

**Drug and Therapeutics Committee  
Training Course**

**Session 8:  
Understanding the Problems Associated  
with Drug Use—Qualitative Methods**

Participant's Guide

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## CONTENTS

Purpose and Content .....	1
Objectives .....	1
Further Reading .....	1
Introduction .....	3
Key Definitions.....	4
Applying Qualitative Methods to Drug Use Studies .....	5
Qualitative Methods.....	5
Focus Group Discussions .....	5
Participants.....	5
Locale .....	5
Number of Discussion Groups and Sessions .....	5
Moderator and Recorder .....	6
Advantages and Disadvantages.....	6
In-depth Interviews .....	6
Participants.....	6
Number of Interviews.....	7
Interview Session and Interviewer .....	7
Advantages and Disadvantages.....	7
Structured Observations .....	7
Subjects to Be Observed.....	7
Number of Observation Sites.....	8
Number of Observations at Each Site .....	8
Advantages and Disadvantages.....	8
Structured Questionnaires .....	8
Respondents.....	8
Number of Respondents .....	9
Interviewers .....	9
Questions .....	9
Advantages and Disadvantages.....	9
Activity.....	10
Activity 1. Prepare Interview Questions for Prescribers.....	10
Summary .....	11
Annex 1. Sample Interview Questionnaire .....	12
Interview for Prescribers .....	12

## PURPOSE AND CONTENT

This session is intended to provide information on how members of the Drug and Therapeutics Committee (DTC) can investigate the underlying reasons for drug use problems in their health systems. The discussion covers four qualitative methods to understand and document how factors such as knowledge, economic incentives, or attitudes and beliefs affect drug use.

Reviewing the consequences of inappropriate drug use emphasizes the need to investigate the reasons for health provider-patient behavior. The following examples illustrate how varied inappropriate drug use can be:

- Prescribing too many drugs for a patient
- Prescribing the incorrect dose or wrong drug
- Use of antibiotics for patients with viral infections
- Overuse of narcotics for patients with minor pain
- Prescribing drugs when no drug is needed

Once a drug use problem has been identified, the DTC must develop a plan, including interventions, to resolve or improve the specific problem. However, before planning an intervention, DTC members should first understand the reasons for the behavior behind the problem. The DTC can use the methods discussed in this session to identify the causes underlying the problem behavior and then recommend the most appropriate interventions.

## Objectives

Upon completion of this session, participants will be able to—

- Discuss four methods to investigate underlying drug problem behavior
- Understand use of the qualitative methods to identify why documented drug use problems occur

## Further Reading

Arhinful, DK, et al. How to Use Applied Qualitative Methods to Design Drug Use Interventions. Working Draft. International Network for Rational Use of Drugs Social Scientists Working Group. Arlington, VA: Management Sciences for Health. December 1996.

Management Sciences for Health. *Managing Drug Supply*. Second edition. West Hartford, CT: Kumarian Press. 1997: Chapter 29, paragraph 29.4, “Investigating the Reasons for Drug Use Problems: Qualitative Methods.”



## INTRODUCTION

Discussion of drugs and their use occurs at the end of the patient consultation. Health professionals must be sure to give the correct drug to the correct patient, and the patient must understand and comply with the treatment or expected improvement of the patient's condition is not likely to occur.

Some examples of irrational drug use include—

- Prescribing drugs when the health problem is self-limiting and the patient would get better without taking any drugs. For example, ampicillin is prescribed but the patient has a simple cold.
- Prescribing several drugs when fewer drugs would provide the same effect. For example, chloroquine and paracetamol are prescribed when the patient has fever but does not have confirmed malaria.
- Prescribing the wrong drug. For example, gastrointestinal antitomotility drugs are prescribed for a child with simple diarrhea when fluid replacement, such as oral rehydration solution (ORS), is indicated.
- Basic diagnostic tests are not ordered before prescribing. For example, the patient is prescribed a third-generation cephalosporin drug, but no culture is done to ensure effectiveness of the prescribed drug for the strain of microorganism presenting in the patient. Perhaps a cheaper or more effective drug could be prescribed.
- Prescribing more expensive injections when the patient could take oral drugs. For example, the patient is prescribed ampicillin 500mg injection instead of the generally cheaper ampicillin 500mg tablets.
- Wrong quantity of a drug is dispensed to the patient. For example, cotrimoxazole is prescribed to be taken one tablet two times daily for five days, and patient is dispensed six tablets.
- Poor patient compliance due to inadequate labeling of the drug container. For example, instructions on dosage frequency must be written on the container label so the patient will have a reference point when he or she arrives home and becomes involved in other activities.

Reasons for practitioners to prescribe and dispense drugs irrationally include profit motives, lack of knowledge, and a lack of confidence in their capacity to provide quality care.

Since one of the main functions of the DTC is to identify areas where irrational drug use is occurring, and subsequently to design interventions for correcting the problem behaviors, the committee needs a systematic way to collect data about drug utilization.

Quantitative methods of data collection such as ABC/VEN analysis, defined daily dose (DDD) methodology, WHO health facility indicators, and hospital drug use indicators of prescribing studies are discussed in Session 7 of the training materials. Those quantitative methods identify the presence of drug use problems and their magnitude, but not necessarily *why* the drug use problems are occurring.

The qualitative methods discussed in this session provide ways to target health providers, patients, provider-patient interactions, and the complex of cultural, social, economic, and structural factors that can influence behavior—thus the *why* of drug use problems. The methods discussed are—

- Focus group discussions
- In-depth interviews
- Structured observations
- Structured questionnaires

## KEY DEFINITIONS

**Focus Group Discussion**—In a focus group discussion, a small number (6–10) of people who share similar characteristics like age, gender, or type of work are brought together by the researchers for what is like a group discussion. A trained moderator encourages participants to reveal underlying opinions, attitudes, and reasons for the problem being studied. The discussion is recorded and analyzed systematically to identify key themes and issues. This method will identify a wide range of beliefs and opinions.

**In-depth Interview**—An in-depth interview allows extended discussion between a respondent and an interviewer. The interview is flexible and often unstructured, allowing an interviewer to encourage the respondent to talk at length about a particular topic of interest.

**Structured Observation**—The structured observation study method utilizes trained people to observe a series of encounters between health providers and patients. The observers record behaviors and impressions they witness during the encounters, or, depending on the design of the study, they record a score for each observed interaction on a set of indicators prepared for the study.

**Structured Questionnaire**—The structured questionnaire involves the preparation of a list of questions with a fixed set of responses or options in order to collect the desired information in a standard way from all respondents. The questionnaire may be administered by an interviewer or completed alone by respondents. This method identifies the frequency of beliefs and opinions of the targeted practitioners.

## APPLYING QUALITATIVE METHODS TO DRUG USE STUDIES

Before establishing a procedure to correct an identified drug use problem, the DTC should determine why prescribers and patients act as they do, thus giving insight into how their inappropriate drug use behavior can be changed. The following are a few examples of ways the qualitative methods can be used in a health system.

- Complement a quantitative study on overuse of antibiotic prescribing, e.g., collect data that show concrete examples of irrational antibiotic prescribing for asthma patients in the respiratory disease department, and explain reasons for the observed practices
- Collect data to explore a topic about which little is known, e.g., what rural citizens know about malaria treatment
- Provide background data prior to developing the training materials for a planned educational intervention, e.g., on proper use of diagnostic tools in antibiotic prescribing for pediatric prescribers

## QUALITATIVE METHODS

### Focus Group Discussions

The focus group discussion technique can be used by a DTC to identify a range of beliefs, opinions, and motives of a target group. The following are some characteristics of the technique.

#### *Participants*

The makeup of the study group will depend on the drug use problem under investigation. A focus group is normally small, with 6 to 10 participants. There is no need for random selection of participants as is the case with other types of studies. Instead, the study investigator selects those participants who have the potential to provide meaningful information about the study topics.

#### *Locale*

The group meets in an informal location so participants will feel relaxed and can openly discuss their opinions about the subject matter.

#### *Number of Discussion Groups and Sessions*

The number of discussion groups and group sessions varies with the nature of the study population and its social characteristics. The general rule is to conduct as many focus group

discussions with the target groups as necessary to answer the drug use study questions. If the study population is varied, generally two to four discussions could be held for each significant target group. One discussion for a study topic in a certain target group is rarely sufficient. When placing participants in a certain discussion group, consider group dynamics and avoid combining participants where one might be inhibited by another's official status within the health system, for example, health workers grouped with hospital directors, nurses, and physicians.

### ***Moderator and Recorder***

A group moderator guides the discussion in order to keep it focused and encourages in-depth expressions of feelings and opinions on the selected topics by all participants. The moderator must be careful not to take over the group, but should instead elicit participant responses. The group recorder's responsibility is to record the verbal and nonverbal expressions during the sessions for later reference. Recording may be done with a tape recorder, video, or laptop computer, or it may be done manually. Generally, the recorder does not participate in the discussion.

### ***Advantages and Disadvantages***

The focus group discussion method is advantageous in that it is relatively inexpensive to conduct and can be organized in a short time. Discussion sessions often last as little as two hours. Disadvantages of the method are that the groups may not represent the larger target population, since participants are not chosen randomly. Also, a successful outcome largely depends on the skills of the moderator, who can allow bias of participant responses to influence the study when expressions or feelings are exaggerated or can allow the discussion to be dominated by a few stronger-willed participants.

### ***In-depth Interviews***

The in-depth interview technique can be used by a DTC to expand the results of a quantitative study by exploring the reasons persons responsible for drug use problems do what they do or to evaluate the impact of a drug use intervention implemented by the committee. The following are some characteristics of the technique.

### ***Participants***

The in-depth interview is conducted individually, that is, only one respondent and one interviewer are present at the time of the session. Participants are not selected randomly, but are selected based on their position in the health system, where their attitudes, beliefs, and knowledge are expected to be similar to that of the bigger target population or group.

## ***Number of Interviews***

The number of interviews to conduct depends on the diversity of the target population. Five to ten in-depth interviews for each important target group are sufficient. During an interview, 10 to 30 topics related to the drug use problems under study may be covered.

## ***Interview Session and Interviewer***

The session is conducted using predefined but open-ended topics. This technique allows the respondent to discuss the topics as they interest him or her. The interviewer should have formal training in social science or interviewing, or substantial training and education in a health-related area like nursing, pharmacy, or medical social work. The interviewer must also be knowledgeable about the interview topic so that he or she can expand the questioning during the interview.

## ***Advantages and Disadvantages***

Because it is one-on-one and uses open-ended discussion topics, the in-depth interview technique requires trust to develop between the respondent and interviewer. The interviewer can probe for more in-depth beliefs and attitudes with questions such as, “What would be your reaction if this health facility established a policy of limiting antibiotic prescribing for preoperative patients?” or “Can we talk about other drugs really needed for preoperative patients?” Another advantage of this method can be the revelation of unsought but significant data during the interview process.

Disadvantages of the in-depth interview method are that open-ended topics often generate large quantities of data, which are difficult to manage and can be time-consuming to analyze. Also, unless the interviewer is well trained, the respondents may give answers they think the interviewer wants to hear or that are socially acceptable at the time, thus introducing bias into the study results.

## ***Structured Observations***

The structured observation method can be used by a DTC to study behaviors such as the interactions involved with patient encounters in the health system. This method is good for studying issues like patient demand or the quality of communication between providers and patients. The data can be used as a supplement to other study methods or independently. The following are some characteristics of the technique.

## ***Subjects to Be Observed***

The structured observation technique involves the direct observation by trained observers of health care providers during normal patient encounter activities in normal treatment settings. The

persons to be observed are determined by the number and types of health facilities designed into the drug use study.

### ***Number of Observation Sites***

The number of observation sites is determined by the objectives of the study, characteristics such as the difference in patient attendance at various health facilities, and the size of population to be studied. If the study population includes a large group of health facilities, then, generally, a minimum of 10 randomly selected sites would be chosen for the study.

### ***Number of Observations at Each Site***

The number of observations to be conducted at each site is contingent on the objectives of the study. The investigator should plan to follow the patient all the way through the facility, from registration to consultation to pharmacy. Observing 20 to 30 provider-patient encounters at each site should be sufficient to describe the treatment practices.

### ***Advantages and Disadvantages***

Structured observations are an excellent way to understand the complexity of behaviors that happen when persons seek medical care. Using this technique, health care providers are observed in their own environment and data collectors can gain insights that would not be possible otherwise. Another advantage is that data on actual behavior, as opposed to reported behavior, is collected. A disadvantage of the method is the possible bias created when providers modify their normal behaviors while being observed. This bias can be minimized by skilled observers who are able to blend into the normal practice settings and who can make providers feel comfortable in their presence.

### ***Structured Questionnaires***

The questionnaire method can be used by a DTC to quantify the frequency of attitudes, beliefs, and knowledge about drug use. Questions can focus on factual material, such as what a respondent knows about standardized diarrhea treatment, or on a respondent's attitudes, opinions, and beliefs about the subject matter. The following are some characteristics of the technique.

### ***Respondents***

Selecting the persons to include as respondents using the questionnaire technique depends largely on the target population, the study objectives, and the intended use of the study findings. For example, if the objective is to measure improper treatment of diarrhea in children less than

five years old in rural hospitals, respondents from two target groups would be included—pediatric providers and mothers of the children.

### ***Number of Respondents***

The number of respondents to include in the study will depend on the objectives of the study. For example, if the goal is to simply understand the attitudes and beliefs about use of chloroquine in malaria cases, a sample of 50 to 75 respondents from each target group would be sufficient. However, if the goal is to measure treatment gaps by providers in malaria cases, a much larger sample must be selected to increase reliability of the data collected.

### ***Interviewers***

The questionnaire method frequently uses the interview technique, and the interviewer should have formal training in social sciences or at least a secondary education in a health-related area like nursing, pharmacy, or social work. Interviewers should be well trained in interviewing methodology to ensure data collection in a standardized way.

### ***Questions***

Respondents should be asked precisely the same questions, and questions may be open- or closed-ended. Open-ended questions allow the respondent to answer spontaneously, while closed-ended questioning provides a fixed set of responses from which the respondent may choose his or her answer.

### ***Advantages and Disadvantages***

The questionnaires should ask questions that are understandable and familiar to the respondents, whether they are health providers, patients, or mothers of patients, and are useful in measuring the strength and prevalence of attitudes, beliefs, and knowledge of drug use. Questionnaires are also useful because they can be generalized to a wider population.

A disadvantage of the structured questionnaire is that there is a chance of getting responses that are biased by what the respondent thinks the interviewer wants to hear, because responses to a questionnaire survey are very sensitive to how questions are worded. However, with a skilled interviewer and well-thought-out questionnaires, an investigator can minimize these disadvantages.

## ACTIVITY

The activity included in this session allows participants to practice the development of a questionnaire that could be used to obtain information on prescribers' habits and knowledge about antibiotic use in children in their health system.

Participants work in teams of five and select a leader to facilitate the activity. A recorder documents the questions as they are developed by the group, and the leader presents the final questions in a plenary session.

### Activity 1. Prepare Interview Questions for Prescribers

In developing the questionnaire, participants should consider the following sample elements of study design because they may impact the appropriateness of the questions and how respondents comprehend the meaning of the questions.

- Prescriber target groups—one group or several groups, such as physicians, nurses, or others
- Health facilities—all hospitals, specialty hospitals, outpatient departments, primary health care clinics, others
- Geographic location of facilities
- General education and training levels of prescriber target groups
- Age groups of children
- All antibiotics prescribed for the specific health problems in children

Participants should word the actual interview questions to ensure that data will be collected on *which* antibiotics the prescriber normally orders for the specified health problems by age group studied, and also *why* the prescriber orders the antibiotics he or she does (e.g., standard or approved treatment, no time to review modern practices in the literature, or lab tests like antibiotic sensitivity not available). See a sample interview questionnaire in Annex 1.

One group will be selected to interview another group using its prepared questionnaire. This role-play exercise will be useful to determine the kinds of information and problems that actually arise out of a questionnaire and interview.

## **SUMMARY**

The four study methods presented in this session provide a mechanism for the Drug and Therapeutics Committee to quickly assess the causes of a drug use problem. The study methods can be used individually or to supplement quantitative survey methods, thus rounding out the committee's understanding of drug use behavior.

While the methods are best implemented by social scientists, professionals in the health field, such as nurses and social workers, could be oriented and trained to design and carry out qualitative surveys.

For easy reference, the four qualitative methods are listed below with a synopsis of individual characteristics of each method.

- Focus group discussion
  - Less-than-two-hour discussion
  - Moderator leads discussion
  - Respondents have similar characteristics like age, gender, social status
  - Discussion topics are predefined
  - Informal, relaxed ambience
  - Reveals beliefs, opinions, and motives
- In-depth interview
  - One-on-one extended interview
  - Questions are predetermined and open-ended
  - Can cover up to 30 topics
  - Reveals beliefs, attitudes, and knowledge
- Structured observation
  - Data collection instrument is structured
  - Observers are trained to blend into their surroundings
  - Observers are trained to record what they actually see
  - Useful for recording provider-patient interactions
  - Assesses actual behavior
- Questionnaire
  - Questions are standardized with a fixed set of responses or options
  - Respondents are selected so as to represent the larger population
  - Useful for a large sample of respondents
  - Measures the frequency of attitudes, beliefs, and knowledge

## **ANNEX 1. SAMPLE INTERVIEW QUESTIONNAIRE**

### **Interview for Prescribers**

Introduction of interviewer

Purpose of interview

I know that treatment of children in our health facilities often involves prescription of antibiotics. The Drug and Therapeutics Committee is interested in knowing more about the types of antibiotics prescribed and your views about antibiotic use.

Respondent's background

- What is your position in this clinic?
- Your educational background?
- Other training?
- What is your age?

Clinical experience

- On an average day, how many children do you treat?
- What are the most prevalent health problems of children you treat in this clinic?

For each type of infection you encounter in children, explain how you treat them.

- Drugs prescribed
- Instructions to mother
- Care in clinic
- Care at home
- Other

When treating a child at the clinic, what factors determine whether you give an antibiotic or not (answer for each with Yes or No):

- Your personal experience?
- Your knowledge of peer practices?
- Mother's expectations?
- Knowledge of standard treatment guidelines for the health facility?
- Use of an essential drugs list or formulary?
- Results of lab tests?

Where do you get drug information to make the decision to prescribe drugs?

- Professional journals?
- Clinic treatment guidelines?
- Professional training in school?
- Continuing education classes? (What is the frequency of these classes?)
- No drug information resources are available.

Closing remarks

- I appreciate your time and willingness to respond to my questions.
- Do you have anything you would like to add to what we discussed?
- Are there related topics that were not covered and for which you would like to provide some information?

Thank you.