example, names drawn out of a hat or computer-generated random numbers are random selection methods. A probability sampling method is a process that protects your research from bias

You learned about cross-sectional, case-control and cohort studies in Study Session 14.

and ensures that you have a representative sample. Furthermore, it will help you to make meaningful statistical estimations when you analyse the results of your research.

- Why do you think that random selection of people for your sample is so important?
- If the sample selection is not done in a random manner, then the sample will not be representative of the rest of the community. It will probably include a bias in the selection, i.e. too many or too few people will be included who are not representative of the population as whole.

Probability sampling requires that a list of all study population members exists or can be compiled. This list is called the **sampling frame**. The following probability sampling methods will be discussed here:

- Simple random sampling
- Systematic sampling
- Stratified sampling.

### 15.3.1 Simple random sampling

As the name suggests, **simple random sampling** is the simplest method of probability sampling. It means within a particular study population everyone has an equal chance of inclusion in the sample. It is considered 'fair' and therefore allows findings to be generalised to the whole population from which the sample was taken. It is sometimes called the 'lottery method' and is illustrated in Figure 15.1.



Figure 15.1 An example of simple random sampling of 10 subjects, represented by the red 'stickmen', selected at random from a total of 50 subjects using a lottery method. (Diagram: Jessica Aumann)

To use the simple random sampling method, it is necessary to have lists of all elements of the population to be studied. Therefore, to select a simple random sample you need to:

- Make or search for an existing named or numbered list of all the members in the study population from which you want to take a sample.
- Decide on the size of the sample you need (this will be discussed in Section 15.6).

- Select the required number of subjects (also known as ‘sampling units’) using a lottery method so everyone has an equal chance of being selected. Case Study 15.1 illustrates one way of doing this.

### Case Study 15.1 Selecting a simple random sample of students

A simple random sample of 25 students is to be selected from a school of 500 students (Figure 15.2). Using a list of all 500 students, each student is given a number (1 to 500), and these numbers are written on small pieces of paper. All the 500 papers are put in a box, after which the box is shaken vigorously to ensure randomisation. Then, 25 papers are taken out of the box, and the numbers are recorded. The students belonging to these numbers will constitute the simple random sample.



Figure 15.2 Random sampling of school students will provide a representative sample. (Photo: Pam Furniss)

### 15.3.2 Systematic sampling

In **systematic sampling**, individuals are chosen at *regular intervals* using a sampling frame to help you do this. You will recall from earlier in Section 15.2 that the sampling frame is a list of your entire study population. Figure 15.3 shows an example in which every tenth individual has been selected from the sampling frame i.e. the sampling interval is 10.



Figure 15.3 An example of systematic sampling of every tenth subject selected systematically from a total of 50 subjects. (Diagram: Jessica Aumann)

Ideally you should randomly select a number where you start selecting individuals from the list (in the example in Figure 15.3, the starting number is 1). Then, you will select your study subjects starting from that point, choosing whatever sampling interval seems appropriate. For example, you could decide to question people in every 10th house (sampling interval of 10), or selecting every 20th person (sampling interval of 20) from a list.

Systematic sampling is usually less time-consuming and easier to perform than simple random sampling. However, there is a risk of bias, as the sampling interval may accidentally coincide with a variation in the study population that you did not expect. For example, if you wanted to select a random sample of days on which to count Health Post attendance, systematic sampling with a sampling interval of seven days would be inappropriate.

- Can you explain why?
  - All selected study days would fall on the same day of the week. If every study day was a Thursday, and Thursday is market day, then your study days would not be typical days and your sample would not be representative.

Case Study 15.2 presents an example of how to select a systematic sample. Read it carefully and then answer the question that follows it.

### Case Study 15.2 A systematic sample of students

A systematic sample is to be selected from 1,200 students from the same school. The required sample size is 100. The study population is 1,200 and the sample size is 100, so a systematic sampling interval is found by dividing the study population by the sample size:

$$1,200 \div 100 = 12$$

The sampling interval is therefore 12.

The number of the first student to be included in the sample should be chosen randomly, for example by blindly picking one out of twelve pieces of paper, numbered 1 to 12. If number 6 is picked, then every twelfth student will be included in the sample, starting with student number 6, until 100 students have been selected.

- What would the first four numbers selected be in the example in Case Study 15.2?
  - The first four numbers selected would be 6, 18, 30 and 42, because the first number is 6 and the next one is found by adding 12 to the previous number and so on.

### 15.3.3 Stratified random sampling

Sometimes you may need to include some small groups in your sample. For example, random or systematic sampling may not select enough individuals from under-represented subgroups for your research. How do you ensure that small groups are included in sufficient numbers to make the research valid? In such cases you may use a stratified sampling method. **Stratified random sampling** involves dividing your population into various subgroups and then taking a simple random sample within each group. This will ensure that your

sample represents key subgroups of the population. Figure 15.4 illustrates this process.



Figure 15.4 An example of stratified sampling. (Diagram: Jessica Aumann)

The 50 subjects in Figure 15.4 have been stratified (divided) into two subgroups – one of 30 subjects (outlined in blue), and one of 20 subjects (outlined in green). A sample of 10 subjects has been selected, but they have not been picked entirely at random. Instead, 6 have been selected at random from the 30 blue subjects and 4 have been selected at random from the 20 green subjects, to ensure that the blue and green individuals are proportionately represented in the sample of 10 selected individuals.

Representation of the subgroups can be proportionate or disproportionate. For example, if you wanted to sample 100 farmers from a population of farmers in which 90% are male and 10% are female, a *proportionate* stratified sample would select 90 males and 10 females. But you may want to know more about the women farmers than is possible in a sample of only ten subjects. So you can select a *disproportionate* stratified sample, for example, you could select 50 males and 50 females. The example in Case Study 15.3 will help you to understand stratified sampling.

### Case Study 15.3 Stratified sampling of households

A survey is conducted on household water supply in a district comprising 2,000 households, of which 400 (or 20%) are urban and 1,600 (or 80%) are rural. It is suspected that in urban areas the access to safe water sources is much more satisfactory than in rural areas (Figure 15.5). A decision is made to sample 200 households altogether, but to include 100 urban households and 100 rural households.

- Is this sample a proportionate or a disproportionate stratified sample?
- It is disproportionate. 100 urban households out of a total of 400 means that 1 in 4 (one quarter) of the urban households were included in the sample. 100 rural households out of a total of 1,600 means that only 1 in 16 rural households were sampled.





Figure 15.5 Rural water supply is frequently from unprotected sources.  
(Photo: Nancy Platt)

## 15.4 Non-probability sampling methods

Samples selected using **non-probability sampling** methods are not representative samples and their findings cannot be generalised to the whole study population from which the sample was taken. This is because the individuals in the sample are chosen by ‘hand picking’ and therefore the people in the study population do not each have an equal chance of being selected. You may use non-probability sampling methods for defined purposes, e.g. if you wanted to investigate knowledge, attitudes and practice regarding female genital mutilation (FGM) in your community. A non-probability type of sampling would be appropriate in this case because you would want to interview people who can shed light on this sensitive subject. The types of non-probability sampling methods that you might use in such a study include purposeful sampling, quota sampling and snowball sampling.

### 15.4.1 Purposeful sampling

Supposing you wanted to focus on a limited number of respondents who you had selected because you think their in-depth information will give good insight into an issue that little is known about. This would be a qualitative research study, and the appropriate method to use would be what is called purposeful sampling. **Purposeful sampling** involves the selection of a sample of individuals with a particular ‘purpose’ in mind. Using purposeful sampling you would select subjects for specific reasons, such as:

- They meet particular criteria of interest in your research, e.g. very poor compliers with anti-TB treatment; well-nourished children; women who use depo-provera for family planning, etc.
- They show wide variations in their knowledge, attitudes or practice to a particular health issue, e.g. towards people living with HIV, or towards FGM or early marriage.
- They have particular knowledge or expertise, e.g. traditional birth attendants or herbalists in your community.

Purposeful sampling can be very informative. However, this sampling method cannot produce results that can be generalised to the population as a whole, and it may be difficult to avoid personal bias or preference when you are selecting your sample. For example, supposing you want to investigate the use of particular herbs which are taken for pain relief in your *kebele*. You might decide to interview people who you know to be traditional herbalists.



However, this might introduce a personal bias as you would only be able to ask those traditional herbalists who are known to you. Moreover, there may be herbs which are widely used in the community, but that are not recommended by the traditional herbalists. You would get a more accurate picture of the use of pain-relieving herbs in the community if you questioned a wider range of subjects – not just the herbalists.

### 15.4.2 Quota sampling

A **quota** is a defined number that must be included in a sample. **Quota sampling** is a method that ensures that a certain number of subjects from different subgroups with specific characteristics appear in the sample, so that all these characteristics are represented. For example, you may think that religion has a strong effect on attitudes toward family planning services, so you decide to include 25% of respondents from each of the four most common religious groups in your area (Orthodox Christians, Muslims, Protestants and Catholics) in your sample.

- If you suspect that religion might influence use of condoms, then how might you apply quota sampling if you have just three main religious groups represented in the population of your *kebele*?
- You would identify the religious groups and include a quota of 33% from each religious group in your sample, so that each group is equally represented.

### 15.4.3 Snowball sampling

**Snowball sampling** is often used when working with populations that are not easily identified or accessed. The process involves building up a sample through *referrals*. You start with one or two key individuals who you believe know a lot about the subject you are investigating, and you ask them if they know other people who also know a lot about the topic of interest (Figure 15. 6). You then ask those individuals for further recommendations of others who may know a lot about the topic, and so on. In this way a sizeable sample may be obtained. It is called ‘snowball’ sampling because when a small ball of snow begins to roll down a snow-covered hillside, it gathers more snow as it travels and gets larger and larger over time – just like the snowball sample in a research study.



Figure 15.6 Snowball sampling starts with one or two key individuals who then put you in touch with others. (Photo: Janet Haresnape)

- Supposing you wanted to investigate a particular type of rare birth defect. You have only come across two mothers in your *kebele* who have children with this defect. How might you investigate this defect?
- You could use snowball sampling for investigating this birth defect. You could start by interviewing the two mothers who are known to you, and ask them if they know of other mothers with children with the same birth defect. If they do, you could locate these mothers and ask them if they know of other who are similarly affected. In this way it may be possible to build up a sizeable number of mothers to include in your sample.

## 15.5 Census sampling

You learned in Study Sessions 10 and 14 that if a survey covers the total population it is called a census. The national census takes place in most countries every five or ten years, and includes some questions about the health status of the respondents. Such a census might involve asking questions about the:

- total amount of illness in the population
- amount of illness caused by a specified disease
- nutritional status of the population
- utilisation of existing healthcare facilities and demand for new ones
- distribution in the population of particular characteristics, for example, breastfeeding or contraceptive practices.

The information obtained from a census might be used to examine the relationship between one or more of the factors investigated or the cause of a particular disease.

If you are planning a health survey in your community in which all members of the population are interviewed, this is called census sampling. It requires you to define the boundary that your study will cover (e.g. the boundary of your *kebele*) and then interview all the people within it. Census sampling can be used in organisations, schools and rural communities where boundaries may be easily defined.

- Suppose you wanted to use census sampling to investigate the incidence of malnutrition in schoolchildren in your *kebele*. Who would you include in your investigation?
- You would include all the children in each of the schools in your *kebele*.

## 15.6 Sample size

After defining your study population and identifying your study design, you may ask how many people you need to include in your sample. The answer to this question depends on the nature of your research and the type of data you intend to collect.

If you want to work with qualitative data, and your main objective is to find out more about a particular problem but without seeking to generalise your findings to the entire study population, then the size of your sample does not matter. But if you want to work with quantitative data from a sample of people, and you want to use the findings to generalise to the wider population, then it is best to use as large a sample as possible, within available time and

cost constraints. The logic is that the larger the sample, the more likely it is to be representative of the entire population, and therefore more reliable for generalising your findings to the population as a whole.

To work out the appropriate sample size for your study, there are many statistical procedures that can be used. It is not the objective of this Module to introduce these procedures and you do not need to know them at this level. Nevertheless, you may use the information in Table 15.1 as a rough guide to calculate an appropriate sample size for an investigation of a particular study population.

Table 15.1 Rough guide showing the required sample size for a particular size of study population.

Study population size (number)	Required sample size (95% confidence level)
30	28
100	80
500	217
1,000	278
5,000	357
10,000	370
50,000	381
100,000	383
1,000,000	384

The **confidence level** is an estimate of how certain you can be about the conclusions from your analysis, if the sample is the appropriate size. The recommended sample sizes given in Table 15.1 are those which give a confidence level of 95%, which means that in 95% of cases the sample you have selected will be large enough to be representative of the study population as a whole. Therefore, a 95% confidence level would enable you to have high confidence in the conclusions drawn from the results of your research on a sample of the specified size. This means that your sample would be representative and your findings could be generalised to the whole study population from which the sample was selected.

- Supposing you have about 500 women who are past childbearing age in your *kebele* and you want to find out the average number of children they had during their childbearing years. You decide not to interview all 500 of these women, but to select a sample from this group to interview. Look at Table 15.1. Approximately how many women should you interview in order to be confident that the average number of children born to your sampled women is representative of the population as a whole?
- You would need to interview around 217 women from the population of 500 to ensure that they are representative of the whole population of women past childbearing age.

In the final study session in this Module, you will find an extended case study that brings together many of the management, ethical and research issues you have met in this and earlier study sessions.

## Summary of Study Session 15

In Study Session 15, you have learned that:

- 1 Sampling is a process of selecting study subjects from a defined population.
- 2 To generalise results from a sample to a whole study population it is necessary for the sample to be representative.
- 3 Representativeness of a sample can be ensured by using probability sampling methods. This uses random selection of study subjects and ensures an equal chance (or probability) of any subject being selected in the sample for the research study.
- 4 Commonly used probability sampling methods are simple random sampling, systematic random sampling and stratified random sampling.
- 5 Non-probability sampling methods are used to select a sample of study subjects for qualitative research into their knowledge, attitudes and practices. This method uses some form of selection criteria and the results cannot be generalised to the population as a whole.
- 6 If a sampling method includes all of the population within a defined boundary it is called a census and the sampling method is called census sampling.
- 7 In determining the appropriate sample size for a research study you should consider whether you need to be able to generalise from the findings and what type of data you plan to collect. The sample size must be large enough to be representative of the population as a whole if the research is quantitative and the sample has been chosen using a probability sampling method. The sample size is not relevant if the research is qualitative and the sample has been chosen by a non-probability sampling method.

## Self-Assessment Questions (SAQs) for Study Session 15

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering the following questions. Some of the questions address Learning Outcomes from Study Session 14 as well as those from Study Session 15. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

### SAQ 15.1 (tests Learning Outcomes 15.1, 15.2 and 15.3)

Look again at Case Study 14.3 in the previous study session and then answer the following questions:

- (a) What is meant by the word 'sampling'?
- (b) Describe what type of sampling method you will use to select your study subjects for the research described in Case Study 14.3.

Now read Case Study 15.4, and then answer the questions that follow it.

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### **Case Study 15.4 Sofia is concerned about the rise in low birthweight babies**

Sofia is a Health Extension Worker serving in a village where there are approximately 400 mothers who have given birth in the past five years. She suspects that the number of low birthweight babies is increasing and she would like to know more about the physical and socioeconomic conditions of the mothers to see if corrective actions should be taken. The Health Post records at present are not complete enough to draw conclusions and she does not have enough time or resources to interview every mother in the *kebele*. But she would like to study the problem, so she decides to take a sample of mothers to investigate.

#### **SAQ 15.2 (tests Learning Outcomes 15.1, 15.2 and 15.3)**

- (a) What does Sofia need to consider before she starts her research project?
- (b) What list does she need to have before she can select her sample?

#### **SAQ 15.3 (tests Learning Outcomes 15.1, 15.2 and 15.3)**

- (a) What type of sampling method and what sample size is appropriate for the study Sofia wants to conduct in Case Study 15.4?
- (b) Using your knowledge from Study Session 14, what type of study design should Sofia use?

#### **SAQ 15.4 (tests Learning Outcomes 15.1, 15.2 and 15.3)**

Imagine you want to find out about contraceptive use by unmarried girls aged under 18 years in your *kebele*. However, you do not have an accurate listing of all the girls in this age group and you suspect that very few are using contraception.

- (a) How might you obtain a large enough sample of girls who are using contraception?
- (b) What ethical considerations would need to be taken into account in a study of this subject?

# Study Session 16 Extended Case Study on Health Management, Ethics and Research

## Introduction

This final study session is rather different from the previous study sessions in this Module. It is based on one extended case study, which has been designed to help you think more about all the issues that you have been learning about in the rest of the Module. Ethiopia is such a large and diverse country that no single case study can reflect precisely the situation that you will come across in your work as a Health Extension Practitioner. However, the case study that follows includes examples of many of the situations that you will encounter wherever your work takes place. It highlights the work of an imaginary Health Extension Worker called Alemitu, who has to deal with many of the management, ethical and data collection issues that Health Extension Workers and Health Extension Practitioners routinely face in their working lives. In this case study, we focus on health issues relating to immunization of children and parental beliefs about measles. As you go through the session you will see that many of the issues are related to management functions and the final section asks you to consider the case study in this light.

## Learning Outcomes for Study Session 16

When you have studied this session, you should be able to:

- 16.1 Define and use correctly all of the key words printed in **bold**. (SAQ 16.1)
- 16.2 Discuss the pros and cons of a Health Extension Practitioner being local to the area where she works. (SAQ 16.2)
- 16.3 Describe some of the ethical issues that Health Extension Practitioners might face if they are deployed to work in their own community. (SAQ 16.3)
- 16.4 Explain the features of a community survey and a KAP survey as contributions to an effective health education campaign. (SAQ 16.4)
- 16.5 Identify some of the management issues that are part of the work of Health Extension Practitioners in relation to community surveys. (SAQ 16.5)

To reinforce your learning, this study session has several bold terms that have been defined in previous sessions of this Module. Look back to the earlier sessions if you need to remind yourself of the definitions.

## 16.1 Setting the scene for Alemitu's case study

Alemitu was born and grew up in a *kebele* in a rural part of Ethiopia. She was a good school student and had always been interested in doing some sort of health work when she grew up. After completion of her secondary study, Grade 10, she noticed an announcement for training of Health Extension Workers. These workers would be trained at the Technical and Vocational School in her area and then deployed back to their local *kebele*. Alemitu was very keen to do this training and was thrilled when she was given a place as a trainee.

After one year of training, which included theoretical knowledge and skills she obtained in the classroom and practical skills sessions in health centres and a hospital in her district, Alemitu graduated as a Health Extension Worker. She was delighted when she was assigned to the Health Post in her home *kebele* as her first work area. Let's pause here for a moment. Clearly being local to the area is likely to affect Alemitu's role, but in what ways?



- What do you think are the advantages and disadvantages for healthworkers when they work in their *own* community (like Alemitu), instead of in an unfamiliar community? Make a list of the possible advantages and disadvantages.
- There are many obvious advantages to healthworkers like Alemitu working in their own community after they have been trained. They will know the local area and how difficult it is (or not) for people to access health facilities. They will know a lot about the social and cultural issues in their locality and of course be aware of the most serious health problems (Figure 16.1). They will also already know who the village leaders are and understand how decisions are made at community level. On the other hand, healthworkers who have grown up in the village in which they work will have to be especially respectful about issues such as *confidentiality* and *privacy*, because they already know a lot of personal details on the lives of community members. Alemitu will have to ensure that she works in a way that is *ethical* and *equitable* to all community members – including members of her own family. Alemitu will be known for roles other than a Health Extension Worker (for example a daughter, sister, school friend and so on). Some people may find this knowledge of her other roles quite hard to deal with.



Figure 16.1 Knowing the geography, culture and people in the community in which you work is helpful in being able to provide effective health education and other health services. (Photo: Basiro Davey)

## 16.2 Collecting data for the community profile

Alemitu knew that the first thing she needed to do when she started her job was to collect baseline data in order to produce a *community profile*. So she began **planning** a community survey to collect data to build up the information for her community profile. She started documenting relevant facts from her previous knowledge as a member of the community, but the area was too large for her to survey every household in a short time. First, she sought the support of the *kebele* leaders, liaising with them and asking about their knowledge of the community and its people. This helped her to recruit community volunteers. She briefed the volunteers on how to conduct the community survey, using a specially prepared questionnaire. After training in their roles and responsibilities, Alemitu **coordinated** the community

volunteers going from house to house asking the questions in the community survey and collecting the answers (Figure 16.2).



Figure 16.2 This community volunteer is going from family to family collecting survey data for the community profile. (Photo: Yesim Tozan)

Some of the results of the community survey related to the **geographical** and **social** features of Alemitu's *kebele*. She was able to establish that:

- The population of her *kebele* is 5,456 individuals, with (on average) five people per household.
- *Enset* or *kocho* is the staple diet.
- Almost all of the families within the *kebele* earn a living from farming.
- Many areas of the *kebele* are hard to reach because of the mountainous landscape.
- There is only one available dry weather road from the *woreda* Health Office leading to her *kebele*.
- Some parts of the *kebele* are drought-prone, so there are seasonal nutritional problems among the children.
- It takes an average of eight hours for members of her community to get to the nearest health centre.
- No local or international NGOs are operating in the *kebele*.
- There is limited electricity and no mobile phone access in the *kebele*.
- There is a traditional health delivery system offered by certain members of the community (for example, spiritual healers and suppliers of herbal medicines).

In addition to the points listed above, Alemitu needed other survey information to complete her community profile. She needed to collect **demographic** data on the ages, genders and circumstances of the people in every household in the *kebele*, whether the children and mothers have been immunized, how many women are pregnant, etc. (Figure 16.3). She also needed **epidemiological** data about the public health issues that affect the community, e.g. 'Is malaria endemic in the area?', 'Have children died from diarrhoeal diseases or pneumonia?', 'What was the maternal mortality rate during the previous years?', etc.



Figure 16.3 Some demographic and epidemiological data about the community can be displayed on the wall of the Health Post. Note that this poster maintains individual confidentiality. (Photo: Ali Wyllie)

## 16.3 Collecting epidemiological data and taking appropriate actions

Alemitu was aware that she needed to add to the health data that she and the volunteers had collected from households in the community, so the next stage was to **organise** the remaining data collection. She obtained local records, reports and guidelines from the *woreda* Health Office and held discussions with her supervisor and the *kebele*'s community leaders. This created a mix of **qualitative** and **quantitative** data.

- Look at the list below. Which of these types of data are qualitative and which are quantitative?
  - Health centre and Health Post attendance figures.
  - Data collected during discussion with local healthworkers about the most common health problems in the community.
  - Data collected during a focus group discussion with community leaders who were asked about the priority health issues.
  - Data from questionnaires on the number of cases of particular health problems in the community.
- Numerical data (e.g. health centre and Health Post attendance records, and numbers of cases of particular health problems) are quantitative data. Gathering the experience and opinions of local healthworkers and community leaders adds qualitative data. Note that data gathered from questionnaires can be either quantitative or qualitative – it just depends on the questions that have been asked. For example, asking how many children someone has is a quantitative question, while asking them about their health priorities is a qualitative question (Figure 16.4).



Figure 16.4 Questionnaires can gather qualitative data or quantitative data depending on the questions that are asked. (Photo: Yesim Tozan)

After analysing all of the data, Alemitu identified the major public health problems of her *kebele* as being:

- diarrhoeal diseases
- parasites of the intestine
- respiratory problems: mainly pneumonia, but also some cases of pulmonary tuberculosis (PTB)
- malnutrition, including vitamin deficiency
- malaria
- measles among unvaccinated children.

She found that malaria, measles, outbreaks of diarrhoeal diseases and respiratory problems were among the leading causes of illness and death among children under the age of five years.

Let's just consider again Alemitu's place in the community.

- When Alemitu has collected all the community survey data, do you think that there is a possible risk that she would be *biased* in prioritising her actions to resolve health problems, simply because she is a well-known member of the community?
- Alemitu needed to be sure that she remained professional and as objective as possible when she reviewed and analysed the data that she collected, and decided on appropriate actions; for example, she should not try to make a particular health problem a priority for action simply because it has affected her own family. In other words, she needed to be fair and act equitably at all times.
- In addition to acting *equitably*, what other ethical principles did Alemitu need to observe in the health services she provides? What other things did she need to bear in mind in her actions in the community?
- She needed to remember the principles of *beneficence* and *nonmaleficence*. This means working in a way that 'does good' for the entire community, and also ensuring that actions 'do no harm'.

## 16.4 Using community survey data to improve immunization coverage

After analysing the survey data collected in the *kebele*, and from the nearest health centre and the *woreda* Health Office, one of the things that Alemitu

was able to establish was the immunization status of the children who were under the age of one year. She needed to know this in order to plan her immunization programmes. And, of course, therefore she also needed to know what the actual numbers were.

- Look back at Figure 16.3. How many children were aged under one year in the ‘real life’ *kebele* pictured in that poster? What percentage of the total population were under one year?
- There were 88 children aged under one year, representing 3.3% of the total population of 2,667 individuals.
- Alemitu’s *kebele* contained 5,456 individuals. If 3.3% of community members are aged under one year, how many would you expect to find in Alemitu’s *kebele*?
- Three point three per cent (3.3) of 5,456 is  $3.3 \times 5,456 \div 100 = 180$ . So you would expect to find around 180 infants under one year in a *kebele* of 5,456 people.

When Alemitu analysed the results of her community survey, she found that the immunization coverage of the *kebele* was below the national target; only 84% of the infants were fully immunized by the age of 12 months. This immediately alerted her to the need to improve the immunization coverage rates, so she began to think of ways that she could do this. One strategy was to put a chart on the wall of the Health Post to show parents how many children were not fully immunized, in order to encourage them to bring their children for vaccination (Figure 16.5). She also made plans for community conversations about the importance of immunization and asked her supervisor about increasing the number of outreach immunization visits. Notice here that Alemitu was moving forward on more than one front.



Figure 16.5 It is good practice to display health and social data on the walls of the Health Post. In this way members of the community will understand how they can collaborate with the work of Health Extension Workers and Practitioners. (Photo: Ali Wyllie)

Immunization coverage is just one example of how a careful analysis of community survey data can indicate which aspects of the community health service are already doing well, and which need to be improved. After

Fully immunized infants in Ethiopia have received all scheduled doses of BCG, pentavalent, oral polio and measles vaccines. In the near future, they will also receive rotavirus and pneumococcal vaccines (see the *Immunization Module*).



discussion with the *kebele* leaders and other opinion leaders in the community, Alemitu decided that the immunization problem that was most important to tackle first was the low uptake of measles vaccine. This was leading to high levels of preventable measles among children in the community. However, in order to do something about this, Alemitu needed to recognise that people had different views on the vaccine. Although some of these views might not be supported by evidence, nevertheless people would be committed to them and she needed to respect them. She also needed to acknowledge that, as with all medical treatment, things can occasionally go wrong. So you can see that there is an ethical aspect to this.

- Can you think of any ethical issues that might arise during an immunization campaign?
- There were several ethical issues that Alemitu had to be aware of. For example, each person has to give their *informed consent* to every intervention that is carried out on them or their children. This includes immunization (Figure 16.6). So Alemitu needed to ensure *truthfulness* in her work so that everyone knew the positive benefits of immunization, but also the small risk of an adverse reaction and what to do if it occurs.



Figure 16.6 Mothers waiting to have their children immunized should be fully informed about the benefits and also possible adverse reactions afterwards. (Photo: AMREF Ethiopia/Demissew Bizuwork)

Each person or parent has the autonomy to decide whether to accept immunization – Alemitu could not force parents to accept the measles vaccine for their children, but she had a responsibility to give them clear information to help them make a decision.

## 16.5 Dealing with a measles outbreak

Alemitu found several suspected measles cases among children in her *kebele* and reported them to the *woreda* Health Office. The *woreda* officials sent a team to investigate and confirmed the measles cases in the *kebele*. In the process, the team came to identify the following facts, based on the information collected from parents:

- Most of the cases were coming to the Health Post at a late stage, when some children had already developed complications of measles (pneumonia and sight problems, including blindness in one case).
- Most of the cases lived in the remote hard-to-reach areas of the *kebele*.
- All the cases were in children who had not been immunized with measles vaccine.



- There was a lack of awareness among community members about the importance of seeking early treatment for cases of measles.
- There were problems associated with vaccine storage and cold chain management due to a faulty refrigerator at the Health Post.
- There were problems for Alemitu in collecting and transporting new stocks of vaccine from the health centre, which was eight hours walk away from the Health Post.

Health Extension Practitioners are expected to be managers when health issues need to be sorted out in their communities. They have to take on a number of roles in order to complete their tasks. You will remember that *interpersonal*, *informational* and *decisional* roles are all part of what managers do in this instance. For example

- Alemitu has herself and her ability to communicate and ‘read’ situations as a resource to help her manage her relationships in the *kebele*.
- Being able to manage information is key both in terms of educating people and in terms of being well-informed about the actual facts of health situations (the measles outbreak in this case).
- Someone trustworthy and well-informed must take a lead in taking decisions and Alemitu in her role as a Health Extension Worker needs to be professional in doing this.

■ Why were these aspects of management important for Alemitu to perform when dealing with this measles outbreak?

- The interpersonal role was important because so many people needed to be involved; Alemitu had to communicate with them all, so they knew what they were expected to do. The informational role is also important because each person who is in the team needed to have the correct information about the measles outbreak. The decisional role is important as well – people look to the Health Extension Practitioner to take decisions about the way to tackle health issues in their community.

As part of the response to the measles outbreak, the *woreda* team recommended a rapid assessment of the knowledge, attitude and health practices (KAP) of the community on measles management at *kebele* level. The *woreda* supported Alemitu in collecting data in a KAP survey. They identified elders, religious leaders and traditional health service providers, as well as parents, as particularly informative subjects to study. They collected data after developing interview questions for individuals and groups. Privacy and confidentiality are key ethical considerations in interviewing people on sensitive topics.

■ How do you think Alemitu should deal with privacy and confidentiality when interviewing for a KAP survey?

- Alemitu would have to be aware of *privacy* issues and conduct sensitive interviews in a place where nobody else could overhear the conversation. *Confidentiality* is also important: she must not talk about the details of any sensitive matters that her interviewees had told her. If she took notes during the interviews she should be sure that nobody else could read them not only by keeping them in a safe place but also handling them in such a way that no one could ‘look over her shoulder’ and see what the last interviewee said.

The KAP study resulted in the following findings:

- The community was aware of the symptoms of measles and they had a local word for the illness.
- They believed that a child with measles has to stay at home in a quiet environment, not exposed to sun, and must not cross the river.
- Measles was thought to be a self-limiting disease by the community (i.e. children would recover naturally); therefore parents of children with measles need not seek treatment from the formal health service.
- There was a widespread belief that giving an injection to a child with measles would kill the child.

The *woreda* health officials and Alemitu planned a health education programme (Figure 16.7) targeting the mistaken beliefs identified in the above findings. Particular individuals and groups were identified as the main target for the health education programme. Alemitu identified schools, churches and mosques, community meeting places, *kebele* meetings, the Health Post and the health centre as suitable settings for health education to take place. The key health education messages were identified to convince the community members that measles is a very serious illness, which can kill a child, or permanently damage its sight and cause severe respiratory problems. A child with measles should be taken to the Health Post or Health Centre for urgent treatment for these complications. Children can be protected from measles by immunization with a single injection of a safe vaccine at nine months of age.



Figure 16.7 Community education is an important part of any health education campaign. It should be assessed afterwards to see if the messages have been understood and resulted in behaviour change. (Photo: AMREF Ethiopia/Zeinye Tolahe)

Alemitu's plan included a strategy for **monitoring** these interventions to assess whether they resulted in changed behaviour concerning measles treatment and immunization. One way in which the monitoring was carried out was to count the number of people (community members, religious leaders, traditional healers, etc.) who attended each of the health education events. Afterwards, Alemitu and the *woreda* health officials checked to see how many of the unvaccinated children were brought for measles immunization by parents who attended the meetings, or who heard the messages from their neighbours, community leaders and other influential people. They also interviewed community members to ask if their knowledge, attitudes and practices had been changed by hearing the health messages in the campaign.

The results of the evaluation were good. The campaigns under Alemitu's **leadership** were shown to be very effective. Within two years the measles immunization coverage in the *kebele* was found to have increased to 96%. There were only five cases of measles among unvaccinated children and all

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the parents quickly brought the sick child for treatment. Through her work Alemitu set up **control** of the project by establishing what was going on at the beginning and working through to establish how things had improved. For the success she achieved in her work, the community members and *woreda* Health Office recognised Alemitu as a ‘Change Agent’ in her community.

Now you have read about Alemitu’s work on immunization and the measles outbreak, you can see how she has been engaged in health management. You will remember from Study Session 2 that the key functions of management are: planning, organising, leading, coordination, monitoring and control. You will recall too that interpersonal, informational and decisional activities are required of someone undertaking a management role.

- Look back through this extended case study and note the places where these key management functions are mentioned (they have been highlighted in bold). Briefly describe how Alemitu undertook these tasks as part of her role as a Health Extension Worker.
- Alemitu started her job by *planning* a community survey to collect the baseline data she would need for her community profile. She liaised with key people in the community in order to select volunteers. She then trained the volunteers and *organised* and *coordinated* the process of collecting survey data. Alemitu maintained *control* by *monitoring* the outcomes of the interventions to check that the objectives were achieved. Throughout this process, Alemitu demonstrated her *leadership* skills at all stages.

## Summary of Study Session 16

In this extended case study, you have learned that:

- 1 Creating a community profile is one of the first tasks that is expected of a Health Extension Worker or Health Extension Practitioner.
- 2 A good community profile will contain social and economic features that will help the healthworkers understand who is in the community.
- 3 Community profiles also contain health data that will show what illnesses are the most important in the community.
- 4 Data for the community profile can be collected by the healthworkers or by specially trained volunteers going from house to house.
- 5 Health data can be collected from official sources and may be either quantitative or qualitative, or a mixture of both types of data.
- 6 The data collected by a number of methods will establish the most important diseases to be tackled in the community.
- 7 A detailed plan of implementation will be required to tackle the health problems that have been identified.
- 8 Monitoring of the execution of campaigns is important to examine their success, and the control of knowing how much has changed is important too.
- 9 Management is an integral part of the role of a Health Extension Worker.

## Self-Assessment Questions (SAQs) for Study Session 16

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering the following questions. Some of the questions address Learning Outcomes from previous study sessions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

### SAQ 16.1 (tests Learning Outcomes 16.1)

Match the following objectives (1–7) with the descriptions below (A–G).

- |   |                 |
|---|-----------------|
| 1 | Geographical    |
| 2 | Social          |
| 3 | Demographic     |
| 4 | Epidemiological |
| 5 | Qualitative     |
| 6 | Ethical         |
| 7 | Quantitative    |
- 
- |   |  |
|---|--|
| A | Knowing how long it takes people to reach healthcare facilities.                           |
| B | Behaving in a good way and doing no harm; behaving with moral integrity.                   |
| C | Data about hard facts and numbers.   |
| D | Being aware of how a local community works, for instance in its decision making processes. |
| E | Data about people's understanding and beliefs.   |
| F | Data about gender and age.   |
| G | Data about public health issues, for example the incidence of measles in a community.      |

### SAQ 16.2 (tests Learning Outcome 16.2)

Divide the following list into two separate lists. In List A, note ways in which the fact that Alemitu is local may help her in her role as a Health Extension Worker and in List B, note the ways in which being local might possibly create problems.

- 1 She knows the local geography.
- 2 She is known for other personal roles as well as being a Health Extension Worker.
- 3 She is well aware of the social and cultural issues of the community.
- 4 People possibly may think she is biased towards the interests of her own family.
- 5 People may have concerns about privacy and confidentiality because she knows the people very well.
- 6 She understands how community decisions are taken.
- 7 She knows who the leaders and key people in the community are.

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### SAQ 16.3 (tests Learning Outcome 16.3)

Look at the list below. Put an A next to any issues that are about something *other than* ethics for a Health Extension Worker.

Put a B next to any issues that you consider to be unethical. (Some of the points will appear on neither list!)

- 1 Being truthful to parents about any risks associated with the measles vaccine.
- 2 Being careful about respecting the privacy of people being interviewed.
- 3 Working out the number of children under one year old who have not been vaccinated.
- 4 Vaccinating children without getting informed consent.
- 5 Telling friends and relatives about what people have said in interviews.
- 6 Working out how long to spend on the community survey.

### SAQ 16.4 (tests Learning Outcome 16.4)

What is the difference between a community survey and a KAP survey?

### SAQ 16.5 (tests Learning Outcome 16.5)

Match the following management functions (A–F) with the descriptions (1–6).

- A Planning
- B Organising
- C Coordinating
- D Leading
- E Monitoring
- F Control

- 1 Enabling the project through effective deployment of people and documents so everyone knows what they are doing.
- 2 Taking the responsibility for the project and being at the forefront to take people forward.
- 3 Checking progress on the project to see whether it leads to changed behaviour.
- 4 Determining a course of action through careful estimation of the situation now and where you want to get to.
- 5 Setting up an aspect of the project so you are sure how behaviour has changed and how much it has changed.
- 6 Making sure that different aspects of the overall project fit together, including people working, timings and so on.

# Notes on the Self-Assessment Questions (SAQs) for Health Management, Ethics and Research

## Study Session I

### SAQ 1.1

- (a) Primary Health Care is the name given to the essential healthcare that is universally accessible to individuals and is acceptable to them at a cost that the country and each community can afford.
- (b) Millennium Development Goals are the goals which the country aspires to achieve by the year 2015 (the year 2008 in the Ethiopian calendar).
- (c) Vertical health programmes are designed to tackle single diseases such as malaria.

### SAQ 1.2

- (a) *Accessibility*: Every person needs to be able to get to the health services that will help them maintain their own health, or treat them when they become ill. In Ethiopia the construction of 14,000 Health Posts and the deployment of two trained female Health Extension Workers for each *kebele* have dramatically improved access in rural areas.
- (b) *Community participation*: The HSEP relies on involving the community in different health and health-related campaigns. For instance, draining swampy areas in the malaria control programme relies on community participation. The Health Extension Practitioner alone cannot achieve these results.
- (c) *Health promotion*: HSEP is focused mainly on prevention and health promotion. For example, selecting model families and educating them in health-related issues has enabled many communities to maintain their own health.

### SAQ 1.3

Health Education and Communication covers all the four components and should be part of the work dealing with all these health problems. Tuberculosis and malaria are categorised under Disease Prevention and Control, while nutrition-related health problems and pregnant women seeking support will be categorised under Family Health Services. If there is little use of latrines in the community, work to improve uptake will be categorised under Environmental Hygiene and Sanitation.

### SAQ 1.4

Asmera will have used most of the principles of PHC to have achieved such excellent results. For example, she would have got help from other agencies (*inter-sectoral collaboration*). She will have also used many community resources (*community participation*), and made sure that all her services were equally available to everyone in her community (*accessibility*). None of her work would be possible without effective *health promotion* and the use of *appropriate technology*.



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## Study Session 2

### SAQ 2.1

- 1 The *Health Manager* enjoyed helping the rest of her team to achieve their goals and objectives.
- 2 *Controlling* expenditure on the health campaign became difficult because of rising costs.
- 3 Every healthworker can demonstrate their *Leadership* qualities and become an important part of the team.
- 4 Although most Health Extension Practitioners enjoy looking after people in their community they also need to develop their *Management* skills so that the health of everyone in their community can be improved.

### SAQ 2.2

The main principles of healthcare management are usually considered to be maintaining team spirit, ensuring the correct division of labour and focusing on the results of the team's activities. All these principles can be achieved by planning, organising and coordinating, and by skillfully leading your team. Monitoring and control is always important to make sure that your health objectives are being achieved.

### SAQ 2.3

The main levels of managers in the healthcare system are usually considered to be top-level managers, middle-level managers and frontline managers. Health Extension Practitioners are, of course, frontline managers. Their management tasks are concerned with the practical provision of health services to their community. In many ways this is the most important level and requires a lot of skill to make sure that the correct resources are used to tackle disease and ill health in your community.

### SAQ 2.4

Leadership is one of the ways that Health Extension Practitioners can influence the health of people in their community. Using their leadership role, Health Extension Practitioners can show villagers the correct ways to maintain their health and influence the ways that they think about protecting themselves and their families. A good leader will make sure that the correct decisions about health are taken by the members of their community. Leadership is a less precise feature of the work of Health Extension Practitioners than management. Leadership will rely on motivation to help people change, rather than direct or formal organisation of health activities that relies on the management of resources.

## Study Session 3

### SAQ 3.1

Planning your health activities and developing a healthcare plan is important to the health of your community because it is the only way that you will be able to make sure that all the resources that are available are used properly. Proper planning is an essential part of ensuring that the work of the healthcare team is carried out efficiently and effectively.

### SAQ 3.2

Strategic planning creates the wider picture and gives an overall direction to health work in an entire region or nation. Operational planning is carried out at grassroots levels by the people who are going to be responsible for the plans in each village or community.

### SAQ 3.3

The steps involved in operational healthcare planning include:

- situational analysis (detailing what is the problem)
- problem identification and prioritisation (setting out which problem should be tackled first)
- setting objectives (to decide what needs to be done)
- strategy formulation (to decide how to tackle each of the problems)
- identify and sequence activities (to establish the order in which to tackle the problems)
- identify resources
- prepare action plans and schedules.

Of course all health activities must also be monitored to determine progress.

### SAQ 3.4

If there is a high incidence of malaria in your village you might carry out a situational analysis to determine exactly what the problem is. This could be followed by a SWOT analysis to focus on the problem. Looking in turn at Strengths, Weaknesses, Opportunities and Threats will help you clarify the problem and point towards possible ways of tackling it.

## Study Session 4

### SAQ 4.1

Implementation takes place when you put into action the various steps that are needed to make sure that your health goals are met. Just having plans and goals won't improve the health of your community. You have to implement your plans and make sure they happen. Implementation will require leadership. Health Extension Practitioners know about the health issues that affect their communities and their leadership is important in implementing the plans that will improve the health of their community.

### SAQ 4.2

To undertake health activities in your community you will need to get organised and develop a team to help you. This may be a formal team such as a committee of students and young people. You will have to make sure that you lead the team and help them understand what they have to do, when they have to do it and who to report to about their actions.

Organising your team	HIV testing project
What is to be done?	Get as many students as possible to attend for HIV testing
Where will the action take place?	In each school
When will the action take place?	At the beginning of the day during week 4 of term (or other specified time)
What equipment is needed?	We will need sufficient testing kits
How will the activity be arranged?	A room will be booked where there is some privacy
Which members of the health team will be involved?	Volunteer counsellors and the Health Extension Practitioners
Who outside the health team will be involved?	Teachers must also be included
Who will do what?	Teachers will be trained to support the students and encourage them to attend
Who will lead?	Health Extension Practitioners
Is all the necessary information available?	Get health education material and posters
Has the information been communicated?	Make sure posters are in place for a week before the testing activity is due to start

### SAQ 4.3

Your answer may be slightly different from this example.

Purpose of meeting	To discuss with village leaders how to increase latrine use
Main subject matter	Latrine use and latrine building
Type of meeting	Committee meeting
Size of meeting	Ten people maximum
Place, time and duration of meeting	Afternoon when people have stopped work in the fields
Who is organising the meeting?	Health Extension Practitioners
Information about the meeting	Make sure all the right people are invited and know when to attend

**SAQ 4.4**

The main stages are usually considered to be forming, storming, norming and performing. Knowledge of these stages will help you build the teams that will help you meet your health goals. If you know about these stages you will be able to plan how the teams work at various stages in their development. For example, understanding that it is common for team members to disagree at the start, but they will move towards agreement by the end, will stop you worrying unnecessarily.

**SAQ 4.5**

To motivate the health team, you would need to:

- Take the time to meet with and listen to teachers and school students about the health club.
- Make sure that you provide the health club team with lots of feedback about how their club is doing.
- Provide relevant information about how the health club is helping to achieve the community health goals.
- Make sure the health club is always open, trusting and fun.
- Encourage new ideas, suggestions and initiatives.
- Personally thank team members for doing a good job.

## Study Session 5

**SAQ 5.1**

Monitoring is collecting and analysing routine information about the performance of you and your health team. Unless you collect information in this way it will not be possible to see how your work is progressing or whether you are meeting your health-related targets.

**SAQ 5.2**

All Health Extension Practitioners need to monitor and control the health services that are their responsibility. This can be done by collecting relevant information and checking that targets and goals are being met. If there are problems then the information will be useful in deciding what sort of corrective action to take.

**SAQ 5.3**

Many different types of information are relevant to the monitoring process. This includes records of attendance by people from your community at the Health Posts as well as any financial records that are kept. Many other sorts of documentation can add to the monitoring process, including official reports and the records of any formal or informal meetings that are held on health-related subjects in your community.

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### SAQ 5.4

Supervision is one way that monitoring and control can be made more effective. During a supervision session there should be an open and honest exchange of views and opinions, and ways of tackling any problems should be identified.

### SAQ 5.5

A health worker who is not performing well like Zewde should be offered some feedback as soon as any problem in their performance has been identified. This should usually be in a one-to-one session. The exact nature of the problem should be identified and she should be given an opportunity to explain what has happened from her point of view. It is important to maintain a good relationship with Zewde, but also be clear about the things that she will have to change in the future.

## Study Session 6

### SAQ 6.1

(A) Antiseptic wipes, (B) Oral polio vaccine and (E) Paracetamol syrup are all consumable items.

(C) Thermometer, (D) Stethoscope and (F) Fetoscope are non-consumable items.

### SAQ 6.2

The vaccine carrier and the foam pad could become mouldy because they were left wet and enclosed for at least two days. This could mean that the vaccine carrier is not safe to use for the next vaccination session. The Health Extension Worker should have dried the vaccine carrier and foam pad before she went home, and left them with the lid open so the air can circulate to evaporate any remaining moisture.

### SAQ 6.3

You are expected to know how to do the following in order to manage drug stocks and other pharmaceutical supplies at Health Post level:

- Estimating quantities of drugs required, based on usage rates.
- Applying the FIFO and FEFO principles in storing and using drugs.
- Monitoring the use of drugs, checking drug use against patient treatment and identifying discrepancies in drug treatment.
- Making an inventory, identifying the common reasons for wastage of drugs and finding solutions for any problems.
- Estimating when to reorder drugs in order to maintain essential health services and minimise wastage.
- Controlling the presence of life-saving drugs and fluids in your stocks at all times.

**SAQ 6.4**

The calculation is as follows:

5 (patients)  $\times$  12 (tablets)  $\times$  90 (days) = 5,400. So you will need 5,400 tablets of Coartem for a three month period.

**SAQ 6.5**

If the education you give is inadequate, patients could fail to take their drugs correctly, e.g. they may take too many tablets or not enough, or take them in the wrong dosages, or stop taking them too soon, etc. Their illness may not be treated effectively, or they may suffer side-effects from taking too many tablets. In the most extreme cases, the patient could die because the information about the treatment was not clearly explained and was not understood.

## Study Session 7

**SAQ 7.1**

As a Health Extension Practitioner working in a community, you should always work towards building up community trust. Telling the truth (truthfulness) and keeping clients' private issues to yourself (confidentiality) are basic principles that you should always stick to during your day-to-day relationships with people. If you are not trustworthy, individuals will keep away from your services for fear that their private issues will be disclosed. This has the potential to severely affect your practice.

**SAQ 7.2**

Informed consent is providing your client with information that enables them to decide or take an informed decision before you undertake any healthcare procedures on your client. For instance, you need to obtain informed consent from each pregnant mother who comes for antenatal care before you do any interventions.

**SAQ 7.3**

Beneficence is an ethical principle that focuses on 'doing good'. A practical example might be providing focused antenatal care to a pregnant mother.

Nonmaleficence is an ethical principle which reflects both the idea of not inflicting intentional harm, and not engaging in actions that risk harming others. A practical example might be that the Health Extension Practitioner does not abandon people just because of their economic status.



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### SAQ 7.4

The principle of justice is based on obligations of fairness, equality and impartiality, regarding treatment of individuals and groups within society.

Social justice is fairness to all groups of people within a community and is based on the application of equity, rights, access and participation. The role of Health Extension Practitioners is to support inclusion and empowerment of people to fully participate in public decisions; for example, making sure that the whole community participates in a malaria control campaign from the planning stage up to its evaluation.

Distributive justice is fairness to individuals who live in the community regardless of their status in the community; for example, all people should get treatment when they are ill no matter who they are.

### SAQ 7.5

There are several ethical concerns that might influence this situation. The Health Extension Practitioner will be concerned to do her best for everybody involved (beneficence) and do no harm to any of the individuals involved (nonmaleficence). It will be important to be truthful at all times when handling this situation and maintain confidentiality. Although everybody in the immediate family seems to know what is going on, the personal details about this situation must not be spread any further into the community. The mother of the baby must give her informed consent to any interventions that are done to her during the course of the pregnancy, or of course during the abortion if that's what they finally decide.

## Study Session 8

### SAQ 8.1

There are lots of examples of stigma following medical conditions that you could have chosen. Often people with infectious diseases, such as HIV or AIDS, are stigmatised because of their medical condition. Stigma can be reduced or avoided if proper education is given to the community. If they understand about an infection such as HIV then there is no reason why a person with HIV should be stigmatised.

### SAQ 8.2

From Case Study 8.7 you can extract a number of ethical issues or conflicts. Amarech has the responsibility to keep W/ro Alemach's medical secret. *Confidentiality* is the core ethical principle in this case study. If Amarech tells Ato Feleke about his wife's infection, W/ro Alemach may end up being divorced. The principle of *nonmaleficence* would be violated. If Amarech keeps the secret there is a probability of transmitting the infection to Ato Feleke and the principles of *beneficence* and *nonmaleficence* would be violated. The best solution to those conflicting issues is to encourage Alemach to tell her husband herself. This would involve the principle of *autonomy*.

**SAQ 8.3**

There are several ethical theories that could be used to resolve the dilemmas that have been identified in Case Study 8.7. Confidentiality and truthfulness are at the centre of the case study, but autonomy, beneficence and nonmaleficence may also be useful.

**SAQ 8.4**

The decision-making steps found in Box 8.2 might help the resolution of the ethical conflicts in Case Study 8.7 because a logical approach to sorting out the problems will help you think clearly about the problem and how to solve it.

## Study Session 9

**SAQ 9.1**

The Health Extension Worker was aware of her *obligation* to provide a high quality service to the people in her community. She knew that all the people she was looking after had *rights* and could expect her to keep their health problems secret and maintain *confidentiality* at all times. They knew that she would treat them all equally and be fair. They respected her sense of *justice* and were confident that she would be able to sort out any value conflicts that might occur.

**SAQ 9.2**

Almaz has the right to use the health service and be treated with respect and sympathy. This does not mean that every request has to be carried out, but that the health service, including the Health Extension Practitioner has to consider her request. She also has a right to be treated confidentially. The Health Extension Practitioner must not inform her parents or others in authority about her situation. These are largely ethical rights but could be challenged in law.

**SAQ 9.3**

Chaltu has the ethical and legal obligation to treat Almaz with sympathy and respect her need for privacy and confidentiality. She also has an obligation to give the correct information to her client about many issues that may be relevant. For example, Almaz would be considered for a legal abortion at the health centre or in a hospital if the father of her expected child is a close relative (incest), if the pregnancy was the outcome of a rape, or if Almaz herself was considered to have a serious mental or physical illness. Chaltu also has to tell Almaz about the problems that might develop if she went to an illegal abortionist.

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### SAQ 9.4

Confidentiality and truthfulness are the key obligations for the Health Extension Practitioner to remember in this situation and in all health work. These are professional obligations and they set Health Extension Practitioners apart from other members of the community.

## Study Session 10

### SAQ 10.1

- (a) Case Study 10.1 is an example of applied research: it focuses on investigating the causes of a prevailing problem (diarrhoeal diseases) and suggested ways of tackling it.
- (b) It is a cross-sectional study which was conducted at one point in time: October 2009.

### SAQ 10.2

- (a) Two examples of quantitative data collected in the community survey are the numbers and percentage of households without latrines, and the number without access to safe water.
- (b) An example of qualitative data collected in the community survey is that it sought explanations for the low utilisation of latrines in terms of people's feelings and attitudes to latrine use, and discovered that there were cultural and practical barriers.

### SAQ 10.3

Aster could interview people identified from the survey as having a latrine, but who are unwilling to use it. She may learn more personal in-depth information in a one-to-one interview about why they prefer open defecation. She could also arrange a focus group discussion between people who do use their latrine and people who don't, so they can share their views and experiences.

### SAQ 10.4

Aster's survey was systematic because she gave the same questionnaire to the volunteer data collectors and trained them all to use it in the same way. When they returned the questionnaire, she recorded and analysed all the results herself, using the same method for all the questionnaires.

## Study Session 11

### SAQ 11.1

- (a) The demographic data collected in the study were: gender, number of households, population density, literacy rates and income levels.
- (b) The researchers concluded that the factors affecting the hygiene and sanitation practices of households in the study area were:
  - *Population density*: high risk of exposure to poor environmental conditions among households in high-density areas.
  - *Income and educational status*: more latrine availability was found among the better off households in terms of income and educational status, whereas those with low income and educational status had worse access to safe water and sanitary facilities.

**SAQ 11.2**

The factors that contributed to poor environmental sanitation in Gondar town, other than economic or demographic, were:

- Behavioural factors, e.g. poor awareness in the community of how diarrhoeal diseases are transmitted.
- Physical factors, e.g. the low average consumption of water.

**SAQ 11.3**

Diarrhoea and eye problems were the common illnesses (morbidity) identified by the researchers that were associated with low average amount of water usage.

**SAQ 11.4**

Yes, this research study can be used as part of the community profile for the sanitary situation in the study area because information on demographic factors, latrine availability, solid waste management and drinking water supply at community (household) level was collected and analysed by the researchers.

## Study Session 12

**SAQ 12.1**

Bias is a distortion of information during data collection. Biased data collection does not show the true situation that you are trying to investigate so should be avoided if possible.

**SAQ 12.2**

- (a) The mean number of children per household is 3.7. To calculate the mean you add up all the numbers of children, which comes to 37, and divide by the number of households, which is 10.
- (b) The median number is 3.5. To calculate the median you rearrange the data in order: 0, 1, 3, 3, 3, 4, 4, 5, 6, 8. In this case, because there are an even number of records, there is no middle number so you have to take a mean of the two middle numbers, which are 3 and 4.
- (c) The modal number is 3. This occurs three times whereas other numbers occur no more than twice.
- (d) The proportion of families with more than three children is 5 out of 10. You could simplify this to say half the families have more than three children.
- (e) Three families have more than four children so the percentage is 3 divided by 10, multiplied by 100, which equals 30%.

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### SAQ 12.3

The data required is qualitative because it includes the women's perceptions and opinions. Interviews and focus group discussions with women could be used to collect this data. Written questionnaires can also be used however this will only be suitable if all of the women are literate.

### SAQ 12.4

If data are collected using interviews, then the questions would need to be well prepared and devised so they did not lead to particular answers. All interviewers would need to receive appropriate training to ensure that they record the answers in the same way. Bias could also occur if respondents are prompted when answering questions. Respondents should not be handpicked, but selected according to consistent criteria.

### SAQ 12.5

It is important to check data for consistency and missing values. You should check for errors in order to ensure that the data are reliable before you start to analyse and interpret the data.

### SAQ 12.6

It would be important to establish a relationship with, and to obtain informed consent from, each mother before you start to ask a lot of questions. You would have to be aware that nutritional status might be a sensitive issue.

## Study Session 13

### SAQ 13.1

The correct order and the appropriate section for each of the extracts from the report are as follows:

F = Cover page

D = Introduction

G = Objective

I = Survey methods

H = Results

A = Discussion

E = Conclusion

C = Recommendation

B = Acknowledgements

**SAQ 13.2**

You should not conduct the research if there are major ethical problems, there is no chance of implementing the recommendations, there are no available resources for the project, it is not politically acceptable to the stakeholders, sufficient information is already available from other research studies, or the research is not relevant to addressing a priority health problem.

**SAQ 13.3**

We can't tell exactly what specific objectives you may have written, but here are some suggestions (you may have thought of others that are equally relevant):

- To interview mothers of underweight infants about what foods they give to their child, including how long they breastfed if the child is already weaned.
- To distribute a questionnaire to parents asking them to tick all the foods they consider are good for children aged under one year, and any foods that they think are bad for children.
- To organise a focus group for fathers of underweight infants to discuss whether there are difficulties in obtaining enough food to feed their children, and the reasons for any food shortages.
- To assess whether health problems such as diarrhoeal diseases and/or intestinal worms are contributing to malnutrition among young children.

## Study Session 14

**SAQ 14.1**

- (a) The study population is the total members of a defined class of people, objects or events. Therefore, women in the childbearing age group will be your study population for this research project.
- (b) The variable you will consider is their nutritional status, which is assessed in terms of their weight relative to their height. This is a numerical variable.
- (c) A cross-sectional study design will be appropriate, because it is possible to assess the current nutritional status of the study population and it will be cheaper than the other two study types.

**SAQ 14.2**

- (a) You may ask the mothers about their perceptions, symptoms and causes of malnutrition, and their current diets. Also whether they think it would be possible to improve their nutrition, and if not, what are the barriers preventing this.
- (b) A structured questionnaire would be a systematic way to ask each woman about the same issues in the same way.



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### SAQ 14.3

We don't know exactly what you suggested, but we expect you will have thought of at least some of the possible list of variables below:

- woman's age
- number of children
- education
- ethnicity
- types of food in the diet.

### SAQ 14.4

In the example in Case Study 14.4, a cross-sectional study design will be most appropriate. You would ask every household at the same point in time whether they had accepted or refused to have their houses sprayed during the recent programme, and whether any members of the household have suffered from malaria since the spraying was done. This would be a suitable study design because it will give you a quick answer about whether those households where spraying was not done have the most cases of malaria. In addition, it would be cheap to conduct.

You may instead have suggested a case-control study. You would investigate whether malaria *cases* were more likely to come from unsprayed households, whereas people who did not develop malaria (the *controls*) came mainly from sprayed households. This would also be a suitable study design for investigating this problem, so would be a correct answer. However, it would be more complex and expensive to undertake than a cross-sectional study, so the cross-sectional design is preferable.

## Study Session 15

### SAQ 15.1

- (a) Sampling is the process of selecting a number of study subjects from a defined study population.
- (b) Simple random sampling or systematic random sampling methods could be used to select mothers and children for the research outlines in Case Study 14.3.

### SAQ 15.2

- (a) Sofia needs to consider how many mothers she will investigate (the sample size) and what questions she will ask them.
- (b) Before she can select her sample, she needs a list of all the mothers in the *kebele*. This list is her sampling frame from which she can take her sample.

**SAQ 15.3**

- (a) The appropriate sampling method is stratified random sampling, because she would like to know more about the physical and socioeconomic conditions of the mothers who have given birth in the past five years. The appropriate sample size would be close to 200 mothers from the total population of 400.
- (b) She could use a cross-sectional study design based on a random stratified sample, because she has neither the time nor the resources to interview all 400 recent mothers.

**SAQ 15.4**

- (a) You would try to identify one or two girls in this age-group who are using contraception and ask them if they would agree to be interviewed by you, and if they know of any other girls in a similar situation who can be referred to you. Then you would ask the girls they referred to you if they know about anyone else who could be interviewed for your study, and so on. Using this snowball sampling method could build up a large enough sample to generate useful results about contraceptive use among young unmarried women.
- (b) You would have to ensure absolute confidentiality about who you interviewed and what they reported to you about such a sensitive subject as contraception among unmarried girls.

## Study Session 16

**SAQ 16.1**

1 = A, 2 = D, 3 = F, 4 = G, 5 = E, 6 = B, 7 = C.

You will be familiar with most of these key words. However in this session they appear in a very practical case study so just check carefully that you can see how they are used in this applied sense.

**SAQ 16.2**

List A = 1, 3, 6, 7.

List B = 2, 4, 5.

Remember though that although the issues in List B need thinking about carefully, there is no reason why Alemitu as a professional Health Extension Worker cannot deal with them.

**SAQ 16.3**

You should have A next to 3 and 6, and B next to 4 and 5.

1 and 2 are part of the ethical concerns of a Health Extension Worker (or Practitioner) and so should appear in neither list. 3 and 6 are practical not ethical issues. 4 and 5 are unethical. A Health Extension Worker should always seek informed consent, which means people have the right to know the full facts and then make their minds up whether to go ahead. Health Extension Worker's need to value privacy and confidentiality at all times. This respects people but also it makes a Health Extension Worker a figure of trust in the community.

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**SAQ 16.4**

A community survey is mostly about facts and figures, about how many people there are and their ages, gender, occupation, etc. It is also about people's access to health facilities.

A KAP survey is more about people's understanding, beliefs, attitudes and knowledge of health in the community they live. You need to know what your community thinks and believes.

Both sorts of surveys are vital in planning campaigns. You need to know the facts and figures and you also need to know what people think.

**SAQ 16.5**

A = 4, B = 1, C = 6, D = 2, E = 3, F = 5.

Management is a complex process and the functions we have outlined do not always fall into a simple order. For example, sometimes you will plan several times during a project and set up several small targets at different stages. You will also need to assess if you have achieved those targets. Plans come in all shapes and sizes from the planning of the overall project through to who is going to interview whom this morning. It is a matter of being aware all the time of the stage you have reached and which function is appropriate at 'this stage' in the project.



