

Part I: Policy and economic issues	Part II: Pharmaceutical management	Part III: Management support systems
		Planning and administration
		Organization and management
		Information management
		Human resources management
		51 Human resources management and capacity development
		52 Designing and implementing training programs

## CHAPTER 52

# Designing and implementing training programs

Summary 52.2

52.1 Objectives of training 52.3

52.2 Developing a comprehensive training program 52.3  
*Conducting needs and knowledge assessments • Selecting subject areas and setting learning objectives • Learning methods*

52.3 Implementing a training program 52.9  
*Strategies • Assistance for the design and implementation of training courses • Training and presentation skills • Monitoring and evaluation*

References and further readings 52.16

Assessment guide 52.17

### ILLUSTRATIONS

Figure 52-1 Capacity-building framework 52.3

Figure 52-2 The training process for improved performance 52.4

Figure 52-3 Seating arrangements for various training applications 52.14

Table 52-1 Subject areas, training topics, and target groups 52.5

Table 52-2 Comparison of training methods 52.8

Table 52-3 Issues to consider when designing training programs 52.11

### BOXES

Box 52-1 Brainstorming: a versatile technique for training, planning, and problem solving 52.6

Box 52-2 Outline of trainers' and participants' guides for workshops 52.7

### COUNTRY STUDIES

CS 52-1 Follow-up activities to support a drug and therapeutics committee course for professionals in developing countries 52.10

CS 52-2 Using the MTP methodology in Lao P.D.R. 52.12

CS 52-3 Creating a pharmaceutical management training network in East Africa 52.13

CS 52-4 Measuring the effect of training on pharmaceutical supply management at primary health care clinics in South Africa 52.15

### ANNEXES

Annex 52-1 Sources of assistance for training programs to improve pharmaceutical management 52.18

Annex 52-2 Workshop logistics 52.20

## SUMMARY

Training is any planned activity to transfer or modify knowledge, skills, and attitudes through learning experiences. Personnel may require training for a variety of reasons, including the need to maintain levels of competence and respond to the demands of changing circumstances and new approaches and technologies. Training by itself cannot solve structural, organizational, or policy problems within an organization, although supportive supervision and the use of motivational strategies can help sustain performance improvement derived from training.

The first step in the design of training involves an assessment of training needs. The assessment comprises—

- Observing workers performing normal duties
- Interviewing workers and others
- Studying routine reports or performance reviews, along with job descriptions
- Identifying performance problems

The second step involves defining the training program's learning objectives. The learning objectives, which are derived from the needs assessment, specify the observable, measurable actions that each learner will be able to demonstrate as a result of participating in the training activities.

The third step is the creation and implementation of a training program to improve performance, taking into account the experience and educational levels of the personnel and the time and resources available for training. Options range from short courses to long-term placements in academic institutions in the country, in the region, or overseas, and non-classroom-based interventions, such as on-the-job training, coaching, and mentoring. All options must be weighed against the immediate operational needs of the program or institution, because facilities may not have enough personnel to operate when staff members go for training.

The learning outcomes that must be achieved, along with the training environment, audience characteristics, and the experience of the trainer, all determine the mix of learning methods and media that will achieve maximum effectiveness. Methods and media may include lecture, discussion, case study, role-playing, group exercise, simulation games, brainstorming, and demonstration. If no published training materials—including audiovisual aids—are available, the trainer must develop them.

Development of the training program also includes design of the training evaluation, which is carried out during the course as well as at its conclusion. During the course, trainers monitor learner progress and satisfaction

to identify where they may need to make adjustments to the training program. At the end of the course, trainers should collect data on how well the learners achieved the course objectives and how satisfied they were with the training experience. Whenever possible, the trainer should follow up with participants after they return to their work situations to assess the impact of training on performance. Data collected during follow-up can help identify the need for additional training or reinforcement of newly acquired skills, as well as inform review and revision of the training materials.

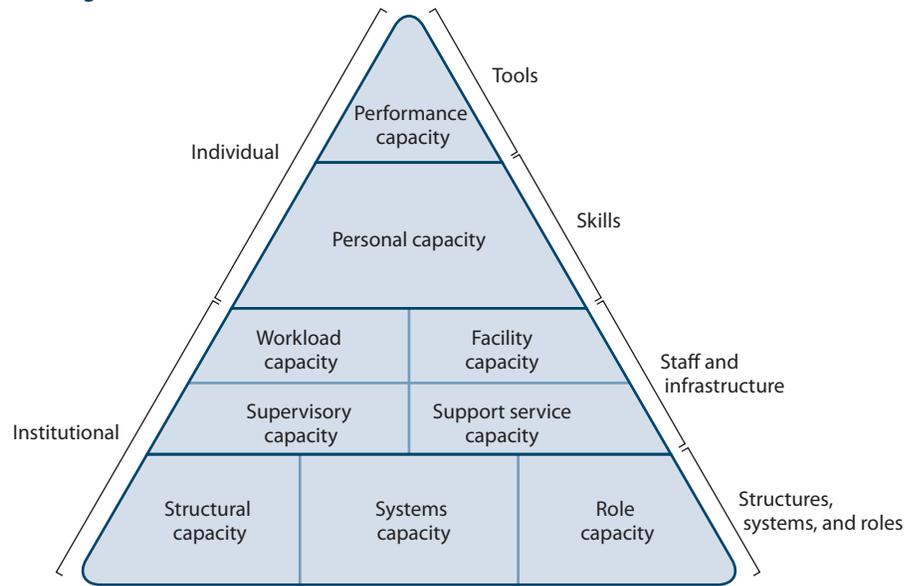
In some countries, availability of basic training and continuous professional development programs is limited; therefore, many health workers lack access to formal training opportunities and new ideas and approaches that can improve their work performance. Well-designed in-service training programs can help fill this need.

Training should be put into a context of continuous performance improvement. Changing and improving practices require an environment conducive to work, the appropriate learning resources, and the continuous use of motivational strategies. Training should be based on competencies: the abilities required to do work to the standards expected. Therefore, training should result in changes in work behavior that lead to an improved, efficiently functioning pharmaceutical management system. At the same time, training alone is unlikely to change overall supply system performance unless the environment and supervisory systems support change (see Chapter 37) and unless individuals are encouraged to maintain changes (see Chapter 51).

Learning requires active involvement. People prefer to learn in different ways—through visual stimuli, verbal interactions, and learning by doing. Therefore, offering a variety of training opportunities and training techniques is usually more effective than using only one approach. Training can be formal or informal, academic or applied, guided or self-directed, or provided in public agencies or private institutions.

Training alone is often not sufficient to change behavior or improve performance. Improved performance, changed attitudes, and new skills acquired during training may need to be complemented by and maintained through continuing education, supportive supervision, and adequate motivational incentives. In many cases, structural changes, such as workspace improvements and increased access to supplies and equipment may be needed to support improved performance.

Figure 52-1 Capacity-building framework



Source: Adapted from Potter and Brough 2004.

## 52.1 Objectives of training

The training of personnel in pharmaceutical management has four major objectives—

1. Increase knowledge about the special considerations related to pharmaceutical systems
2. Improve attitudes about the importance of pharmaceutical management, thus improving the environment for change
3. Build and strengthen skills in the specific tasks to be completed for efficient functioning of the pharmaceutical system
4. Improve work behavior, so that people function better at assigned activities and fulfill their potential

The goal of these objectives is to increase access to quality pharmaceutical products and services.

Training should address the needs of three levels of personnel, because it takes all three groups to effect sustainable change—

1. Policy makers, who are responsible for creating the environment needed for improved pharmaceutical management
2. Midlevel managers, who are responsible for planning and supervising activities required in the management and use of medicines
3. Line or operations-level personnel, who are responsible for carrying out the work of pharmaceutical management

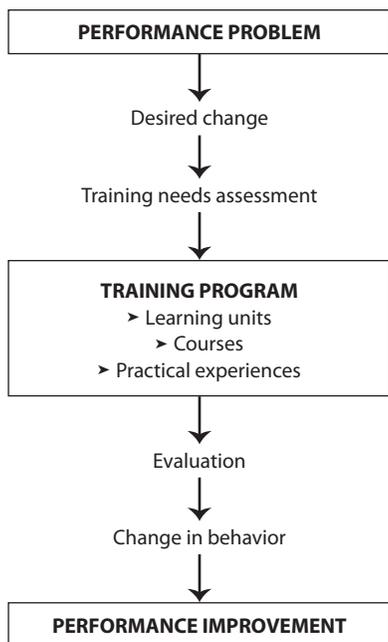
A country's national pharmaceutical program alone is not in a position to handle comprehensive training for policy makers and midlevel managers; many of their learning objectives are best handled through general management training. However, it is still possible and necessary to reorient this group on pharmaceutical policies and issues through information exchange, reports, and seminars. Training for operations-level personnel is critical because they often lack the basic knowledge and skills necessary to be effective at their jobs.

Finally, training alone will not result in significantly improved performance unless it is linked to an enabling institutional environment. This is illustrated by Figure 52-1, which is a conceptual framework for building in-country capacity for pharmaceutical management services. It illustrates the concept that health structures, systems, and roles, staff and infrastructure, skills, and tools must all be addressed to strengthen a country's ability to effectively provide pharmaceutical services.

## 52.2 Developing a comprehensive training program

A training program is composed of a schedule of activities with training goals, learning objectives, subject areas, methods, trainers, trainees, methods of assessment, and locations. A good training program is designed to address performance problems, such as long delays in getting medicines from suppliers to the main stores, delays in distributing medicines from midlevel stores to end-user units, or

**Figure 52-2** The training process for improved performance



failure to ensure quality of medicines. Figure 52-2 shows how a training program is developed, proceeding from problem identification, through needs assessment, training, and evaluation, to a change in behavior that results in better performance.

The key elements of a training program include needs assessment, course work, learning tasks, and practical application. Facilitators introduce new information to trainees through course work or lectures. Learning tasks or activities, such as case studies or role-plays, provide individuals with opportunities to work with the new information in a small-group setting. Practical experiences and application give the trainees the opportunity to apply the knowledge and skills learned in a real-life or simulated situation.

The current level of the trainees' skills will guide decisions on developing a training program specifically for the group. For example, the objectives and goals for a program to train new employees will differ dramatically from those for a program geared toward experienced technicians learning a new technique.

### Conducting needs and knowledge assessments

A training needs assessment and a pretraining knowledge and skills assessment are required to help plan an effective training program. The needs assessment should encompass the overall working environment, including the supervisory structure and the level of employee motivation. Pharmaceutical management training will be effective only

if all areas of the pharmaceutical supply system are assessed frankly and carefully.

A knowledge and skills assessment evaluates the participants' level of prior knowledge, as well as previous training and experience, in the area of interest. The results of this assessment are used to develop the training learning objectives, and ultimately, the content.

Methods for assessing training needs are outlined below. The optimal method depends on the goals of the assessment and the cadre of the individuals being assessed.

A knowledge assessment can be based on observation of a worker performing routine duties. This review uncovers both strengths and weaknesses, but the presence of an observer may influence the behavior observed. For example, a clinical worker examining a patient is likely to be more thorough than usual if someone is watching. Specific training needs can be determined more clearly by using well-established indicators, such as those on performance monitoring and evaluation described in Chapter 48, and observation methods, such as those described in Chapter 28.

Interviews with supervisors, administrators, users of services, and workers can help determine where performance problems might exist and what skills need to be taught or improved. If workers fear reprisals from management, reassurances about confidentiality of information will be necessary to obtain good data. In some situations, a training needs analysis can be done by conducting a group interview in which the staff are invited to identify competencies in terms of knowledge, attitudes, and skills. Staff members rate themselves on a graph in relation to each of a set of competencies. Exit interviews with workers leaving their jobs can also be useful. Finally, interviews with users of the services can help in assessing levels of satisfaction.

Analyses of job and task descriptions may reveal special training needs. Self-administered, anonymous questionnaires for both managers and workers can also be valuable.

Several types of reports are useful needs assessment tools—

- Organizational reports, for an overview of the performance of the organization and personnel
- External evaluation or appraisal reports, for an outsider's view of the organization and its training needs (and performance)
- Annual or semiannual performance reviews

### Selecting subject areas and setting learning objectives

A training needs assessment should indicate which subject area, topic, or target group should be given priority (Table 52-1). In many countries, some subject areas require more attention than others, but certain basics must be provided: the selection process needs to be well managed and par-

Table 52-1 Subject areas, training topics, and target groups

Subject area	Training topics	Target groups
Selection	<ul style="list-style-type: none"> <li>• Essential medicines lists</li> <li>• Public formulary</li> <li>• Sources of information</li> <li>• Safety and efficacy</li> <li>• Cost comparisons</li> <li>• Levels of use</li> <li>• Hospital formularies</li> <li>• National pharmaceutical policy</li> </ul>	<ul style="list-style-type: none"> <li>• Policy and decision makers in ministry of health (MOH), ministry of finance (MOF), other ministries</li> <li>• Service providers: doctors, nurses</li> <li>• Auxiliary personnel</li> <li>• Pharmacists and dispensers</li> <li>• Hospital administrators</li> </ul>
Procurement	<ul style="list-style-type: none"> <li>• Procurement cycle</li> <li>• Purchasing methods</li> <li>• Quantification of pharmaceutical needs</li> <li>• Scheduling of purchases</li> <li>• Terms of payment</li> <li>• Selection of suppliers</li> <li>• Payment mechanisms</li> <li>• Organization of procurement services</li> <li>• Quality assurance</li> <li>• Make-or-buy decisions</li> <li>• Shipment specifications</li> <li>• Contracting</li> </ul>	<ul style="list-style-type: none"> <li>• Division of planning, MOH</li> <li>• Division of finance, MOH</li> <li>• Division of administration or purchasing, MOH</li> <li>• MOF</li> <li>• Central procurement service (if it exists)</li> <li>• Central laboratories, MOH</li> <li>• Pharmaceutical quality laboratories</li> <li>• Drug regulatory bodies</li> <li>• Senior MOH/MOF officials for policy decisions (such as make-or-buy)</li> </ul>
Distribution	<ul style="list-style-type: none"> <li>• Distribution cycle</li> <li>• Information system</li> <li>• Port clearing</li> <li>• Warehouse operations</li> <li>• Packaging and repackaging</li> <li>• Transportation</li> <li>• Security</li> </ul>	<ul style="list-style-type: none"> <li>• Division of planning, MOH</li> <li>• Division of administration, MOH</li> <li>• Operations personnel in port and warehouses (central, regional, and district)</li> <li>• Transportation</li> </ul>
Use	<ul style="list-style-type: none"> <li>• Promotion of appropriate therapy</li> <li>• Training of health workers</li> <li>• Dispensing practices</li> <li>• Patient education</li> <li>• Information systems</li> <li>• Patient adherence</li> <li>• Rational-medicine-use indicators</li> </ul>	<ul style="list-style-type: none"> <li>• Program directors</li> <li>• Program supervisors</li> <li>• Doctors</li> <li>• Nurses</li> <li>• Pharmacists</li> <li>• Dispensers</li> <li>• Auxiliary and community health workers</li> <li>• Drug sellers</li> <li>• Patients and clients</li> </ul>

ticipatory; procurement officers need training in efficient purchasing methods and quantification of pharmaceutical needs; distribution—proper storage, efficient transportation, and security of medicines—is a continuing concern; and rational use is becoming a major focus of many pharmaceutical programs.

In addition to these basic pharmaceutical management skills, staff will benefit from training in other areas, including—

- General management
- Financial management, budgeting, and accounting
- Computer systems and information management
- Training program development and management
- Training materials development
- Patient and public communications
- Personnel planning and management
- Program planning, monitoring, and evaluation
- Proposal development and writing

Pharmaceutical supply systems often run into difficulty not because they lack staff members with technical expertise but because they lack staff members who have critical management skills. Thus, when considering subject areas, thinking broadly about which skills are most needed to improve the performance of the organization is important.

After determining which tasks and competencies are required by staff for a particular situation, training goals should be established and learning objectives should be set. Goals will be broad statements about what the training intends to achieve: for example, “This course aims to provide medical stores personnel with the knowledge and skills to accurately estimate quantities of medicines and related commodities to order.”

Objectives, on the other hand, should clearly state what the participant must be able to do at the end of the training. They must be clear, concise, relevant, easily understood, and measurable—in other words—SMART (specific, measurable, achievable, realistic, and time-bound) (CDC 2009).

They are, in fact, indicators by which course output and performance can be assessed. For example—

On completion of the course, participants should be able to—

- State the rationale and uses for quantification of pharmaceuticals and other related commodities
- Describe the attributes, uses, and limitations of various quantification methods
- Identify the data required for each of the quantification methods

Because objectives must be measurable, terms such as “understand” or “know” are not acceptable.

### Learning methods

A variety of learning experiences can be used in training, including—

**Brainstorming:** Members of a small or large group are encouraged to contribute any suggestion that comes into their heads on a given subject, initially with no criticism, but later with a sifting and assessment of all ideas. (Because brainstorming is such a versatile but sometimes misunderstood method, it is described in detail in Box 52-1.)

**Case study:** A real situation is presented in a brief paper or presentation, then analyzed by participants.

**Demonstration:** The facilitator shows learners how and what should be done while explaining why, when, and where an action is taken; participants then perform the action.

**Discussion:** A method in which the participants learn from one another, usually with guidance from a facilitator.

**Distance learning:** A system designed to build knowledge and skills of learners who are not physically on-site to receive training. Facilitators and students may communicate at times of their own choosing by exchanging printed or electronic media or through technology that allows them to communicate in real time.

#### Box 52-1

#### Brainstorming: A versatile technique for training, planning, and problem solving

Brainstorming is a group technique that is useful in training situations. It also helps work groups be more creative in decision making and problem solving. The basic process is easy. The facilitator writes the topic or questions on a flip chart, whiteboard, or blackboard. Group members are asked to call out their ideas in short phrases that can be written down readily. To keep the discussion moving, a tight time limit is usually set—typically, five to ten minutes. The facilitator should be prepared to stimulate brainstorming with a few examples or prompting questions.

The creativity of brainstorming is enhanced by giving the group the following short set of guidelines before starting—

**No idea is a bad idea:** No matter how odd, unconventional, or silly an idea may seem, no idea should be ignored.

**No discussion of ideas is allowed:** Discussion of ideas can come later. Grimaces, groans, and other nonverbal judgments discourage creative thinking and should be avoided.

**Everybody is encouraged to contribute:** The facilitator should try to get everyone to make at least one suggestion.

**Go for quantity:** This encourages the maximum contribution and discourages people from screening out potentially good ideas before suggesting them.

**Build on other people’s ideas:** Although discussion of ideas is discouraged, generating new ideas from those already suggested is fine.

After the brainstorming session, ideas are usually typed up, organized in some way, and brought back to the group for discussion.

Although brainstorming can generate many creative ideas, it is not always successful. Some people may be discouraged from contributing, and inhibitions may exist about raising certain ideas. Brainstorming may also be dominated by certain individuals or get stuck on one part of the topic. Sticking to the preceding guidelines will help. In addition, methods to make brainstorming more productive include—

- Prepare a broad range of prompts that can be used to direct the group’s thinking into new areas if suggestions consistently concern one area.
- Begin by asking each person to brainstorm individually for a few minutes and write down ideas.
- Divide the group into several smaller groups to brainstorm on the same topic. Then compile and discuss the topics in a larger group.
- Limit the number of suggestions by an individual group member. Generally, this degree of directness should be reserved for situations in which one group member dominates the brainstorming session.

**e-learning:** Participants interact with facilitators through the use of some of the many electronic, computer-based learning materials that are now available, ranging from CD-ROMs to Web-based systems.

**Group exercise:** A number of participants undertake an activity together, followed by a critical analysis of the process involved.

**Lecture:** A direct talk with or without learning aids but without group participation.

**Role-playing:** Participants act out the roles of those represented in a given situation.

**Self-paced:** Participants are allowed to learn anywhere, anytime, and at a pace that suits their levels of skills, knowledge, and aptitudes.

**Simulation game:** A more advanced version of a case study, where participants are given more detailed information on a situation, including data sets to analyze. On the basis of their analyses, participants develop and defend a plan of action.

**Worksheet:** A step-by-step approach to identifying problems or solutions through written questions or problems, with space provided for answers.

The uses, advantages, disadvantages, and trainers' role for some of these methods are summarized in Table 52-2. Some of the methods are more suitable for adult participatory training, and others work well in formal academic settings (such as lectures or seminars). Most people learn better in an active rather than a passive fashion. A combination of methods is likely to be more effective than the exclusive use of one method.

**Sequencing topics.** *Sequencing* means arranging topics in a logical order during training. In doing so, bear in mind that most people prefer to learn in easy and progressive stages. Adults, especially experienced trainees, usually prefer to start with an overview of the whole course before concentrating on particulars. The best approach is to sequence topics to build on previously completed content and learning experiences. In addition, *spiraling* the curriculum revisits the basic concepts repeatedly, while building on them. The trainer should, however, be aware of training fatigue and not leave the most complex topic for the end of the course, when learners are likely to be more tired.

**Developing teaching materials.** Training materials may not be available for the kind of in-service training that would best suit a particular pharmaceutical management program. Many countries, however, have developed their own teaching materials using a number of approaches. These materials can be requested and used as is or can be adapted to suit specific needs. Materials from international sources are listed in Annex 52-1.

**Manuals.** Many countries have training manuals that are not being used effectively by their health workers, often

### Box 52-2 Outline of trainers' and participants' guides for workshops

#### Trainers' guides

##### Summary

- Learning objectives and content of the unit
- Preparations that the trainer must make
- Supplementary reading material

##### Unit outline and session plan

- Prerequisites for participation in the session
- Components of the session and the estimated time
- Visual aids to be used

##### Teaching notes

- Technical background
- Instructions for activities

Visual aids (which can be copied onto transparencies or redrawn on flip charts)

#### Participants' guides

##### Session guide

- Learning objectives and content of the unit
- Basic information the participant must have before attending the session
- Additional reading materials

Session notes (containing basic technical information, including definitions of essential terms)

Session activities (with worksheets and instructions)

because the workers were not involved or consulted in developing them. A better approach is to ask knowledgeable persons to write on one or two topics; circulate drafts among selected end users; and develop the final version in a workshop involving end-users, the authors, and national pharmaceutical management program officers. This approach creates a sense of ownership, which leads to increased acceptance and use of the materials developed. The topics can be compiled inside one cover or distributed as a series of individual modules.

**Trainers' and participants' guides.** Training materials should include guides for both trainers and participants, as well as audiovisual aids. Some of these materials may be obtained from established programs. Typical contents of trainers' and participants' guides are outlined in Box 52-2. Both provide structured but adaptable notes and exercises for each unit. The participants' guide should contain the technical content for the unit, including definitions of all

Table 52-2 Comparison of training methods

Method	Useful for	Advantages	Disadvantages	Trainer's role
Lecture	<ul style="list-style-type: none"> <li>• Passing on information and facts</li> <li>• Giving specific information related to occupation, job, or task</li> </ul>	<ul style="list-style-type: none"> <li>• Allows much material to be delivered in a short time</li> <li>• Handles a large number of participants</li> <li>• Permits lecturer to be in full control</li> </ul>	<ul style="list-style-type: none"> <li>• Learner is passive</li> <li>• Little of what is said is remembered</li> <li>• Lecturer receives little feedback</li> </ul>	<ul style="list-style-type: none"> <li>• Provide information</li> <li>• Answer questions</li> </ul>
Discussion	<ul style="list-style-type: none"> <li>• Stimulating interest and thought</li> <li>• Generating possible solutions to problems</li> <li>• Consolidating other types of learning</li> <li>• Developing consensus</li> </ul>	<ul style="list-style-type: none"> <li>• Stimulates learners' interest</li> <li>• Involves learners actively</li> <li>• Allows sharing of learners' experiences with others</li> </ul>	<ul style="list-style-type: none"> <li>• Time-consuming</li> <li>• Requires learners to have facts about the topic</li> <li>• Needs to be well controlled to have value</li> <li>• Can be dominated by a few active persons</li> </ul>	<ul style="list-style-type: none"> <li>• Establish small groups early in course</li> <li>• Help groups select moderators and rapporteur</li> <li>• Clearly specify tasks for each group</li> <li>• Assign time limits for each task and enforce them</li> </ul>
Case study	<ul style="list-style-type: none"> <li>• Solving problems</li> <li>• Changing attitudes</li> <li>• Building analytical skills</li> </ul>	<ul style="list-style-type: none"> <li>• Involves learners actively</li> <li>• Allows sharing of learners' experiences with others</li> <li>• Stimulates ideas and discussions of concrete subject</li> </ul>	<ul style="list-style-type: none"> <li>• Time-consuming to prepare</li> <li>• Not easy to validate</li> <li>• Discussion may focus on areas different from those intended by trainer</li> </ul>	<ul style="list-style-type: none"> <li>• Carefully prepare or read case and relevant material</li> <li>• Ask provocative questions to provide key issues for discussion</li> <li>• Guide discussion to achieve analysis, possible solution, recommendations for action</li> </ul>
Role-playing	<ul style="list-style-type: none"> <li>• Developing interactive knowledge and modifying attitudes</li> <li>• Introducing humor and liveliness into training</li> </ul>	<ul style="list-style-type: none"> <li>• Stimulates interest</li> <li>• Is fun</li> <li>• Is active</li> <li>• Uses participants' experiences</li> </ul>	<ul style="list-style-type: none"> <li>• Time-consuming to prepare</li> <li>• Observers may be passive</li> <li>• Some key points may not be addressed</li> <li>• Those engaged in role-playing may learn more than observers</li> </ul>	<ul style="list-style-type: none"> <li>• Choose a suitable story to illustrate key points</li> <li>• Debrief (discuss insights gained from role-playing)</li> </ul>
Group exercise	<ul style="list-style-type: none"> <li>• Team building</li> <li>• Developing interactive skills</li> <li>• Studying group dynamics</li> </ul>	<ul style="list-style-type: none"> <li>• Facilitates high participation of motivated learners</li> </ul>	<ul style="list-style-type: none"> <li>• Trainer's skills required to guide the exercise</li> <li>• Takes time for group to work in harmony</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare carefully to ensure that everything is organized</li> </ul>
Brainstorming	<ul style="list-style-type: none"> <li>• Stimulating creative thinking</li> <li>• Generating possible solutions</li> <li>• Consolidating past learning</li> <li>• Providing diversion</li> </ul>	<ul style="list-style-type: none"> <li>• Promotes active participation of learners</li> <li>• Uses learners' experiences and ideas</li> </ul>	<ul style="list-style-type: none"> <li>• Time-consuming</li> <li>• Some learners may be passive</li> <li>• Requires high-level trainers' skills</li> </ul>	<ul style="list-style-type: none"> <li>• Record suggestions</li> <li>• Reorganize into groups</li> <li>• Lead discussion at end</li> </ul>
Demonstration	<ul style="list-style-type: none"> <li>• Showing correct procedures and required standards</li> </ul>	<ul style="list-style-type: none"> <li>• Stimulates a lot of interest</li> <li>• Can be used for large groups</li> </ul>	<ul style="list-style-type: none"> <li>• Takes effort to produce</li> <li>• Good viewing by learners is difficult in a large group</li> </ul>	<ul style="list-style-type: none"> <li>• Arrange for demonstration materials in advance</li> <li>• Do demonstration alone to ensure that everything works</li> <li>• Observe participant demonstrations</li> <li>• Correct mistakes promptly</li> <li>• Encourage slow learners</li> </ul>
Worksheet	<ul style="list-style-type: none"> <li>• Performing quantitative exercises requiring calculations</li> <li>• Working out solutions for issues of case studies</li> </ul>	<ul style="list-style-type: none"> <li>• Helps learners relate their general learning to some specific area of their work</li> </ul>	<ul style="list-style-type: none"> <li>• Time-consuming</li> <li>• Difficult to prepare</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare a worksheet based on real situations to show difficulties and successes</li> <li>• Guide the learners but leave most responsibility with participants</li> </ul>
E-learning	<ul style="list-style-type: none"> <li>• Individual study</li> <li>• Passing on information and facts</li> <li>• Showing correct procedures</li> <li>• Working out quantitative exercises requiring calculations</li> </ul>	<ul style="list-style-type: none"> <li>• Allows materials to be passed on quickly</li> <li>• Allows participants to study at their own locations, at their own pace</li> <li>• Some Web-based systems allow for communication between participants working on the same module at the same time</li> </ul>	<ul style="list-style-type: none"> <li>• Expensive and time-consuming to prepare</li> <li>• Participants may not have computer equipment or communications links capable of handling some forms of electronic platforms (e.g., Web-based)</li> </ul>	<ul style="list-style-type: none"> <li>• Provide backup support for tutoring, coaching through various means, including telephone, chat room, and Listserv</li> </ul>

essential terms and concepts. The trainers' guide should provide guidance on how the session should be taught.

**Audiovisual aids.** Audiovisual aids are useful because they stimulate the trainee and help reinforce the ideas presented. However, poor visual aids can confuse participants.

Common visual aids include posters, wall charts, chalkboards, flip charts, overhead projections, and computer-projected presentation slides. CDs and tapes are common audio aids. Videotapes, DVDs, and films are good audiovisual aids, but their expense often makes them impractical. The equipment and technology support required for some of these approaches may limit their use in certain settings. If relying on equipment or technology that requires electricity, having a backup option that does not need electricity is an important consideration.

### 52.3 Implementing a training program

There are two basic approaches to implementing a training program: one is centered on the trainer, who controls learning contents and experiences; the other is centered on the learner, with the trainer acting as a guide and providing resources. This approach assumes that people are able and willing to learn if they are given the proper materials in an atmosphere that is conducive to learning. This method is preferred because it is participatory, learners' experiences are shared, and participants have more freedom to learn at their own speed.

An important aspect to include in a training package is follow-up support to the participants and evaluation of the training outcome. This support, which should be included in the training budget, may be in the form of supervision, coaching, mentoring, setting up a network support group, or simply providing a source of ongoing information. Follow-up activities may be conducted in person but may also be provided by telephone or e-mail. Country Study 52-1 shows how a follow-up plan is used to track participants' progress in developing drug and therapeutics committees.

#### Strategies

Training strategies must be appropriate to the educational level of personnel being trained and to the resources available in the country, feasible in terms of the amount of time and travel involved, and relevant to the job. In some countries, governments often place officials in jobs that require a higher degree of technical capacity than they possess. In such cases, managers and trainers need to work together to close the gap between requirements and ability.

Training programs must consider the resources available. For example, an individual working in a central medical store that uses a simple card system for inventory control



THE PROFESSIONAL WORKSHOPPER

should be trained in the operation of that system rather than a computerized system that may never be installed.

Training programs must be feasible. Governments may not be able to allow a senior official to take an extended training leave, regardless of potential long-term benefits. Some officials may not be able to be absent from work for more than one week. Similarly, health care providers may not be able to be away from the patient population they serve if no backup staff support is available. This factor is of particular concern in the private sector, where having staff away from work will result in facilities' losing revenues and in providers' losing income.

Preservice training is conducted at established training institutions and is often a prerequisite for hiring. In-service training may be offered in a classroom setting or in the work environment, either as part of a planned staff development program or after an assessment of deficiencies has determined what training is needed at the workplace.

Continuing professional development allows cadres of professionals to maintain and improve their knowledge and professional competence throughout their careers. Professional associations often develop and sponsor continuing professional development courses and accreditation. A recognized credential can be a powerful incentive for seeking professional development; for example, Tanzania created a new cadre of private-sector drug dispenser, who may earn a license to work in a government-accredited drug dispensing outlet after completing a training program and examination.

The decision about the kind of training program to use depends on the issues raised in Table 52-3, as well as the criteria of appropriateness, feasibility, and relevance. A comprehensive training program is likely to include a combination of long- and short-term training, observation trips,

**Country Study 52-1****Follow-up activities to support a drug and therapeutics committee course for professionals in developing countries**

Drug and therapeutics committees (DTCs) are effective in promoting rational medicine use, but DTCs have been underused in developing countries. The Rational Pharmaceutical Management (RPM) Plus Program and World Health Organization (WHO) designed a course, training materials, and a manual to train health care providers and administrators who would be involved in DTC activities in developing countries. The course includes fifteen training modules and a field trip to hospitals where participants assess the hospital DTCs, conduct medicine use evaluations, and review the formulary process. The course ends with each participant making a workplan for future DTC-related activities.

A common problem with training courses is that when participants go back to their places of work, they may have difficulty maintaining their new skills without ongoing support. The RPM Plus follow-on program, Strengthening Pharmaceutical Systems (SPS), addresses that issue through an innovative follow-up program designed to help participants carry out their DTC workplans and become DTC advocates. The workplans developed in the training are made available on a DTC Learning Center website. The follow-up program provides specific technical assistance and support for all DTC course participants and local organizations to implement a DTC and related activities. Participants' activities are monitored on the website and through regular e-mail follow-up and support. Technical assistance and support for implementing their workplan activities are made available to all participants, and through this post-training support mechanism, participants can share the problems they encounter in their work and brainstorm possible solutions.

Between 2001 and 2010, 24 courses were conducted in Asia, Africa, Latin America, and Eastern Europe for 945

people from 70 countries. Follow-up e-mail contact with participants showed that they initiated almost 400 activities based on the training.

The RPM Plus/SPS process for promoting and supporting DTCs through training and follow-up of course participants has paid measurable dividends in many countries. The following examples show the wide range of accomplishments by course participants and other in-country stakeholders—

- Reduced the percentage of outpatients receiving antibiotics at each visit from 90 to 60 percent (Kenya)
- Established a system that monitors prescribing patterns for certain high-use antibiotics (Malaysia)
- Developed a generic substitution policy that allows the pharmacy to substitute equivalent products, which decreased the average prescription cost by 20 percent (Kenya)
- Created an adverse drug reaction reporting system (Pakistan)
- Analyzed cost of pneumonia treatment, resulting in institution of new standard treatment guidelines and medical records review to assess physician adherence (Paraguay)
- Performed ABC analysis, resulting in changes in the formulary and in the suppliers of several drugs (India)

Training courses can promote the use of DTCs and related activities in developing countries, but increased support at the country level plus post-training support and technical assistance are needed to help course participants achieve their objectives. In addition, more intensive course follow-up appears to produce enhanced results in a very short period.

Source: MSH/SPS 2010.

conferences and seminars, and in-country counterpart training.

**Long-term training.** Long-term training is often obtained in an institution of higher learning (sometimes in overseas institutions). Such training, whether in academic or nonacademic settings, is most useful for highly technical areas, such as research and development of new drugs, quality assurance, pharmaceutical production, improved manufacturing practices, or advanced areas of patient care. The provision of fellowships for doctors, pharmacists, industrial

engineers, and other technical professionals is most appropriate here.

This approach is limited because a pharmaceutical program does not have the specific duty to provide basic training, and most programs cannot afford to have top personnel away for a long time. In addition, if personnel fail to return to their job, the costs for training new personnel can be high.

**Short-term training.** Short-term training is usually conducted over a period of one to three months in an academic or nonacademic setting. To work effectively, the trainee

**Table 52-3** Issues to consider when designing training programs

Audience	Mode	Length	Location	Funding source
<ul style="list-style-type: none"> <li>Trainers to be trained</li> <li>Senior government officials</li> <li>Administrators in government ministries</li> <li>Managers of donor programs, nongovernmental organizations</li> <li>Managers of facilities in decentralized settings</li> <li>Line or operations-level personnel</li> </ul>	<ul style="list-style-type: none"> <li>Preservice training</li> <li>On-site job training, counterpart training</li> <li>Classroom (off-site, in-service training)</li> <li>Tours, observational trips</li> <li>Workshops and seminars</li> <li>Courses (short or long term)</li> </ul>	<ul style="list-style-type: none"> <li>Seminar (two weeks or less)</li> <li>Short-term course (two weeks to three months)</li> <li>Long-term course (six to twenty-four or more months)</li> </ul>	<ul style="list-style-type: none"> <li>Local college or university</li> <li>National management institute (where one exists)</li> <li>International sponsor (for example, WHO, UNICEF, USAID, Danida, SIDA, KfW, and GTZ)</li> <li>Business</li> <li>Independent private group</li> <li>Government agency</li> </ul>	<ul style="list-style-type: none"> <li>Government</li> <li>Private organizations</li> <li>Industry</li> <li>University</li> <li>Self</li> <li>Donors               <ul style="list-style-type: none"> <li>International organizations</li> <li>National government donor agencies</li> <li>Foundations</li> <li>Private charity, such as a church group</li> </ul> </li> </ul>

needs to be separated from everyday work responsibilities. Sometimes, when staff members have difficulty getting away for an entire week, training may occur on a series of Saturdays.

This approach is appropriate for most training needs in pharmaceutical management, especially for top- and middle-level personnel. Prerequisites for effective short-term training include—

- A sufficient supply of people with appropriate background or education
- Courses available in the language of the participants
- Course design that uses training modules to allow for flexible curricula to meet the needs of target groups
- Intensive, practical training so that participants gain a good mix of information and skills in a short time
- Adequate follow-up of graduates, including provision of continuing education programs, to ensure that they continue to function effectively

In addition to training the target groups outlined in Table 52-1, this type of program is suitable for the training of trainers (often referred to by the acronym TOT) who will return to their jobs and train others in the techniques and skills they have learned. Thus, short-term training should include pedagogical and leadership skills and provide some institution-building capacities. Annex 52-2 provides further information on workshop logistics and evaluation.

An example of an innovative type of training is the monitoring-training-planning (MTP) methodology, which puts into place an ongoing process to deal with individual training issues in the short term. MTP puts the tools and responsibility for training into the hands of local staff, who tackle specific problems in concise, monthly sessions. See Country Study 52-2 for an introduction and example of the MTP methodology being used in the Lao People's Democratic Republic (P.D.R.).

A number of institutions have developed training materials and can provide training at the regional or international level. Some private nongovernmental institutions in the United States, such as Management Sciences for Health, and quasi-governmental institutions, such as the Eastern and Southern African Management Institute in Arusha, Tanzania, offer training in individual countries. In addition, some institutions are beginning to develop regional training centers in management; Country Study 52-3 illustrates a regional approach to technical assistance and capacity building in East Africa.

**Observation trips.** Countries that do not have formal training programs but have successfully implemented essential medicines programs can offer useful and practical examples for personnel from other countries. In addition, some multinational and national pharmaceutical manufacturers have regional or local warehouses, manufacturing plants, and laboratories that are good sites for visits. Observation trips work best when combined with short-term training, to reinforce in a practical way the skills learned. Such programs can benefit both the visitors and the institution visited, especially if the trainer accompanies the trainees.

**Conferences and seminars.** Standardized curricula prepared by an international institution can be used to present at regional conferences and seminars. This approach works well for focusing on particular components, such as pharmaceutical distribution or use. It is also an effective way to promote longer training programs, information sharing among developing-country personnel, desire for improvement, and general sensitization of policy makers to the importance of pharmaceutical management.

**In-country counterpart training.** An outside consultant with expertise in an aspect of pharmaceutical management, such as computerized inventory, can train counterparts by working on-site for a period of weeks or months. Short-term consultancies work best when they are focused on a specific activity (for example, a pharmaceutical packaging process or the development of an operations manual). Longer periods (from two to four years) are required for overall systems

renovation. Meaningful improvements in pharmaceutical management systems can be made using long-term, on-site consultants. The major limitations are—

*Expense:* International agencies characteristically spend a significant amount of money a month to support an in-country consultant.

*Lack of regional effect:* Only the individual country benefits, although participants in a program could train others.

*Lack of appropriate institutional capacity building:* The host country may not be able to continue innovations after the departure of the consultant.

### Assistance for the design and implementation of training courses

Ideally, training courses are best developed by educators skilled in instructional design who have a solid background in and knowledge of the topic areas. However, the skills

#### Country Study 52-2 Using the MTP methodology in Lao P.D.R.

The monitoring-training-planning methodology uses a sequence of steps involving techniques to implement a sustainable health project or program. MTP places the tools and responsibility for programs in the hands of local staff, who learn how to mobilize their own resources, carry out the MTP program, and improve pharmaceutical management in their health facilities. Central- and regional-level managers accompany and monitor the staff as they implement the new pharmaceutical management programs.

The MTP tool relies on the following principles—

- The program is continuous, stepwise, and implemented in a structured fashion.
- Every implementation step is planned in advance and detailed in the instructions and materials.
- The programs lead to concrete products that are shared among peers.
- Because MTP participants are usually volunteers, the institution should recognize their efforts.
- Work is spread among the team of participants so that everyone takes part.
- Supervision by all participants of each other's responsibilities and tasks increases accountability and improves problem-solving skills.
- Sessions must be short and punctual so time and travel commitments are minimized.
- Materials and approach should allow for adaptation to the particular needs of each locale.

MTP is unique in that it incorporates monitoring, training, and planning into a single monthly session that achieves tangible results. For one day or less on a monthly basis, participants first review achievements from the previous session, analyze information about their own situation, study how to take action, and then plan short-term activities. Each segment sets the stage for the succeeding segment; the planning segment of one

module flows into the monitoring section of the next. For example, if an organization launches a program to improve warehouse management at the local level, the program designers may organize a session on evaluating storerooms, one on improving storage conditions, and another on inventory control. Each session begins with a report on the planned activities from the previous month; contains a concrete product, such as an evaluation, correct storage practices, or an operating inventory system; and ends with participants knowing their responsibilities and tasks for the next month.

The Lao P.D.R. National Drug Policy Program promotes rational medicine prescribing in hospitals through the activities of Drug and Therapeutics Committees; however, when some problems did not respond well to that approach, MTP was implemented to handle small-scale training issues. The use of the MTP approach in the Lao P.D.R. involved a series of small-group discussions among prescribers in individual hospital departments. After being trained in the MTP methodology, these groups defined their problem of interest, selected targets they wanted to achieve, applied a problem-solving approach, and monitored indicators to observe the response. By using MTP, groups frequently met defined targets within two to three monthly training cycles. For example, within three months, Vientiane Hospital reduced postoperative antibiotic prescription from 60 percent to 49 percent, close to its goal of 45 percent; Mittaphap Hospital reduced intravenous fluid use for gastritis from 78 percent to 46 percent and antibiotic use from 40 percent to 20 percent; and Oudomxay Hospital reduced antibiotic use in outpatients from 60 percent to 45 percent. Initially implemented in eleven provincial hospitals, the MTP methodology has been extended to fourteen provincial and fourteen district hospitals and will be extended to all hospitals in the country.

Source: Sisounthone, Luanglath, and Phanyanouvong 2004.

### Country Study 52-3

#### Creating a pharmaceutical management training network in East Africa

As a result of major global funding initiatives, countries in Africa have experienced a tremendous increase in the volume of pharmaceuticals and health commodities to manage. However, the weakness in the region's pharmaceutical management has required interventions to help build in-country and regional capacity to support the scale-up of treatment programs.

With help from the Rational Pharmaceutical Management (RPM) Plus Program, the Makerere University in Uganda began coordinating a network of institutions from Uganda, Kenya, Tanzania, and Rwanda to develop capacity for pharmaceutical management. The idea behind the Regional Technical Resource Collaboration (RTRC) for Pharmaceutical Management initiative is to create a collaborative group that offers regional and country advisers with expertise in the supply, management, and use of antiretrovirals and other medicines. Each country core group is multidisciplinary and includes pharmacists, social scientists, and representatives from academic institutions, ministries of health, and nonprofit organizations. In the long term, the RTRC plans to incorporate institutions from other countries, such as Ethiopia and Zambia.

Each country's core group assumes a role in the country's national pharmaceutical management activities. For example, by conducting national assessments of the pharmaceutical sectors, each group identified key areas in which to develop and consolidate specific skills in the

supply, management, and use of medicines in their countries. The country groups then take a regional lead in a specific area and offer assistance to other groups related to this area of expertise. In addition, the groups consult with ministries of health and other stakeholders regarding research activities and the monitoring and evaluation of pharmaceutical management initiatives.

The RTRC's first activity was to assess management of HIV/AIDS pharmaceuticals and commodities in each of the four countries. The assessments identified many problems, among them inadequate human resource capacity to handle the basic functions of pharmaceutical management, such as selecting, quantifying, and distributing AIDS-related commodities, including rational prescribing. As a result, the RTRC has placed priority on training health care workers on how to manage AIDS-related pharmaceuticals.

As a next step, RPM Plus developed generic HIV/AIDS pharmaceutical training materials that can be easily adapted to train pharmacists, pharmaceutical technologists and technicians, pharmacist assistants, nurses, and storekeepers. The training materials were developed with a diverse audience in mind, with content that is neither too complicated nor too basic. The training process is as practical as possible to help trainees apply the lessons learned in their daily work. The RTRC countries are also incorporating the monitoring-training-planning approach in their training programs (see Country Study 52-2).

involved in designing and implementing a training program can be learned by observing good trainers and paying attention to how they use different methods. Many pharmaceutical programs rely on outside organizations, such as Management Sciences for Health, i+Solutions (previously the International Dispensary Association), and WHO to help them develop local training programs or provide training opportunities for staff (see Annex 52-1). Training-of-trainers courses are also frequently offered by local, regional, or international training institutes.

Another valuable resource for a training program is the practical experience of organizations and institutions in the pharmaceutical supply process. Among these are international organizations, governmental and nongovernmental organizations, universities, developing-country institutions, and programs already operating in developing countries.

With few exceptions, however, these organizations have made technical assistance rather than training their high-

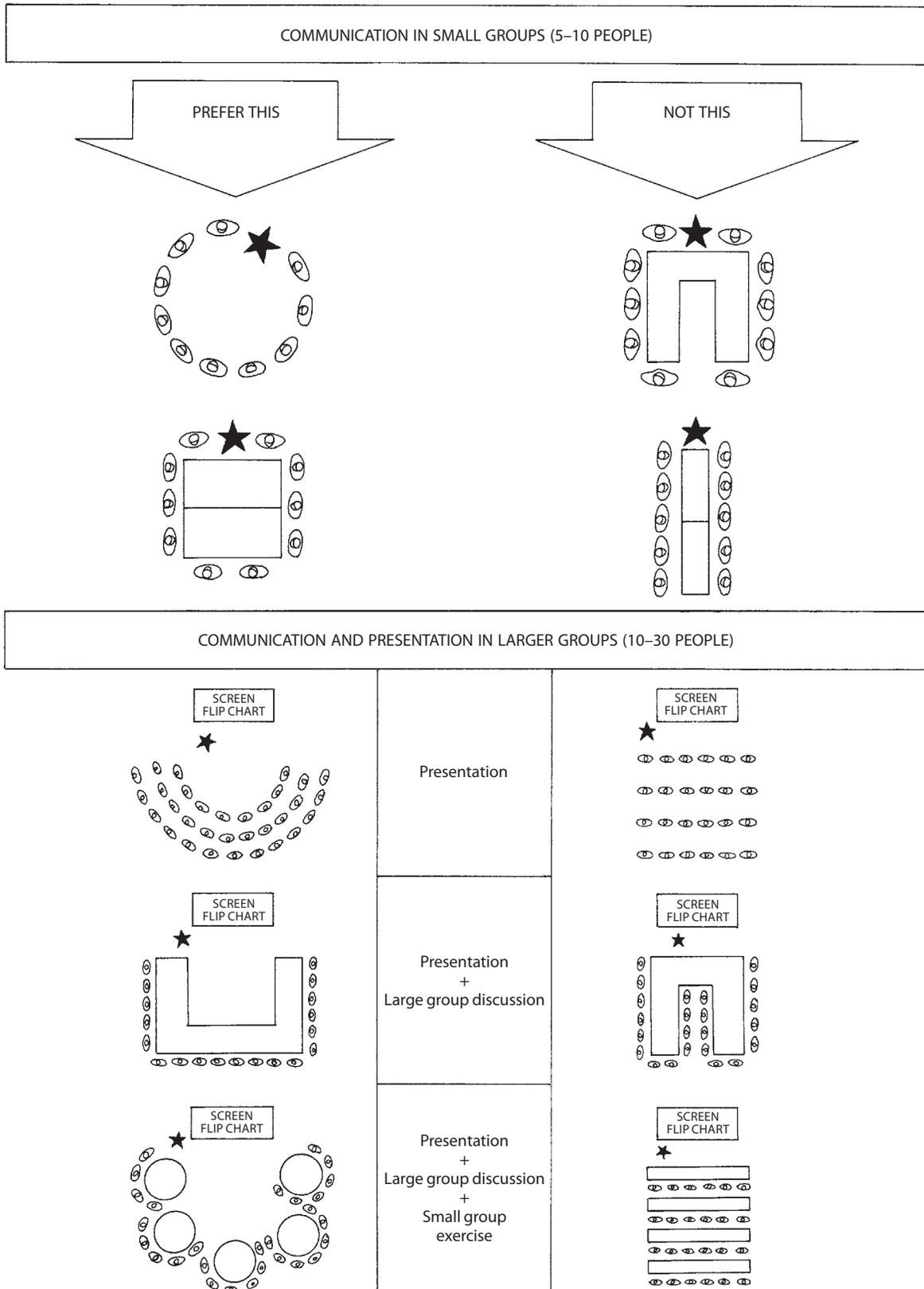
est priority. Training programs have usually been established on an ad hoc basis to fulfill a specific need rather than in a systematic and comprehensive way. But some programs address specific areas for a particular level in the supply system or for multiple levels in a vertical disease control program.

Annex 52-1 lists selected organizations that have practical experience in the design or implementation of training programs, or both. These organizations are invaluable resources for the development of many types of training programs.

#### Training and presentation skills

A trainer is expected to be knowledgeable, possess excellent communication skills, and be able to communicate at the level and in the language of the participants (consecutive or simultaneous translation may be appropriate for certain situations). To be effective, the trainer should take into account

Figure 52-3 Seating arrangements for various training applications



Source: Adapted from McMahon et al. 1992.  
Key: ★ = Trainer or presenter.

**Country Study 52-4****Measuring the effect of training on pharmaceutical supply management at primary health care clinics in South Africa**

Training in pharmaceutical supply management was introduced as part of the Essential Drugs Program in Mpumalanga province in South Africa. To study the effect of the training, a pre- and post-intervention study was conducted comparing six randomly chosen primary health care clinics that received training to six primary health care clinics that did not receive training. The three-day workshop was part of a provincial pharmaceutical supply management training cascade.

The evaluation included a pre-intervention survey, the training workshop for staff of the study group clinics, a post-intervention survey one month after the training, and a second survey three months after the training. The study measured not only supply management outcomes,

such as organization of supplies, record keeping, ordering and stock control, labeling of medicines, but also rational-medicine-use indicators, such as patient knowledge and advice received from staff and appropriate use of the essential medicines list. The results of the evaluation showed significant improvements across the range of outcome measures in the intervention group, and the improvements were sustained and even increased in some instances from the first to the second post-intervention survey. The pharmaceutical supply management training not only affected the pharmaceutical management indicators, but also improved patient care and raised the level of use of the essential medicines list.

Source: Summers and Kruger 2004.

the nature of the target group or audience (who are they? are they senior or line managers?) and their level of knowledge and skill (have participants been trained in the subject to be presented or related subjects?).

**Preparation.** Time used in preparation is time well spent. On average, the amount of time spent preparing the first presentation of a course or training session by a person knowledgeable on the topic equals four times that spent presenting it. So a one-week course would require four weeks of preparation. After looking up information and consulting manuals and other resources that are relevant to the subjects (identified in the needs assessment), the trainer chooses appropriate learning methods and puts together a session plan. He or she takes steps to acquire or prepare appropriate participants' guides and audiovisual aids well in advance of the targeted training date. The trainer should have the draft materials peer reviewed by someone who is technically competent in the subject area. Also, if possible, the trainer should rehearse the presentation before colleagues, keeping in mind issues of time and clarity.

**Presentation.** The trainer should always come to the training venue and the session early to check out the room, the seating arrangements, and the audiovisual equipment (Figure 52-3). A friendly chat with participants before the session creates a more comfortable environment.

Formal introductions should take place at the beginning of the first session. One way to do this is to ask pairs of participants to interview each other; then each presents the other to the group or records the information on a wall chart for all to see.

The actual session should begin with the trainer presenting the objectives of the course or session and summarizing

its main points. These main points are then expanded using the chosen learning methods. At the end of the session, the trainer should always summarize the discussion, making sure to allow time for questions and clarification.

In developing visual aids, the following points should be kept in mind—

- Use only one idea per visual aid to avoid crowding.
- Use large letters and clear drawings.
- Do not include too much information on one slide (seven lines with seven words per line is a maximum guideline).
- Do not use multiple fonts, sizes, and colors.
- Allow plenty of time for preparing the visual aids and time for obtaining and testing the equipment.
- Test the materials in a rehearsal before the session, preferably in front of critical colleagues.

When using visual aids, the trainer should take care to—

- Check the visual aids and equipment a few minutes before the session begins.
- Always face the audience, without obstructing their view, and use a pointer.
- Switch off the equipment during discussions.

**Trainers' personal style.** Personal appearance and style can make a difference in keeping participants' interest during a session. The trainer should maintain eye contact with the group and make sure that his or her voice is clear and can be heard by everybody. When interest appears to be flagging, the trainer needs to be flexible and willing to

change the schedule, perhaps by introducing a role-play or arranging a short field visit or by inserting an unscheduled break to allow participants to stretch or get refreshments. A good story or joke can help revive interest. In a session in which participants are divided into small groups, having the trainer move from group to group stimulates interest. During a long course, allocating time for dinners and other social activities is important.

### Monitoring and evaluation

Monitoring and evaluation to assess the performance and progress of the participants is one of the trainer's key roles. These assessments should be done as formative evaluations while the course is in progress (for midcourse adjustments and fine-tuning), as summative evaluations at the end of the course (to make the course better in the future), and as periodic follow-ups after the training is over to monitor outcomes and assess the continuing performance of the trainees. The training outcomes should be measurable, performance-based, and directly related to the objectives of the training program. For example, if the goal of the training is for the participants to be able to institute a post-exposure prophylaxis program in their workplaces, a relevant outcome measure would be the completion of this activity within a reasonable time frame. Curriculum mapping is a method to evaluate the links between course content and outcomes (Plaza et al. 2007).

Country Study 52-4 details a study designed to assess the effect of pharmaceutical management training on clinics in South Africa.

In training, formative assessment is important, because the aim of the course is to improve performance, not to grade the participants. The trainer can help them learn more quickly and more completely by providing them with constructive criticism during the course. The trainer can also use the feedback from evaluations to adjust the content and methods of the training to better meet participants' needs. ■

### References and further readings

★ = Key readings.

- Abbatt, F. R. 2004. *Teaching for Better Learning: A Guide for Teachers of Primary Healthcare Staff*. 2nd ed. Geneva: World Health Organization.
- ★ Bienvenu, S. 2000. *The Presentation Skills Workshop: Helping People Create and Deliver Great Presentations*. New York: American Management Association.
- CDC (U.S. Centers for Disease Control and Prevention). 2009. *Writing Smart Objectives*. Atlanta: CDC. <<http://www.cdc.gov/HealthyYouth/evaluation/pdf/brief3b.pdf>>
- Ho, S., D. Kember, C. Lau, M. Au Yeung, D. Leung, and M. Chow. 2009. An Outcomes-Based Approach to Curriculum Development in Pharmacy. *American Journal of Pharmaceutical Education* 73(01):

14. <<http://www.ajpe.org/view.asp?art=aj730114&pdf=yes>>
- Klatt, B. 1999. *The Ultimate Training Workshop Handbook*. New York: McGraw-Hill.
- Lucas, R. W. 2005. *Conducting a Training Needs Assessment, Developing an Annual Training Plan, Assessing Trainer Competency, Contracting Out for Training*. In Human Resource Management Resource Kit. <<http://erc.msh.org/mainpage.cfm?file=2.8.0.htm&module=hr&language=English>>
- . 2003. *Creative Training Idea Book: Inspired Tips and Techniques for Engaging and Effective Learning*. New York: American Management Association.
- McMahon, R., E. Barton, and M. Piot. 1992. *On Being in Charge: A Guide to Management in Primary Health Care*. 2nd ed. Geneva: World Health Organization.
- ★ MSH/RPM Plus Program (Management Sciences for Health/Rational Pharmaceutical Management Plus Program). 2009. *A Guide for Implementing the Monitoring-Training-Planning (MTP) Approach to Build Skills for Pharmaceutical Management*. Arlington, Va.: MSH/RPM Plus. <<http://www.msh.org/Documents/upload/MTP-Tool-for-Pharma-Mgmt.pdf>>
- MSH/SPS Program (Management Sciences for Health/Strengthening Pharmaceutical Systems Program). 2010. *Promoting Rational Medicines Use and Drug and Therapeutics Committees*. Arlington, Va.: MSH/SPS Program.
- ★ Nimmo, C. M. 2000. *Staff Development for Pharmacy Practice*. Bethesda, Md.: American Society of Health-System Pharmacists.
- Pike, R. W. 2003. *Creative Training Techniques Handbook: Tips, Tactics, and How-Tos for Delivering Effective Training*. 3rd ed. Amherst, Mass.: HRC Press.
- Plaza, C. M., J. R. Draugalis, M. K. Slack, G. H. Skrepnek, and K. A. Sauer. 2007. Curriculum Mapping in Program Assessment and Evaluation. *American Journal of Pharmaceutical Education* 71(02):20. <<http://ajpe.org/view.asp?art=aj710220&pdf=yes>>
- Potter, C., and R. Brough. 2004. Systematic Capacity Building: Hierarchy of Needs. *Health Policy and Planning* 19(5):336–45.
- Sisounthone, B., S. Luanglath, and A. Phanyanouvong. 2004. *Using Monitoring-Training-Planning (MTP) to Reduce Irrational Use of Drugs in Hospitals in Lao PDR*. Abstract, International Conference on Improving Use of Medicines 2004, March 30–April 2, Chiang Mai, Thailand.
- ★ Stolovitch, H. D., and E. J. Keeps. 2002. *Telling Ain't Training*. Alexandria, Va.: American Society for Training and Development.
- Summers, R. S., and C. H. Kruger. 2004. *Impact of Training in Drug Supply Management (DSM) on DSM, Dispensing Practices, and Patient Knowledge and Care at Primary Health Care (PHC) Clinics*. Abstract, International Conference on Improving Use of Medicines 2004, March 30–April 2, Chiang Mai, Thailand.
- Trap, B., C. H. Todd, H. Moore, and R. Laing. 2001. The Impact of Supervision on Stock Management and Adherence to Treatment Guidelines: A Randomized Controlled Trial. *Health Policy Planning* 16(3):273–80.
- WHO/EMRO (World Health Organization Regional Office for the Eastern Mediterranean). 2006. *Training Manual for Community-Based Initiatives: A Practical Tool for Trainers and Trainees*. Cairo: WHO/EMRO. <<http://www.emro.who.int/dsaf/dsa736.pdf>>

## ASSESSMENT GUIDE

### Training programs

- Was a needs assessment conducted before the training programs were developed?
- Were performance indicators established? If so, how were they established and who was involved?
- Do the performance indicators include process, output, performance, and impact indicators? Are they both quantitative and qualitative?
- What training programs have been held?
- How many people of each target group have been trained? What percentage is that of the total target number?
- What methods were used for the training?
- What feedback did the participants give on the training?
- What were the evaluation results for knowledge change? Work performance change?
- How much money has been spent on training activities (if possible, compare budget to actual expenditures)? What percentage of the overall program budget is this?

### Sites and institutions

- Which institutions provide training for staff working in the pharmaceutical sector?
- Over the past two years, where has training occurred? For whom?

### Trainers

- At each of the institutions identified, how many trainers are there?
- How many of these people have been formally trained as trainers?
- In the courses undertaken, what were the evaluation ratings of the trainers?

### Materials

- What training materials were used for the training courses?
- Where and how were the materials developed? When were they last updated?
- How widely available are the training materials?
- Do the training materials correspond with current policies?

## Annex 52-1 Sources of assistance for training programs to improve pharmaceutical management

The following organizations and institutions offer training in selected activities relevant to the pharmaceutical supply process. This listing is not exhaustive, nor is it an endorsement of these training programs. For details, these organizations should be contacted directly.

International organizations are listed first, followed by national and private organizations and institutions. Also included is a list of short courses on pharmaceutical policy, pharmaceutical management, rational medicine use, and related subjects.

### International organizations

*World Health Organization (WHO), 20 Avenue Appia, CH 1211 Geneva 27, Switzerland; telephone: 41 22 791 21 11*

*Department of Essential Medicines and Pharmaceutical Policies; website: <http://www.who.int/medicines>*

Assists member states in the development and implementation of pharmaceutical policies, the supply of essential medicines of good quality at the lowest possible cost, and the development of training in the rational use of medicines. Works closely with WHO collaborating centers on pharmaceutical regulation and quality assurance and control. Provides training in product registration and computerization of drug regulatory data, as well as good manufacturing practices (GMPs), analytical control, and preparation of chemical reference substances.

WHO's medicines department provide training programs to support policy makers, ministry of health officials, nongovernmental organizations (NGOs), professional associations, and other stakeholders in managing medicines supply and rational pharmaceutical management. WHO participates in regional and national training courses for drug regulators.

WHO/EMP maintains a list of training resources on its website at <http://www.who.int/medicines/training/en>.

*United Nations Children's Fund (UNICEF), Supply Division, UNICEF Plads, Freeport, 2100 Copenhagen Ø, Denmark; telephone: 45 3527 3527; fax: 45 3526 9421; website: [www.unicef.org/supply](http://www.unicef.org/supply)*

The Supply Division conducts training on vaccine forecasting at regional immunization meetings and has developed a complete suite of training modules on supply chain management. Through its Procurement Services, the Supply Division can arrange for training in procurement and supply upon request.

*United Nations Institute for Training and Research (UNITAR), International Environment House, 11–13 Chemin des Anemones, CH 1219 Chatelaine Geneva; telephone: 41 22 917 84 00; fax: 41 22 917 80 47; website: <http://www.unitar.org>*

Conducts training and workshops on many areas, including social and economic management, although not specific to pharmaceuticals. Offers a number of online training courses.

### National and private organizations and institutions

*Commonwealth Pharmacists Association, 1 Lambeth High Street, London SE1 7JN, United Kingdom; telephone: 44 20 7572 2364;*

*fax: 44 20 7572 2508; e-mail: [admin@commonwealthpharmacy.org](mailto:admin@commonwealthpharmacy.org); website: [www.commonwealthpharmacy.org](http://www.commonwealthpharmacy.org)*

Offers the Management of Pharmaceutical Supply, a distance learning program for all pharmacist and nonpharmacist managers involved with pharmaceutical supply procurement and management, especially at the regional level. The course does not require the student to take leave from his or her employment.

*Crown Agents, St. Nicholas House, St. Nicholas Road, Sutton, Surrey, SM1 1EL United Kingdom; telephone: 44 20 8710 6771; fax: 44 20 8770 0479; e-mail: [TrainingEnquiries@crownagents.co.uk](mailto:TrainingEnquiries@crownagents.co.uk); website: <http://www.crownagents.com/Training/CrownAgentsTraining.aspx>*

Crown Agents offers a number of short courses on general management and finance topics and in procurement and supply management, including a Certificate in Health Supply Chain Management. Courses are held in the United Kingdom and in a number of other countries, including some in Africa and Asia.

*Fédération Internationale Pharmaceutique/International Pharmaceutical Federation (FIP), P.O. Box 84200, 2508 AE, The Hague, The Netherlands; telephone: 31 70 302 1970; fax: 31 70 302 1999; e-mail: [fip@fip.org](mailto:fip@fip.org); website: [www.fip.org](http://www.fip.org)*

Provides contact information on more than 900 pharmacy schools worldwide as well as an extensive list of organizations offering continuing education and online and distance learning courses on pharmacy topics. The FIP Foundation for Education and Research provides a certain number of scholarships, fellowships, and grants every year to assist in the development of individuals or groups in the fields of pharmacy practice and pharmaceutical science.

*Eastern and Southern Africa Management Institute (ESAMI), P.O. Box 3030, Arusha, Tanzania; website: <http://www.esami-africa.org>*

A regional institution that was designated by the UN Economic Commission for Africa as the African Centre of Excellence in Management Development, ESAMI has nine program areas, including training in general financial management and health management. Clients come from governments, parastatals, the private sector, NGOs, and national and regional institutions in Africa.

*i+Solutions, Westdam 3b, 3441 GA Woerden, The Netherlands; telephone: 31 34 848 9630; fax: 31 34 848 9659; e-mail: [info@iplussolutions.org](mailto:info@iplussolutions.org); website: <http://www.iplussolutions.org>*

i+Solutions is a not-for-profit organization specializing in pharmaceutical supply chain management for low- and middle-income countries. i+Solutions offers a variety of courses and training programs in pharmaceutical management.

*Mahidol University, Faculty of Pharmacy, Sri-ayudhaya Road, Rajadhevi, Bangkok 10400, Thailand; telephone: 66 02 644 8677 91, ext. 1301; fax: 66 02 354 4326; website: <http://www.pharmacy.mahidol.ac.th/eng>*

Offers short courses on pharmaceutical management, including use of essential medicines, GMP training, and pharmaceutical economics. Organizes professional meetings, conferences, and symposia as a means of professional continuing education.

*Management Sciences for Health (MSH), 784 Memorial Drive, Cambridge, Mass. 02139-4613 USA; telephone: 1 617 250 9500; fax: 1 617 250 9090; website: [www.msh.org](http://www.msh.org)*

*Center for Pharmaceutical Management, 4301 North Fairfax Drive, Suite 400, Arlington, Va. 22203 USA; telephone: 1 703 524 6575; fax: 1 703 524 7898; e-mail: [cpm@msh.org](mailto:cpm@msh.org)*

Offers short-term courses in multiple languages on rational medicine use and other aspects of pharmaceutical management and on other topics, including pharmacovigilance, management information systems, and disease-specific pharmaceutical management—such as HIV/AIDS, malaria, and tuberculosis. In more than thirty years, thousands of health professionals have participated in MSH courses in the United States and other countries.

*Robert Gordon University, School of Pharmacy, Schoolhill, Aberdeen AB10 1FR, Scotland, United Kingdom; telephone: 44 1224 262 502; website: [www.rgu.ac.uk/pharmacy](http://www.rgu.ac.uk/pharmacy)*

The School of Pharmacy offers postgraduate distance learning courses and certificates for health care professionals to develop

an advanced therapeutic knowledge base and the necessary practical skills to ensure rational prescribing.

*Swiss Tropical and Public Health Institute, Course Secretariat, Socinstrasse 57, CH 4002, Basel, Switzerland; telephone: 41 61 284 82 80; fax: 41 61 284 81 06; website: <http://www.sti.ch>*

Offers the two-week course Rational Management of Medicines—A Focus on HIV/AIDS, Tuberculosis and Malaria. Conducted in English. Other courses in international health include Health Care and Management in Tropical Countries.

*University of Heidelberg, Institute of Public Health, Course information: Im Neuenheimer Feld 365, 69120, Heidelberg, Germany; telephone: 49 62 21 56 50 48; fax: 49 62 21 56 49 18; website: <http://www.klinikum.uni-heidelberg.de/Short-Courses.109912.0.html>*

Offers short courses in international health. Most of the courses are post graduate, advanced level, one- and two-week long programs conducted in English. The institute also offers a one-year master's of science in international health.

## Annex 52-2 Workshop logistics

**Workshop and support checklist**

## Advance planning

- Goals
- Objectives, expected outcomes
- Needs assessments
- Content, topics, session
- Length, time frame
- Number of participants
- Implementation approach (e.g., small-group interaction versus large-group presentations)
- Materials, including prereading for the participants, participants' and facilitators' guides, handouts
- Participant list
- Short-term consultants, facilitators or presenters (choosing the best people to present each topic)
- Budget, including materials, travel, accommodations
- Venue: reservations, deposit, other concerns
- Invitations to participants and follow-up phone calls

## Workshop material

- Ruled writing pads, pens, pencils with erasers
- Document binders
- Flip charts, pens, and markers
- Blank overhead transparencies and pens
- Masking tape and transparent tape
- Stapler and staples
- Hole punch
- Photocopying paper
- Computer paper, printer ribbon, blank diskettes, multiplug adapter
- Letterhead stationery and envelopes
- Paper clips, scissors, Post-it pads, rubber bands, Wite-out, glue
- Calculator
- Name badges

## Workshop support responsibility

- Logistics: supervision of conference site, meals, breaks, and accommodations
- Finances: payment of cash food allowances, paperwork, and reimbursement for transportation expenses
- Secretary for word processing
- Vehicle and driver
- Messenger and photocopier

## Workshop support facilities

- Telephone access (incoming and outgoing) for facilitators
- On-site (or easily accessible) photocopier machine (with toner and paper) for low-volume copies
- Photocopy service site for high-volume copies
- Computer and printer
- Overhead projector, extra bulb, extension cord of adequate length
- LCD projector and projection screen
- Sound system and microphones (if needed)

## Setup of main meeting room

- Opening session and plenary sessions: horseshoe versus classroom-style seating with extra chairs
- Tables for small group work

- Break room(s) or area(s)
- Groups of approximately equal size
- Overhead and slide projector check: screen that all participants can see, projector proper distance and angle from screen, sufficiently long electric cord, extra bulb
- Transparencies and pens
- Flip charts and pens available for plenary and small groups

## Daily preparation of meeting room

- Projectors: position, cord, spare bulb, transparencies, pens
- Blackboard or whiteboard: cleaner, pens
- Flip charts: location, paper, pens

**Workshop administration checklist**

- Upon arrival at the training site, make sure that the conference room is arranged properly and note any changes that need to be made. Find out if additional rooms are available for small-group discussions. Set up a registration desk near the entrance and a working table where appropriate. Arrange the handouts on a separate table where they are readily accessible.
- Set up the projector and test it. Make sure that the projection screen can be seen easily by all participants.
- Put the writing pads, pens, and programs into document binders and place them on the tables.
- Inform the management of the site about all the practical arrangements.
- Put up a signboard at reception displaying the location of the conference room and registration time.
- Using the list of participants, prepare the name tags and spread them out on the registration desk so that the participants can collect them as they register. This step can be done either the evening before or in the morning before registration begins.
- Give a copy of the program to the management so that they know when to serve tea or coffee and meals.
- During the introductory session, make administrative announcements: when allowances will be paid (night-out allowances are normally paid at the end of day one; reimbursements for travel expenses are normally paid at the break on the last day, upon presentation of receipts as documentation).
- As soon as the last person has registered, type out the participant list and start preparing the receipts for participants to sign when receiving allowances. Use a duplicate receipt book with a carbon. Mark the receipt number against the participant's name on the list to make paying easier.
- Type out a separate list for reimbursing transport expenses and make out payment receipts. Fuel and other travel receipts can be collected on day one when paying out allowances.
- Give a copy of the participant list to hotel management, indicating the participants who are not staying at the site so that they know how many extra teas and lunches to charge for. Also, give management the names of the people who are settling their own bills (facilitators, secretaries) so that they will not be included in the main bill.
- On the last day, have the hotel management prepare the detailed bill and check it against the participant list.