INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS (IMCI)

Planning, Implementing and Evaluating Pre-Service Training

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PART A: Introduction

1. Overview of the IMCI Strategy

Although the annual number of deaths among children less than five years old has decreased by almost a third since the 1970s, this reduction has not been evenly distributed throughout the world. According to the 1999 World Health Report, children in low- to middle-income countries are 10 times more likely to die before reaching the age of five than children living in the industrialized world. In 1998, more than 50 countries still had childhood mortality rates of over 100 per 1,000 live births.¹

Every year more than 10 million children in these countries die before they reach their fifth birthday. Seven in 10 of these deaths are due to acute respiratory infections (mostly pneumonia), diarrhoea, measles, malaria, or malnutrition — and often to a combination of these conditions (Figure 1).

Projections based on the 1996 analysis The Global Burden of Disease² indicate that these conditions will continue to be major contributors to child deaths through the year 2020 unless significantly greater efforts are made to control them. Every day, millions of parents take children with potentially fatal illnesses to first-level health facilities such as clinics, health centres and outpatient departments of hospitals. In some countries, three in four episodes of childhood illness are caused by one of these five conditions. And most sick children present with signs and symptoms related to more than one. This overlap means that a single diagnosis may not be possible or appropriate, and that treatment may be complicated by the need to combine therapies for several conditions. Surveys of the management of sick children at these facilities reveal that many children are not properly assessed and treated and that their parents are poorly advised.³

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At this level, in most countries, diagnostic supports such as radiology and laboratory services are minimal or non-existent; and drugs and equipment are scarce. Limited supplies and equipment, combined with an irregular flow of patients, leave health care providers at first-level facilities with few opportunities to practise complicated clinical procedures. Instead, they must often rely on history and signs and symptoms to determine a course of management that makes the best use of available resources.

Providing quality care to sick children in these conditions is a serious challenge. In response to this challenge, WHO and UNICEF developed a strategy known as Integrated Management of Childhood Illness (IMCI). Although the major stimulus for IMCI came from the needs of curative care, the strategy combines improved management of childhood illness with aspects of nutrition, immunization, and other important disease prevention and health promotion activities. The objectives are to reduce deaths and the frequency and severity of illness and disability, and to contribute to improved growth and development.

The strategy includes three main components:

- Improvements in the case-management skills of health staff through the provision of locally adapted guidelines on IMCI and through activities to promote their use
- Improvements in the health system required for effective management of childhood illness
- Improvements in family and community practices

The core of the IMCI strategy is integrated case management of the most common childhood conditions, with a focus on the most important causes of death. The IMCI clinical guidelines promote an evidence-based, syndromic approach to case management that supports the rational, effective and affordable use of diagnostic tools and drugs. Evidence-based case management stresses the importance of evaluating evidence from clinical research and cautions against the use of intuition, unsystematic clinical experience, and untested pathophysiologic reasoning for decision-making.4

In addition to comprehensive assessment and management of common childhood illnesses, the IMCI guidelines include methods for:

- Checking a child's immunization and nutrition status;
- Teaching parents how to give treatments at home;
- Assessing a child's feeding and counselling to solve feeding problems; and
- Advising parents about when to return to a health facility.

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WHO and UNICEF recommend a phased approach to planning and implementing the IMCI strategy in countries. The following phases are described in detail in the *IMCI planning guide: Gaining experience with the IMCI strategy in a country*.\(^5\)

**Phase I: Introduction of IMCI in a country**, which includes thorough orientation of decision makers, the establishment of a national IMCI management and coordination group, training of key Ministry of Health (MOH) staff in the IMCI clinical guidelines and MOH endorsement of the strategy;

**Phase II: Gaining experience through early implementation**, which includes development of a national plan, selection of initial districts for implementation, adaptation of the IMCI clinical guidelines and materials, training of course facilitators and planning at district level;

**Phase III: Expansion of activities and coverage**, which includes expansion of IMCI activities in districts already covered, and expansion to cover additional districts.

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2. **Rationale for Introducing IMCI Into Medical and Paramedical Education**

Children account for 30 to 70 per cent of all patients seen in busy outpatient clinics with limited resources and equipment in low- and middle-income countries. Because problems seen in outpatient clinics are typical of what most graduates from medical and paramedical schools will encounter later in their careers, it is essential for students to develop core knowledge and skills related to outpatient paediatrics as part of their basic education.

Most children who die in outpatient clinics do so within the first few hours after arriving there. To avoid unnecessary deaths, students need to learn rapid yet relatively simple actions to determine if a child needs urgent hospital care, if the child can be treated in the clinic, or if the child can be safely cared for at home. When a child can be cared for in the clinic or at home, students need to know how to comprehensively examine and manage the child with available resources, and give preventive care such as immunizations and vitamins. They also need to know how to prescribe appropriate drugs in correct combinations and amounts, and how to counsel a child's caretaker about treatment, feeding and when to return to a health facility. The clinical guidelines for Integrated Management of Childhood Illness (IMCI) include all of the above elements of basic outpatient care for children up to five years of age.

Medical and paramedical students are rarely given opportunities to develop essential outpatient clinical skills during their undergraduate training, although such skills are needed. In most countries, 70 to 90 percent of all paediatric and child health clerkships are conducted in the inpatient environment. These clerkships tend to provide little more than random exposure to severe illnesses and very little practice in interviewing parents and managing patients. In addition, nearly 100 percent of all clerkships take place in specialized teaching hospitals with relatively good supplies and equipment. This is in stark contrast to the environment where many new graduates actually practise – that is in outpatient community clinics with limited resources and equipment.

In many countries, national institutions have begun asking paramedical and medical schools to increase the amount of time in their curricula for clinical training in outpatient settings, because these settings provide experience that is particularly relevant to future professional practice. In addition, international organizations such as the World Federation for Medical Education have recognized the importance of outpatient care in the undergraduate curriculum. They have advocated for:

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widening the settings in which education takes place, (b) coordinating education with health services delivery, (c) using national health priorities to set the context for education, and (d) integrating science and clinical practice. However, no clear strategy has been proposed for how to implement these recommended changes.

To ensure that all categories of health care professionals develop essential competencies in child health, it will not be enough for students simply to spend more time in the outpatient ward. The amount of knowledge applicable to outpatient paediatrics is vast and growing exponentially. To guide student learning and reduce factual overload, educators need to clearly define the core or critical knowledge, experience and skills that students must acquire. The IMCI clinical guidelines, with their clear focus on the prevention and cure of the most common and lethal childhood conditions, define the most essential knowledge and skills needed to effectively manage sick children in outpatient clinical settings. Training that incorporates the learning objectives of IMCI will enable students to develop a firm foundation of core knowledge and skills on which to build a theoretical and applied approach to clinical practice.

All health professionals who care for sick children, including doctors, need to develop core knowledge and skills in the outpatient management of sick children. Nurses, midwives and other health professionals play a key role in the management and prevention of childhood illnesses. In addition, doctors often train and supervise other cadres of health staff. In order to be effective trainers and supervisors, doctors need to understand and agree with national clinical guidelines such as IMCI – and they need to apply those guidelines in their own practices. The incorporation of IMCI into undergraduate medical education is, therefore, a logical step toward strengthening clinical practices not only among doctors but also among other categories of health professionals.

To effectively apply the essential clinical skills encompassed in the IMCI clinical guidelines, graduates need to work within a functioning health system and receive adequate support from families and communities. For this reason, medical, nursing and other health professional schools should plan to address all three components of the IMCI strategy. This will ensure not only that graduates know how to prevent and manage common serious childhood conditions, but also that they understand what is needed to improve health systems and strengthen the ability of families and communities to support the prevention and management of common serious childhood conditions.

The introduction of IMCI into medical and paramedical education presents an opportunity for teaching institutions to set clear priorities for learning. IMCI helps build an integrated approach to the teaching of common child health problems by encouraging coordination between different teaching units and sub-units over several academic years. In addition, IMCI prepares health professionals to work within a


national health system and to support public health strategies while providing quality care to sick children using scarce resources and equipment in a rational manner.
3. **Purpose of this Guide**

The purpose of this guide is to assist national authorities (e.g. Ministries of Health (MOH), Ministries of Education (MOE), etc.); national professional and academic associations (e.g. national paediatrics societies, national associations of medical schools, etc.); administrators and staff of teaching institutions; WHO staff and consultants; and technical and donor organizations in strengthening the teaching of child health through the incorporation of IMCI into relevant academic programmes. The recommendations presented in this guide are based on the experiences of a number of different countries and teaching institutions that have successfully introduced IMCI into academic programmes for doctors, nurses and other health professionals.
PART B:
Planning, Implementing and Evaluating IMCI Pre-Service Training

Before introducing IMCI pre-service training in a country, experience has shown that it is crucial to:

- Adapt the IMCI clinical guidelines to the local circumstances of the country;
- Test the adapted guidelines; and
- Gain some experience using the guidelines (e.g. through in-service training courses that also serve to build a pool of facilitators, clinical instructors and decision-makers who are familiar with IMCI).

Following these actions, the process of planning, implementing and evaluating IMCI pre-service training may be carried out in the following four phases:

**Phase One:** Orient and Plan

**Phase Two:** Prepare and Conduct the First Round of IMCI Teaching

**Phase Three:** Review and Replan IMCI Teaching

**Phase Four:** Evaluate IMCI Teaching

These phases set in motion a *cyclical process* that can be used to revise and strengthen teaching over time (see figure 2). The cyclical process facilitates continued reviews and updates of IMCI teaching. It can also facilitate the strengthening of teaching in other subjects such as breastfeeding counselling, the referral care of sick children, and adolescent health and development.

This guide suggests tasks to be completed by national or state-level coordinators of IMCI pre-service training, and by administrators and staff at teaching institutions. Although tasks managed at the national level are similar to those managed by teaching institutions, they are described separately in this guide, because different people and resources are needed at each level.

Tasks at the *national (or state) level* can be carried out by representatives of: national authorities such as the Ministry of Health (MOH) and Ministry of Education (MOE); academic or professional associations; or a pre-service training coordinating group that includes representatives from national authorities, professional associations and the academic community. At the *teaching institution level*, the formation of an IMCI Working Group is strongly encouraged. The working group should take responsibility for planning and coordinating activities within its teaching institution.
Tasks at the national or state level aim to create a favourable political environment for IMCI teaching. They also support teaching institutions in preparing, implementing, reviewing, replanning and evaluating IMCI teaching. At the same time, tasks at the teaching institution level aim to: orient opinion leaders and decision-makers; plan for the introduction of new teaching; prepare relevant teaching staff, materials and clinical practice sites; coordinate teaching between different academic units and subunits; and monitor, review and revise new teaching. It is **important to establish strong links** between national or state coordinators and the IMCI Working Group at each teaching institution.

For each recommended task, this guide provides the following information:

- Objectives of the task
- Suggested timing
- Who should be responsible and/or involved
- Description of the task
- Activities and materials that can be used to carry out the task

It is not necessary to complete all tasks and all activities described in this guide. The National Coordinating Group and teaching institutions should **select appropriate tasks and activities** in accordance with their unique circumstances, needs and available
resources. In addition, each group should implement selected tasks and activities in a sequence that is most appropriate to their situation.

Certain tasks or activities may be omitted. For example, if a country has only one medical school, the National Coordinating Group may choose not to develop a national plan of action for introducing IMCI into medical schools. Furthermore, some tasks or activities may be repeated. For example, a National Coordinating Group may choose to conduct several orientation workshops for different types of teaching institutions. Other tasks may be combined or done informally. For example, the Ministry of Health may sponsor a national orientation meeting during which a National IMCI Coordinating Group is formed.

Experience has shown, however, that some tasks are essential or critical for the successful and sustainable introduction of IMCI pre-service training. For this reason, tasks that are considered critical are designated with an asterisk in this guide. Figure 3 lists all of the phases and tasks that are described in this guide.
### Figure 3

**Phases and Tasks for Incorporating IMCI Into Pre-Service Training**

#### PHASE ONE: ORIENT & PLAN

<table>
<thead>
<tr>
<th>NATIONAL COORDINATOR(S)</th>
<th>TEACHING INSTITUTION(S)</th>
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<tbody>
<tr>
<td>- Analyse the Situation</td>
<td>- Analyse the Situation*</td>
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<tr>
<td>- Orient National Opinion Leaders and Decision-Makers*</td>
<td>- Orient Decision-Makers*</td>
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<td>- Create a National Coordinating Group</td>
<td>- Create an IMCI Working Group*</td>
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<td>- Develop a National Plan</td>
<td>- Train Key Planners*</td>
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<td>- Assist Teaching Institutions with Staff</td>
<td>- Plan for the Introduction of IMCI Teaching*</td>
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<td>- Request Endorsement of the Plan</td>
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#### PHASE TWO: PREPARE & CONDUCT THE FIRST ROUND OF IMCI TEACHING

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<th>NATIONAL COORDINATOR(S)</th>
<th>TEACHING INSTITUTION(S)</th>
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<tbody>
<tr>
<td>- Assist Teaching Institutions in Preparing for and Monitoring Teaching*</td>
<td>- Define Times, Places, Activities and Materials*</td>
</tr>
<tr>
<td></td>
<td>- Train Relevant Teachers and Clinical Staff*</td>
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<td></td>
<td>- Prepare Clinical Practice Sites*</td>
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<td>- Prepare Materials*</td>
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<td>- Coordinate Teaching*</td>
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<td>- Conduct and Monitor Teaching*</td>
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#### PHASE THREE: REVIEW & RE-PLAN IMCI TEACHING

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<th>NATIONAL COORDINATOR(S)</th>
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<td>- Assist Teaching Institutions in Reviewing and Replanning Teaching*</td>
<td>- Review the Plan of Action*</td>
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<td>- Assess the Methods and Materials Used</td>
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<td>- Measure the Outcome of Teaching</td>
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<td>- Revise the Plan of Action*</td>
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#### PHASE FOUR: EVALUATE

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<th>NATIONAL COORDINATOR(S)</th>
<th>TEACHING INSTITUTION(S)</th>
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<tr>
<td>- Evaluate the effectiveness of IMCI Teaching</td>
<td>- Assist the evaluation of IMCI teaching</td>
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<tr>
<td>- Share the results of evaluations*</td>
<td>- Use the results of evaluations to strengthen teaching</td>
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* Critical Task
1. PHASE ONE – ORIENT AND PLAN

Tasks at the national or state level

- Analyse the situation 15
- Orient national opinion leaders and decision-makers* 17
- Create a National Coordinating Group 20
- Develop a national plan 23
- Assist teaching institutions with staff orientation and planning* 26

Tasks at the teaching institution level

- Analyse the situation* 31
- Orient decision-makers* 34
- Create an IMCI Working Group* 37
- Train key planners* 39
- Plan for the introduction of IMCI teaching* 42
- Request endorsement of the plan 46

* Critical Task

Experience has shown that before introducing IMCI into pre-service training it is important to: adapt the IMCI clinical guidelines to the circumstances of a country or state; try out the adapted guidelines in selected health facilities; and train a pool of facilitators for the IMCI in-service training course.

Before they can change teaching programmes, opinion leaders and decision-makers in the academic and child health community must first recognize the benefits and consequences of the IMCI strategy and clinical guidelines. Once this understanding is achieved, a clear plan for introducing IMCI into existing academic programmes will help guide the change process.

The tasks described in this phase aim to:

- Generate understanding, acceptance and support of the IMCI strategy and clinical guidelines among national authorities, the academic community and members of professional associations; and
Create written plans of action for the introduction of IMCI teaching, both at the national level and at the teaching institution level.

In each country, the National Coordinating Group and teaching institutions should select appropriate tasks to implement, based on the specific needs and resources of the country. Tasks that have proven critical to the success of this phase are marked with an asterisk (*) in the table above. Facilitators may carry out tasks in the same order presented in this guide, or they may change the sequence to suit local needs and circumstances. Experience has shown, however, that persons who organize and conduct orientation and planning activities should be thoroughly trained in IMCI.

During the orientation and planning phase, strong links between the National Coordinating Group and teaching institutions are essential. National organizations, such as the Ministry of Health, National Paediatrics Society or National Association of Nurses should foster understanding and acceptance of IMCI among key opinion leaders and decision-makers, both inside and outside teaching institutions. The National Coordinating Group for pre-service training should identify the types of teaching institutions that will introduce IMCI, and then assist those institutions in orienting decision-makers, training staff, and planning for IMCI teaching.

At teaching institutions, decision-makers and staff should identify which academic units and subunits will teach IMCI. They should then orient and train staff within those units, and prepare a feasible and comprehensive plan of action for introducing IMCI into relevant academic programmes.
1.1 Orient and Plan: Tasks at National Level

Teaching institutions will need support and assistance from national authorities, particularly from the National IMCI Coordinating Group. In addition, they will need support from members of the academic community and from professional associations – such as the national associations of paediatrics and nursing – in orienting key teaching and administrative staff and in planning for the introduction of IMCI teaching. However, before a national coordinating group can provide support to teaching institutions, members of the group must be convinced themselves of the need to include IMCI in basic paramedical and medical education.

Many countries choose to identify a national focal person and to create a National Coordinating Group for IMCI Pre-Service Training. The National Coordinating Group for IMCI Pre-Service Training is frequently a sub-group of the National IMCI Task Force. The group often consists of representatives from national authorities, the academic community, professional associations, and relevant technical or donor agencies. If formed, this group can carry out many of the national-level activities described in this guide. In addition, WHO staff members or consultants may provide technical assistance with some activities, upon request.

The following tasks are suggested at the national level during the orientation and planning phase:

- Analyse the situation;
- Orient national opinion leaders and decision-makers;*
- Create a National Coordinating Group;
- Develop a national plan; and
- Assist teaching institutions with staff orientation and planning.*

Two of the above tasks are considered critical to the success of IMCI pre-service training: orienting national opinion leaders and decision-makers to the IMCI strategy and clinical guidelines; and assisting teaching institutions with staff orientation and planning for the introduction of IMCI teaching. Each of the tasks for orientation and planning at the national level is described in more detail below.

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* Critical task
Analyse the Situation

Information should be collected about the different types of health personnel who care for sick children at first-level facilities such as clinics, health centres and outpatient departments of hospitals. In addition, information should be collected about the teaching institutions that train those personnel, as well as about the people and associations that influence curricula in those teaching institutions. This information can inform important decisions about how to introduce IMCI into paramedical and medical education.

Objectives

The objectives of the situation analysis are to:

- Identify the types of health personnel who provide care to sick children at first-level health facilities such as clinics, health centres and outpatient departments of hospitals;
- Identify where and how health personnel at first-level facilities receive their basic training; and
- Identify the persons and groups who influence curricula in institutions where first-level health personnel receive their basic training.

Timing

It is best to conduct a situation analysis before a detailed plan is created for introducing IMCI into paramedical and medical education. Information collected during the situation analysis will help in identifying appropriate target audiences for orientation activities, and in preparing suggestions for the introduction of IMCI pre-service training.

Who Should Conduct the Analysis?

Persons designated to lead national or state efforts to introduce IMCI pre-service training should analyse the situation. These might include representatives of:

- The National IMCI Task Force;
National authorities such as the Ministry of Health, Ministry of Education or Commission on Higher Education;
Professional associations such as the National Paediatrics Society, the National Association of Nursing, the National Association of Midwifery, etc.;
Governing bodies of teaching institutions such as the National Association of Nursing Schools and the National Association of Medical Schools; and
Teaching institutions.

Description

The purpose of this task is to gather information that can be used to orient opinion leaders and decision-makers about IMCI, and to begin planning for the introduction of IMCI pre-service training at the national or state level.

A situation analysis should answer important questions such as:

- What types of health personnel provide first-level, outpatient care to children?
- How and where are these health workers initially trained?
- Who influences what is taught at these institutions?
- At what level is the curriculum developed and revised for different types of teaching institutions (e.g. by a national curriculum board, within each teaching institution, etc.)?
- Who makes decisions about the deployment of health personnel after training?
- Who should be involved in the process of introducing IMCI pre-service training?
- Where should the process begin (i.e. at what teaching institutions or in what districts or states)?

Suggested Activities and Materials

Information needed to analyse the situation may be collected through meetings, informal interviews, short written questionnaires, documents and reports. Extensive or formal interviews and written surveys are not encouraged, because they require significant time and resources to prepare and conduct. The basic information needed at this stage can be collected quickly, informally and at little cost.

Useful sources of information include the Ministry of Health, Ministry of Education, WHO Country Office, professional associations such as the National Paediatrics Society, and academic bodies such as national associations of medical and nursing schools. Also recommended is a review of the country’s adapted
IMCI clinical guidelines, national plan for IMCI implementation, and WHO reports on IMCI activities in the country.

The situation analysis questionnaire provided in Annex 1 can be used as a starting point for collecting information.

**Orient National Opinion Leaders and Decision-Makers**

Experience has shown that information distribution is not sufficient, in and of itself, to bring about change in paramedical and medical education. First, opinion leaders and decision-makers who influence what is taught must be aware of and accept the need to change the content and process of teaching. Then they must support and assist the accepted changes.

**Objectives**

The objectives of orientation are to:

- Create awareness of the IMCI strategy and clinical guidelines among national authorities, the academic community and professional associations;

- Gain acceptance of IMCI as a core element of basic paramedical and medical education; and

- Generate support for incorporating IMCI into paramedical and medical education.

**Timing**

Experience has shown that the academic community often becomes aware of IMCI when the strategy is first introduced in a country. Members of the academic community usually assist national authorities in adapting the IMCI clinical guidelines to the circumstances of a country, and in planning for the implementation of the IMCI strategy. Previous exposure to IMCI is often useful but insufficient. For this reason, a more focused orientation is recommended to ensure that key representatives of national authorities, the academic community and professional associations thoroughly understand and accept the academic rationale, benefits and consequences of IMCI. Thorough understanding and acceptance is critical for the effective incorporation of IMCI into the basic education of doctors, nurses and other health professionals.
Target Audience

The target audiences for this task are:

- Representatives from national authorities with influence over the curricula of paramedical and medical schools, such as members of professional licensing boards, the Commission on Higher Education, or the training departments of the Ministry of Health and the Ministry of Education;

- Decision-Makers in the academic community, such as representatives of the National Association of Nursing Schools, the National Association of Medical Schools, and the professional certification board, as well as deans of nursing and medical schools, and heads of Paediatrics Departments or Child Health Departments; and

- Members of professional associations such as the National Paediatrics Society and the National Association of Nurses.

Description

The purpose of this task is to generate awareness, understanding and acceptance of the IMCI strategy and clinical guidelines among government authorities, members of the academic community and members of professional associations. Successful orientation should result in a commitment by opinion leaders and decision-makers to incorporate IMCI teaching into paramedical and medical education. Achievement of these objectives often depends upon an exchange of information over an extended period of time that leads to decisions about necessary changes to academic programmes.

During the orientation phase, it is important to emphasize that in most teaching institutions it is not necessary to revise the formal written curriculum in order to introduce IMCI teaching strategy. The broad elements of IMCI are frequently already included in the curricula of relevant academic programmes. As such, the introduction of IMCI mainly requires a shift within existing curricula to a stronger focus on common serious childhood illnesses, malnutrition, communication with the caretakers of children and clinical practice with outpatient cases.

Awareness of the IMCI strategy and clinical guidelines can be created by briefing target audiences about the rationale behind the IMCI strategy, and informing them about positive experiences with the introduction of IMCI pre-service training.

In order to gain acceptance of IMCI and to generate a commitment to incorporating IMCI into existing teaching schedules, the target audiences should be well informed about:

- The IMCI strategy, with an emphasis on the need to adapt the strategy and clinical guidelines to the circumstances and needs of a country;
The IMCI clinical guidelines, including an overview of the technical basis and a description of how the guidelines are used for evidence-based patient assessment and management;

Approaches taken in countries and teaching institutions to incorporate teaching of IMCI into the basic education of paramedical and medical staff;

What students should know, and what students should be able to do, after learning IMCI (i.e. the IMCI learning objectives);

What IMCI can offer to students in terms of new knowledge, skills and attitudes (i.e. academic rationale for IMCI);

WHO materials that are available to help plan and manage the introduction of IMCI teaching; and

The types of teaching, learning and assessment methods and materials commonly used for IMCI teaching.

National orientation activities should achieve the following outcomes:

High-level endorsement of the IMCI strategy and clinical guidelines from key institutions and associations;

Appointment of a national focal person for IMCI pre-service training who will coordinate the introduction of IMCI teaching in paramedical and medical schools; and

Establishment of partnerships and links between the national coordinating group, teaching institutions and technical and donor agencies.

Suggested Activities and Materials

Information may be disseminated in various ways to create awareness of IMCI. The National Coordinating Group for IMCI Pre-Service Training, National IMCI Task Force, WHO staff and/or consultants, and interested representatives of academic and professional associations should work together to identify the best channels for reaching the target audiences described above.

Suggested activities call for the dissemination of information about IMCI, as well as interactive activities that allow the target audiences to develop a deeper understanding of IMCI by asking questions and expressing their support or concerns.

More specifically, the suggested activities are:
• **Disseminate information** about IMCI through articles in local journals, newsletters of professional societies or associations, brochures, information sheets, media events and/or displays at meetings and conferences.

• **Lead IMCI presentations or discussions** at meetings or congresses of academic associations, professional societies, and/or government authorities.

• **Conduct an orientation workshop**, or a series of workshops, with target audience members geared toward fostering a deeper understanding of IMCI.

Note that under normal circumstances, minimal time (e.g. one to two hours) is allowed for presentations or discussions at meetings or congresses. For this reason, it is important to carefully select which information to present, and allow time for questions and discussion. It is best to give a brief introduction to the IMCI strategy and clinical guidelines, and then to present what IMCI can offer to students in terms of new knowledge, skills and attitudes (i.e. academic rationale for IMCI).

For a more thorough orientation of the target audiences, consider a workshop. A workshop should last one to two days, depending on the participants' pre-existing knowledge of IMCI. If the majority of participants have no previous training in the IMCI clinical guidelines, a two-day workshop is recommended.

Annex 1 includes tables of the people and materials suggested to conduct the activities described above. Materials that are listed, but not included in Annex 1, may be requested from WHO CAH headquarters or from a WHO regional or country office.13

### Create a National Coordinating Group

Experience has shown that a committed focal person at the national or state level often needs assistance from a National Coordinating Group in order to effectively introduce IMCI teaching in a country. A National Coordinating Group can coordinate and facilitate activities related to planning, implementing, reviewing and replanning IMCI pre-service training. The group may be formed as a sub-group of the National IMCI Working Group (or Task 1.1 NATIONAL COORDINATOR(S)

- [x] Analyse the situation
- [x] Orient national opinion leaders and decision-makers*
- [x] Create a National Coordinating Group
- [ ] Develop a national plan
- [ ] Assist teaching institutions with staff orientation and planning*

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13 WHO materials may be requested from the WHO representative in a country, the WHO regional office, or the Department of Child and Adolescent Health and Development (CAH), World Health Organization, Avenue Appia 20, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int).
Phase One - Orient and Plan: Tasks at National Level

Or it may be created as a separate and individual entity. The group can be created at any time during the implementation of the IMCI strategy in a country, and should establish strong ties with the Ministry of Health and relevant teaching institutions.

Although the creation of a National Coordinating Group is considered an optional task, in countries with more than one medical or paramedical school, this group can be critical to the effective and timely introduction of IMCI pre-service training. For example, the group can prevent the duplication of efforts by sharing materials, activities and experiences with several teaching institutions.

Objectives

The primary objectives of a National Coordinating Group are to:

- Promote broad understanding and acceptance of IMCI among national authorities, the academic community and professional societies;
- Identify relevant technical and donor organizations and involve them in the process of planning, implementing and evaluating IMCI pre-service training;
- Assist medical, nursing and other health professional schools in planning, preparing for, implementing, reviewing and replanning IMCI teaching; and
- Coordinate activities between different implementing partners and teaching institutions.

Timing

A National Coordinating Group may be formed at any time. For example, a core National Coordinating Group may be created during a national IMCI session held at a professional congress, or during a national orientation workshop on IMCI pre-service training. After its initial formation, the core group can be expanded to include additional members. A National Coordinating Group may also be formed during Phase 2: Prepare and Conduct the First Round of IMCI Teaching, to help coordinate and facilitate the training of teaching staff and the development of teaching, learning and assessment materials.

Members of the National Coordinating Group

The members of the National Coordinating Group should be interested in and committed to introducing IMCI into the teaching schedules of medical, nursing and other health professional schools. A focal person should be appointed to take responsibility for calling meetings and coordinating the group’s activities.

Ideally, a National Coordinating Group will include representatives from:
• National authorities such as the Ministry of Health, Ministry of Education or Commission on Higher Education;
• The National IMCI Task Force;
• The academic community, including the National Association of Medical Schools, National Association of Nursing Schools and national associations of other types of health professional schools;
• Professional associations such as the National Paediatrics Society, the National Association of Nursing, and the National Association of Midwifery;
• Teaching institutions; and
• Technical and donor agencies such as WHO, UNICEF, bilateral development organizations and non-governmental organizations.

Description

The aim of the National Coordinating Group is to coordinate and facilitate the planning, implementation, review and replanning of IMCI pre-service training. The working group, therefore, should organize and conduct activities such as: orienting opinion leaders and decision-makers; training teaching staff; and developing or revising teaching, learning and assessment materials. The group also is responsible for exchanging information and materials with various teaching institutions, and with different technical and donor agencies, in order to define needs, pool resources and avoid the unnecessary duplication of efforts.

Suggested Activities

A National Coordinating Group for IMCI pre-service training should coordinate and facilitate many of the activities described in this guide. These activities include:

• Orienting decision-makers and planning for the implementation of IMCI pre-service training;
• Training administrators, teachers and relevant clinical staff in the IMCI strategy and clinical guidelines;
• Identifying, developing and/or revising appropriate IMCI teaching, learning and assessment materials;
• Identifying and preparing appropriate clinical practice sites for IMCI;
• Reviewing and replanning IMCI teaching at individual institutions; and
• Evaluating IMCI teaching.
Develop a National Plan

If more than one teaching institution in a country should introduce IMCI, experience has shown that it is useful to develop a national plan for the introduction of IMCI pre-service training.

Objectives

The objectives of developing a national plan for the introduction of IMCI pre-service training are to:

- Identify where and how IMCI pre-service training should be introduced in a country;
- Identify activities that should be facilitated or supported at national or state level (e.g. orienting decision-makers and training teaching staff);
- Coordinate activities between different groups, organizations and teaching institutions;
- Identify the resources needed (e.g. human, financial, etc.) to conduct necessary activities; and
- Estimate when different activities should be conducted (i.e. prepare a timeline).

Timing

Before a national plan for IMCI pre-service training is created, it is highly recommended that the persons charged with developing the plan receive a comprehensive orientation to IMCI and, if possible, thorough training in the IMCI clinical guidelines. The plan may be developed before activities begin at the teaching institution level, or it may be created after one or more schools have gained some experience with the introduction of IMCI teaching.

Who Should Develop the National Plan?

It is important that the persons preparing the national plan understand the IMCI strategy and clinical guidelines, know what is needed to introduce change at teaching institutions, and have some influence over what is taught. If a National Coordinating Group for IMCI Pre-Service Training is created, the members of the

1.1 NATIONAL COORDINATOR(S)

- Analyse the situation
- Orient national opinion leaders and decision-makers*
- Create a National Coordinating Group
- Develop a national plan
- Assist teaching institutions with staff orientation and planning*
group should be responsible for developing a national plan. If no National Coordinating Group is formed, an interested group such as the National IMCI Task Force, the National Paediatrics Society, or the National Association of Nurses may develop a plan.

**Description**

A national plan for introducing IMCI pre-service training in a country should:

- List the types of health care providers who manage sick children at first-level outpatient health facilities;

- List the types of teaching institutions (and the academic programmes therein) that these health care providers traditionally attend for their undergraduate education;

- Suggest the order in which various types of teaching institutions should introduce IMCI (i.e. which teaching institutions should start introducing IMCI first, second, third, etc.). This includes decisions as to whether several schools should start together at one time, or whether it is preferable for one school to complete the process first in order to serve as a “success story” for other schools;

- Identify any policies at the national, state, health facility, or school level that might interfere with the teaching or application of IMCI (e.g. situations in which students are not allowed to prescribe drugs, immunizations are not given on demand, job descriptions are outdated, etc.);

- Describe how unfavourable policies might be changed or overcome;

- Identify who needs to be trained in IMCI in order to conduct future orientation and training activities at the national or state level, and for administrators and staff at teaching institutions;

- Describe how the future facilitators of orientation and training activities will be trained in IMCI;

- Identify which types of national opinion leaders and decision-makers should be thoroughly oriented to IMCI;

- Describe how opinion leaders and decision-makers will be oriented;

- Describe how administrators and staff at teaching institutions will be oriented and trained, including how training will be sustained over time to accommodate new teachers. This includes decisions as to whether staff from different schools might participate together in orientation and training activities, or whether activities should be conducted separately with individual schools;
Phase One - Orient and Plan: Tasks at National Level

- List the types of external assistance that teaching institutions need in order to plan, implement, review, and replan IMCI teaching. This may include assistance with the development or revision of teaching, learning and assessment materials, and assistance with the identification and development of clinical practice sites;

- Describe who will be responsible at the national level (i.e. focal persons or coordinating groups) for orienting opinion leaders and decision-makers, training, planning, preparing materials and clinical practice sites, reviewing, replanning and evaluating teaching, and other activities;

- Indicate whether the formal written curriculum should be revised in order to introduce IMCI teaching into a particular type of teaching institution. If revision is needed, the plan should identify who will do it and how. (Note: In most teaching institutions, the formal written curriculum does not need to be revised in order to introduce IMCI teaching.);

- Identify resources (i.e. human, financial and in kind) needed to conduct the different activities; and

- Estimate when different activities will be conducted (i.e. prepare a time line of activities).

Suggested Activities and Materials

Before developing a plan, it will be useful to review the Report of an intercountry workshop on IMCI pre-service training: Geneva, 2.5, November 1999 (WHO/FCH/CAH/00.11). This document summarizes experiences and lessons learned with the introduction of IMCI in more than 13 pre-service training institutions. The report identifies key steps and materials needed at national and institutional levels to introduce and support IMCI teaching.

The suggested activities are:

- Conduct a planning meeting or workshop with key decision-makers and implementers to draft a national plan of action for IMCI pre-service training (see Annex 1 for a sample agenda of a national planning meeting and outline of a national action plan).

- Circulate the plan to get agreement or endorsement from persons and groups who are critical to the implementation of the plan. It is particularly important to have the plan endorsed by relevant national authorities (e.g. Ministry of Health, Ministry of Education) and associations (e.g. National Paediatrics

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Society, National Association of Medical Schools, and National Association of Nursing Schools). In some countries, a joint strategy or statement issued by relevant national groups such as the Ministry of Health and the Ministry of Education may be needed in order to move forward with IMCI pre-service training.

- Present the plan to partners, donors and relevant national authorities to request their support.

**Assist Teaching Institutions with Staff Orientation and Planning**

Teaching institutions will need support and assistance in orienting and training staff in IMCI, and in planning for the introduction of IMCI teaching. Assistance can be provided by a National Coordinating Group for IMCI Pre-Service Training, a national focal person for IMCI pre-service training, or other persons with knowledge and experience in IMCI (e.g. members of non-governmental organizations, technical agencies, international organizations, academic or professional associations, teaching institutions, or WHO staff and consultants). These same individuals and groups can help teaching institutions plan for the introduction of IMCI teaching.

**Objectives**

The objectives of assisting teaching institutions with staff orientation and planning are to:

- Ensure that opinion leaders and decision-makers at teaching institutions and clinical practice sites accept and understand IMCI before they begin to plan for its introduction into relevant academic programmes; and

- Ensure that essential tasks and activities are included in a teaching institution’s plan of action for introducing IMCI teaching.

**Timing**

Various types of assistance may be needed over time to help build understanding of IMCI and to help teaching institutions plan for the introduction of IMCI into relevant academic programmes. If a teaching institution develops a plan of action...
before it requests external assistance, the first step of assistance should be to review the school’s plan of action.

Who Should Assist Teaching Institutions?

Persons who assist teaching institutions should meet the following criteria:

- Thorough knowledge of IMCI;
- Teaching experience; and
- Knowledge of the WHO guidelines for planning, implementing and evaluating IMCI pre-service training.

Qualified persons might include the national focal person for IMCI pre-service training, or members of the National Coordinating Group for IMCI Pre-Service Training. They may also include representatives from non-governmental organizations, technical agencies, international organizations, academic or professional associations, teaching institutions or WHO.

Description

Opinion leaders and decision-makers at teaching institutions and clinical practice sites need to understand and accept IMCI before they can effectively support the introduction of IMCI into academic programmes. Decision-Makers at clinical practice sites include, for example, the directors of a teaching hospital or community clinic. In addition, key persons who will plan for the introduction of IMCI teaching at a school (e.g. deans, chairs of academic units, heads of subunits, teachers, directors of clinical practice sites, etc.) need training in IMCI as well as assistance in developing a comprehensive and feasible plan of action.

Circumstances and needs of specific teaching institutions will vary. As such, different approaches can be taken to orient administrators and staff, train planners and plan for the introduction of IMCI teaching.

Two typical approaches are:

- Representatives from teaching institutions attend regional or national orientation, training or planning events and then return to their schools to orient, train and assist staff in planning for the introduction of IMCI teaching;
- Persons with experience in IMCI pre-service training go to individual teaching institutions to conduct orientation, training and planning activities with administrators and staff.

Experience has shown that most teaching institutions use a combination of these two approaches. For example, a representative from a school might attend training in IMCI and return to the school to conduct IMCI orientation meetings with key
administrators and staff. Then the school administration might send several key staff members, who will be involved in planning for the introduction of IMCI teaching, to a national or regional IMCI training course. After the core group of key staff are trained, a representative from the national IMCI pre-service training coordinating group may go the school to facilitate a planning workshop with staff.

It is important to note the following:

- In order to develop a comprehensive and feasible plan of action for the introduction of IMCI teaching, several key planners at a teaching institution should be trained in the IMCI strategy and clinical guidelines;

- All persons who are critical to the implementation of the plan of action for IMCI teaching need to be involved in the planning process. For this reason, it is more effective to invite all key staff to a planning workshop within a teaching institution, than to send one or two staff members to attend an outside workshop.

Suggested Activities and Materials

Before assisting teaching institutions, it will be useful to read the *Report of an intercountry workshop on IMCI Pre-Service Training: Geneva, 2.5, November 1999* (WHO/FCH/CAH/00.11). This document summarizes experiences and lessons learned with the introduction of IMCI in more than 13 pre-service training institutions.

Two sets of activities may be used to help teaching institutions orient administrators and staff, train planners, and plan for the introduction of IMCI teaching. For certain categories of teaching institutions, a curriculum board or committee may be responsible for planning the introduction of new teaching content and methods. In such cases, activities may be conducted for a group of teaching institutions. The set of activities will depend on whether or not teaching institutions have already developed a plan of action for introducing IMCI teaching.

If no plan of action has been developed, the suggested activities are to:

- Analyse the situation and orient opinion leaders and decision-makers at the teaching institution(s). (See section 1.2 of this guide, *Analyse the Situation and Orient Decision-Makers*. See also the sample agenda of a national orientation workshop for IMCI pre-service training in Annex 1);

- Train selected staff members (e.g. chairs of academic units, heads of subunits, teachers, directors of clinical practice sites, etc.) who will facilitate planning for the introduction of IMCI teaching. (See section 1.2 of this guide, *Analyse the Situation and Train Key Planners*. See also the sample agenda of an IMCI training course for planners at teaching institutions in Annex 1); and
Conduct a planning workshop to develop a plan of action for introducing IMCI into an academic programme (See *Plan for the Introduction of IMCI Teaching* in section 1.2 of this guide. See also sample agenda for a planning workshop for IMCI pre-service training, and outline of a plan of action for the introduction of teaching on IMCI in Annex 1).

If a plan of action has already been developed, the suggested activities are to:

- Meet with administrators and staff from the teaching institution(s) to assess their understanding of IMCI and to review their plan of action for introducing IMCI teaching;

- If needed, analyse the situation and orient opinion leaders and decision-makers (See section 1.2 of this guide, *Analyse the Situation and Orient Decision-Makers*. See also the sample agenda of a national orientation workshop for IMCI pre-service training in Annex 1);

- If necessary, train selected staff members (e.g. deans, chairs of academic units, heads of subunits, teachers, directors of clinical practice sites, etc.) to facilitate the revision of the plan of action for introducing IMCI teaching. (See section 1.2 of this guide, *Analyse the Situation and Train Key Planners*. See also the sample agenda of an IMCI training course for planners at teaching institutions in Annex 1); and

- If necessary, conduct a planning workshop to revise the plan of action. (See *Plan for the Introduction of IMCI Teaching* in section 1.2 of this guide. See also the sample agenda for a planning workshop for IMCI pre-service training, and the sample outline of a plan of action for the introduction of IMCI teaching in Annex 1).
1.2 Orient and Plan: Tasks at the Teaching Institution

Administrators and staff at teaching institutions need to know what IMCI can offer to students in terms of new knowledge, skills and attitudes. They also need to understand what IMCI will require in terms of new teaching and learning processes and materials. The introduction of IMCI into relevant academic programmes calls for integration of teaching across different academic units and subunits, as well as throughout different terms or years of an academic programme. In addition, IMCI requires clinical teaching and practice at first-level outpatient facilities, and the ability to make decisions about teaching at the level of the academic unit or subunit.

Decision-Makers and planners in teaching institutions and curriculum development committees need to understand that IMCI:

- Helps establish priorities for teaching and learning that are based on the health needs of a population;
- Prepares students to support and follow evidence-based clinical guidelines and to work within a national health system;
- Ensures that common childhood conditions are not overlooked during contacts with sick children;
- Rationalizes the use of costly resources such as diagnostic tests and drugs;
- Combines actions to both prevent and manage common childhood illnesses and malnutrition;
- Recognizes the important role played by caretakers of children in preventing and managing illness and malnutrition;
- Emphasizes the need for effective communication and counselling with the caretakers of children; and
- Promotes continuity of care through appropriate referral and follow-up of sick children.

1.2 TEACHING INSTITUTION(S)

- Analyse the situation*
- Orient decision-makers*
- Create an IMCI Working Group*
- Train key planners*
- Plan for the introduction of IMCI teaching*
- Request endorsement of the plan
Once the benefits and consequences of IMCI are understood and accepted, a clear plan for incorporating IMCI into existing academic programmes is needed to guide the change process.

Experience has shown that orientation and planning for pre-service training will be more effective if: the IMCI clinical guidelines have been carefully adapted to local circumstances; the adapted guidelines have been tested in a few health facilities; and experience with the adapted guidelines has been gained through activities such as in-service training – an activity that is also beneficial in building a pool of facilitators, clinical instructors and decision-makers who understand IMCI.

The following tasks are suggested at the teaching institution level during the orientation and planning phase:

- Analyse the situation*
- Orient decision-makers*
- Create an IMCI Working Group*
- Train key planners*
- Plan for the introduction of IMCI teaching*
- Request endorsement of the plan

All of the above tasks, except one, are considered critical to the success of IMCI teaching (as indicated by asterisks). Each suggested task for orientation and planning at the teaching institution level is described in more detail below.

### Analyse the Situation

Because IMCI takes a public health approach to child health, it requires integrated teaching of both the theory and practice of preventing and managing common serious childhood conditions. In most academic programmes, IMCI teaching should be integrated not only across different teaching units and subunits, but also throughout different terms or years of a programme. For this reason, different teaching units, subunits and directors of clinical practice sites must work together to both plan and implement IMCI teaching.

* Critical tasks
Among those who need to be oriented early to IMCI and to participate in the
development of a plan of action for introducing IMCI teaching are:
deans of relevant schools; directors of clinical practice sites; chairs of teaching
units; and heads of subunits such as pharmacology, pulmonology,
gastroenterology, nutrition, social paediatrics.

Objectives

The objectives of analysing the situation at the teaching institution level are to:

- Identify opinion leaders and decision-makers within teaching institutions who
  need further orientation to IMCI;
- Identify areas in which topics related to IMCI are already taught (i.e. particular
  teaching units, subunits and clinical practice sites);
- Identify the persons within different teaching units, subunits and clinical
  practice sites who need training in IMCI in order to assist the development of
  a plan of action for IMCI teaching; and
- Ensure that all relevant persons – including administrators of clinical practice
  sites – contribute to and endorse a written plan of action for introducing IMCI
  teaching.

Timing

All relevant administrators, teaching units and subunits should be identified as
early as possible in order to orient key staff and involve them in the process of
planning for the introduction of IMCI teaching. Experience has shown that it is
sometimes difficult to identify and involve all relevant persons. For this reason, a
core group of key staff will often initiate activities, and additional persons will
become involved over time as an institution gains experience with IMCI teaching.

Who Should Analyse the Situation?

An analysis of the situation may be conducted by:

- Persons within the school who are trained in IMCI and interested in
  introducing IMCI teaching.
- A facilitator from outside the teaching institution who is requested to assist
  with the introduction of IMCI teaching. (See section 1.1 of this guide, Assist
  Teaching Institutions with Staff Orientation and Planning.)

Description

The purpose of this task is to identify the relevant administrators, teaching units
and subunits - including directors of clinical practice sites - who need to be
informed about IMCI and enlisted to help plan for the introduction of IMCI teaching. This can be accomplished by first identifying relevant academic programmes, and then reviewing when (i.e. the year or term of the academic programme) and where (i.e. the responsible teaching unit) topics related to IMCI are taught within a programme.

It is important to decide if the formal written curriculum for a particular category of teaching institution needs to be revised. Usually it is not necessary to revise written curricula in order to introduce IMCI teaching. In many countries, the curriculum for paramedical schools is developed at national or state level. If this is the case for a particular category of teaching institution, a situation analysis may be conducted for a group of schools together – particularly if the schools share a common agenda, methods and materials.

When reviewing an academic programme, it is important to consider where aspects of all three components of the IMCI strategy should be taught.

The three components of the IMCI strategy are:

- Improving the case management skills of health staff to prevent and manage common serious childhood conditions;
- Improving the health system to support the effective management of common serious childhood conditions; and
- Strengthening practices within families and communities to support the prevention and management of common serious childhood conditions.

Some aspects of IMCI – such as breastfeeding counselling or outpatient clinical practice – may not be taught within a relevant academic programme. It is important to note any IMCI subjects that are not covered in a programme. Decisions will be needed about how to introduce new content or subjects into the programme, and about which teaching unit or subunit should be responsible for introducing the new content or subject.

Suggested Activities and Materials

Persons responsible for analysing the situation should review the description of relevant academic programmes and determine where aspects of IMCI should be taught within those programmes.

The following documents can be reviewed to help identify where aspects of IMCI should be taught within an academic programme:

- A written description of the academic programme(s) where IMCI will be introduced;
• List of Possible Learning Objectives for Integrated Management of Childhood Illness (IMCI) (see Annex 1);

• The following information sheets from the IMCI information package:
  
  – Management of childhood illness in developing countries: Rationale for an integrated strategy (WHO/CHS/CAH/98.1A, REV.1 1999)
  
  – Planning national implementation of IMCI (WHO/CHS/CAH/98.1C REV.1 1999)
  
  – The role of IMCI in improving family and community practices to support child health and development (WHO/CHS/CAH/98.1G, REV.1 1999)

• Improving family and community practices: A component of the IMCI strategy (WHO/CAH/98.2)\textsuperscript{15}

Orient Decision-Makers

Opinion leaders and decision-makers at teaching institutions and outpatient facilities used for clinical practice must understand and accept IMCI before they can effectively support its introduction into academic programmes. Teaching institutions that have experience with the introduction of IMCI pre-service training have reported that the extent to which IMCI is taught largely depends on the level of IMCI acceptance among heads of relevant teaching units.

Objectives

The objectives of orienting opinion leaders and decision-makers at teaching institutions are to:

• Create awareness and understanding of the IMCI strategy and clinical guidelines;

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\textsuperscript{15} Improving family and community practices: A component of the IMCI strategy. Geneva, World Health Organization, 1998 (unpublished document WHO/CAH/98.2; available on request from the Department of Child and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland – Fax: +41 22 791 4853, email CAH@who.int).
- Gain acceptance of IMCI as a core element of paediatrics or child health; and
- Generate commitment to incorporating IMCI into relevant academic programmes.

**Timing**

Experience has shown that it is preferable to orient opinion leaders and decision-makers before creating a detailed plan of action for introducing IMCI teaching.

**Who Should Orient Decision-Makers?**

Orientation activities should be conducted by persons who: are trained in IMCI; have experience with curriculum change; are familiar with the WHO guidelines for IMCI pre-service training; and can clearly explain the rationale for introducing IMCI into pre-service training. Such persons might include anyone listed under the task, *Assist Teaching Institutions with Staff Orientation and Planning* in section 1.1 of this guide. An influential staff member within a teaching institution, who has been trained in IMCI, could also conduct orientation activities.

**Description**

The purpose of this task is to create awareness, understanding and acceptance of the IMCI strategy and clinical guidelines among opinion leaders and decision-makers at teaching institutions and outpatient facilities used for clinical practice. Key opinion leaders and decision-makers include the heads of teaching units such as paediatrics, child health, internal medicine and community medicine or health. They also include students and representatives of the Department of Education or the Department of Staff Development. Orientation should lead to a commitment by these persons to incorporate IMCI into relevant academic programmes.

In order to gain acceptance of and commitment to IMCI teaching, opinion leaders and decision-makers will need information about:

- The IMCI strategy and clinical guidelines, including an overview of the technical basis and use of the guidelines for evidence-based patient assessment and management in outpatient settings;
- What students should know, and what students should be able to do, after learning IMCI (i.e. the IMCI learning objectives);
- What IMCI can offer to students in terms of new knowledge, skills and attitudes (i.e. academic rationale for IMCI);
- The types of teaching, learning and assessment methods and materials that are commonly used for IMCI pre-service training; and
Effective approaches taken in countries and teaching institutions to incorporate IMCI into the basic education of paramedical and medical staff.

Decision-Makers and planners in teaching institutions and curriculum development committees need to understand that IMCI:

- Helps establish priorities for teaching and learning that are based on the health needs of a population;
- Prepares students to support and follow evidence-based clinical guidelines and to work within a national health system;
- Ensures that common childhood conditions are not overlooked during contacts with sick children;
- Rationalizes the use of costly resources such as diagnostic tests and drugs;
- Combines actions to both prevent and manage common childhood illnesses and malnutrition;
- Recognizes the important role played by caretakers of children in preventing and managing illness and malnutrition;
- Emphasizes the need for effective communication and counselling with the caretakers of children; and
- Promotes continuity of care through appropriate referral and follow-up of sick children.

Section 1.1 of this document, Assist Teaching Institutions with Staff Orientation and Planning, describes various scenarios for orienting opinion leaders and decision-makers. In each case, the approach will depend on the circumstances and needs of the particular teaching institution.

Suggested Activities and Materials

The following types of activities are suggested for building awareness, understanding and commitment to IMCI among opinion leaders and decision-makers:

- **Disseminate information.** This is very similar to the activity described under the task, Orient National Opinion Leaders and Decision-Makers in section 1.1 of this guide. Information about IMCI can be distributed through articles in local journals, association newsletters, brochures, information sheets, and displays at meetings and conferences. Information can also be disseminated through lectures, discussions, meetings and electronic media (e.g. email, Internet, telephone, etc.).
- **Conduct national or regional workshops or meetings.** Opinion leaders and decision-makers from teaching institutions may attend IMCI information sessions at meetings or congresses of academic associations, professional societies or government authorities. They may also attend national- or state-level orientation workshops. For more information about the content of workshops or meetings, see *Orient National Opinion Leaders and Decision-Makers* in section 1.1 of this guide.

- **Conduct workshops or meetings at teaching institutions.** Orientation sessions, meetings and workshops may be conducted at teaching institutions, either by IMCI-trained staff members within the school, or by persons requested from outside the teaching institution. For more information about workshop and/or meeting content, see *Orient National Opinion Leaders and Decision-Makers* and *Assist Teaching Institutions with Staff Orientation and Planning* in section 1.1 of this guide.

**Create an IMCI Working Group**

A single focal person for IMCI pre-service training may be sufficient at the national or state level. However, at the teaching institution level, experience has shown that an enthusiastic focal person needs the support and assistance of a larger IMCI Working Group in order to effectively plan, coordinate and sustain IMCI teaching.

**Objectives**

The objectives of creating an IMCI Working Group within a teaching institution are to:

- Encourage full participation of relevant staff in planning, implementing, reviewing and replanning IMCI teaching;
- Facilitate key activities for planning, preparing, implementing, reviewing and replanning IMCI teaching; and
- Coordinate IMCI teaching between different teaching units, subunits and clinical practice sites.

**Timing**

1.2 TEACHING INSTITUTION(S)

- Yes Analyse the situation*
- Yes Orient decision-makers*
- Yes Create an IMCI Working Group*
- No Train key planners*
- No Plan for the introduction of IMCI teaching*
- No Request endorsement of the plan
An IMCI Working Group should be formed either before or shortly after a plan of action is drafted for introducing IMCI into an academic programme.

Members of the IMCI Working Group

The IMCI Working Group should include representatives of relevant teaching units, subunits and the outpatient facility used for clinical practice. At a minimum, the group should include representatives from the Department of Paediatrics or the Department of Child Health as well as the Departments of Community Health, Infectious Diseases, Epidemiology and Social Medicine. For suggestions regarding how to identify key participants, see the task in this section called Analyse the Situation.

A focal person for the working group should be designated and given authority to call meetings and coordinate activities.

The focal person should be:

- An active teacher;
- Trained in the IMCI clinical guidelines (and usually trained as a facilitator for the IMCI in-service course); and
- Experienced in national adaptation of the IMCI clinical guidelines and/or in planning for the implementation of IMCI strategy.

Description

The aim of the IMCI Working Group is to coordinate and facilitate planning, preparation, implementation, review and replanning of IMCI teaching. The group should be standing (i.e. not ad hoc) and should remain active long enough to follow at least one group of students through all stages of IMCI instruction and assessment.

Suggested Activities

The IMCI Working Group can coordinate and facilitate many of the activities described in this guide. For example, the IMCI Working Group can:

- Orient opinion leaders and decision-makers within and outside the teaching institution;
- Identify where and how IMCI may be incorporated into existing academic programmes;
- Create a plan of action for introducing IMCI into relevant academic programmes;
Phase One - Orient and Plan: Tasks at the Teaching Institution

- Train teachers and relevant staff at clinical practice sites;
- Develop and/or adapt materials for IMCI teaching, learning and student assessment;
- Prepare sites for IMCI clinical practice;
- Coordinate IMCI teaching between different teaching units and subunits; and
- Review the progress of implementation of the plan of action and plan for the strengthening of IMCI teaching.

Train Key Planners

Those charged with developing a feasible and comprehensive plan of action for introducing IMCI into an academic programme must have a thorough understanding of the IMCI strategy and clinical guidelines, as well as some knowledge of how to plan for the revision of teaching. For this reason, staff members from teaching institutions who are responsible for planning the introduction of IMCI, or representatives of bodies that develop curricula for a group of teaching institutions, should attend IMCI training courses.

Objectives

The objectives of training key planners are to:

- Ensure that persons who plan for the introduction of IMCI teaching have a thorough understanding of the IMCI strategy and clinical guidelines; and
- Ensure that essential tasks and activities are included in the plan of action for introducing IMCI into an academic programme.

Timing

Key planners should attend an IMCI training course before they finalize a written plan of action for introducing IMCI into an academic programme or programmes.

Who Should Organize and Conduct Training Courses for Key Planners?
Key planners may attend IMCI in-service training courses that are already taking place in the country; or national or state authorities may organize a special IMCI course for planners. Courses may be conducted by national or district facilitators of IMCI in-service training, or by staff members at teaching institutions who have been trained as IMCI course facilitators.

**Description**

The purpose of this task is to prepare staff to effectively plan for the introduction of IMCI into relevant academic programmes. Training should foster an appreciation for the comprehensive yet focused nature of the IMCI strategy and clinical guidelines. Following training, key planners should understand that IMCI is not simply a list of common serious illnesses and malnutrition, but a systematic approach to preventing and managing major childhood conditions in an effective and integrated manner.

In addition to developing an understanding of the IMCI strategy and clinical guidelines, training should introduce activities and tools that may be used to plan and prepare for IMCI teaching.

The IMCI focal person within a teaching institution should receive thorough training in IMCI. In addition, experience has shown that it is important to train key persons representing: subunits such as gastroenterology, pulmonology, infectious diseases, nutrition and social paediatrics; and other relevant teaching units such as community health, social medicine, infectious diseases and epidemiology. It is also useful to train staff members from education and staff development units or subunits. For suggestions about how to identify key persons for training, see the task called *Analyse the Situation* in section 1.2 of this guide.

**Suggested Activities and Materials**

Training courses for key planners may be organized and conducted by the staff at a teaching institution, by representatives from a curriculum development group, or by the national or state coordinating group for IMCI pre-service training. The courses may be conducted at teaching institutions, or at a state or national training site. Some countries have found it useful to establish a “training centre” at one teaching institution where staff members from different teaching institutions can attend IMCI training courses.

Organizers of an IMCI course for key planners will need to select the most suitable content and approach for training a particular audience. To do this, they should carefully consider what participants already know, and what participants should be able to do after training.

In preparing a training course for key planners, the following questions should be considered:
• **How will participants learn about the IMCI strategy?** Key planners need to understand the rationale, objectives and components of the IMCI strategy. They should be able to identify relevant learning objectives related to each component of the IMCI strategy. For this reason, a session on the IMCI strategy should be included in the course.

• **How will participants learn the IMCI clinical guidelines?** The time, content and methods used to teach the IMCI clinical guidelines will vary depending on the previous training of the course participants. For example, teachers from a school of nurse midwifery may need to attend a full IMCI clinical training course. On the other hand, professors of paediatrics, who have significant clinical experience, may require less time to learn the IMCI guidelines and more time to question and discuss the technical basis for the guidelines. Planners of training courses should contact WHO to request sample agendas of appropriate IMCI clinical courses for different categories of health care professionals.16 Annex 1 contains a sample *Agenda for a 5-day IMCI training course for university staff.*

• **Will participants need information about how to plan for IMCI teaching?** Key planners need to understand how to integrate elements of IMCI into existing academic programmes, and how to organize clinical practice in outpatient facilities that allows students to practise the full IMCI case management process. In addition, key planners should know how to develop a plan of action for introducing IMCI into an academic programme. A session on how to plan for IMCI teaching is particularly important if support is limited to help individual teaching institutions plan for the introduction of IMCI teaching.

• **Will participants need an introduction to appropriate methods and materials for IMCI teaching, learning and student assessment?** IMCI encourages learning that is experience-based (e.g. involving supervised clinical practice) and problem-based (e.g. involving case studies, role-plays, simulated patients, etc.). IMCI also emphasizes the development of psychomotor skills through hands-on clinical practice and formative assessment (i.e. student exercises, drills, and practice with feedback from teachers to improve performance). For this reason, training organizers may wish to include a session or sessions on methods and materials that are appropriate for IMCI teaching, learning and assessment.

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16 Sample agendas may be requested from the WHO representative in a country, the WHO regional office, or the Department of Child and Adolescent Health and Development (CAH), World Health Organization, Avenue Appia 20, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int).
Plan for the Introduction of IMCI Teaching

In most academic programmes, elements of IMCI will be integrated across different teaching units and subunits, as well as throughout several terms or years of the programme. Key staff at a teaching institution should create a written plan of action that identifies the academic programme or programmes where IMCI will be incorporated. The plan should describe when and where elements of IMCI should be placed within a relevant academic programme. In addition, the plan should describe how the teaching institution will: orient decision-makers; train teachers and relevant clinical staff; develop or adapt materials for teaching, learning and student assessment; prepare clinical practice sites; coordinate IMCI teaching between different units and subunits; and monitor and review teaching.

Objectives

The objectives of planning for the introduction of IMCI teaching are to:

- Confirm the commitment of administration and staff to introducing IMCI into relevant academic programmes;
- Identify into what academic programme(s) IMCI should be incorporated; and
- Prepare a written plan of action (including a budget and timeline) to guide the incorporation of IMCI into each relevant academic programme.

Timing

Planning for the introduction of IMCI teaching may begin at any time. However, experience has shown that it is generally more effective to orient and train key decision-makers and planners before they finalize a written plan of action. For more information, see the tasks called Analyse the Situation, Orient Decision-Makers and Train Key Planners in section 1.2 of this guide.

Who Should Develop the Plan?

Key representatives of relevant teaching units, subunits and clinical practice sites should prepare a plan of action for introducing IMCI teaching. Key planners...
should involve students, as well as representatives of the Department of Education and the Department of Staff Development. They may also request assistance from national or state authorities, or from the National Working Group for IMCI Pre-Service Training. For certain categories of teaching institutions, a curriculum development group may develop a single plan of action at national or state level for several institutions with similar certificate, diploma or degree programme.

For more information, see the tasks called Create a National Working Group and Assist Teaching Institutions with Staff Orientation and Planning in section 1.1 of this guide. See also Analyse the Situation and Create an IMCI Working Group in section 1.2 of this guide.

**Description**

The purpose of this task is to plan for the introduction of IMCI teaching. The outcome should be a written plan of action (including a budget and timeline) for incorporating IMCI into a relevant academic programme. When developing a plan of action for the introduction of IMCI, administrators and staff should discuss where IMCI might fit within existing teaching agendas. Normally, the introduction of IMCI into a relevant academic programme does not require a revision of the existing written curriculum. Instead, it should encourage a revision of teaching content and methods to foster a more holistic view of the child, better communication with the caretakers of sick children, and clinical practice in outpatient health facilities.

The planning process may be completed in stages. The first stage would consist of a small group that develops a preliminary plan of action. This preliminary plan of action should be reviewed by representatives of relevant teaching units, subunits and clinical practice sites and subsequently revised, as needed, to produce a final plan of action.

Experience has shown that the plan for introducing IMCI teaching should:

- Be tailored to the needs and resources of teaching institutions;
- Include learning objectives related to all three components of the IMCI strategy;
- List the key teaching units, subunits and clinical practice sites that should be involved in IMCI teaching;
- Identify feasible entry points for IMCI within a relevant academic programme;
- Ensure that IMCI is recognizable to students as both a public health strategy and as a clinical approach to the management of sick children;
- Strive to integrate different subjects within an existing academic programme, rather than fragment IMCI into different subjects;
- Identify opportunities for students to practise the full process of “integrated” case management, including assessment of feeding problems and counselling of caretakers;

- Describe how students will be assessed for IMCI knowledge and skills, including both formative and summative assessment.

- Identify how teachers and relevant clinical staff will be trained in IMCI;

- Indicate how materials for teaching, learning and student assessment will be developed or adapted;

- Identify mechanisms for creating a sustainable supply of materials and trained teachers;

- Outline how the implementation of the plan will be monitored and reviewed;

- Indicate whether or not the formal written curriculum should be revised, and if so, when and how; and

- Include a budget, timeline and possible funding sources.

### Suggested Activities and Materials

Three types of activities are suggested in planning for the introduction of IMCI teaching:

- **Conduct a planning workshop.** A planning workshop can help launch the process and add visibility to the critical task of planning. The workshop may be conducted at a teaching institution with representatives from relevant teaching units, subunits and clinical practice sites. Appropriate representatives from the national or state working group on IMCI pre-service training should participate in the workshop. During the workshop, participants should select an academic programme where IMCI will be introduced. They also should identify who will prepare for IMCI teaching, where IMCI clinical practice will take place, how teachers will be trained, and how materials for teaching, learning and student assessment will be developed or adapted. (See Annex 1 for a Sample Agenda of a Planning Workshop for IMCI Pre-Service Training, Outline of a Plan of Action for Introducing IMCI into an Academic Programme, List of Possible Materials for IMCI Teaching, Learning and Student Assessment and other useful planning materials.)

- **Hold meetings to revise and finalize a written plan of action.** Representatives from relevant teaching units, subunits and clinical practice sites should work together to review, revise and finalize a written plan of action for introducing IMCI into an academic programme or programmes. See Annex 1 for an
Outline of a Plan of Action for Introducing IMCI into an Academic Programme and a sample timeline.

The plan of action should specify learning objectives for all three components of the IMCI strategy. The following materials may be consulted when defining learning objectives for IMCI:

Component 1 - Improving the case management skills of health staff to prevent and manage common serious childhood conditions. Refer to the List of Possible Learning Objectives for IMCI in Annex 1 of this guide.

Component 2 - Improving the health system to support the effective management of common serious childhood conditions. This component covers subjects such as: the availability of drugs, vaccines and other essential supplies and equipment; referral pathways; the organization of work at health facilities; supervision of health staff; health information systems (HIS); patient satisfaction; and cost of care (i.e. insurance). Materials that may help planners identify possible learning objectives related to this component include the IMCI planning guide and the IMCI information sheet titled Planning national implementation of IMCI (WHO/CHS/CAH/98.1C REV.1 1999).

Component 3 - Strengthening practices within families and communities to support the prevention and management of common serious childhood illnesses. Materials that may help identify possible learning objectives for this component include: Improving family and community practices: A component of the IMCI strategy (WHO/CAH/98.2) and the IMCI information sheet titled, The role of IMCI in improving family and community practices to support child health and development (WHO/CHS/CAH/98.1G, REV.1 1999).

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The plan of action should include a description of the specific activities needed to: train teachers; orient decision-makers; develop or adapt materials for teaching, learning and student assessment; prepare clinical practice sites; coordinate IMCI teaching between departments and sub-departments; and monitor and review teaching. The plan should specify the time period over which the activities will take place (e.g. 12 months, 18 months, etc.). It should also include a timeline and budget.

- Submit the written plan to national or state authorities (e.g. the National Working Group for IMCI Pre-Service Training) and to relevant technical and donor agencies.

Before developing a plan of action, it will be helpful to review the Report of an intercountry workshop on IMCI pre-service training: Geneva, 2.5, November 1999 (WHO/FCH/CAH/00.11). This document summarizes experiences and lessons learned with the introduction of IMCI in more than 13 teaching institutions.

Request Endorsement of the Plan

Once the plan of action is finalized, the IMCI focal person at a teaching institution should circulate the plan to request agreement or endorsement from persons and groups who will be critical to the implementation of the plan. It is particularly important for directors of relevant teaching units, subunits and clinical practice sites to endorse the plan. It is also important to request agreement and support from: relevant national academic associations (e.g. Association of Medical Schools, Association of Nursing Schools, etc.); technical and donor agencies; and relevant national authorities such as the Ministry of Health and the Commission on Higher Education.

1.2 TEACHING INSTITUTION(S)

☑ Analyse the situation*
☑ Orient decision-makers*
☑ Create an IMCI Working Group*
☑ Train key planners*
☑ Plan for the introduction of IMCI teaching*
☑ Request endorsement of the plan

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available on request from the Department of Child and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland – Fax: +41 22 791 4853, email: CAH@who.int.

2. **PHASE TWO – PREPARE AND CONDUCT THE FIRST ROUND OF IMCI TEACHING**

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* Critical Task

The new content and teaching methods associated with IMCI have the potential to move throughout a teaching institution and transfer to other subjects. First, however, several challenges must be overcome to incorporate new teaching, learning and student assessment processes into an academic programme. These challenges include, for example: overcrowded agendas; teaching and student assessment that focus on the development of cognitive rather than psychomotor skills; and limited coordination between different academic years and different teaching units.

Experience has shown that it is difficult to simply *add* IMCI to an existing academic programme. Rather, its implementation often requires a revision of teaching. In most cases, this means that some content and teaching processes are added, while others are removed. Support of IMCI teaching means incorporating new methods and materials that are designed to develop and assess both the knowledge and practical skills of students. These methods and materials should encourage students to practise the full IMCI clinical guidelines in an environment where those guidelines are used.
It is also a challenge to make IMCI identifiable to teachers and students as a case management process, while at the same time linking it to other subjects. To achieve this, students must receive a thorough introduction to the IMCI strategy and clinical guidelines. In addition, IMCI teaching should be carefully linked between different academic units and with clinical practice sites. Experience has shown that the introduction of IMCI often requires an increased focus on coordination of teaching between different academic units.

The tasks described in this phase aim to:

- Clearly define where and how IMCI should be taught within an academic programme;
- Prepare staff, materials and clinical practice sites for IMCI teaching; and
- Coordinate, implement and monitor teaching.

All of the tasks in this phase are considered critical to the success of IMCI pre-service training. As explained in Phase One of this guide, the national coordinating group and teaching institutions may decide to combine or repeat certain tasks. They may complete tasks in the same order as presented in this guide, or they may adjust the order to better suit the particular needs and resources of the country.

It can take approximately 6 to 12 months to prepare for the first round of teaching. During this phase, it is important to clearly define when, where and how IMCI will be taught within an academic programme. State or national coordinating groups (e.g. IMCI pre-service training coordinating group, national paediatrics associations, etc.) should work with teaching institutions to: identify clinical practice sites; train teachers and relevant clinical staff; and prepare appropriate materials for teaching, learning and student assessment. Then teaching institutions should carefully coordinate IMCI teaching between different academic units and with clinical practice sites. In addition, they should monitor teaching to identify where improvements are needed.

If more than one school in a country will introduce IMCI teaching, the National Coordinating Group should share information between schools to prevent the duplication of efforts. Additionally, teaching institutions with a common curriculum (e.g. nursing schools) may work together at the state or national level to complete many of the tasks described in this phase.
2.1 Prepare and Conduct the First Round of IMCI Teaching: Tasks at National Level

The national or state coordinating group for IMCI pre-service training (e.g. National IMCI Coordinating Group, National Paediatrics Society, etc.) should support teaching institutions in preparing for and monitoring IMCI teaching. In most countries, assistance includes training teaching staff and preparing materials and clinical practice sites. Teaching institutions may also need assistance in monitoring and improving new teaching. Assistance from a national or state coordinating group is, therefore, considered a critical task during this phase.

Assist Teaching Institutions in Preparing for and Monitoring Teaching

The national or state coordinating group can help schools identify or organize IMCI courses for teachers and relevant clinical staff. It can work with health facilities where students will practise the IMCI clinical guidelines to ensure that drugs and equipment are available, and to confirm that policies and administrators support the use of IMCI in those facilities. In addition, the national or state coordinating group can assist teaching institutions in developing or adapting materials for teaching, learning and student assessment. It can also help schools identify appropriate activities and materials for monitoring the implementation of IMCI teaching. Depending on the size and number of teaching institutions involved, it can take from 6 to 12 months to prepare for the first round of IMCI teaching.

Objectives

The objectives of providing assistance to teaching institutions are to ensure that:

- Materials, clinical practice sites and teaching staff are well prepared for IMCI teaching; and
- Staff at teaching institutions are able to monitor and improve IMCI teaching.
Timing

Training a core group of teachers and clinical staff, preparing materials and setting up clinical practice sites can take several months. For this reason, the national or state coordinating group should begin assisting teaching institutions soon after they decide to introduce IMCI.

Who Should Assist Teaching Institutions?

Persons who assist teaching institutions should meet the following criteria:

- Good knowledge of IMCI;
- Teaching experience; and
- Knowledge of the WHO guidelines for planning, implementing and evaluating IMCI pre-service training.

Qualified persons might include the national focal person for IMCI pre-service training, or members of the National Coordinating Group for Pre-Service Training. They may also include representatives from the academic community, professional associations, non-governmental organizations, technical agencies, international organizations, other teaching institutions or WHO.

Description

National assistance is important in ensuring that teaching institutions are well prepared to conduct and monitor IMCI teaching. Teachers should receive thorough training in IMCI before they begin to adapt or develop materials for IMCI teaching, learning and student assessment. Whenever possible, teachers and relevant clinical staff should be trained to both practise the IMCI clinical guidelines and to use interactive and experience-based teaching methods.

For teaching to be effective, students will need opportunities to practise the IMCI case management process under supervision with real patients. Ideally, IMCI clinical practice should be conducted at first-level health facilities – such as clinics, health centres or outpatient departments of hospitals – where the IMCI guidelines are supported and used on a routine basis. This means that decision-makers at clinical practice sites should understand and promote the use of the IMCI clinical guidelines; and ensure that necessary IMCI supplies and equipment are available.

To facilitate learning in both the classroom and clinic, teaching staff must identify and use appropriate materials for teaching, learning and student assessment. The National Coordinating Group should assist schools in acquiring, adapting or developing IMCI materials for teachers and students. It should assist schools to incorporate elements of IMCI into materials already used in academic programmes.
In addition, the National IMCI Coordinating Group should promote the incorporation of IMCI into textbooks and teaching materials developed and published at the state, national or international level.

Teachers should monitor new teaching and, when needed, adjust content, teaching methods and materials to effectively meet the identified learning objectives. The National Coordinating Group can assist schools to identify and prepare appropriate methods and materials for the monitoring of IMCI teaching.

**Suggested Activities and Materials**

The National Coordinating Group can assist in at least four areas:

- **Train teachers and relevant clinical staff.** Teachers and relevant clinical staff should receive training in the IMCI clinical guidelines. It is also beneficial to introduce teachers and relevant clinical staff to effective methods and materials for IMCI teaching, learning and student assessment. Depending on the status of in-service training in a country, the National Coordinating Group may identify ongoing in-service training courses for teachers and clinical staff to attend. Or it may organize special courses for staff members from teaching institutions. Courses may be conducted at teaching institutions or at district, state or national training sites.

  organizers of training courses will need to select the most suitable content and approach for each category of trainee (e.g. professors of paediatrics, nursing teachers, clinical tutors, etc.). Some countries have developed special courses for teachers that include an introduction to the IMCI clinical guidelines, technical justification for the guidelines and time for discussion of various technical issues. Field-tests of these courses have found that allowing time for discussion helps overcome initial resistance to some elements of IMCI.

  Some countries have established IMCI training centres at select teaching institutions to help train teachers and clinical staff from other schools within the country. A major benefit of a training centre is that it establishes ongoing training opportunities for new teachers who join schools after IMCI has already been introduced.

  For more information, see the task called *Train Relevant Teachers and Clinical Staff* in section 2.2 of this guide.

- **Identify and prepare clinical practice sites.** The National Coordinating Group can help orient decision-makers at first-level health facilities where students will practise IMCI. In addition, the National Coordinating Group can help ensure that necessary supplies and equipment are available, and that policies – at both national and facility levels – support the implementation of IMCI.
For more information, see the task called *Prepare Clinical Practice Sites* in section 2.2 of this guide.

- **Prepare materials for teaching, learning and student assessment.** The National Coordinating Group should assist teaching institutions in identifying and preparing appropriate materials. If more than one school will introduce IMCI teaching, the National Coordinating Group may take the lead in adapting or revising certain materials, such as an IMCI handbook. The National Coordinating Group may also provide assistance to schools in reviewing, designing or reproducing materials. Regardless of who leads the process, the development of materials will require a long-term commitment that may involve peer reviews and development workshops. The National Coordinating Group and teaching institutions should collaborate closely in order to test, refine and finalize materials.

In addition to working closely with teaching institutions, the National Coordinating Group can work with national or international associations to encourage publishers and developers to incorporate IMCI into local or international textbooks and teaching materials. For example, in Latin America, elements of IMCI have been incorporated into textbooks published in Chile and Brazil.

For more information, see the task called *Prepare Materials* in section 2.2 of this guide.

- **Develop and/or adapt materials to monitor IMCI teaching.** The National Coordinating Group should help teaching institutions develop written questionnaires; guidelines for interviews or focus group discussions; observation checklists; and other materials needed to monitor the implementation of IMCI teaching.

For more information, see the task called *Conduct and Monitor Teaching* in section 2.2 of this guide.
2.2 Prepare and Conduct the First Round of IMCI Teaching: Tasks at the Teaching Institution

It is recommended that teaching institutions carry out the following tasks in preparation for the first round of IMCI teaching:

- Define times, places, activities and materials;
- Train relevant teachers and clinical staff;
- Prepare clinical practice sites;
- Prepare materials for teaching, learning and student assessment;
- Coordinate teaching between different academic units, subunits and clinical practice sites; and
- Conduct and monitor teaching.

All of the above tasks are considered critical to the successful introduction of IMCI teaching. Experience has shown that it can take approximately 6 to 12 months to complete preparations for IMCI teaching. Each task is described in more detail below.

Define Times, Places, Activities and Materials

During Phase One, teaching institutions develop a plan of action for introducing IMCI into a relevant academic programme. To implement this plan it is necessary to clearly define when, where and how IMCI will be taught. “When” refers to the years or terms of an academic programme. “Where” relates to the teaching units and clinical practice sites. “How” refers to the teaching, learning and assessment methods that will be used.
Objective

The objectives of defining times, places, activities and materials are to:

- Clearly define when, where and how IMCI will be taught within an academic programme;
- Identify which teachers and relevant clinical staff need training in IMCI;
- Identify what preparations are needed at the clinical practice site(s); and
- Identify how materials should be developed and/or adapted for IMCI teaching, learning and student assessment.

Timing

The task of defining the times, places, activities and materials for IMCI teaching should be completed in order to make decisions about which teachers and clinical staff to train, which preparations to make at clinical practice site(s), and what materials to develop and/or adapt for IMCI teaching, learning and student assessment.

Who Should Define Times, Places, Activities and Materials?

The IMCI Working Group and/or key persons from relevant academic units, subunits and clinical practice sites should work together to define the times, places, activities and materials for IMCI teaching. For more information, see the tasks called Analyse the Situation and Create a National Coordinating Group in section 1.2 of this guide.

Description

Experience has shown that much of the IMCI content can be incorporated into existing subjects and activities within an academic programme. The main challenge is to integrate teaching by different academic units in order to present IMCI as a comprehensive strategy and case management process. Another challenge is to create opportunities for students to practise the full IMCI clinical guidelines in an environment – such as an outpatient clinic – where IMCI is routinely applied.

During the orientation and planning phase, teaching institutions should identify the specific years or terms where IMCI should be taught within relevant teaching units, such as paediatrics and community health. To prepare for the first round of IMCI teaching, it is important to define exactly where IMCI teaching will take place, what learning objectives or outcomes will be targeted in each year and academic unit, and
what types of activities and materials will be needed for teaching, learning and student assessment.

It is important to clearly define:

- Which teaching unit will be responsible for ensuring that the IMCI strategy and clinical guidelines are taught in the academic programme?

- Where (i.e. academic unit, subunit or clinical practice site) will different theory and clinical practice sessions on IMCI be conducted and when (i.e. year or term of academic programme)?

- Which IMCI learning objectives (i.e. learning outcomes) will be targeted in each year or term and in each teaching unit or subunit?

- How many hours will be devoted to IMCI theory and practice in each year or term and in each teaching unit or subunit?

- What types of activities or methods will be used for teaching, learning and student assessment?

- What types of materials will be needed for teaching, learning and student assessment?

**Suggested Activities and Materials**

The following actions are suggested in order to define times, places, activities and materials needed for IMCI teaching:

- **Meetings of representatives from relevant teaching units and subunits.** The IMCI Working Group or key persons from relevant academic units, subunits and clinical practice sites should initially meet to:
  
  - Review possible learning objectives for all three components of the IMCI strategy;
  
  - Identify where (i.e. in what years and/or terms, and in what teaching units or subunits) subjects related to IMCI are already taught within an academic programme;
  
  - Agree where teaching should be revised or added to address learning objectives for IMCI;
  
  - Agree where students should practise the full IMCI case management process, including treatment and counselling; and
  
  - Review and discuss possible materials for IMCI teaching, learning and student assessment.
During the meetings, it is important to identify where all main elements of IMCI – particularly those related to the IMCI clinical guidelines – will be taught. For example, the subunit of paediatric gastroenterology may already teach how to estimate the degree of dehydration of a child with diarrhoea. Representatives from this subunit could, therefore, agree to teach IMCI signs for classifying dehydration.

Similarly, the subunit of paediatric social medicine may already conduct clinical practice sessions in the outpatient ward of a teaching hospital. Representatives from this subunit might agree to have students practise the full IMCI case management process during those sessions. Or they might conclude that not enough time is allowed during those sessions to practise the full IMCI guidelines, and that a rotation in a paediatric outpatient clinic should be added to the academic programme.

Once it is decided where all elements of IMCI should be taught, the academic units and subunits can work individually to define the specific activities and materials needed for teaching, learning and student assessment. After this is done, the group of representatives should meet again to:

- Check that all main learning objectives for IMCI are covered within the academic programme; and
- Discuss how to develop or adapt materials, train teachers and relevant clinical staff, and prepare clinical practice sites.

Materials that can be used to conduct this activity are:

- The plan of action created by the teaching institution for introducing IMCI teaching (see OUTLINE: Plan of Action for Introducing IMCI into an Academic Programme and a sample timeline in Annex 1);
- List of Possible Learning Objectives for IMCI (see Annex 1);
- The description the components of the IMCI strategy in Plan for the Introduction of IMCI Teaching (see section 1.2 of this guide);
- Description of Possible Materials for IMCI Teaching, Learning and Student Assessment (see Annex 2); and
- Planning Matrix: Matching Activities and Materials with Learning Objectives for IMCI (see Annex 2).

- Meetings or individual work in relevant teaching units. Relevant teaching units and subunits should clearly define the activities and materials needed for IMCI
teaching, learning and student assessment. The planning matrix provided in Annex 2, called *Planning Matrix: Matching Activities and Materials with Learning Objectives for IMCI*, will help teaching staff to identify:

- In what years and/or terms elements of IMCI will be taught;
- What IMCI learning objectives will be targeted in each year or term;
- What activities will be used for teaching, learning and student assessment; and
- What materials will be needed for teaching, learning and student assessment.

**Train Relevant Teachers and Clinical Staff**

Once the times, places, activities and materials for IMCI teaching are defined, it will be clear which teachers and which staff from the clinical practice site(s) need to be trained in IMCI. Training should prepare relevant teachers and clinical staff both to perform tasks in accordance with the IMCI clinical guidelines, and to use teaching methods that are most appropriate for learning IMCI.

**Objectives**

The objectives of training are to ensure that relevant teachers and clinical staff:

- Have a thorough knowledge and understanding of IMCI;
- Are able to correctly perform the IMCI case management process; and
- Have the skills required to effectively teach IMCI.

**Timing**

A teaching institution can start to train relevant teachers and clinical staff as soon as the institution decides to introduce IMCI into an academic programme. If the teaching institution is large, it may take several months to train all relevant teachers and
clinical staff. In addition to training existing staff, the teaching institution (i.e. the IMCI Working Group) should develop a strategy for the ongoing training of incoming or new teaching staff and assistants. Experience has shown that it is often useful to schedule training for teachers during student holidays.

**Who Should Organize and Conduct Training Courses?**

IMCI training courses for relevant teachers and clinical staff may be organized by a teaching institution (i.e. IMCI Working Group), or by national or state coordinating groups that are assisting with the introduction of IMCI teaching. The course may be conducted by staff at a teaching institution who have been trained as facilitators for the IMCI in-service training course, or by IMCI course facilitators from national, state or district levels.

**Description**

The purpose of this task is to prepare relevant teachers and clinical staff to effectively practise and teach the IMCI strategy and clinical guidelines. Experience has shown that it is useful to train all persons who will be involved in IMCI teaching, regardless of how much IMCI content they teach. For example, if the department of epidemiology will teach students about the main health problems in children under five years of age, relevant teachers from this department should attend a full IMCI training course in order to understand the relationship of their teaching to the overall IMCI strategy and clinical guidelines. In medical schools, interns often assist teaching staff with clinical practice sessions. In these schools, interns should be trained in IMCI before clinical practice begins with undergraduate students.

In addition to training teachers and clinical staff in the IMCI strategy and clinical guidelines, it is useful to introduce them to effective methods and materials for IMCI teaching, learning and student assessment.

**Suggested Activities and Materials**

IMCI training courses may be conducted at a teaching institution, or at a regional, district or national training site. In countries where in-service training courses are ongoing, teaching institutions can arrange with district training authorities to train several staff in a course. As mentioned in Phase One of this guide, some countries have found it useful to establish a training centre at a local teaching institution where staff from different teaching institutions can attend IMCI training courses, and where incoming or new staff can be trained.

Organizers of IMCI training courses need to choose suitable content and an appropriate training approach for each category of trainees. In doing this, they should consider what the participants of the course already know, and what they will be expected to do after training.
The following questions should be considered when preparing IMCI courses for teachers and clinical staff:

- **How will participants learn about the IMCI strategy?** Teachers and relevant staff at clinical practice sites need to understand the rationale, objectives and components of the IMCI strategy. They should be able to recognize and teach elements of all three components of the strategy. For this reason, at least one session of the course should present and discuss the IMCI strategy.

- **How will participants learn the IMCI clinical guidelines?** Teachers and relevant staff at clinical practice sites should be able to correctly perform the IMCI case management process. In addition, they should understand the rationale and technical basis for the IMCI clinical guidelines. The time, content and methods used for training will vary depending on the previous knowledge and skills, and the future responsibilities, of the course participants. Persons who plan to conduct training courses should contact WHO to request sample agendas of appropriate IMCI clinical courses for different categories of health care professionals. An example of a possible agenda is provided in Annex 1.22

- **Will participants need an introduction to appropriate methods and materials for IMCI teaching, learning and student assessment?** Teachers and relevant clinical staff should understand and be able to use appropriate methods and materials for IMCI teaching, learning and student assessment. IMCI encourages experience-based (e.g. supervised practice with patients) and problem-based (e.g. case studies, role-plays, simulated patients) learning. IMCI emphasizes the development of psychomotor skills, particularly through hands-on clinical practice and formative assessment (e.g. student exercises, drills and feedback from teachers designed to improve student performance).

Introduction of IMCI teaching requires coordination of activities among different teaching units and clinical practice sites. It also relies on the ability of teachers to monitor and adjust their teaching. Therefore, training should include a session or sessions on methods and materials that are most effective for introducing and sustaining IMCI teaching. WHO CAH is developing a reference manual and training course to strengthen classroom and clinical skills needed to teach IMCI. Additionally, a list of sample topics for sessions on pedagogy, called *Training Teachers and Clinical Staff: Sample Topics for Sessions on Pedagogy*, is provided in Annex 2 of this guide.

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22 Sample agendas may be requested from the WHO representative in a country, the WHO regional office, or the Department of Child and Adolescent Health and Development (CAH), World Health Organization, Avenue Appia 20, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, e-mail: CAH@who.int).
The organizers of IMCI training courses may also refer to the *IMCI Facilitator Guide for Modules* (WHO/CHD/97.3.I) for information on techniques for motivating learners, providing individual feedback, leading a group discussion and coordinating role-playing. Information about how to conduct supervised clinical practice in outpatient clinics can also be found in the *IMCI Facilitator Guide for Outpatient Clinical Practice* (WHO/CHD/97.3.H).

**Prepare Clinical Practice Sites**

Experience has shown that students should learn and practise the IMCI clinical guidelines in an environment where the guidelines are used on a routine basis. For this reason, it is essential to carefully select and prepare appropriate health facilities for IMCI clinical practice.

**Objectives**

The objectives of preparing a clinical practice site are to ensure that:

- Administrators of the site understand and support IMCI;
- Relevant clinical staff manage sick children according to the IMCI guidelines; and
- Necessary supplies, equipment and patients are available.

**Timing**

It can take several months to orient administrators and prepare the staff, supplies and equipment needed to teach and practise IMCI at a health facility. The IMCI Working Group at a teaching institution should, therefore, start early to identify and prepare one or more sites where students can practise managing sick children according to the IMCI clinical guidelines.

**Who Should Prepare Clinical Practice Sites?**

The IMCI Working Group should work together with administrators and staff from health facilities to prepare clinical practice sites for IMCI teaching. The National
Coordinating Group for IMCI Pre-Service Training can help to ensure that necessary supplies and equipment are available. For more information, see the tasks called *Create a National Coordinating Group on IMCI Pre-Service Training, Analyse the Situation* and *Create an IMCI Working Group* in Phase One of these guidelines.

**Description**

The purpose of this task is to ensure that students practise IMCI in a first-level health facility - such as a clinic, health centre or outpatient department of a hospital - where the IMCI guidelines are supported and used on a routine basis.

The objectives of clinical practice sessions are for students to:

- See examples of signs of illness in real children;
- See demonstrations of how to manage sick children according to the IMCI clinical guidelines;
- Practise managing sick children and counselling mothers about food, fluids and when to return;
- Receive feedback from teachers about how well they performed and on how to strengthen particular skills; and
- Gain experience and confidence using the IMCI clinical guidelines.

In order to achieve these objectives, each clinical practice site should meet the following criteria:

- Represents a first-level health facility where IMCI is used (e.g. clinic, health centre, or small hospital);
- Administration and staff are supportive of IMCI;
- Receives a sufficient supply of appropriate patients;
- Informs clients that students are being trained in the facility;
- Trains relevant staff in the IMCI clinical guidelines;
- Manages sick children according to the IMCI clinical guidelines;
- Ensures that a staff member is available to assist with clinical practice activities, such as selecting cases;
- Has sufficient supplies of the drugs and equipment needed to implement IMCI;
- Has sufficient space and facilities for student practice;
- Makes IMCI chart booklets or wall charts available, or posts them on display; and
- Enables students to practise the full IMCI guidelines, including identifying treatment and counselling.

Clinical practice sites should be representative of first-level health facilities where IMCI is normally practised. They should receive enough sick children for each student to practise managing several cases with a wide variety of IMCI conditions, clinical signs and classifications. Outpatient community clinics and outpatient wards of hospitals are frequently used for IMCI clinical practice. Regardless of the type of
facility, clinical staff at the facility should routinely manage sick children according to IMCI. For this reason, it is essential to gain the support of decision-makers at the clinical practice site, and to train relevant clinic staff in IMCI.

If the staff members at a teaching institution decide to provide student transportation for practice at an outpatient clinic, they should consider how this transportation will be sustained over time. In many cases, it may be more feasible for students to practise IMCI in the outpatient ward of a teaching hospital, and then to complete an internship at a community clinic where IMCI is used on a routine basis. If internships are organized at community clinics, it is important to remember that key staff at the clinic should be trained to both practise and teach IMCI.

Clinical practice sites should allow students to practise the full IMCI case management process, including identifying treatment and counselling the caretakers of sick children.

**Suggested Activities and Materials**

The IMCI Working Group should identify clinical sites that are representative of first-level health facilities and that have an adequate flow of patients under the age of five years.

The national or state coordinating group, teaching institutions and administrators and staff at clinical practice sites should then work together to:

- **Orient decision-makers.** Opinion leaders and decision-makers at a health facility need to understand and accept IMCI before they can effectively support IMCI teaching. For more detailed information see the task called *Orient National Opinion Leaders and Decision-makers* in section 1.2 of this guide.

- **Train relevant clinical staff.** See the task titled *Train Relevant Teachers and Clinical Staff* in section 2.2 of this guide.

- **Ensure that necessary supplies and equipment are available.** Staff from the teaching institution and clinical practice site should work with the National Coordinating Group for IMCI Pre-Service Training to ensure that the drugs and supplies needed for IMCI clinical practice are consistently available at health facilities that conduct IMCI clinical practice. See Annex 2 for a *List of Drugs and Supplies Needed for IMCI Practice in Outpatient Clinics.*
Prepare Materials

Teaching institutions will need to identify and prepare materials for IMCI teaching, learning and student assessment. If several different materials are needed, staff should prioritize which materials to prepare first, and which to prepare later. The list of priority materials should include tools for assessing the level of IMCI knowledge and skills achieved by students.

All materials for IMCI teaching should meet the following criteria:

- Be consistent with the adapted IMCI clinical guidelines;
- Correspond to the IMCI learning objectives defined for the specific academic programme (e.g. bachelor of medicine, bachelor of nursing, etc.);
- Support teaching, learning and assessment methods used by a teaching institution; and
- Be available and affordable to students and teachers.

Some materials, such as case recording forms for clinical practice, may be difficult and expensive to reproduce in large quantities. The IMCI Working Groups at national, state and school levels will need to determine how to create an affordable and sustainable supply of materials. For example, in some countries, revolving funds have been established for the development and reproduction of materials. In other countries, students have been requested to purchase IMCI materials at a low cost.

Objectives

The objectives for this task are to ensure that materials for IMCI teaching, learning and student assessment:

- Are consistent with the locally-adapted IMCI clinical guidelines;
- Include essential elements of the IMCI strategy and clinical guidelines; and
- Support the methods used by teaching institutions for teaching, learning and student assessment.
Timing

Once key persons decide when, where and how IMCI will be taught within an academic programme, they can begin to identify and prepare appropriate materials for IMCI teaching, learning and student assessment.

Who Should Prepare Materials?

The group that develops, adapts or revises materials should include persons with expertise in: (a) the IMCI strategy and clinical guidelines; and (b) the development of educational materials (e.g. persons from the Department of Medical Education). Some materials may be developed, adapted or revised by staff within a teaching institution. Other materials may be prepared by the national or state Coordinating Group for IMCI Pre-Service Training, or by an association of teaching institutions. Regardless of who initiates the task and where the materials are prepared, all materials should be tested with students at teaching institutions before they are finalized.

Description

The purpose of this task is to prepare materials that are consistent with the national IMCI clinical guidelines, cover relevant IMCI learning objectives for a selected academic programme, and correspond to the teaching, learning and assessment methods used at specific teaching institutions.

Teachers will need to review the materials that they already use for teaching, learning and student assessment – e.g. textbooks, handouts, and slides – and decide if these materials can be revised to include elements of IMCI. They also need to decide if they should adapt or develop new materials for IMCI teaching. (See Planning Matrix: Matching Activities and Materials with Learning Objectives for IMCI in Annex 2.)

Many of the materials used in the IMCI in-service training course (e.g. the IMCI chart booklet and case recording forms) are appropriate for teaching IMCI in medical and paramedical schools, and may be used with few or no modifications. These materials should be adapted to correspond to the national IMCI clinical guidelines. In addition, WHO CAH has developed generic materials for IMCI pre-service training. The generic pre-service materials also must be adapted to correspond to the locally-adapted IMCI clinical guidelines before they can be used. Once adapted, all in-service and pre-service materials can be incorporated, if desired, into materials that are already in use by teaching institutions. A summary of materials, called Description of Possible Materials for IMCI Teaching, Learning and Student Assessment, is provided.
in Annex 2. The materials in this list can be requested from the Ministry of Health in a country or from WHO.23

When reviewing their needs, teaching institutions should consider the following types of materials.

**Materials for teachers:**

Teachers at medical, nursing and other health professional schools frequently use overhead transparencies, slides, handouts, videos, wall charts and audiocassettes to support student learning. They also use local or international textbooks as references and for student reading assignments. In addition, they often use course descriptions, lesson plans, tutors’ books or other guides to help structure teaching and ensure that important topics are covered.

The following materials are available for use by teachers (see Annex 2 for a detailed description of each item):

- List of Possible Learning Objectives for IMCI (see Annex 1)
- Planning Matrix: Matching Activities and Materials with Learning Objectives for IMCI (see Annex 2)
- IMCI Reference Library of Selected Materials
- IMCI Technical Seminars
- Photograph Booklet
- Videotapes
- Wall Charts
- Facilitators’ Guides for Outpatient and Inpatient Clinical Practice
- Checklists for Monitoring Outpatient and Inpatient Clinical Sessions (see Facilitators’ Guides above and example group checklist in Annex 2)

Note: some countries have reduced the cost of reproducing the photograph booklet by converting the booklet into slides.

**Materials for students:**

Students at medical, nursing and other health professional schools read a variety of materials such as textbooks, handbooks, journal articles and handouts. They also do exercises, solve case studies and use or develop various memory aids to help them understand and practise a subject.

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23 Examples may be requested from the WHO representative in a country, the WHO regional office, or the Department of Child and Adolescent Health and Development (CAH), World Health Organization, Avenue Appia 20, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, e-mail: CAH@who.int).
The following materials may be used by students (see Annex 2 for a detailed description of each item):

- A textbook with IMCI incorporated (based on the *IMCI Model Chapter for Textbooks*)
- An IMCI handbook based on the *IMCI Model Handbook*
- A workbook of IMCI exercises
- IMCI Chart Booklet
- IMCI Mother’s Card
- IMCI Case Recording Form
- *Management of the Child with a Serious Infection or Severe Malnutrition: Guidelines for Care at the First-Referral Level in Developing Countries* (WHO/FCH/CAH/00.1)

Several teaching institutions have created IMCI case studies for students. Some have developed IMCI exercise books for students. Many countries have reduced the cost of reproducing the case recording forms by printing the forms rather than photocopying them; or by producing laminated, reusable forms. Clinics that have access to computers can create electronic patient recording systems that can be used to record patient information and track patient histories.

**Materials for assessing student knowledge and skills:**

Assessment of student knowledge and skills is regarded as routine in most medical, nursing and other health professional schools.

Assessment is typically used to:

- Ensure that individual students have achieved minimum levels of competency;
- Determine whether students can pass to the next stage of study;
- Provide feedback to students on their progress;
- Decide if the teaching programme has been effective in meeting its objectives;
- Ensure that important subjects are given priority within the curriculum; and
- Offer evidence to regulating authorities that standards are being met.

When academic advancement is contingent on passing assessments, students will focus their studies on learning the material that will be examined. Conversely if material is taught but not assessed, students will see no reason to concentrate on that material. Hence, the philosophy is as follows – if it is in the examinations, it is important; if it is not in the examinations, it is not important. For this reason, it is essential to prepare materials for assessing the IMCI knowledge and skills of students, and to incorporate those materials into the standard process for student assessment.
The methods frequently used for student assessment are:

- **Written examinations**: Questions or problems often range from more objective multiple choice, true/false or fill-in-the-blank items to less objective essay and short-answer items.

- **Practical examinations**: These exams frequently involve direct observation while a student performs a technical or interpersonal skill in a real or simulated environment. This often means completing a checklist while a student performs certain tasks in the clinic or during an Objective Structured Clinical Examination (OSCE).

- **Oral examinations**: This is typically a face-to-face interview between an examiner and a student. Research has shown that the results of this method tend to be subjective, biased and unreliable, particularly if examiners are allowed to vary the questions asked from one student to the next.24

- **Assignments, projects or reports**: This includes completing written assignments, working on case studies, reporting on an internship or practical experience, writing a thesis paper, conducting research or summarizing the published literature on a topic.

It is important to define the purpose of each assessment activity. Will the assessment measure student knowledge (i.e. understanding of a subject) or practical skills (i.e. the ability to do something)? Will it help students to improve their performance by providing feedback (i.e. formative assessment), or determine if a student should move to the next stage of studies (i.e. summative assessment)?

A good educational strategy will involve frequent activities for formative assessment to ensure students are receiving opportunities to practise and improve knowledge and skills that ultimately will be included in a summative assessment.

Schools that have introduced IMCI teaching have been able to incorporate IMCI into the standard process for student assessment. They also have found that the introduction of IMCI can strengthen the validity and reliability of student assessment by giving more focus to the evaluation of practical skills (i.e. through observation with checklists) and to formative assessment that provides feedback to students to help them improve their performance.

Teaching institutions can develop a variety of materials for IMCI assessment, such as questions for written exams (e.g. multiple choice, fill-in-the-blank, short answer, and case study questions), exercise books and checklists for observing IMCI clinical skills. To assist teaching institutions, WHO has developed IMCI.

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Guidelines for the Assessment of Students and a video called Video Exercises on IMCI. (For more information see Description of Possible Materials for IMCI Teaching, Learning and Student Assessment in Annex 2).

Suggested Activities and Materials

In some countries, a national or state group (i.e. National Coordinating Group for IMCI Pre-Service Training, National Association of Medical Schools, etc.) may begin adapting materials - such as the IMCI handbook - for a particular academic programme (e.g. bachelor of medicine, certificate of nursing, etc.). While a national group might take responsibility for some materials, teaching institutions themselves might prepare other materials such as IMCI case studies. Regardless of who initiates the process, preparation of materials requires a long-term commitment that may include peer reviews and other events such as materials development workshops. Teaching institutions should collaborate with the National Coordinating Group on IMCI Pre-Service Training to test, refine and finalize materials.

The following approaches can be used to prepare materials:

- Use nationally adapted material from the IMCI in-service training course such as the chart booklet, mother’s card, video and case recording forms;
- Develop new material such as IMCI case studies;
- Adapt generic materials - such as the IMCI model handbook, IMCI model chapter for textbooks, or the IMCI facilitators’ guide for outpatient clinical practice - to conform to the locally-adapted IMCI clinical guidelines;
- Incorporate relevant elements of IMCI into materials already used by teaching institutions such as textbooks, handbooks, tutors’ guides or written examinations.

Experience has shown that teaching institutions often take a step-by-step approach to incorporating IMCI into existing teaching materials. They start by adapting generic material to the local IMCI clinical guidelines. They then use drafts of the adapted material in actual teaching in order to get feedback from teachers and students on how to improve the material. Finally, they revise the adapted material and incorporate it into materials already used by the faculty, such as textbooks, handbooks, tutors’ guides, written examinations, etc.

The steps below can be used to develop, adapt or revise materials:

- *Estimate the budget needed.* Estimate the costs related to designing and reproducing materials and identify an appropriate source of funding. The funds may come from the teaching institution itself, a national fund, or an international agency working in the area of health or education. In addition to identifying
resources for the development of materials, it is important to identify affordable ways to reproduce and supply the materials over time.

- **Identify a focal person.** The focal person will be responsible for coordinating the production of material from start to finish. He or she may create the materials alone, or coordinate the work of other writers and developers.

- **If needed, form a development or review group.** For large, complicated or highly technical materials, it may be useful to form a small development group (two to five persons) to assist with the production and review of materials. This group should include specialists in both the technical content (i.e. IMCI) and in the development of educational materials. Members of the group can include persons both within and outside teaching institutions.

- **Prepare draft materials.** If a review group is formed, circulate draft materials to the group for their review and comments.

- **Review and revise.** If material has been circulated for review, revise it based on the comments of the group. Then create a working draft to be tested in actual teaching environments.

- **Test.** Test the working draft with teachers and students during actual teaching. Obtain feedback from teachers and students on how to improve the materials.

- **Finalize.** Revise materials based on student and teacher feedback, and finalize for reproduction or for incorporation into other materials already used by teaching institutions.
Coordinate Teaching

IMCI requires staff in different academic units, subunits and clinical practice sites to present an integrated approach to common health problems in children. This coordination requires careful planning, and mechanisms for sustaining interaction between teaching units and health facilities used for IMCI clinical practice.

Objectives

The objectives of coordinating teaching are to ensure that:

- Administrators and staff of relevant teaching units, subunits and clinical practice sites understand and carry out their respective roles in relation to IMCI teaching;

- All essential elements of the IMCI strategy and clinical guidelines are covered within an academic programme; and

- Teaching in one academic unit compliments, and does not contradict, what is taught in other relevant units.

Timing

Coordination between relevant teaching units, subunits and clinical practice sites should begin with the development of a comprehensive plan for the introduction of IMCI teaching. Coordination should continue at different levels of intensity for as long as IMCI is taught in a school.

Who Should Coordinate Teaching?

As described in Phase One of this guide, experience has shown that an enthusiastic focal person at a teaching institution will need support and assistance from a larger IMCI Working Group inside the institution. The IMCI Working Group should consist of representatives from relevant academic units and clinical practice sites in order to effectively coordinate IMCI teaching. This will ensure the effective planning and coordination, as well as long-term sustainability, of IMCI teaching.

Description
Because IMCI is a public health approach to child health, it requires careful integration of both theory and practice in preventing and managing common serious childhood conditions. In most academic programmes, IMCI teaching will be integrated not only vertically across different teaching units, but also horizontally throughout different years or terms of a programme. Therefore, it is critical for all relevant teaching units – including clinical practice sites – to understand and carry out their respective roles in IMCI teaching. Teaching activities will need to be carefully coordinated to ensure that all elements of IMCI are covered, and to ensure that teaching in one unit or year coincides with - and does not contradict - what is taught in another unit or year.

For example, students may be confused if the department of pharmacology teaches that certain drugs are appropriate for the treatment of acute diarrhoea, while the department of gastroenterology teaches that no drugs should ever be given to a child with acute diarrhoea. Similarly, if students learn in fourth year theory that only X-ray positive cases of pneumonia should be treated with antibiotics, they will be confused if they learn in fifth year clinical practice that children with fast breathing, and no chest X-ray, can be classified as having pneumonia and treated with antibiotics.

It is, therefore, critical to have frequent interaction between the staff of relevant academic units and clinical practice sites throughout the planning, preparation and implementation of IMCI teaching.

**Suggested Activities and Materials**

The following types of activities are suggested to coordinate IMCI teaching:

- **Regular meetings of the IMCI Working Group.** The IMCI Working Group should meet at least once each month when IMCI teaching is being introduced. During the meetings the group should discuss achievements and difficulties in implementing their plan of action for IMCI teaching. The discussions may focus, for example, on the placement of IMCI teaching, the training of teachers, the development of materials, the preparation of clinical practice sites, or the implementation of IMCI teaching. Each meeting should end with a summary of actions to be taken and who will be responsible for each action. When necessary, additional administrators, teachers and staff should be invited to contribute to these meetings.

- **Add IMCI to the agenda of regular staff meetings.** IMCI can be included on the agenda of regular staff meetings in relevant academic units and clinical practice sites in order to discuss achievements and difficulties associated with IMCI teaching. Following such meetings, it is important to inform the IMCI focal person or working group about important issues raised or decisions made in relation to IMCI.
Create agreements between teaching units. If necessary, create verbal or written agreements between different teaching units or with clinical practice sites to formalize commitments to teach specific elements of IMCI.

When identifying achievements and difficulties associated with IMCI teaching, the IMCI Working Group should refer to the teaching institution's plan of action for introducing IMCI into an academic programme (see outline of plan in Annex 1). The working group may also wish to refer to the Progress Report Questionnaire: IMCI Pre-Service Training in Annex 3 of this guide.

Conduct and Monitor Teaching

Experience has shown that it is difficult to simultaneously introduce IMCI teaching into several different subunits and years of an academic programme. Many teaching institutions have, therefore, chosen to stagger the introduction of IMCI teaching. For example, a medical school might start IMCI teaching in a later term, such as the fourth year rotation in pediatrics, and then work backward to incorporate IMCI theory and practice into earlier years of the programme. Or a school might start IMCI teaching in early theory classes, and then work to introduce it into practical sessions in later years of a programme. Regardless of the sequence of activities, teaching staff need to monitor the introduction of new teaching.

Monitoring is the process of gathering information about teaching for practical judgement and decision-making. It is a continuous process that aims to answer the questions, “How well are we doing?” and, “How can we do better?” Feedback collected through monitoring should influence the way that IMCI teaching is planned and carried out in the following year or term of an academic programme.

Objectives

The objectives of monitoring teaching are to:

- Assess whether teaching is being implemented according to the plan of action;
- Identify achievements and difficulties with new teaching; and
• Specify actions needed to sustain achievements or overcome difficulties.

**Timing**

Monitoring should begin when IMCI teaching begins. It is best to monitor teaching consistently throughout a year, term or course - rather than waiting until the end.

**Who Should Monitor Teaching?**

Teachers themselves can monitor teaching. Additionally, IMCI focal persons or working groups (both within and outside teaching institutions) may assist teachers in developing feasible methods and materials for monitoring.

**Description**

Monitoring is designed to identify shortcomings in the implementation of the plan of action, and to adjust implementation accordingly. The information collected should be used to improve the content, methods and materials used for IMCI teaching. If necessary, it could be used to revise the teaching institution's plan of action. For more information, see Phase Three of this guide, *Review and Replan IMCI Teaching*.

When introducing new teaching, staff should be prepared to make adjustments to teaching content, methods and materials in order to effectively meet their defined learning objectives. If adjustments require broader action (for example, if the IMCI handbook needs significant revision) this issue should be presented and discussed during the review and replanning phase described in Phase Three of this guide.

Two main types of monitoring information can be collected:

- Quantitative data indicating, for example, how many students completed the term, how many hours were spent on IMCI teaching, how many IMCI sessions were conducted, and the results of student assessments; and

- Qualitative data that includes suggestions from students and teachers on how to improve the content, methods and materials used for IMCI teaching.

Data is usually collected on four aspects of teaching:

1. The **content** of teaching. Does the content build on existing knowledge and abilities of students? Do students believe the new knowledge and skills are useful and applicable?

2. The **context** of teaching. Is the new teaching supported by deans, directors and teachers? Is the new teaching supported by administrators and staff at clinical
practice sites? Does the teaching correspond with what is taught in other related courses? Are necessary resources and equipment available for teaching?

3. The process of teaching. How many students completed the term? How many hours were spent on IMCI teaching? How many IMCI sessions were conducted? What was the ratio of students to instructors? Did students benefit from the methods used for teaching, learning and assessment? Was information presented in a clear and understandable way? Were appropriate teaching, learning and assessment materials used (i.e. adequate supply, relevant, understandable)?

4. The immediate outcomes of teaching. Do students demonstrate expected levels of knowledge and skills?

Teaching staff should review monitoring data as it is collected, and take action to overcome difficulties that they can resolve themselves. Some difficulties, however, may require broader action by several teaching units, by the National IMCI Coordinating Group, or by national or state authorities. For this reason, it is important for teachers to report monitoring results to the IMCI Working Group within a teaching institution. This data can then be included in the review and replanning process.

Suggested Activities and Materials

As mentioned above, teachers should start to collect monitoring information as soon as they begin IMCI teaching.

The following methods can be used to collect information:

- **Discussions or interviews with students, teachers and former students.** One-to-one interviews or focus group discussions are useful for in-depth exploration of ideas or issues. These may also be referred to as feedback sessions or teacher meetings. To reduce bias and increase the objectivity of the results, interviewers should be carefully selected. For example, students may feel intimidated and less inclined to provide candid responses if their own teachers interview them. For this reason, it may be more effective to recruit and train a student to conduct interviews with fellow students, and possibly with other teachers. An Example Focus Group Interview with Students is provided in Annex 3.

- **Written Questionnaires.** Questionnaires can be developed and administered to measure student and teacher satisfaction with the content, context, process and outcome of teaching. Written questionnaires tend to be more objective and easier to administer than interviews. However, they provide little opportunity to probe for more information or to complete partial answers.
Observation of teachers and students. Teaching sessions can be observed and recorded. It is important for the observer to determine, in advance, what questions s/he wishes to answer about the teaching content, context and process. Example observation forms for IMCI classroom and clinical practice sessions are provided in Annex 3.

Review the results of examinations. Reviewing the results of written and practical examinations will help teachers determine the extent to which the new teaching has achieved its learning objectives.

Once information is collected, teachers should review the results and identify needed actions. Teaching staff may individually monitor and adjust their own teaching, or they may work in teams to share achievements and difficulties, and to brainstorm about actions needed to overcome difficulties. When reviewing monitoring results, it is useful to refer to the plan of action for introducing IMCI teaching. (See OUTLINE: Plan of Action for Introducing IMCI into an Academic Programme in Annex 1.) Teachers might also refer to the questions in the IMCI Pre-Service Training: Progress Report Questionnaire in Annex 3.
3. PHASE THREE – REVIEW AND REPLAN IMCI TEACHING

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* Critical Task

Change is a cyclical process. An initial plan of action cannot anticipate every challenge that will arise during its implementation. For this reason, teaching institutions – with assistance from the National Coordinating Group for IMCI Pre-Service Training – should monitor the introduction of IMCI teaching. Monitoring is the ongoing process of collecting information and making small but immediate adjustments to teaching. In addition to monitoring, periodic reviews of implementation should be undertaken to assess the appropriateness, relevance and effectiveness of teaching. Routine reviews will help identify what modifications are needed to the plan of action. In most cases, review will lead to replanning, and to a revision of the plan of action (see Figure 3).
Experience has shown that review and replanning activities are usually conducted from 6 to 12 months after a plan of action is created and approved. The process of review and replanning can be carried out in one or two days, or over several weeks. During the process, the teaching institution collects and reviews information about IMCI teaching to identify what activities and resources are needed to sustain or strengthen teaching. The institution then revises the plan of action to include the new activities and resources.

The tasks described in this phase aim to:

- Identify achievements and difficulties with the implementation of a plan of action;
- Identify actions and resources needed to sustain or strengthen IMCI teaching; and
- Revise the plan of action accordingly.

Some of the tasks suggested in this phase - such as assessing the methods and materials used - can be conducted prior to the review of the plan of action. Moreover, several tasks can be combined into a review and replanning visit conducted by a qualified person from outside a teaching institution.

Whenever possible, it is useful to incorporate monitoring and review activities into the system that is already used by teaching institutions to monitor and evaluate teaching. It is important to recognize that the introduction of IMCI teaching also presents an opportunity to strengthen the processes used to monitor and evaluate teaching.
3.1 Review and Replan IMCI Teaching: Tasks at National Level

The national or state Coordinating Group for IMCI Pre-Service Training should support teaching institutions in reviewing and replanning for IMCI teaching. The group can help in assessing the methods and materials used, measuring the immediate outcomes of teaching, and reviewing and revising plans of action. This support is considered critical at the national level. To the largest extent possible, the activities in this phase should be incorporated into the monitoring and evaluation systems already in place at teaching institutions. In other words, the working group should not create a special monitoring system specifically for IMCI, but should use the opportunity to expand and strengthen existing monitoring and evaluation systems.

Assist Teaching Institutions in Reviewing and Replanning Teaching

The national or state Coordinating Group for IMCI Pre-Service Training can help teaching institutions review their plans of action, gather feedback from teachers and students, and identify activities and resources needed to sustain or strengthen IMCI teaching. Members of the National Coordinating Group may help with different tasks over a period of time, or they may combine several tasks into a review and replanning visit.

Objectives

The objectives of assisting teaching institutions are to:

- Identify achievements and difficulties associated with the implementation of a plan of action; and
- Define feasible and affordable actions to overcome difficulties and strengthen teaching.
Timing

Review and replanning can begin anytime from 6 to 12 months after a teaching institution begins to implement a plan of action.

Who Should Assist Teaching Institutions?

Persons charged with assisting teaching institutions should have good knowledge of IMCI, teaching experience, and knowledge of the WHO guidelines for planning, implementing and evaluating IMCI pre-service training.

Description

The purpose of national-level assistance is to help teaching institutions achieve their stated objectives for IMCI teaching. Teaching institutions should review their plans of action several months after implementation begins. This review should identify what has been achieved and what still needs to be done. It should produce a description of the main achievements, difficulties and future actions needed to sustain or strengthen IMCI teaching.

The review should determine whether teachers and students understand, accept and are able to use the methods and materials available for IMCI teaching, learning and student assessment. To obtain this information, teaching staff should gather feedback from students and fellow teachers during teaching sessions. The task called Conduct and Monitor Teaching in Phase Two of this guide describes how to gather feedback from students and teachers. If necessary, teaching staff may collect additional information from students and teachers upon completion of a rotation, course or term that includes IMCI.

In addition to assessing the methods and materials used, teaching staff should measure the extent to which expected outcomes were achieved in terms of student knowledge and skills in IMCI. One way to do this is to review the results of student assessments. If these results are not available, or if additional information is needed, a sample of students can be assessed to decide if learning objectives were met.

In countries or regions where the effectiveness of IMCI teaching has been evaluated (see Phase Three of this guide), the results of these evaluations should be examined. The results of a prior evaluation will provide a broader picture of the effect IMCI teaching has had on the performance of graduates who have completed a full academic programme.
The National Coordinating Group for IMCI Pre-Service Training can support teaching institutions with any of the tasks described in this phase. The group is particularly encouraged to assist teaching institutions in revising their plans of action. When revising a plan of action, some learning objectives may be modified, and some may be added, particularly on subjects related to IMCI such as breastfeeding counselling. National or international experience, and knowledge of available resources, can contribute greatly to the revision of a plan of action.

**Suggested Activities and Materials**

The national or state Coordinating Group for IMCI Pre-Service Training should identify qualified persons to assist teaching institutions in reviewing their plans of action, and in defining activities and resources needed to sustain or strengthen IMCI teaching. To the largest extent possible, activities should take place within the monitoring and evaluation systems already used by teaching institutions. It should not be overlooked, however, that the review process provides an opportunity to broaden or strengthen existing monitoring and evaluation systems.

Support can be provided to teaching institutions in two primary ways:

- **Review and replanning visit.** A teaching institution, or group of teaching institutions, may request assistance in reviewing and replanning IMCI teaching. They may request a visit from the National IMCI Focal Person, a member of the National Coordinating Group for IMCI Pre-Service Training, a WHO staff member, WHO consultant or other qualified person. Depending on the information needed, the visit can take from one to five days. It may include gathering feedback from students and teachers. It should include identifying activities and resources needed to sustain or strengthen IMCI teaching. Before the visit, representatives from relevant academic units and clinical practice sites should review their plan of action and collect feedback and assessment information from students and teachers.

The objectives of a review and replanning visit are to:

- Review the plan of action;

- Describe the achievements and difficulties experienced with the implementation of the plan of action;

- Assess if IMCI teaching is achieving the stated objectives;

- Identify the actions and resources needed to sustain or strengthen IMCI teaching; and

- Revise the plan of action.
A review and replanning visit may consist of the following activities (these activities are further described in section 3.2 of this guide):

- Work with key staff to review the teaching institution’s plan of action and identify achievements and difficulties with its implementation;

- Collect feedback from students and teachers on the quality of teaching, learning and student assessment;

- Observe classroom or clinical practice session(s);

- Assess the IMCI knowledge and skills of a sample of students and teachers;

- If an evaluation of the effectiveness of IMCI teaching has been conducted in a region or country, review the results of the evaluation; and

- Meet with key staff to provide feedback on the findings of the visit and identify actions and resources needed to sustain or strengthen IMCI teaching.

A variety of methods can be used to collect feedback from teachers and students, including written questionnaires, interviews and focus group discussions. The review visit may include different methods for assessing the knowledge and skills of students and teachers. Annex 3 contains materials that can be adapted for a review and replanning visit, and an outline for a report of a review and replanning visit.

- Assistance with individual tasks and activities. Teaching institutions may request assistance with individual tasks or activities related to reviewing and replanning IMCI teaching. Assistance may be requested from the National IMCI Focal Person, a member of the National Coordinating Group for IMCI Pre-Service Training, a WHO staff member, WHO consultant or other qualified person. It might consist of developing materials (e.g. a student questionnaire to evaluate teaching) or implementing certain activities (e.g. conducting focus group interviews with teachers and students). Annex 3 provides materials that can be adapted for use in individual tasks and activities.
3.2 Review and Replan IMCI Teaching: Tasks at the Teaching Institution Level

It is recommended that teaching institutions carry out the following tasks when reviewing and replanning IMCI teaching:

- Review the plan of action;
- Assess the methods and materials used for teaching, learning and student assessment;
- Measure the outcome of teaching; and
- Revise the plan of action.

Two of the above tasks are critical to the success of IMCI teaching: review the plan of action; and revise the plan of action. Each of the above tasks is described in more detail below.

**Review the Plan of Action**

Phase One of this guide encourages teaching institutions to develop a plan of action for introducing IMCI into an academic programme. The plan of action should: define the IMCI learning objectives for the academic programme; describe how IMCI will be incorporated within the programme; and give an estimated timeframe and budget for training teachers, and preparing materials and clinical practice sites. In addition, the plan should describe how the teaching institution intends to monitor and evaluate IMCI teaching. After several months of implementation, the staff at a teaching institution should review the plan of action to identify what has been achieved and what still needs to be done.

**Objectives**

The objectives of reviewing the plan of action are to:
Phase Three – Review and Replan IMCI Teaching: Tasks at the Teaching Institution

- Identify which elements of the plan were achieved and which were not;
- Determine why certain activities were incomplete or delayed; and
- Identify actions and resources needed to overcome difficulties and sustain achievements.

Timing

The original plan of action should specify when the teaching institution would review implementation. A reasonable time for a review is from 6 to 12 months after implementation begins.

Who Should Review the Plan of Action?

The IMCI Working Group within a teaching institution should review the plan of action. The group may request assistance from the National IMCI Focal Person, National Coordinating Group for IMCI Pre-Service Training, WHO staff, WHO consultants, or other persons with good knowledge of IMCI, teaching experience, and knowledge of the WHO guidelines for IMCI pre-service training.

Description

The purpose of the review is to identify which elements of the plan of action were achieved, where difficulties were encountered, and what actions or resources are needed to sustain or strengthen IMCI teaching.

Staff at a teaching institution should identify the main achievements, difficulties and actions needed in the following areas:

a) **Orientation:** Were opinion leaders and decision-makers oriented as planned? Are additional or different types of orientation activities needed? If yes, describe.

b) **Training of teachers and relevant clinical staff:** Were all relevant teachers and clinical staff trained in IMCI? Did the training prepare staff to correctly perform the IMCI clinical guidelines? Did the training prepare teachers to use appropriate methods to teach IMCI? Are additional or different types of IMCI training courses needed? If yes, explain.

c) **Preparation of clinical practice sites:** At the health facilities where students practise IMCI, do decision-makers and staff understand and support IMCI? Are all relevant clinical staff trained in IMCI? Is there at least one staff member available to help select cases? Are sick children at the health facility routinely managed according to the IMCI guidelines? Are drugs and equipment needed for
Phase Three – Review and Replan IMCI Teaching: Tasks at the Teaching Institution

IMCI consistently available? Does the facility have a sufficient supply of paediatric patients? Are students allowed, under supervision, to prescribe oral drugs, assess the feeding status of children and counsel caretakers? Are any additional preparations needed? If yes, explain.

d) **Materials for teaching, learning and student assessment:** Were all necessary materials for IMCI teaching, learning and student assessment prepared? Are the materials understandable, affordable and easily available to students and teachers? Was IMCI incorporated into textbooks? Are additional or different materials needed? If yes, explain.

e) **Placement of teaching:** Did teaching start as planned in all relevant academic units and academic years? Is there a clear link between IMCI and other teaching on child health? Should IMCI be introduced in additional subjects, years or academic programmes? If yes, explain.

f) **Implementation of teaching:** How many hours were spent on IMCI teaching in each relevant academic unit and year? How many hours of IMCI teaching were conducted in classroom sessions? How many hours did each student spend in IMCI clinical practice? Were all three components of the IMCI strategy taught? Were all essential elements of the IMCI clinical guidelines taught? During clinical practice, did each student individually manage at least two sick children according to the IMCI guidelines? Were students able to practise the full IMCI case management process, including treatment and counselling? What was the average ratio of students to teachers in classroom and in clinical practice sessions? Were students assessed for IMCI knowledge and skills? If yes, how were they assessed? Did each student receive feedback from teachers to improve his or her knowledge and skills in IMCI? Were questions or problems on IMCI incorporated into standard examinations? Is each student formally assessed for his or her *skills* in IMCI? Are additional or different activities or methods needed for IMCI teaching, learning and student assessment? If yes, explain.

g) **Coordination of teaching:** Was an IMCI Working Group created at the school? If yes, do members of the group represent all academic units that are relevant to IMCI? How frequently did the IMCI Working Group, or staff from relevant academic units, meet to discuss achievements and difficulties with IMCI teaching? Was this enough? If not, please explain. Did students find any contradictions in teaching between different academic units? Should the IMCI Working Group be redefined or strengthened? If yes, how?

h) **Learning objectives:** Were the expected outcomes achieved in terms of student knowledge and skills? Should any of the learning objectives be revised? Should some learning objectives be added? For more information about learning outcomes, see the task in this section called *Measure the Outcome of Teaching.*
Additional questions can be found in the *IMCI Pre-Service Training: Progress Report Questionnaire* provided in Annex 3.

**Suggested Activities and Materials**

The persons charged with reviewing the plan of action should refer to the questions above. The following activities are suggested for conducting the review:

- **Individual review.** Representatives from relevant academic units can review the plan of action and prepare a written list of their achievements and difficulties with its implementation. They should also list actions or resources needed to overcome difficulties and sustain achievements.

- **Review meetings.** The IMCI Working Group can call a meeting of representatives from different academic units to discuss achievements and difficulties with the implementation of the plan of action. The objective of the meeting should be to create and agree on a list of achievements and difficulties – and to identify and agree on activities and resources needed to overcome difficulties and sustain achievements.

- **Review and replanning visit.** A teaching institution may request assistance in reviewing the plan of action. Assistance may be requested from the National IMCI Focal Person, a member of the National Coordinating Group for IMCI Pre-Service Training, a WHO staff member, WHO consultant or other qualified person. Before the visit, representatives from relevant academic units should review the plan of action individually (see the activity above called Individual Review). The external reviewer can then conduct interviews and focus group discussions with teachers and students in order to answer the main questions listed above. In addition, the review visit can include other tasks described in this phase, such as Measure the Outcome of Teaching and Revise the Plan of Action. An outline for the report of a review and replanning visit is provided in Annex 3.

**Assess the Methods and Materials Used**

It is important to determine if teachers and students understand, accept and are able to use the methods and materials used for IMCI teaching, learning and student assessment. Teachers can gather feedback from students and colleagues as they conduct and monitor IMCI teaching. (See the task called Conduct and Monitor Teaching in section 2.2 of 3.2 TEACHING INSTITUTION(S))

- Review the plan of action*
- **Assess the methods and materials used**
- Measure the outcome of teaching
- Revise the plan of action*
At the time of the review, it is important to re-examine previously collected data and decide if additional information is needed to revise the teaching institution's plan of action. To the largest extent possible, the activities recommended below should be incorporated into pre-existing monitoring and evaluation systems. At the same time, the activities suggested here present an opportunity to broaden or strengthen existing monitoring and evaluation systems.

**Objectives**

The objectives of assessing the methods and materials used for IMCI teaching, learning and student assessment are to:

- Verify that methods and materials cover all IMCI learning objectives selected for an academic programme; and
- Determine if students and teachers understand, accept and are able to use the methods and materials prepared.

**Timing**

As staff at a teaching institution conduct IMCI teaching, they should simultaneously request feedback from students and fellow teachers about the methods and materials used for teaching, learning and student assessment. If additional information is needed, it can be collected during this phase.

**Who Should Collect Information?**

The IMCI Working Group within a teaching institution should assist teachers to collect feedback from students and fellow teachers about the methods and materials used for IMCI teaching. Students are likely to give more candid responses if a neutral person conducts interviews or focus group discussions. A neutral facilitator might be a fellow student, staff member who is not involved with IMCI teaching, or a qualified person from outside the school. Qualified persons from outside the teaching institution could be the National IMCI Focal Person, a representative of the National Coordinating Group for IMCI Pre-Service Training, WHO staff, WHO consultants, or other persons with good knowledge of IMCI, teaching experience, and knowledge of the WHO guidelines for IMCI pre-service training.

**Description**

The purpose of collecting information about methods and materials is to determine if IMCI teaching, learning and student assessment activities are sufficient, relevant and useful to both teachers and students. As previously described in the Phase Two task...
called *Conduct and Monitor Teaching*, information can be collected from teachers, students and former students through questionnaires, interviews, focus group discussions and observations. It should be collected during a course as well as after a course is completed.

Both the technical and educational value of materials should be assessed. *Technical evaluation* confirms that the content is technically correct, up to date, written in appropriate technical terms and comprehensive enough to meet learning objectives. In addition, it should verify that the content does not contain irrelevant information that decreases the clarity and usefulness of the materials. *Educational evaluation* ensures that materials are properly structured, easy to use and clear, so as to facilitate learning and enable students to attain the specified objectives for which the materials were selected or prepared.25

Two main questions should be considered when assessing methods and materials:

- **Do the methods and materials reflect essential learning objectives?** Are essential elements of IMCI – typically listed as *learning objectives* in the plan of action – included in the materials used for teaching, learning and student assessment? Are the essential elements actually taught in classroom and clinical practice sessions? For example, if the plan of action sets an objective that “after IMCI teaching students should be able to teach mothers correct attachment for breastfeeding,” then information about correct breastfeeding attachment should be included in teaching, learning and assessment materials. Moreover, teaching should include opportunities for students to experience and practise teaching mothers about breastfeeding attachment.

- **Do students and teachers understand, accept and use the methods and materials?** Do teachers and students feel that information in teaching, learning and assessment materials is presented in a clear and understandable way? Do teachers feel that the methods or materials are useful and can be applied in their teaching? Do students report that the methods and materials were effective in helping them to understand and use IMCI? Are teachers or students confused by any of the methods or materials used?

**Suggested Activities and Materials**

The following activities may be used in order to assess the methods and materials used for IMCI teaching:

- **Monitor ongoing teaching.** As described in the Phase Two task called *Conduct and Monitor Teaching*, feedback can be gathered from students and teachers through questionnaires, interviews, focus group discussions and observation of

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Phase Three – Review and Replan IMCI Teaching: Tasks at the Teaching Institution

classroom and clinical practice sessions. This feedback should include responses to the two main questions described above. Staff within teaching institutions should gather feedback from teachers and students. A person from outside the teaching institution, who is brought in to conduct a review and replanning visit, can also collect feedback.

- **Review materials used.** Materials used for teaching, learning and student assessment should be reviewed to determine whether essential elements of IMCI are adequately covered. Teaching staff should check materials to ensure that they include information that supports the IMCI learning objectives defined in the teaching institution's plan of action and planning matrices.

- **Review and replanning visit.** Staff at the teaching institution may request assistance in assessing the methods and materials used for teaching. Assistance may be requested from the National IMCI Focal Person, a member of the National Coordinating Group for IMCI Pre-Service Training, a WHO staff member, WHO consultant or other qualified person. Before the visit, representatives from relevant academic units should collect as much feedback as possible from students and teachers. During the visit, more information may be collected through interviews, focus group discussions, review of materials and observation of teaching. It is recommended that review and replanning visits include other tasks described in this phase, such as Measure the Outcome of Teaching and Revise the Plan of Action. Annex 3 provides an outline for the report of a review and replanning visit.

The following materials should be used as references when conducting the above activities:

- The school’s *Plan of Action for Introducing IMCI into an Academic Programme* (see outline in Annex 1)

- For each relevant course, a completed *Planning Matrix: Matching Activities and Materials with Learning Objectives for IMCI* (see example in Annex 2)

- The *List of Possible Learning Objectives for IMCI* (see Annex 1)

The following materials also may be used as a basis for preparing interviews, focus group discussions and observations:

- *Example: Focus Group Interview with Students* (see Annex 3)
- *Example: Focus Group Interview with Teachers* (see Annex 3)
- *Example: Observation Form for an IMCI Clinical Practice Session* (see Annex 3)
- *Example: Observation Form for an IMCI Classroom Session* (see Annex 3)
Measure the Outcome of Teaching

A review of IMCI teaching should examine the immediate outcomes of teaching. This means assessing student abilities after they have participated in classroom or clinical sessions that include IMCI teaching. It aims to answer the question, “Were the expected outcomes achieved in terms of student knowledge and skills in IMCI?”

The immediate outcomes of teaching can be measured at any time after students complete a rotation, course, term or year that includes IMCI teaching. If students were assessed for IMCI knowledge and skills during the teaching, the results of those assessments should be reviewed. In addition, a sample of current students may be assessed during the review and replanning phase. The results of assessments should then be analysed to decide if teaching is meeting the expressed learning objectives.

In addition to immediate outcomes, the effectiveness of IMCI teaching can be evaluated by assessing the performance of graduates in their daily clinical practice. More detailed information about evaluating teaching is provided in Phase Four of this guide. If an evaluation of teaching was carried out in a country or region, the results of that evaluation should be reviewed.

Objectives

The objective of measuring the outcome of teaching is to:

- Determine if students demonstrate expected knowledge and skills after participating in classroom and clinical practice sessions that include IMCI.

Timing

Students may be assessed for IMCI knowledge and skills anytime during or after they participate in classroom or clinical practice sessions where IMCI is taught.

Who Should Measure the Outcome of Teaching?

The IMCI Working Group within a teaching institution should assist teachers in measuring the outcome of IMCI teaching. The teaching staff may also request assistance from the National IMCI Focal Person, National Coordinating Group for IMCI Pre-Service Training, WHO staff, WHO consultants, or other persons with
good knowledge of IMCI, teaching experience, and knowledge of the WHO guidelines for IMCI pre-service training.

Description

The purpose of measuring the immediate outcome of IMCI teaching is to determine if students understood what was taught and if they are able to perform specific tasks. Teachers should review the results of student assessments to identify which areas of knowledge and skills fall below expected levels. The review should be used to develop suggestions for modifying teaching, learning and student assessment in order to improve learning outcomes.

The outcome of teaching can be measured after any amount of IMCI teaching has taken place. It is not necessary to wait until students complete several rotations, courses, terms or years of instruction. It is essential, however, to adapt assessment methods and tools to fit the objectives of the elements of IMCI being taught. For example, if IMCI has been incorporated into a session on nutrition, the assessment should include only the elements of IMCI related to nutrition (e.g. assessing a child’s feeding, and counselling a child’s caretaker about feeding during sickness and health).

Knowledge and skills of both current and former students can be assessed. In addition, staff may decide to assess the knowledge and skills of teachers, tutors, or teacher’s assistants to determine if they have received adequate training in IMCI.

Suggested Activities and Materials

The outcome of IMCI teaching can be assessed in the following ways:

- **Review the results of previous assessments.** Teaching staff, or a qualified person from outside the school, should review the results of formative and summative assessments conducted during IMCI teaching. They should decide if the results satisfy expectations, identify where performance is weak, and suggest how teaching methods and materials might be modified in order to improve student performance.

- **Assess a sample of current students.** If more information is needed in order to make decisions about future teaching, teachers or other qualified persons should assess the IMCI knowledge and skills of a sample of current students. This assessment may be done as part of the review and replanning visit described earlier in this section. The methods and materials used to assess knowledge and skills must be adapted to reflect the local IMCI clinical guidelines and the elements of IMCI that have been taught. Annex 3 contains a Sample Observation Checklist and a Sample Written Examination. The observation checklist and written exam are organized to coincide with the steps of the IMCI case.
management process. Computer files of these materials are available from WHO CAH.

- **Evaluate the effectiveness of teaching.** Phase Four of this guide gives more details about how to evaluate if students are able to apply their IMCI knowledge and skills in their daily clinical practice after graduation.

### Revise the Plan of Action

The IMCI Working Group should identify which elements of the plan of action were achieved and which are incomplete or delayed. If possible, a teaching institution should review the methods and materials used, as well as the outcomes of IMCI teaching. This review will allow the teaching institution to identify actions and resources needed for sustaining and strengthening IMCI teaching. To ensure that future actions are taken, it is important to revise the plan of action as well as the timeline and budget for its implementation.

#### Objectives

The objectives of revising the plan of action are to:

- Identify actions and resources needed to sustain or strengthen IMCI teaching; and

- Guide the implementation of future activities related to IMCI teaching.

#### Timing

The plan of action should be reviewed and revised from 6 to 12 months after beginning its implementation. Before revising the plan, it is useful to collect feedback from students and teachers about the methods and materials used for teaching, learning and student assessment. It also is useful to assess the IMCI knowledge and skills of students after they participate in IMCI teaching.

#### Who Should Revise the Plan of Action?

The IMCI Working Group should work together with representatives of relevant academic units and clinical practice sites to revise the plan of action. They may request assistance from qualified persons outside the teaching institution who have
good knowledge of IMCI, teaching experience, and knowledge of the WHO guidelines for IMCI pre-service training. Persons brought in from outside a teaching institution can contribute by sharing lessons learned from other teaching institutions, and by helping to identify actions and resources needed.

Description

The purpose of revising the plan of action is to ensure that IMCI teaching is sustained or strengthened within relevant academic programmes. The outcome should be a revised plan of action for IMCI teaching that includes a budget and timeline.

When revising the plan of action, administrators and staff should discuss the achievements and difficulties faced during the implementation of the plan. They should consider feedback received from teachers and students about the methods and materials used for IMCI teaching, learning and student assessment. They also should review the results of any assessments of student knowledge and skills in IMCI.

The persons charged with revising the plan of action may choose to introduce IMCI into an additional academic programme. They may also decide to revise some of the learning objectives included in the original plan, or to add more learning objectives. For example, if the original plan includes only learning objectives related to the outpatient care of sick children, and these objectives are being met, the IMCI Working Group may decide, upon review, to add learning objectives related to breastfeeding counselling, inpatient care or other subjects related to IMCI.

In most teaching institutions, the revision will take place in stages. The first stage would consist of a meeting of the IMCI Working Group to agree on the actions and resources needed to overcome difficulties or strengthen teaching. In the second stage, a smaller group, or an individual, would revise the plan of action and circulated the revised plan to staff for comments and suggestions. After the comments are incorporated, the finalized plan should be endorsed by relevant decision-makers.

Suggested Activities and Materials

The following activities are suggested in order to revise the plan of action for IMCI teaching:

**Review and replanning visit.** As described in the sections above, staff at the teaching institution may request assistance to revise the plan of action. Assistance may be requested from the National IMCI Focal Person, a member of the National Coordinating Group for IMCI Pre-Service Training, a WHO staff member, WHO consultant or other qualified person. The person charged with conducting the review and replanning visit should meet with relevant administrators and staff to reach a consensus on the activities and resources needed to sustain or improve IMCI teaching.
Revise the plan of action. After identifying the actions and resources needed to sustain or strengthen IMCI teaching, representatives from relevant academic units and clinical practice sites should draft, review and finalize a revised plan of action. The revised plan should include a budget and timeline for its implementation. In addition, it should include suggestions about how to monitor and eventually review the implementation of the plan (refer to Annex 1 for a sample outline and timeline of a plan of action).
4. PHASE FOUR – EVALUATE IMCI TEACHING

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* Critical Task

Phase Two of this guide describes how to monitor the introduction of new teaching in order to identify shortcomings in the implementation of a plan of action and adapt the implementation accordingly. Monitoring is defined as a continuous process of gathering information about teaching for practical judgement and decision-making. It includes collecting information about the content, context, process and intermediate outcomes of teaching. Evaluation is concerned with the periodic assessment of the overall process and final results of IMCI teaching. Many of the same indicators, techniques and tools that are used for monitoring can also be used for evaluation. Therefore, if monitoring is done well, evaluation is simplified and in certain cases may not be needed.

The tasks described in this phase aim to:

- Measure to what extent the desired results were achieved;
- Identify gaps between what was expected and the actual results; and
- If needed, prepare for the revision of IMCI teaching.

There are four main types of evaluations. These are the evaluation of the process, final outcomes, effectiveness and impact of new teaching (see table 1). *Process* refers to the changes made in the way an academic programme is taught, the methods and materials used, and how teachers and students respond to those methods and materials. *Outcomes* refer to the final results of teaching, particularly in terms of student knowledge, attitudes and skills (i.e. competence). Outcomes can be evaluated by testing the students at the end
of a course or academic programme. The examination, however, must be relevant and based on defined learning objectives that reflect the job that the students are being trained to do. Effectiveness assesses the ability of students to apply knowledge, attitudes and skills to their work after graduation (i.e. performance). It can be evaluated by finding out how well students are doing after they have left the teaching institution and started work. Finally, impact concentrates on improvements in the health status of a population that may – or may not - be related to changes in the quality of care provided by graduates.

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A key task in this phase is to evaluate the process and outcomes of new teaching at the level of the teaching institution. Because evaluating the effectiveness of teaching is difficult and costly, it is considered an optional task that should only be done as a part of a larger evaluation effort at state or nation level. No instructions are given in this guide for evaluating impact, because this type of evaluation is extremely difficult, complicated and costly to conduct and analyse, and should only be done where evaluation capacity is high and the results may be used regionally or even globally.

Most teaching institutions have experience in reviewing and evaluating the process and outcomes of teaching, particularly in relation to student competence at the end of an academic programme. However, to evaluate the effectiveness of teaching, the performance of new healthcare professionals must be assessed at their work environment after graduation. An evaluation of the effectiveness of IMCI teaching determines if
students are able to correctly apply IMCI after graduation. The results of an effectiveness evaluation should demonstrate to teaching institutions, funding agencies and national authorities that the resources invested in IMCI teaching produced the expected effect. In addition, the results should be used to identify areas where IMCI teaching could be strengthened.

Because professional performance is much more difficult, complicated and costly to measure than student competence at the end of an academic programme, an effectiveness evaluation is typically beyond the capacity and resources of a single teaching institution. National or state coordinating groups – such as licensing authorities, professional associations or other societies - should lead the evaluation with the cooperation and assistance of teaching institutions. Moreover, it is recognized that not all countries have the need or the resources to conduct this type of evaluation. For this reason, an evaluation of effectiveness is considered an important but optional task in this phase. In countries where IMCI health facility surveys are conducted, the results of these surveys might be used as an alternative means to assess the performance of health professionals who have completed IMCI pre-service training.

An impact evaluation is not recommended. Impact assesses changes in the quality of care delivered. It includes many factors such as improved case management, improved availability of drugs, more rational use of drugs, better referral, better care seeking, increased service utilization and increased client satisfaction. In the long term, changes in these factors should contribute to changes in morbidity and mortality. Impact evaluation is, therefore, concerned with the ultimate goal of introducing IMCI into academic programmes. However, because impact depends on many factors in addition to the performance of health care professionals, it is not possible to establish a direct cause and effect relationship between changes in an academic programme and changes in quality of care. An impact evaluation can only suggest a probability that revised teaching contributed to the effect of improved quality of services. In addition, it is difficult and expensive to accurately measure impact.

Regardless of how, where or what type of evaluation is conducted, it is critical for the national or state Coordinating Group for IMCI Pre-Service Training to share evaluation results with all relevant teaching institutions. In addition, it is essential for teaching institutions to contribute to evaluation efforts, and to use evaluation results to strengthen their teaching. For this reason, the tasks called *Share the Results of Evaluations* and *Use the Results of Evaluations to Strengthen Teaching* are marked as critical tasks in this phase.
4.1 Evaluate IMCI Teaching: Tasks at the Teaching Institution

The following tasks can be carried out at teaching institutions to evaluate IMCI teaching:

- Evaluate the process and outcomes of IMCI teaching; and
- Use the results of evaluation to strengthen teaching.

Evaluate the Process and Outcomes of IMCI Teaching

An evaluation of process and outcomes should answer the question, “If students are taught IMCI in a particular way within an academic programme, can they do IMCI at the end of the programme?” Process refers to the changes made in the way an academic programme is taught, the methods and materials used, and how teachers and students respond to those methods and materials. Outcomes are the results of teaching, particularly in terms of student knowledge, attitudes and skills (i.e. competence).

In Phase Two and Three of this guide teaching institutions are advised to monitor the process and intermediate outcomes of new teaching. The task called Conduct and Monitor Teaching in Phase Two explains how to collect and use information about the content, context, process and immediate outcomes of new teaching. Phase Three presents detailed information about how to Assess the Methods and Materials Used for teaching, learning and student assessment and how to Measure the Outcome of Teaching.

If staff members at a teaching institution feel that monitoring activities did not collect enough information about the expected changes in an academic programme, then they might consider evaluating the process and outcomes of new teaching. In addition, if a state or national coordinating group plans to evaluate the effectiveness of IMCI teaching, then teaching institutions should conduct a process and outcome evaluation in order to confirm that the graduates actually possess the expected knowledge, attitudes and skills at the end of the academic programme. Outcomes can be evaluated
by testing a group of students who have completed a revised academic programme. The examination must be based on the revised learning objectives, which in turn should be based on the job that the students are being prepared to do.

Objectives

The objectives of evaluating the process and outcomes of IMCI teaching are to:

- Describe the changes made to the academic programme;
- Determine if the changes implemented produced the expected results in terms of student knowledge, attitudes and skills at the end of an academic programme;
- Identify gaps between what was expected and what was achieved; and
- Decide if an evaluation of the effectiveness of teaching would be appropriate.

Timing

Teaching institutions should start to monitor the process and intermediate outcomes of new teaching as soon as revised learning objectives, methods and materials are introduced (see Phase Two and Three of this guide).

If staff members at a teaching institution feel that monitoring activities did not collect enough information about the expected changes in an academic programme, then they might consider evaluating the process and outcomes of new teaching. In addition, if a state or national coordinating group plans to evaluate the effectiveness of IMCI teaching, then teaching institutions should first conduct a process and outcome evaluation. This evaluation would confirm if graduates actually possessed the expected knowledge, attitudes and skills needed at the end of the academic programme.

Who Could Evaluate the Process and Outcomes of IMCI Teaching?

Teachers, with assistance from the institution’s IMCI focal person or working group, could evaluate the process and outcomes of IMCI teaching. They also may request assistance from the teaching department within their institution, the Ministry of Health, Ministry of Education or other organization with experience in evaluation. The involvement of internal audit committees or external evaluators can add strength to the evaluation results.

Description

An evaluation of the process and outcomes of new teaching should focus on:
The changes made to the academic programme and to the methods and materials used for teaching, learning and student assessment; and

The key knowledge, attitudes and skills that students gain from the revised programme, methods and materials.

An evaluation of process asks the question, “Is teaching being implemented in the most effective way?” Process evaluation is not concerned with precise measurements of success or failure. It is concerned with describing the changes made to the teaching and learning process in order to identify ways to improve the knowledge, attitudes and skills achieved at the end of an academic programme. If new teaching is continuously monitored, reviewed and replanned, process problems should be caught along the way.

An evaluation of outcomes looks at the ability of students to apply knowledge, attitudes and skills in an ideal setting when tested (i.e. competence). Outcomes are the direct result of changes in teaching. If students are competent at the end of an academic programme, it is assumed that this will lead to changes in behaviour in practice (i.e. performance). An evaluation of students at the end of an academic programme should measure how much students have learned and to what extent they have achieved the revised learning objectives (i.e. key performance indicators).

**Suggested Activities and Materials**

The following activities are needed in order to evaluate the process and outcomes of new teaching:

- Describe the changes made to the academic programme and assess how teachers and students reacted to those changes (i.e. process); and

- Assess the ability of students to apply key knowledge, attitudes and skills in an ideal setting at the end of the academic programme (i.e. outcomes).

In addition to determining if the expected outcomes were achieved, the results of the above activities are critical for deciding if a larger evaluation of the effectiveness of new teaching is needed and appropriate (see the task described later in this phase called *Evaluate the effectiveness of IMCI teaching*).

**Process: Describe and assess the changes made:** This activity focuses on describing the actual changes made to teaching, learning and student assessment. It also assesses how students and teachers react to those changes. As described in the Phase Two task called *Conduct and Monitor Teaching*, process information is best collected through ongoing monitoring of teaching activities.
An evaluation of process should answer the following questions (see Phase Two and Three for suggestions about how to collect this information):

a) *In order to achieve the revised learning objectives, what changes were made in the way the academic programme is taught?* The answers should provide a brief description of the changes made to the content, context and process of teaching. This includes the organization, flow and relationship of different courses within the academic programme; the entering abilities of students; the settings where teaching is conducted; and the resources and equipment available for teaching. In addition, this activity should try to determine if teachers and students were informed about and understood: (a) the aims and objectives of the teaching; (b) the approaches and procedures used for teaching, learning and student assessment; (c) the roles and responsibilities of administrators, teachers and students; (d) the organization of activities and timetable; (e) on-going developments and changes. *Sources of information are:* Teachers, administrators, students, course documents and student records.

b) *In order to achieve the revised learning objectives, what changes were made to the methods and materials used for teaching, learning and student assessment?* The responses should describe the changes made in the way teaching, learning, and student assessment are implemented, and the changes made in support materials (e.g. textbooks, handouts, visual aids, observation checklists, etc.) for both teachers and students. *Sources of information are:* Teachers, administrators, students, course documents and student records.

c) *How did teachers and students react to the revised programme, methods and materials?* Feedback should be collected from teachers and students to identify their reaction to the changes made in the programme, methods and materials used for teaching, learning and student assessment. Feedback must be collected in a way that is likely to lead to valid judgements, rather than basing judgements on what one student says or on rumour or intuition. Methods for collecting feedback should include more than handing out a student questionnaire at the end of a session or course. For suggestions about what types of feedback to collect and how to collect it, see the task called the task called *Conduct and Monitor Teaching* in Phase Two of this guide and the task called *Assess the Methods and Materials Used* in Phase Three of this guide.

**Outcomes: Assess student competence at the end of the academic programme:** This activity assesses student competence at the end of the academic programme. The same methods and tools can be used as those described in the task called *Measure the Outcome of Teaching* in Phase Three of this guide. It is important to note, however, that Phase Three focused on monitoring intermediate outcomes of teaching in order to
guide the review and replanning process. An evaluation of final outcomes should concentrate on assessing a group of students in a key set of skills at the end of an academic programme.

In order to evaluate final outcomes, it is important to:

- Assess a group of students who have completed the full academic programme with the planned changes incorporated into the teaching.

- Conduct a special assessment of this group of students to measure the key performance indicators (i.e. key knowledge, attitudes and skills). Do not rely on the results of assessments that were conducted earlier in the course of study.

- Measure key performance indicators that are carefully selected based on the revised learning objectives of the academic programme. If an evaluation of the effectiveness of new teaching will be conducted, the same key indicators should be used.

- Conduct the assessment in an ideal environment with no constraints in equipment, supplies and other support

**Share the Results:** Teaching institutions should share the results of process and outcome evaluations with external groups. These groups can circulate the information to other teaching institutions, use it to justify the use of resources, or use it to decide whether or not it would be appropriate to evaluate the effectiveness of new teaching.

WHO CAH is working to develop the following materials to assist teaching institutions to evaluate the process and outcomes of IMCI teaching:

- Basic process indicators (e.g. indicators of time, place, learning methods, learning resources, personnel, etc.)

- Guidelines and tools for assessing student skills in IMCI at the end of an academic programme.
Use the Results of Evaluations to Strengthen Teaching

Phase Three of this guide suggests reviewing information collected during ongoing monitoring activities, as well as gathering additional information, in order to identify achievements and difficulties with the implementation of a plan of action. The information collected during the review and replanning phase, including the results of any evaluations, should be used to identify activities and resources needed to sustain or strengthen IMCI teaching, and to revise the plan of action. In addition, the results of any evaluation should be used to justify resources spent, advocate for continued or additional resources, and assist with state or national planning for pre-service training.

**Objectives**

The objectives of using the results of evaluations are to:

- Identify achievements and difficulties with new teaching;
- Define feasible and affordable actions to overcome difficulties;
- Decide if additional evaluations are needed or appropriate;
- Provide evidence that previous investments produced expected results; and
- Demonstrate a need for additional assistance and resources.

**Timing**

Whenever results from an evaluation are produced or received by a teaching institution, staff members should immediately review them to identify strengths and weaknesses in new teaching. If a teaching institution is in the review and replanning phase (Phase Three), staff members should actively seek out evaluation results in order to identify issues that should be addressed in a revised plan of action for strengthening teaching.

**Who Should Use the Results of Evaluations?**

The IMCI Working Group within a teaching institution should work together with representatives of relevant academic units and clinical practice sites to use the results of evaluations to strengthen teaching. They may request assistance from the National
IMCI Focal Person, state or national Coordinating Group for IMCI Pre-Service Training, WHO staff members or consultants, and other persons or organizations with good knowledge of how to translate the results of evaluations into action at national, state and teaching institution levels.

**Description**

Teaching institutions should view evaluation as a learning process – that is as a means for reflecting and demonstrating a commitment to achieving specific results. The aim of evaluation is not to produce a report, but to use the findings to identify strengths and weaknesses in a teaching programme and plan for future action. An evaluation should show to what extent expected results were achieved and give clear indications about the elements of an intervention that need to be strengthened or changed in order to better achieve the expected results. In addition to direct application to planning for future teaching, evaluation results can also help justify the use of resources and technical support, and demonstrate a need for additional resources and support.

**Suggested Activities and Materials**

The following activities are suggested for using the results of evaluations:

- **Interpret the results of evaluations.** Persons who review the results of evaluations should compare the expected results of new teaching with the actual results described in an evaluation report. They should then identify the gaps between what was expected and what was actually achieved, and try to determine the causes of those gaps. Finally, they should decide what actions might be needed in order to reduce those gaps. When identifying what actions are needed, answer the following questions: What were the successes or strengths? How could they be extended? What were the problems or limitations? How could they be addressed?

- **Plan for future changes in teaching.** The actions identified to reduce gaps should be incorporated into a plan of action for strengthening teaching. This could happen during the review and replanning phase when a teaching institution revises their plan of action, or it could happen in phase two as part of the process of monitoring and refining activities. It is important to recognize that action needs to be taken and to formalize that action as an addition to or revision of a plan of action. When planning for future changes, answer the following questions: What action should be taken? What changes should be implemented? When? By whom? What is needed (resources, further learning or development, additional information) to help effect these changes?

- **Use results for evidence and advocacy.** Share the results of evaluations with partners, funding organizations and technical agencies to demonstrate what was achieved and what is still needed.
4.2 Evaluate IMCI Teaching: Tasks at National Level

The national or state Coordinating Group for IMCI Pre-Service Training should decide if an evaluation of the effectiveness of IMCI teaching is needed and feasible in their country. If opinion leaders and decision-makers have requested evidence that IMCI teaching is effective, and if appropriate personnel and resources are available to conduct an accurate evaluation, the coordinating group might consider organizing an evaluation. In addition, the coordinating group should share the results of relevant evaluations conducted both within and outside the country.

Evaluate the Effectiveness and Costs of IMCI Teaching

An evaluation of the effectiveness of IMCI teaching is considered an important but optional task. If stakeholders have requested evidence that the resources invested have produced the expected results, and if they are not satisfied with the information collected through monitoring or through evaluations of the process and outcomes of new teaching, then an evaluation of the effectiveness of new teaching may be needed. Not all countries, however, have the capacity and resources to conduct this type of evaluation. Still an estimate of the costs of new teaching is useful regardless of whether or not a country conducts an effectiveness evaluation.

Teaching is effective if students are able to apply the knowledge, attitudes and skills gained during their education to their real work environment after graduation. It is important to remember that performance in the real work environment considers the skills of graduates within a service setting, which may facilitate or hinder their application. In addition, before conducting a complicated and costly effectiveness evaluation, the outcomes of new teaching must be assessed in order to verify that students actually gained the expected knowledge, attitudes and skills before graduation (see figure 4).
Objectives

The objectives of evaluating the effectiveness and costs of IMCI teaching are to:

- Assess if students are able to do IMCI at their work after graduation.

- Gather evidence for decision-makers, national authorities, funding organizations, partners and other supporting agencies that the resources invested produced the expected results in terms of the performance of student after graduation; and

- Detect strengths and weaknesses in performance in order to identify areas where further changes to teaching may be needed.
Timing

Before an evaluation of the effectiveness of IMCI teaching can be conducted:

- Key changes must be made to the academic programme that would lead to changes in the outcomes; and

- Outcomes must be measured to demonstrate that students actually achieved expected knowledge, attitudes and skills before graduation.

If IMCI is gradually integrated into different academic years and subjects, it could take several years and several revisions of a plan of action before enough changes are made to an academic programme to produce measurable changes in the performance of graduates. Until then, it is highly recommended to focus on monitoring the process and outcomes of new teaching. Once the major elements of IMCI teaching are in place, and a group of students has achieved the expected outcomes, then the effectiveness of teaching can be evaluated.

Who Could Evaluate the Effectiveness and Costs of IMCI Teaching?

Any state, national or international group that has interest and capacity in evaluation could lead an evaluation of the effectiveness of IMCI teaching. Possible groups are the national or state Coordinating Group for IMCI Pre-Service Training, licensing authorities, academic associations, professional associations, non-governmental organizations, technical agencies, international organizations, funding organizations, other teaching institutions or WHO.

In addition, teaching institutions - particularly the IMCI working group within a teaching institution - should cooperate with and assist the evaluation group. They should share process information such as the learning objectives, what teaching methods and materials were used and how students responded to those methods and materials. And they should report the outcome of teaching in terms of student competency at the end of the academic programme.

Description

An evaluation of the effectiveness and cost of new teaching should answer the questions:

- Are students able to apply their IMCI knowledge and skills to their work after graduation?

- How much did it cost to introduce new teaching?

- How much will it cost to sustain new teaching?
The purpose of this task is to determine if students are able to apply what they have learned to their work after graduation. As shown in figure 4, evaluation can assess a continuum of results ranging from outcome to effectiveness to impact. The farther down the list, the more valid the evaluation. Outcome or learning is easiest and least costly to evaluate. However, the results may not be robust enough to convince stakeholders that a change actually occurred in the practices of healthcare providers. Impact or results is complicated, expensive and can only suggest a probability that new teaching led to changes in the quality of care. An evaluation of effectiveness - or graduate performance - is one of the most valid, reliable and feasible ways to identify strengths and weakness in a teaching programme, and to justify or advocate for the use of resources for strengthening teaching.

Still it is difficult to achieve a rigorous evaluation of effectiveness. A robust evaluation requires the definition and use of key performance indicators – measures you can see. In addition, it must show change in comparison to something – usually to another group of students who did not receive the intervention. The comparison group could be one that completed the academic programme at the same teaching institution before IMCI teaching was introduced, or a group that completed a similar academic programme at a different teaching institution without IMCI.

Suggested Activities and Materials

The following questions must be answered when evaluating the effectiveness and costs of teaching:

- Who will conduct the evaluation? Do they have the necessary capacity and experience in evaluation?
- What is the purpose of the evaluation? Who is the evaluation for?
- What is expected to change? What are the key performance indicators?
- How will the change be measured? How will we know that it changed because of IMCI teaching?
- How will relevant information be collected and analysed (by whom, when and where, using what methods)?
- How much did it cost?
- How will the results be used?

Who will evaluate? As previously explained, any state, national or international group that has interest and capacity in evaluation could take the lead in evaluating the effectiveness of IMCI teaching. If a group is interested, but does not have evaluation capacity, they may request an NGO or international organization to assist them to strengthen their evaluation capacity.
What is the purpose? The primary purpose of the evaluation should be to establish whether the changes made in teaching produced the expected results, and to help teaching institutions alter what they are doing if certain results were not achieved. It should help teaching institutions as well as their partners and funding agencies decide whether to carry on with a particular intervention, modify it, or test an alternative strategy. An evaluation could also help to clarify what the problem really is.

What should change? It is critical to carefully define key performance indicators to measure during the evaluation. An indicator is a marker that shows whether or not you are making progress. It identifies what you expect to change either in quality or quantity. For example, expected changes after IMCI is incorporated into an academic programme might include: graduates check all sick children who come to an outpatient clinic for common serious childhood illnesses, regardless of the presenting complaint; or graduates assess the feeding of all sick children under two years of age who do not need urgent referral. The indicators used for the evaluation must be based on the defined learning objectives, and they should be confirmed as key knowledge, attitudes and skills (i.e. outcomes) at the end of the course or academic programme.

How will change be measured? Strong evaluation designs (i.e. valid, accurate and reliable) with clear results, which include an assessment of costs, are essential in order to satisfy the needs of decision-makers, partners and funding organizations. However, the evaluation approach also should be feasible, practical and relevant, using simple, key performance indicators to show that the behaviour of graduates has changed.

Any evaluation of effectiveness must address the question, “performance compared to what?” Some possibilities for the evaluation of teaching are:

- Comparing graduates who have completed an academic programme where IMCI was incorporated versus graduates who have not (i.e. case-control design);

- Conducting a baseline of graduate performance before the intervention and comparing the performance of graduates after the introduction of IMCI teaching (i.e. longitudinal design); and

- Comparing the performance of graduates against a standard.

These possible evaluation designs are described in more detail below:

Case intervention and control: This design should satisfy both implementers and donors. It compares the outcome of two different groups of graduates. One that received revised teaching and one that did not. The
control group must be very carefully selected to ensure that all aspects of
the group’s experience (e.g. type and length of academic programme, time
of graduation, learning environment, etc.) were similar in every way
except for the absence of IMCI teaching. The null hypothesis is that
performance is the same between the two different groups. However, the
evaluation is expected show a difference in the performance of graduates
with and without IMCI teaching. This design is useful for advocacy, but is
difficult and expensive to carry out. The advantage: no baseline is needed.
The difficulty: identifying an appropriate control group.

Longitudinal (i.e. before and after): This design also should satisfy both
implementers and donors. It compares the performance of a group of
graduates before IMCI is incorporated into a teaching programme versus
the performance of a group of graduates after IMCI is incorporated. In
order to document change in performance, comparable information should
be collected as a baseline before a teaching institution begins to revise its
teaching. Phase One of this guide encourages the national coordinating
group to analyse the situation. If possible, a baseline assessment may be
included as part of the situation analysis. The advantage: no need to
identify a control group. The challenge: must have comparable baseline
information.

Against a standard: This design is more useful for implementers than for
funding organizations. It can be used to make a plausible argument that
the skills measured against the standard are due to the change in the
academic programme. In the case of IMCI, graduate performance would
be measured against the standard of the IMCI clinical guidelines.
Normally, this is sufficient for self-evaluation in order to check if teaching
is achieving its expected results. However, it may not be sufficient to
convince national officials, partners and donors to keep investing in the
process.

How will information be collected and analysed? Performance can be measured
by observing graduates on the job, by interviewing them, by interviewing their
managers or supervisors and - in certain situations - by analysing health statistics.
Performance evaluations should occur after graduates have had sufficient
opportunity to apply their knowledge, attitudes and skills on the job (e.g., 2 to 12
months after graduation).

Regardless of how information is collected, the evaluation should always
determine if a graduate has had the opportunity to practice new skills. Has the
graduate been working in a position that allows him or her to use the skills? For
how long? The key factor of practice can greatly enhance performance if it is
present, and can significantly hinder performance if it is not.
The following are possible methods for collecting information about performance:

*Observation of performance on the job* – Direct observation is the most valid method for measuring performance. However, it is also the most time consuming and costly. It answers the question, “are graduates able to perform the skills they developed during the academic programme?” Both graduates and supervisors should be notified in advance of an observation. During the observation, evaluators should watch graduates as they perform specific tasks, and record their observations using a tool that collects targeted information on key skills (i.e. key performance indicators). The data collected should indicate areas where the course or academic programme should be modified. When compared with the observations of a baseline or control group, the data should demonstrate differences or changes in the performance of the two groups.

*Graduate self-reports or interviews* – New graduates can provide information on the usefulness of the course to their current job functions as well as their ability to apply specific knowledge, attitudes and skills in the workplace. Questions should focus on the key skills (i.e. key performance indicators) that were incorporated into the academic programme as well as any constraints that graduates face in applying those skills. Evaluators should ask graduates how confident and capable they feel to perform key behaviours/skills. When asking these questions, it is best to use a Likert rating scale that provides a 5-point range such as from very confident to very unconfident or from very capable to very incapable. It is also useful to collect some limited information about the activities conducted in the facility where the graduate works, in order to provide a context in which to assess the graduate’s performance. In addition, *critical incident studies or interviews* can ask recent graduates to describe five or six recent events related to specific behaviours/skills that they felt unable to handle (i.e. critical incidents). Some of the critical incidents may be very unusual or rare. However, if several graduates report difficulty with similar situations, then clearly the objectives, methods and materials used for teaching the subject should be reviewed.

*Supervisor reports or interviews* – The aim of questioning managers or supervisors is to determine if they observed a change in the performance of new graduates with regard to key behaviours/skills. If they did perceive a change, further questions should be asked to find out if the change solved any problems or filled previously unmet needs for service provision. In some areas supervision is carried out almost continuously. In other areas supervision is very restricted – for example when healthcare professionals work alone in remote villages. Therefore, the value of supervisors’ reports or interviews will vary from one situation to another. However, any report can be made more useful if supervisors are asked to comment on specific points. Supervisors can look for changes in the way healthcare professionals do a particular job, and they can identify tasks that new graduates do well or badly.
Analysis of health statistics – Health statistics are usually available for details such as the number of children immunized, number of live births, number of infant deaths, and number of cases of disease. If statistics are available, they can help to identify problems and possible areas where academic programmes could be strengthened.

How much did it cost? Regardless of whether or not effectiveness is assessed, it is always helpful to estimate the cost of introducing and sustaining new teaching. The resources used should be estimated for all tasks that were carried out to introduce and sustain new teaching. It is difficult to estimate a cost per graduate, because many of the costs incurred should produce results for many cycles of teaching to come. For this reason, it is useful to estimate the one time “introduction costs” and the “recurrent costs” that will continue in order to sustain new teaching. Costs can be estimated for activities at national or state level, and activities at the level of individual teaching institutions. In addition to monetary or financial resources, costs may also include other resources such as materials, facilities, supplies and staff time.

Introduction costs at the level of the teaching institution might include estimates for:
- Conducting a situation analysis
- Orientation meetings with decision makers
- Training of planners, teachers, clinical instructors and relevant staff at clinical practice sites
- Planning meetings (where learning objectives are defined and a plan of action is developed)
- Preparing clinical practice sites
- Developing or revising materials for teaching, learning and student assessment
- Coordination meetings with relevant departments
- Monitoring and review of teaching methods and materials
- Evaluation of the process and outcome of new teaching

Recurrent costs at the level of the teaching institution might include estimates for:
- Training of teachers, clinical instructors and relevant staff at clinical practice sites
- Review and replanning meetings (where implementation of a plan is reviewed, learning objectives are refined and the plan of action is revised)
- Procuring supplies and equipment needed for teaching
- Procuring of supplies and equipment needed for clinical practice
- Periodic updating or revision of materials for teaching, learning and student assessment
- Coordination meetings with relevant departments
- Monitoring and review of teaching

**How will the results be used?** Typically the results should be used to determine to what extent the desired effect has been achieved, identify discrepancies that still exist in job performance, and – if needed - plan for additional revision of teaching.

Materials that can be adapted for use in evaluating the effectiveness of IMCI teaching include:

- WHO CAH Guidelines and tools for evaluating IMCI in-service training (currently under development), and guidelines and tools for follow-up after IMCI training. Although these tools must be adapted to the context of pre-service training, they can help countries define key performance indicators and appropriate methods for collecting and analysing information about performance.

- IMCI health facility survey tool. The tool and methods must be adapted to the context of pre-service training.

- Tool for estimating the costs related to introducing and sustaining IMCI teaching

**Share the Results of Evaluations**

The national or state Coordinating Group for IMCI Pre-Service Training should share the results of relevant evaluations with all teaching institutions. Evaluations or reviews that measure healthcare provider skills or performance after IMCI training either within the country, or in a similar country, are particularly relevant. This includes results from follow-up after IMCI training visits, results from IMCI health facility surveys, and results from the evaluation of the outcomes and effectiveness of IMCI pre-service training.

**Objectives**

The objectives of sharing the results of evaluations are to:

- Inform teaching institutions of different approaches that can be taken to strengthen the teaching of child health;
Phase Four – Evaluate IMCI Teaching: Tasks at National Level

- Identify gaps – if any - between what was expected from changes in teaching and the actual results;

- Provide evidence to partners and funding agencies that previous investments produced the expected results; and

- Demonstrate the need for additional activities and resources.

**Timing**

When the results of evaluations are produced or received, they should be shared as quickly and as widely as possible.

**Who Could Share the Results of Evaluations?**

Any state, national or international group that has interest and capacity in evaluation could collect and share the results of relevant evaluations. These groups may include the national or state Coordinating Group for IMCI Pre-Service Training, licensing authorities, academic associations, professional associations, non-governmental organizations, technical agencies, international organizations, funding organizations, other teaching institutions or WHO.

**Description**

The results of evaluations should be shared as widely as possible to teaching institutions as well as to partners and funding agencies. Whenever possible, assistance should be given to help others interpret the results of an evaluation. This might involve activities such as writing a detailed description of the intervention and a summary of the findings.

**Suggested Activities and Materials**

There are two main ways that the results of evaluations can be shared:

- **Written.** The results of an evaluation accompanied by a description of the intervention can be distributed to teaching institutions, partners and funding agencies in written format such as letters, reports, journal articles and web pages.

- **Verbal Presentations.** The results of evaluations can be presented at meetings or conferences both within and outside teaching institutions, such as at paediatric conferences, meetings of academic associations, etc. These presentations should include an opportunity for discussion of the results and the actions that have been, or should be, taken as a consequence of the evaluation.
Annex 1
PHASE ONE - ORIENT AND PLAN

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Introduction to the IMCI Clinical Guidelines
Academic Rationale for IMCI
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IMCI Learning Objectives

Other Useful Tools and Materials

IMCI Information (unpublished document WHO/CHS/CAH/98.1A-M; available on request from the Department of Child and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int)

IMCI Model Chapter for Textbooks (unpublished document WHO/FCH/CAH/01.01; available on request from the Department of Child and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int)

IMCI Model Handbook (unpublished document WHO/FCH/CAH/00.12; available on request from the Department of Child and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int)

Improving Child Health: IMCI the Integrated Approach (unpublished document WHO/CHD/97.12 Rev.1; available on request from the Department of Child and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int)

Improving Family and Community Practices: A Component of the IMCI Strategy (unpublished document WHO/CAH/98.2; available on request from the Department of Child and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int)


Management of the Child with a Serious Infection or Severe Malnutrition: Guidelines for Care at the First-referral Level in Developing Countries (unpublished document WHO/FCH/CAH/00.1; available on request from the Department of Child and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int)
“Rationale for Introducing IMCI into Medical and Paramedical Education,” *IMCI: Guidelines for Planning, Implementing and Evaluating Pre-Service Training*, Part A. (unpublished document WHO/FCH/CAH01.09; available on request from the Department of Child and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int)

*Report of an Inter-country Workshop on IMCI Pre-service Training: Geneva, 2-5 November 1999* (unpublished document WHO/FCH/CAH/00.11; available on request from the Department of Child and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int)

PRE-SERVICE MATERIALS:

List of Possible Materials for IMCI Teaching, Learning and Student Assessment

IMCI Materials for Teachers

IMCI Model Chapter for Textbooks (WHO/FCH/CAH/01.01)
IMCI Handbook (WHO/FCH/CAH/00.12)
Photograph Booklet
Wall Charts (adapted version)
Videotapes
Checklist of Clinical Signs Observed
IMCI Reference Library of Selected Materials
IMCI Technical Seminars
Improving Family and Community Practices: A Component of the IMCI Strategy
(WHO/CAH/98.2)
Management of the Child with a Serious Infection or Severe Malnutrition: Guidelines for Care at the First-Referral Level in Developing Countries (WHO/FCH/CAH/00.1)
Breastfeeding Counselling: A Training Course (WHO/CDR/93.4)

Materials from the IMCI in-service course that could be adapted or used as references:
  Facilitator Guide for Modules
  Facilitator Guide for Outpatient Clinical Practice
  Guide for Clinical Practice in the Inpatient Ward
  Course Director's Guide

IMCI Materials for Students

IMCI Chapter for Textbooks ((WHO/FCH/CAH/01.01 adapted and incorporated into a local textbook)
IMCI Handbook (WHO/FCH/CAH/00.12 adapted version of the IMCI Model Handbook)
IMCI Chart Booklet (adapted version)
Mother's Card (adapted version)
Case Recording Forms
Photograph Booklet
Management of the Child with a Serious Infection or Severe Malnutrition: Guidelines for Care at the First-Referral Level in Developing Countries (WHO/FCH/CAH/00.1)

Materials for Student Assessment

Sample Written Test
Sample Clinical Skills Observation Checklist
Guide for IMCI Assessment In Pre-Service Training Institutions
(WHO/FCH/CAH/DRAFT MARCH 2001)
Other Useful IMCI Materials

OUTLINE: Plan of Action for Introducing Integrated Management of Childhood Illness (IMCI) into an Academic Programme
List of Possible Learning Objectives for Integrated Management of Childhood Illness (IMCI)

IMCI Pre-Service Training: Progress Report Questionnaire
ANALYZE THE SITUATION:

Questions to Consider at the National Level to Plan for the Introduction of IMCI Pre-Service Training

A. Has IMCI been introduced in the country?
   1. Have the IMCI clinical guidelines been adapted to the local circumstances?
   2. Has the ministry of health endorsed IMCI?
   3. Have some persons in the country been trained as IMCI course facilitators?
   4. Is there a national policy on IMCI?

B. Who provides care to sick children at first-level health facilities?
   1. What types/categories of health care professionals manage sick children at first-level health facilities?
   2. Do the job descriptions of those health care professionals include the clinical management of sick children?
   3. What type of formal training does each type/category of health care professional receive?
   4. Do first-level health care providers attend refresher training or continuing education courses?

C. Where do first-level health care providers, in both the public and private sectors, receive their basic training?
   1. Which teaching institutions, both public and private, are responsible for training first-level health care providers?
   2. What programmes of study at these institutions do first-level health care providers attend?
   3. Do the programmes attended by future first-level health professionals include teaching about paediatrics and/or child health?
   4. Do the programmes attended by future first-level health professionals include clinical practice with sick children in outpatient clinics? If yes, where (i.e. health centres, outpatient wards of teaching hospitals, etc.)?
5. For each teaching programme, what level of education is needed to enter the programme? How many years are required to complete the programme? And how many students graduate each year from the programme?

6. Have any staff at these teaching institutions attended an IMCI in-service training course?

7. Approximately how many staff from teaching institutions and clinics used for outpatient clinical practice need training in IMCI?

8. How often is the formal written curriculum revised at these teaching institutions?

9. If first-level health workers attend refresher training or continuing education courses, are pre-service teaching institutions responsible for conducting these courses?

D. Who influences what is taught to first-level health care professionals during their basic education?

1. Which government bodies have an interest in and influence on the education of health care professionals?

2. Which professional societies and associations influence the education of health care professionals, particularly in child health?

3. Which academic associations influence the education of health care professionals, particularly in child health?

4. What is the relationship between teaching institutions and national authorities, professional associations and academic associations?

5. Who reviews and approves academic programmes and written curricula for teaching institutions attended by first-level health care professionals?

6. Who is the licensing authority for each type of first-level health care professional?

7. Who is responsible for preparing and conducting certification examinations?

8. Is there a continuing education system in the country? If yes, who is responsible for organizing and conducting continuing education courses?

E. How are curricula set and revised in the country?

1. Where is the curriculum prepared for each type of teaching institution (i.e. by a national curriculum body or by individual teaching institutions)?

2. How frequently are curricula normally revised?

3. What is the standard process for curriculum revision?
4. What groups are normally responsible for submitting and approving curriculum revision?

F. Who can help plan and implement IMCI pre-service training?

1. Which professional and academic organizations can help?

2. Which non-governmental, donor or technical organizations can help?

G. How are human resources for health managed?

1. Who decides where health staff will be stationed or deployed?
# ORIENT OPINION LEADERS AND DECISION MAKERS:

**Orient National Authorities, the Academic Community and Members of Professional Associations**

## Activity A: Suggested People and Materials

<table>
<thead>
<tr>
<th>People</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possible Implementers and/or Authors</td>
<td>Existing Brochures and Leaflets</td>
</tr>
<tr>
<td>• Members of the national IMCI task force and/or staff of the Ministry of Health (MOH)</td>
<td>• IMCI brochure: <em>Improving Child Health: IMCI the Integrated Approach</em> (WHO/CHD/97.12 Rev.1)</td>
</tr>
<tr>
<td>• Staff of universities and training institutions who have been trained in IMCI</td>
<td>• IMCI information package: <em>IMCI Information</em> (WHO/CHS/CAH/98.1A-M)</td>
</tr>
<tr>
<td>• Members of professional societies or associations who have been trained in IMCI</td>
<td></td>
</tr>
<tr>
<td>• WHO staff or consultants</td>
<td></td>
</tr>
</tbody>
</table>

### Target Audiences

- National authorities that influence teaching curricula
- Representatives of the academic community
- Members of professional societies or associations

### Background Materials for Authors

- Rationale for Introducing IMCI into Medical and Paramedical Education, *IMCI Pre-Service Training: Guidelines for Planning, Implementing and Evaluating IMCI Teaching in Medical, Nursing and Other Health Professional Schools*, Part A. (WHO/FCH/CAH….)
- The country's adapted IMCI chart booklet and mother's card
# Orient National Authorities, the Academic Community and Members of Professional Associations

## Activity B: Suggested People and Materials

<table>
<thead>
<tr>
<th>People</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Possible Presenters</strong></td>
<td><strong>Materials for Presenters</strong></td>
</tr>
<tr>
<td>• Members of the national IMCI task force and/or staff of the Ministry of Health (MOH)</td>
<td>• Presentations: Overview of the IMCI Strategy, Introduction to the IMCI Clinical Guidelines, and Academic Rationale for IMCI</td>
</tr>
<tr>
<td>• Staff of universities and training institutions who have been trained in IMCI</td>
<td>• Country’s adapted IMCI wall charts</td>
</tr>
<tr>
<td>• Members of professional societies or associations who have been trained in IMCI</td>
<td>• Report of an Intercountry Workshop on IMCI Pre-Service Training: Geneva, 2-5 November 1999 (WHO/FCH/CAH/00.11)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Possible Participants</th>
<th>Materials for Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>• National authorities that influence teaching curricula</td>
<td>• IMCI brochure: <em>Improving Child Health: IMCI the Integrated Approach</em> (WHO/CHD/97.12 Rev. 1)</td>
</tr>
<tr>
<td>• Representatives of the academic community</td>
<td>• IMCI information package: <em>IMCI Information</em> (WHO/CHS/CAH/98.1A-M)</td>
</tr>
<tr>
<td>• Members of professional societies or associations</td>
<td>• Model chapter for textbooks: <em>Integrated Management of Childhood Illness</em> (WHO/FCH/CAH/01.01)</td>
</tr>
<tr>
<td></td>
<td>• The country’s adapted IMCI chart booklet and mother’s card</td>
</tr>
<tr>
<td></td>
<td>• List of possible learning objectives for IMCI</td>
</tr>
</tbody>
</table>

Two copies of each of the following for display:
- *Model IMCI Handbook* (WHO/FCH/CAH/00.12)
- IMCI reference library
- IMCI technical seminars
- *Guidelines for the Management of a Child with a Serious Infection or Severe Malnutrition: Guidelines for Care at the First-Referral Level*

One copy of each of the following for display:
- The country’s adapted IMCI in-service training modules and mother’s card (one set)
- IMCI photograph booklet
- Director’s guide for IMCI in-service training
- Facilitator’s guides for IMCI in-service training modules and clinical practice
- Technical basis section of the IMCI adaptation guide
### Orient National Authorities, the Academic Community and Members of Professional Associations

**Activity C: Suggested People and Materials**

<table>
<thead>
<tr>
<th><strong>Activity C</strong>: Conduct an orientation workshop with representatives from national authorities, the academic community and members of professional associations.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>People</strong></td>
</tr>
<tr>
<td><strong>Possible Implementers</strong></td>
</tr>
<tr>
<td>- Members of the national IMCI task force and/or staff of the Ministry of Health (MOH)</td>
</tr>
<tr>
<td>- Staff of universities and training institutions who have been trained in IMCI</td>
</tr>
<tr>
<td>- Members of professional societies or associations who have been trained in IMCI</td>
</tr>
<tr>
<td>- WHO staff or consultants</td>
</tr>
<tr>
<td><strong>Possible Participants</strong></td>
</tr>
<tr>
<td>- National authorities that influence teaching curricula</td>
</tr>
<tr>
<td>- Representatives of the academic community</td>
</tr>
<tr>
<td>- Members of professional societies or associations</td>
</tr>
<tr>
<td><strong>Materials</strong></td>
</tr>
<tr>
<td><strong>Materials for Implementers</strong></td>
</tr>
<tr>
<td><em>Same materials as those suggested for presenters of IMCI at meetings or congresses (Activity B), plus:</em></td>
</tr>
<tr>
<td>- Example agenda of a national orientation workshop for IMCI pre-service training</td>
</tr>
<tr>
<td>- Presentation: Introduction to the IMCI clinical guidelines combined with one or two video exercises from the IMCI training course for first-level health workers (see <em>IMCI Planning Guide: Gaining Experience with the IMCI Strategy in a Country</em>, Annex J, pp. 211-267 (WHO/CHS/CAH/99.1))</td>
</tr>
<tr>
<td>- Presentation: Summary of WHO experience related to IMCI pre-service training</td>
</tr>
<tr>
<td>- Presentation: Introduction to possible IMCI teaching materials and methods</td>
</tr>
<tr>
<td>If appropriate and time permits:</td>
</tr>
<tr>
<td>- IMCI video</td>
</tr>
<tr>
<td>- IMCI photograph booklets</td>
</tr>
<tr>
<td>- Presentation: Possible learning objectives for IMCI</td>
</tr>
<tr>
<td><strong>Materials for Participants</strong></td>
</tr>
<tr>
<td><em>Same materials as those suggested for participants of IMCI presentations at meetings or congresses, plus:</em></td>
</tr>
<tr>
<td>- IMCI photograph booklet (one for each participant for selected exercises)</td>
</tr>
<tr>
<td>- IMCI case recording forms</td>
</tr>
</tbody>
</table>
SAMPLE AGENDA

National Orientation Workshop for IMCI Pre-Service Training

Day 1

<table>
<thead>
<tr>
<th>Name of Session</th>
<th>Suggested Session Leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welcome Remarks</td>
<td>MOH Representative</td>
</tr>
<tr>
<td>Introduction of Participants</td>
<td></td>
</tr>
<tr>
<td>Review of Agenda and Administrative Issues</td>
<td>MOH Representative</td>
</tr>
<tr>
<td>Overview of the IMCI Strategy</td>
<td>MOH and/or WHO Representative</td>
</tr>
<tr>
<td>Status of IMCI Implementation in the Country</td>
<td></td>
</tr>
<tr>
<td>Lunch Break</td>
<td></td>
</tr>
<tr>
<td>Introduction to the IMCI Clinical Guidelines and Selected Exercises</td>
<td>Experienced Facilitator for IMCI In-Service Training</td>
</tr>
</tbody>
</table>

Day 2

<table>
<thead>
<tr>
<th>Name of Session</th>
<th>Suggested Session Leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to the IMCI Clinical Guidelines and Selected Exercises (continued)</td>
<td>Experienced Facilitator of IMCI In-Service Training</td>
</tr>
<tr>
<td>Possible Learning Objectives for IMCI</td>
<td>MOH and/or WHO Representative</td>
</tr>
<tr>
<td>Summary of Experience with IMCI Pre-Service Training</td>
<td>WHO Representative</td>
</tr>
<tr>
<td>Lunch Break</td>
<td></td>
</tr>
<tr>
<td>Academic Rationale for IMCI and Discussion of Relevant Academic Programs for IMCI Teaching</td>
<td>MOH and/or WHO Representative</td>
</tr>
<tr>
<td>Introduction to Possible IMCI Teaching Materials and Methods</td>
<td>WHO Representative</td>
</tr>
<tr>
<td>Discussion of the Next Steps for IMCI Pre-Service Training</td>
<td>MOH and/or Representative of a Teaching Institution</td>
</tr>
<tr>
<td>Conclusions and Recommendations</td>
<td>MOH Representative</td>
</tr>
</tbody>
</table>
SAMPLE AGENDA

Expanded Orientation on
Integrated Management of Childhood Illness (IMCI)

DAY 1

08:30 - 08:45  Welcome and opening remarks
08:45 - 09:00  Presentation and adoption of objectives and proposed agenda for the meeting
09:00 - 09:30  Rationale for the IMCI strategy
               Major causes of childhood mortality
               Components of IMCI
               Relationship of IMCI to existing technical programmes
               IMCI and health system reform
09:30 - 09:45  Discussion
09:45 - 10:00  Coffee break
10:00 - 10:20  IMCI: Global strategy and Regional experience
               Introduction, Early implementation and Expansion
               Implementation in other countries
10:20 - 10:30  Discussion
10:30 - 11:45  Current situation of child health in China
               Child health activities and status of CDD, ARI, Nutrition, EPI and
               Communicable Disease programmes
11:45 - 12:00  Discussion
12:00 - 13:00  Lunch
13:00 - 13:45  Components of the IMCI strategy
               Improvements in case management skills of health staff
               Improvements in the health system
               Improvements in family and community practices
13:45 - 14:00  Discussion
14:00 - 15:00  IMCI case management guidelines for first-level health workers
               Review of guidelines
               Examples of how they work
15:00 - 15:15  Discussion
15:15 - 15:30  Coffee break
15:30 - 16:00  Summary and closing
DAY 2

08:30 - 09:00 Welcome and introduction
  Case management process
  Structure of expanded orientation
  Teaching methods we will use/not use

09:00 - 10:00 Assess and Classify the Sick Child Age 2 Months Up to 5 Years
  pages 1-7, 11-24 (danger signs, cough and difficult breathing)

10:00 - 10:15 Coffee break

10:15 - 11:30 Complete pages 11-24

11:30 - 12:00 Video Exercise C page 30

12:00 - 13:00 Lunch

13:00 - 14:00 pages 32-36, 38-41, 45-46 (diarrhoea)

14:00 - 15:00 pages 54-59, 62, 64-65 (fever)
  Drill determining fast breathing

15:00 - 15:15 Coffee break

15:15 - 17:30 pages 68-73, (fever-continued))
  pages 91-95 (ear problem)
  pages 98-102 (malnutrition and anaemia)
  Photograph Exercise N, pages 103-104
  pages 105, 108-111 (malnutrition and anaemia-continued)

DAY 3

08:30 - 09:00 Assess and Classify the Sick Child Age 2 Months Up to 5 Years
  pages 120-122 (immunization), page 126 (other problems)
  Exercise R, case 3, page 132

Group A
09:00 - 11:00 Outpatient session
11:00 - 12:00 Inpatient session

Group B
09:00 - 10:00 Inpatient session
10:00 - 12:00 Outpatient session

12:00 - 13:00 Lunch

13:00 - 15:00 Identify Treatment
  pages 1-8, 11-15, 26-27, 31-32, 41-45

15:00 - 15:15 Coffee break

15:15 - 15:45 Exercise F, page 51
15:45 - 17:30  Treat the Child
   pages 1-4, 8-10, 13-18, 22-26

DAY 4

08:30 - 09:00  Treat the Child
   Role play, Exercise E, page 29-30

09:00 - 09:30  pages 39, 45-49, 79-80

09:30 - 12:00  Outpatient session

12:00 - 13:00  Lunch

13:00 - 15:00  Counsel the Mother
   pages 1-10, 13, 15-17, 19-24

15:00 - 15:15  Coffee break

15:15 - 17:30  pages 31, 34-35
   Role play, Exercise D, Case 1, pages 37-39
   pages 41-45

DAY 5

08:30 - 10:30  Outpatient session (Assess, Classify, Treat, Counsel the Mother)

10:30 - 12:00  Management of the Sick Young Infant Age 1 Week Up to 2 Months
   Pages 1-3, 19-26
   Video Exercise D, part 1, page 29

12:00 - 13:00  Lunch

13:00 - 13:30  pages 47-50

13:30 - 14:30  Follow-Up
   pages 1-3, 27-30
   Exercise D, 1, page 31-32

15:00 - 15:15  Coffee break

15:15 - 16:00  Discussion focused on perceived needs for adaptation
   The process of adaptation
   Major area of adaptation

16:00 - 16:45  Discussion focused on implementation and follow-up after training
   Implementation, Follow-Up

16:45 - 17:15  Conclusions and closing
## TRAIN PLANNERS AND TEACHERS:
### SAMPLE AGENDA
#### Five-Day IMCI Training Course for University Staff

<table>
<thead>
<tr>
<th>TIME</th>
<th>CONTENTS</th>
<th>OPTIONAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DAY 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08:00-09:00</td>
<td>Registration</td>
<td></td>
</tr>
<tr>
<td>09:00-10:00</td>
<td>Opening Ceremony</td>
<td></td>
</tr>
<tr>
<td>10:00-10:30</td>
<td>Opening presentation</td>
<td></td>
</tr>
<tr>
<td>10:30-11:15</td>
<td>Module 1: Introduction (page 1-6)</td>
<td></td>
</tr>
<tr>
<td>11:15-11:30</td>
<td>BREAK</td>
<td></td>
</tr>
<tr>
<td>11:30-12:45</td>
<td>Module II pages 7-16 (Assess &amp; Classify: Danger signs, Cough, Diarrhea)</td>
<td>Exercise 2A, 2B, 2D, 2E, 2F</td>
</tr>
<tr>
<td>12:45-13:15</td>
<td>Video pres.: Danger signs, Cough, Diarrhea</td>
<td>Video exercise 2C, 2G</td>
</tr>
<tr>
<td>13:15-14:00</td>
<td>Technical Seminar: ARI, Diarrhea</td>
<td></td>
</tr>
<tr>
<td><strong>DAY 2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08:00-09:45</td>
<td>Module II pages 17-23 (Assess &amp; Classify: Sore throat, Ear problems, Fever)</td>
<td></td>
</tr>
<tr>
<td>09:45-11:00</td>
<td>INPATIENT: demonstration: Assess and Classify danger signs, Cough, Diarrhea.</td>
<td></td>
</tr>
<tr>
<td>11:00-11:15</td>
<td>BREAK</td>
<td></td>
</tr>
<tr>
<td>11:15-12:45</td>
<td>Module II pages 24-30 (Assess &amp; Classify: Malnutrition and anemia, Vit. A, Immunization, Other problems)</td>
<td>Photo exercise 2O, 2P</td>
</tr>
<tr>
<td>12:45-13:30</td>
<td>Video presentation: Malnutrition and anemia</td>
<td>Exercise 2Q, 2R, 2S</td>
</tr>
<tr>
<td>13:30-14:00</td>
<td>Technical Seminar: Malnutrition, Immunization</td>
<td>Video exercise 2T, 2U</td>
</tr>
<tr>
<td><strong>DAY 3</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08:00-09:30</td>
<td>Module III page 31-36: Identify treatment</td>
<td>Exercise 2A, 2B, 2C, 2D, 2F</td>
</tr>
<tr>
<td>09:30-11:00</td>
<td>OUTPT: Demonstration: Identify treatment Participants: Assess, classify, Identify, treat.</td>
<td></td>
</tr>
<tr>
<td>11:00-11:15</td>
<td>BREAK</td>
<td></td>
</tr>
<tr>
<td>11:15-13:00</td>
<td>Module IV (Treat) pages 37-65</td>
<td>Exercise 4A, 4B, 4C, 4D, 4F</td>
</tr>
<tr>
<td>13:00-14:00</td>
<td>Module IV (Treat) pages 66-79</td>
<td>Exercise 4H, 4I</td>
</tr>
<tr>
<td><strong>DAY 4</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08:00-10:00</td>
<td>Module V (Counsel) page 81-106</td>
<td>Exercise 5A, 5C, 5F</td>
</tr>
<tr>
<td>10:00-11:30</td>
<td>OUTPT: Demonstration: Counsel Participants: Assess, classify, Identify, Counsel</td>
<td></td>
</tr>
<tr>
<td>11:30-11:45</td>
<td>BREAK</td>
<td></td>
</tr>
<tr>
<td>11:45-14:00</td>
<td>Module V (Follow-up) page 107-121</td>
<td>Exercise 6A, 6B, 6C, 6D</td>
</tr>
<tr>
<td><strong>DAY 5</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08:00-10:00</td>
<td>Module VII (Sick young infant) page 123-150</td>
<td>Exercise 7B, 7D, 7E, 7F, 7H</td>
</tr>
<tr>
<td>10:00-11:30</td>
<td>INPATIENT: Demonstration and Practice: Assess and classify sick young infant, Counsel for breast-feeding (attachment and positioning)</td>
<td></td>
</tr>
<tr>
<td>11:30-11:45</td>
<td>BREAK</td>
<td></td>
</tr>
<tr>
<td>11:45-12:30</td>
<td>Video presentation: Breast-feeding (position and attach.)</td>
<td>Video exercise 7A, 7C, 7G</td>
</tr>
<tr>
<td>12:30-13:15</td>
<td>Technical Seminar: Sick young infant / Breast-feeding</td>
<td></td>
</tr>
<tr>
<td>13:15-14:00</td>
<td>General Discussion and Closing</td>
<td></td>
</tr>
</tbody>
</table>
PLAN FOR THE INTRODUCTION OF NEW TEACHING:

SAMPLE AGENDA
Planning Workshop for IMCI Pre-Service Training

[Name of Teaching Institution, School, Department]
[Dates of the Workshop]

Opening

- Welcome, Workshop Objectives and Agenda
- Introduction of the Participants

Session 1: Overview of IMCI (Global and Local)

- Global IMCI Strategy and Status of Implementation
- Current Status of IMCI Implementation in the Country
- Country, Regional and Global Experience with IMCI Pre-Service Training

Session 2: Placing IMCI within an Identified Programme(s)

- Overview of the Certificate, Diploma and Degree Programmes at the Faculty or School that Include a Paediatrics or Child Health Component. Rationale for Selecting the Programme(s) where IMCI will First be Introduced.
- Presentation of How Paediatrics or Child Health is Taught in the Selected Programme(s) and Why it is Taught that Way
- Possible IMCI Teaching/Learning Objectives
- Minimum Criteria for Quality IMCI Training
- Discussion of How IMCI Can be Taught Within the Identified Programme(s)

Session 3: Teaching, Learning and Assessment Methods and Materials

- Summary of Methods and Materials Currently Used by the Faculty or School to Teach Paediatrics or Child Health
- Presentation of Materials and Methods Used for IMCI In-Service Training and Available for IMCI Pre-Service Training
- Discussion of the Teaching, Learning and Assessment Materials Needed by the Faculty or School in order to Teach IMCI and to Assess the IMCI Knowledge and Skills of Students.
Session 4: Planning and Monitoring

- Introduction to the “Outline of a Plan for Introducing Teaching on Integrated Management of Childhood Illness (IMCI)”

- Discussion of the main areas of work within the plan (including training of faculty, preparation of teaching, learning and assessment materials, preparation of clinical practice sites, etc.)

- Identification of Next Steps for Planning and Preparing for the Introduction of IMCI Teaching. Who will do what, when and how? What support or assistance will be needed?
List of Possible Learning Objectives for Integrated Management of Childhood Illness (IMCI)

The broad objective is to:

Prepare health professionals to prevent and manage major childhood illnesses and conditions in an effective and integrated manner.

Below are possible specific objectives related to the IMCI strategy:

A. Clinical management of sick children at outpatient health facilities

1) Students should learn and demonstrate knowledge of the following topics as a basis for good clinical practice in outpatient clinics:

   a) **Combined** etiology and epidemiology of major childhood conditions: ARI (including pneumonia), diarrhoea, malaria, measles, ear infections, malnutrition
   b) Assessment, *in an integrated manner*, of the signs and symptoms of the above illnesses, and of nutritional and immunization status
   c) Classification of the child’s illnesses according to the IMCI case management charts
   d) Identification of treatments for the child's classifications, and of children in need of referral based on the IMCI case management charts
   e) Administration of important pre-referral treatments (such as a first dose of an antibiotic, vitamin A, quinine injection, and treatment to prevent low blood sugar)
   f) Treatment in the clinic, including oral rehydration therapy, oral antibiotics, oral antimalarial, vitamin A, and immunization
   g) The signs of correct breastfeeding positioning and attachment, and steps for assessing and improving them if needed
   h) Methods for counselling the mother about treatment, feeding (including age-appropriate feeding recommendations), and when to return
   i) For children who return for a scheduled follow-up, reassessment of the problem and provision of appropriate care.

2) Based on the knowledge of the topics listed above and after appropriate clinical practice, students should be able to demonstrate the following skills necessary for effective case management in outpatient health facilities:

   a) Assessing and classifying the sick child age 2 months up to 5 years *according to the IMCI clinical guidelines*:

      i) Ask the mother about the child's problem
      ii) Check for general danger signs
      iii) Ask the mother about the four main symptoms (cough or difficult breathing, diarrhoea, fever, ear problem)
      iv) When a main symptom is present, assess the child further for signs related to that symptom
      v) Classify the illness according to the signs which are present or absent
vi) Check for signs of malnutrition and anaemia and classify the child’s nutritional status

vii) Check the child’s immunization status and decide if the child needs any immunizations today

viii) Assess the child’s feeding and identify feeding problems

ix) Assess any other problems

b) Identifying actions needed for case management according to the IMCI clinical guidelines:

i) Determine if urgent referral is needed

ii) Identify treatments needed for children who are not referred

iii) For children who need urgent referral, identify urgent pre-referral treatments needed, explain the need for referral to the child’s caretaker, write a referral note

c) Treating the sick child according to IMCI clinical guidelines:

i) Determine oral drugs needed and their appropriate dosage and schedule for a sick child

ii) Give the first dose of oral drugs (including antibiotics, antimalarials, paracetamol, vitamin A, iron and mebendazole), and teach the child’s caretaker how and when to give oral drugs at home

iii) Treat local infections (such as eye infections, ear drainage, mouth ulcers, sore throat and cough), and teach the child’s caretaker how and when to give the treatments at home

iv) Give pre-referral drugs administered in the clinic only (intramuscular injections of chloramphenicol and/or quinine)

v) Prevent low blood sugar

vi) Treat different classifications of dehydration, and teach the child’s caretaker about giving extra fluids at home

vii) Immunize children

d) Advising and counselling the caretaker(s) of a sick child according to the IMCI guidelines:

i) Counsel the child’s caretaker about feeding problems

ii) Advise the child’s caretaker to increase fluid during illness

iii) Advise the child’s caretaker on when to return for follow-up visits, when to return immediately for further care, and when to return for immunizations

iv) Give relevant advice to each caretaker using good communication skills and using a Mother’s Card as a communication tool

v) Ask open-ended questions of a child’s caretaker to check his/her understanding

e) Assessing, classifying and treating the sick young infant up to 2 months of age according to the IMCI clinical guidelines:

i) Assess and classify a young infant for possible bacterial infection

ii) Assess and classify a young infant with diarrhoea
iii) Check for feeding problem or low weight, assess breastfeeding and classify feeding
iv) Treat a young infant with oral or intramuscular antibiotics
v) Give fluid for treatment of diarrhoea
vi) Teach the young infant’s caretaker to treat local infections at home
vii) Teach correct positioning and attachment for breastfeeding
viii) Advise the child’s caretaker on how to care for the young infant at home

f) Conducting a follow-up visit **according to the IMCI clinical guidelines:**
   i) Decide if a child has been brought for a first visit or a follow-up visit for the illness
   ii) If the child has been brought for follow-up, assess the signs specified in the follow-up box for the child’s previous classification
   iii) Select further treatment based on the child’s signs
   iv) If the child has any new problems, reassess and classify the child’s illnesses as in an initial visit

**B. Clinical management of sick children at first level referral health facilities**

1) Students should learn and demonstrate knowledge of the following topics as a basis for good clinical practice in first-level referral hospitals:

   a) Steps of the triage process at the referral level **based on IMCI classifications at first-level outpatient facilities**
      i) Triage assessment for all sick children to detect emergency conditions
      ii) Emergency treatment for emergency conditions
      iii) Assessment for further treatment

   b) Steps of problem-based assessment and diagnosis of children with lethargy, unconsciousness, convulsions, diarrhoea, cough or difficult breathing, and fever

   c) Hospital management of children with diarrhoea, including dysentery and persistent diarrhoea

   d) Hospital management of children with respiratory problems

   e) Hospital management of children with fever

   f) Management of children from high risk groups (young infants, severe malnutrition, children with HIV/AIDS)

   g) Items to monitor the progress of the child

   h) Criteria and procedures for discharge from the facility when improved

2) Based on the knowledge of the topics listed above and after appropriate clinical practice, students should be able to demonstrate the following skills necessary for effective case management in first-level referral hospitals:
a) Perform triage at referral level based on IMCI classifications at first-level outpatient facilities

b) Give emergency treatment(s) for emergency conditions

c) Assess for further treatment

d) Make problem-based assessment and diagnosis of children with lethargy, unconsciousness, convulsions, diarrhoea, cough or difficult breathing, and fever

e) Treat sick children at the first-level referral hospital using IMCI principles of:
   i) Fluid management
   ii) Antibiotic/antimalarial therapy
   iii) Oxygen therapy
   iv) Management of wheezing
   v) Management of fever
   vi) Nutritional management
   vii) Management of high risk groups (young infant, severe malnutrition, children with HIV/AIDS)

f) Counsel mothers about breastfeeding

g) Provide emotional and psychological support to sick children and their families

h) Ensure that essential practical clinical procedures are available and safe: blood transfusion, IV administration, intraosseous infusion, insertion of a nasogastric tube, lumbar puncture, insertion of a chest drain.

C. Strengthening health system support for the effective prevention and management of childhood illnesses

1) Students should learn and demonstrate knowledge and skills to advocate for and implement IMCI at health facilities.

D. Strengthening practices within families and communities to support the prevention and management of childhood illnesses

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1 Contact WHO CAH for information about additional learning objectives related for this component.
OUTLINE

Plan of Action for Introducing IMCI into an Academic Programme

[Name of the Teaching Institution, School, Department]
Draft: [date]

1. Introduction

Background information about the faculty or school, its students, its methods of teaching and its teaching programmes, including paediatrics or child health components.

2. Description of the …[insert name of the certificate, diploma or degree programme where IMCI will first be introduced]

Briefly describe the mission and objectives of the overall programme. Total number of years of study to complete the programme. Total number of students who enter the programme each year. Briefly describe how paediatrics or child health is taught within the programme. For each year of study, give the total number of hours in paediatric or child health rotations. For each year, indicate the number of hours of theory and the number of hours of clinical practice in paediatrics or child health.

3. IMCI Teaching/Learning Objectives

Give a broad description of what students will know and be able to do after learning IMCI (attach detailed list of learning objectives as an annex).

4. Placement of IMCI Teaching within the …[insert name of the certificate, diploma or degree programme where IMCI will first be introduced]

Describe how IMCI will be taught within the selected academic programme. Within each section or term of teaching activities, describe the main IMCI teaching/learning objectives that will be achieved.

List the teaching departments, sub-departments and clinical practice sites where IMCI teaching will be introduced.

5. Teaching, Learning and Assessment Materials Needed for IMCI

List the primary materials used by teachers and students (including the major textbook and reference books used) to teach and learn paediatrics or child health. Indicate which of the existing materials need to be revised in order to include, or be made compatible with, IMCI. Identify what types of new materials should be developed or adapted. Estimate the cost of revising and/or developing materials, and of reproducing and distributing the materials. Identify possible sources of funding and technical support. Describe how materials will be supplied in a sustainable way.
5.1 Teaching and Learning Methods and Materials

For each year or term of teaching (e.g. theory, clinical practice, etc.), list the types of teaching and learning methods that might be used, and the types of teaching and learning materials that would be needed IMCI.

5.2 Student Assessment Methods and Materials

For each year or term of teaching, list the types of methods that might be used for student assessment (e.g. assignments, exercises, written examinations, observation of clinical skills, etc.), and the types of materials that would be needed to assess student knowledge and skills in IMCI.

6. Training of Administrators, Teachers and Staff at Clinical Practice Sites

Describe what types of staff members will need training in IMCI, and how they would be trained. Remember to include relevant staff from clinical practice sites as well as teachers and administrators from relevant departments and sub-departments such as community or social medicine, infectious diseases, epidemiology and nutrition. Describe how new administrators, teachers and relevant clinical staff, who join the school after IMCI teaching has been introduced, would be trained in IMCI.

7. Preparation of Clinical Training Sites

Describe what will be needed to prepare clinical practice sites for IMCI teaching.

8. Monitoring and Evaluation

Explain how the teaching institution will monitor the implementation of the plan for introducing IMCI teaching. Will staff hold regular meetings to discuss achievements and difficulties with the implementation of the plan of action? When will the meetings be held and who will attend? Will the plan of action be reviewed and revised based on initial experience with IMCI teaching? If yes, who will review and revise the plan and when? Will IMCI teaching be evaluated? If yes, how and when?

9. Budget

Estimate the cost for:

- Orienting decision makers and staff;
- Training administrators, teachers and clinical staff;
- Planning and coordination;
- Developing and supplying materials for teaching, learning and student assessment; and
- Preparing clinical practice sites.

10. Timeline

See attached.
**Timeline: Steps Needed to Implement the Plan of Action for Introducing IMCI into an Academic Programme**

<table>
<thead>
<tr>
<th>EXAMPLE AREAS OF ACTIVITY</th>
<th>Months 1-3</th>
<th>Months 4-6</th>
<th>Months 7-9</th>
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<tr>
<td>Orientation of Senior Staff</td>
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<td>Training of Teachers and of Relevant Clinical Staff</td>
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<td>Identification and Preparation of Clinical Practice Sites</td>
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<td>Preparation of Teaching, Learning and Assessment Materials</td>
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<td>Coordination of Teaching (both classroom and clinical) Between Departments and Sub-Departments</td>
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<td>Other:</td>
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## Timeline: Steps Needed to Implement the Plan of Action for Introducing IMCI into an Academic Programme

**Name of University:** ____________________________  **City:** ________________  **Country:** ________________

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<tr>
<th>AREA OF ACTIVITY</th>
<th>Months 1-3 Dates: _________________</th>
<th>Months 4-6 Dates: _________________</th>
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PRESENTATIONS

Overview of the IMCI Strategy
Introduction to the IMCI Clinical Guidelines (request from WHO CAH)
Academic Rationale for IMCI
Summary of Experience Related to IMCI Pre-Service Training (request from WHO CAH)
IMCI Training Methods and Materials
IMCI Learning Objectives
Annex 2

PHASE TWO – PREPARE AND CONDUCT THE FIRST ROUND OF IMCI TEACHING

Tools and Materials in this Annex

Planning Matrix: Matching Activities and Materials with Learning Objectives for IMCI .......................................................... 2-3

Training Teachers and Clinical Staff: Sample Topics for Sessions on Pedagogy .................. 2-5*

List of Drugs and Supplies Needed for IMCI Practice in Outpatient Clinics .................. 2-7

Description of Possible Materials for IMCI Teaching, Learning and Student Assessment ............................................................................................................. 2-9

Sample Group Checklist of Clinical Signs ............................................................................. 2-13

Other Recommended Tools and Materials

*IMCI Facilitator Guide for Modules* (unpublished document WHO/CHD/97.3.I; available on request from the Department of Child and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int)

*IMCI Facilitator Guide for Outpatient Clinical Practice* (unpublished document WHO/CHD/97.3.H; available on request from the Department of Child and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int)

*IMCI Guide for Clinical Practice in the Inpatient Ward* (unpublished document WHO/CHD/97.3.J; available on request from the Department of Child and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int)

*IMCI Guidelines for the Assessment of Students* (unpublished document, Draft March 2001; available on request from the Department of Child and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int)

* WHO is developing a self-instructional course on the skills needed to teach maternal and child health. Contact WHO CAH (email: CAH@who.int) for more information.
IMCI Model Chapter for Textbooks (unpublished document WHO/FCH/CAH/01.01; available on request from the Department of Child and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int)

IMCI Model Handbook (unpublished document WHO/FCH/CAH/00.12; available on request from the Department of Child and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int)

IMCI Photograph Booklet (unpublished document WHO/CHD/97.3.L; available on request from the Department of Child and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int)

IMCI Reference Library of Selected Materials (unpublished document, WHO/FCH/CAH/01.08; available on request from the Department of Child and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int)

IMCI Technical Seminars (unpublished document WHO/FCH/CAH/01.10; available on request from the Department of Child and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int)

Management of the Child with a Serious Infection or Severe Malnutrition: Guidelines for Care at the First-referral Level in Developing Countries (unpublished document WHO/FCH/CAH/00.1; available on request from the Department of Child and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int)

Breastfeeding Counselling: A Training Course - Trainer’s Guide (unpublished document WHO/CDR/93.4; available on request from the Department of Child and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int)

Breastfeeding Counselling: A Training Course - Overhead Figures (unpublished document WHO/CDR/93.6; available on request from the Department of Child and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int)

Breastfeeding Counselling: A Training Course - Participant’s Manual (unpublished document WHO/CDR/93.5; available on request from the Department of Child and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int)

Video Exercises on Integrated Management of Childhood Illness (IMCI) (unpublished document 2001; available on request from the Department of Child
and Adolescent Health and Development, World Health Organization, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, email: CAH@who.int)
### Planning Matrix: Matching Activities and Materials with Learning Objectives for IMCI

<table>
<thead>
<tr>
<th>Time and Place of IMCI Teaching</th>
<th>Learning Outcomes Expected(^1)</th>
<th>Teaching Methods/Activities</th>
<th>Teaching/Learning Materials</th>
<th>Assessment Methods/Activities</th>
<th>Assessment Materials</th>
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\(^1\) See *List of Possible IMCI Learning Objectives* in Annex 1 and the task called *Plan for the Introduction of IMCI Teaching* in Phase 1, section 1.2, of this guide.
EXAMPLE
Planning Matrix: Matching Activities and Materials with Learning Objectives for IMCI

<table>
<thead>
<tr>
<th>Time and Place of IMCI Teaching Learning Outcomes Expected&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Teaching Methods/Activities</th>
<th>Teaching/Learning Materials</th>
<th>Assessment Methods/Activities</th>
<th>Assessment Materials</th>
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<tr>
<td>Year 4, Term 1: One-Week Rotation in Paediatric Infectious Diseases. IMCI Classroom Sessions (5 hours): After completion, students should show knowledge of:</td>
<td>Lectures Discussions Video Sessions Role Plays</td>
<td>Materials for Teachers IMCI Technical Seminars IMCI Video</td>
<td>Written Exercises Video Exercises Case Studies</td>
<td>Exercise Book Written Case Studies IMCI Video</td>
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<tr>
<td>IMCI Practical Sessions in the Outpatient Clinic (10 hours): After completion, students should show ability or skills to:</td>
<td>Demonstration of Patients Supervised Clinical Practice</td>
<td>Materials for Teachers Guidelines for Conducting Supervised Clinical Practice</td>
<td>Observation of Students</td>
<td>Observation Checklist</td>
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<sup>1</sup> See List of Possible IMCI Learning Objectives in Annex 1 and the task called Plan for the Introduction of IMCI Teaching in Phase 1, section 1.2, of this guide.
Training Teachers and Clinical Staff: Sample Topics for Sessions on Pedagogy*

Preparing for Learning

- Identify the learning needs of students
- Identify learning objectives
- Develop a learning schedule
- Determine appropriate teaching and learning methods
- Select effective teaching and learning materials
- Determine appropriate methods for student assessment
- Select effective assessment materials
- Prepare the classroom and clinical practice environment
- Organize and manage student learning and assessment

Communication and Group Work

- Create an atmosphere of communication
- Introduce a subject
- Summarize a subject
- Use effective presentation skills
- Effectively lead and work in groups
- Facilitate a small group activity
- Facilitate the use of role-playing
- Facilitate the use of a case study
- Facilitate the problem-solving process
- Facilitate a discussion
- Facilitate clinical practice
- Conduct a brainstorming session
- Use questioning techniques

Prepare and Use Audiovisuals

- Present information using a writing board, flipchart, computer projector, transparencies, slides and videotapes

Student Assessment

- Develop and administer written knowledge examinations
- Develop and administer skill assessments
- Use examination results to improve student performance

* Based on the Time Schedule of Pedagogic Course in Medicine, University of Medicine and Pharmacy, Ho Chi Minh City, Vietnam, December 2000. Contact WHO CAH for more information about a training course specifically designed to strengthen teaching skills needed for experience-based learning.
Monitor and Improve Teaching

- Coordinate teaching between different teaching units
- Select, collect and analyze information from students and colleagues for self-evaluation
- Identify personal strengths and weaknesses
- Plan for self-improvement
- Evaluate the curriculum to reveal weaknesses and to identify means of improvement
- Contribute to the improvement of the curriculum
# List of Drugs and Supplies Needed for IMCI Practice in Outpatient Clinics

## Drugs:
- ORS packets - a least eight per participant
- First-line oral antibiotic for pneumonia
- First-line antimalarial
- First-line oral antibiotic for dysentery
- Mebendazole
- Vitamin A capsules
- Paracetamol
- Iron (tablet and syrup if possible)

## Supplies:
- Plastic cups (one for each participant - to offer drinks to child with diarrhoea)
- Clean water supply (for mixing ORS; for offering fluid to a child when assessing signs of dehydration; and for making crushed drugs)
- Enough watches or other timing devices (participants will usually use their own watches)
- Mother’s cards
- Banana or other acceptable food to use when mixing crushed tablets. (Banana is handy, portable and children like it.)

### Other Essential Supplies for ORT Corner:
- Containers for demonstrating how to mix ORS (and to mix ORS for Plan B administration)
- Spoons
- Oral Rehydration Salts (premixed packets)

### Other Essential Clinic Supplies:
- Thermometer
- Wash basin, towel, soap
- Functional scale for weighing children and young infants accurately

### Desirable for Use in Clinical Practice:
- Tetracycline eye ointment* - 1 tube per group
- Gentian violet* - small bottle of 0.5%
- Soft cloths for applying gentian violet and washing eyes with pus

(*These are unlikely to be used during the session. However, facilitators can keep a small supply on hand for demonstrating treatments of local infections.)
Desirable for ORT Corner if IV Fluids to be Given:

- Ringer’s Lactate solution for IV administration
- Beds or tables with wires above for hanging bottles of IV fluid
- IV supplies such as scalp vein (butterfly) needles

* * *

Note: It is ideal for clinics where outpatient sessions are held to be stocked with all the drugs listed on the country’s adapted case management charts, and with the necessary equipment for administering them. The types of drugs, which are needed for all the steps described on all of the case management charts, include the following:

**Antibiotics**

See the adapted IMCI case management guidelines for your country or region (e.g. Cotrimoxazole, Amoxycillin, Chloramphenicol Intramuscular, Gentamicin Intramuscular, Benzylpenicillin, Nalidixic Acid Tablets, Tetracycline Tablets, Furazolidone Tablets, Erythromycin Tablets)

**Antimalarials**

See the adapted IMCI case management guidelines for your country or region (e.g. Chloroquine Tablets, Sulfadoxine and Pyrimethamine Tablets, Quinine Intramuscular)

**Antipyretic**

- Paracetamol
  - Tablet (500 mg) OR
  - Tablet (100 mg)

**Other drugs**

Small bottles of safe, soothing cough remedy (optional)

**Vaccines**

Adequate supplies of BCG, OPV, DPT and Measles vaccines

**Other Supplies**

- Sugar
- Cloth for wicking draining ears
- Large drum (5, 10, or 15 litre size) with cover and side tap for holding large quantities of ORS in ORT corner
- Food to give patients on Plan B
- Nasogastric tube
- Sterile syringes and sterile needles:
  - 5 cc sterile syringes and sterile needles
  - 10 cc sterile syringes and sterile needles
- Sterile water for diluting IM antibiotics and IM antimalarials
- Cotton swabs and alcohol or spirits
- All appropriate cold chain supplies, including a reliable refrigerator or cold box, sterilizers, sterile syringes, sterile needles, immunization cards.
Description of Possible Materials for IMCI Teaching, Learning and Student Assessment

Many of the materials developed for the IMCI in-service training course may be used to teach, learn and assess IMCI in pre-service training settings. For example, the IMCI chart booklet, mother’s card, case recording forms, videotapes and photograph booklet are all applicable to pre-service training. Additionally, WHO has developed several generic materials for IMCI pre-service training. These generic materials can be adapted and used in their existing format, or they can be incorporated into materials already used by a teaching institution. The following materials for IMCI teaching, learning and student assessment may be requested from the Ministry of Health in a country or from WHO.

Materials for Teachers

*List of Possible IMCI Learning Objectives (see Annex 1).* The list is designed to help teaching staff define learning objectives for IMCI. It describes expected learning outcomes in terms of student knowledge and skills in both the outpatient and inpatient care of sick children.

*Planning Matrix: Matching Activities and Materials with Learning Objectives for IMCI (see Annex 2).* Teaching staff can use the planning matrix to identify teaching, learning and assessment materials needed to achieve specific learning objectives for IMCI.

*IMCI Reference Library of Selected Materials.* The reference library includes an annotated bibliography of selected materials that constitute the evidence base for the generic IMCI clinical guidelines. The library includes full-text versions of key articles, documents and publications on CD-ROM. Teachers can use the library as a reference source. They also can instruct students to read different materials from the library to gain a better understanding of the rationale and technical basis for the IMCI strategy and clinical guidelines.

*IMCI Technical Seminars.* A set of speakers’ notes and overhead transparencies that present technical justifications for the IMCI clinical guidelines. The seminars cover topics such as acute respiratory infections, diarrhoea, malaria, other causes of fever, malnutrition and the sick young infant. All seminars are available in hard copy and on CD-ROM. Teaching staff can adapt or revise the seminars to include local or regional data and/or information about national adaptations made to the IMCI clinical guidelines.

*IMCI Photograph Booklet.* A book of 82 photographs illustrating children from age two months up to five years with clinical signs of dehydration, measles, measles

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*Materials may be requested from the WHO representative in a country, the WHO regional office, or the Department of Child and Adolescent Health and Development (CAH), World Health Organization, Avenue Appia 20, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4853, e-mail: CAH@who.int).*

2-11
complications, anaemia, wasting and oedema. The book also contains photographs of young infants with local infections, and signs of good and poor breastfeeding attachment and positioning. The booklet can be used to teach students to identify clinical signs and to assess their ability to recognize signs. It is used to complete written and oral exercises in the IMCI in-service training course, and does not need to be adapted.

**IMCI Videotapes.** Two videotapes that provide examples of clinical signs, case studies and exercises to assess sick children and classify their illnesses according to the IMCI clinical guidelines. The first video is entitled, “Assess and Classify the Sick Child.” The second is called, “Assess and Classify the Sick Young Infant.” The videotapes may be adapted and/or translated at the national level.

**IMCI Wall Charts.** A set of four wall charts that present the nationally adapted IMCI clinical guidelines. The wall charts are entitled, “Assess and Classify the Sick Child,” “Treat the Child,” “Counsel the Mother,” “Assess, Classify and Treat the Sick Young Infant” and “Treat the Young Infant and Counsel the Mother.” The charts should be displayed in classrooms and at health facilities where students will participate in IMCI clinical practice. Because these charts should correspond to the nationally adapted IMCI clinical guidelines, they should be requested from the Ministry of Health or WHO country office.

**IMCI Facilitator Guides for Outpatient and Inpatient Clinical Practice.** Two guides (WHH/CHD/97.3.H and WHO/CHD/97.3.J) that describe the techniques for supervised clinical practice in IMCI. The guides describe how to prepare for, conduct and monitor practical sessions in outpatient clinics and inpatient wards. Computer files of the guides may be requested from WHO. Teaching staff can adapt or revise the guides to fit their own objectives and schedules for clinical practice. Or they may incorporate elements of the guides into existing course descriptions or lesson plans.

**Checklists for Monitoring IMCI Outpatient and Inpatient Clinical Sessions.** Checklists for monitoring outpatient and inpatient clinical sessions are presented and described in the **IMCI Facilitator Guides for Outpatient and Inpatient Clinical Practice** (WHH/CHD/97.3.H and WHO/CHD/97.3.J). The checklists are designed to monitor progress in learning the IMCI case management process. There are four types of checklists for each of the two IMCI age groups (i.e., 1 week up to 2 months, and 2 months up to 5 years). They are entitled: **Checklist for Monitoring Outpatient Sessions; Checklist for Monitoring Inpatient Sessions; Group Checklist of Clinical Signs; and Additional Signs in Young Infants.** The process and clinical signs presented in these checklists should be adapted to correspond to the national IMCI clinical guidelines.

**Materials for Students**

**IMCI Model Chapter for Textbooks.** The model chapter for textbooks was created to help authors and editors incorporate IMCI content into local and international textbooks and reference books. Before incorporating the chapter into local textbooks, writers should first make the content of the model chapter consistent with the nationally adapted IMCI clinical guidelines. The model chapter also may be used to orient key persons to the IMCI strategy and clinical guidelines.
**IMCI Model Handbook.** The IMCI model handbook provides a detailed explanation of the IMCI case management guidelines. It is organized into seven main parts: (1) overview of the IMCI process; (2) assess and classify the sick child age 2 months up to 5 years; (3) assess and classify the sick young infant age 1 week up to 2 months; (4) identify treatment; (5) treat the sick child or the sick young infant; (6) communicate and counsel; (7) and give follow-up care. Teaching institutions are advised to adapt the handbook in two ways: (a) to ensure that all text, charts and illustrations are consistent with nationally-adapted IMCI clinical guidelines; and (b) to ensure that its content and format correspond to the teaching approach used by the institution.

**IMCI Chart Booklet.** The IMCI chart booklet is a critical teaching and learning tool that summarizes the process and content of the nationally adapted IMCI clinical guidelines. The booklet is designed as a job aid, or memory aid, to assist students in learning how to: assess a sick child; classify the child’s illnesses; assess feeding problems; identify treatment; treat; counsel; and give follow-up care according to the IMCI guidelines. The chart booklet includes the same information contained in the IMCI wall charts and, like the IMCI wall charts, is adapted in each country. Staff from teaching institutions may request copies of the nationally adapted IMCI chart booklet from the Ministry of Health or WHO country office.

**IMCI Mother’s Card.** In most countries that have adapted IMCI guidelines, caretakers of children are given a counselling card specifying feeding recommendations, by age, and the signs for when to return to a health facility. The mother’s card is designed to improve the effectiveness of messages regarding home care. The card provides reminders, in words and pictures, of the key messages that health care providers should be teaching caretakers about how to care for a sick child at home. Teaching institutions may request copies of the adapted mother’s card from the Ministry of Health or WHO country office.

**IMCI Case Recording Form.** The case recording form is designed to record information about a child’s symptoms, clinical signs, classifications, treatment and key counselling messages. Like the wall chart and chart booklet, the case recording form should be adapted in each country. Teaching institutions may request copies of the adapted mother’s card from the Ministry of Health or WHO country office.

**Management of the Child with a Serious Infection or Severe Malnutrition: Guidelines for Care at the First-referral Level in Developing Countries.** This manual aims to strengthen the management of children who present at small hospitals with severe infections or severe malnutrition. The guidelines in the manual are consistent with the IMCI guidelines for outpatient care of sick children. The manual includes information about: triage and emergency care (i.e., Emergency Triage and Treatment); appropriate laboratory investigations; correct diagnosis; treatment; supportive care; monitoring patient progress in the hospital; discharge procedures and counselling caretakers.

**Breastfeeding Counselling: A Training Course.** The IMCI guidelines incorporate basic elements of breastfeeding counselling. Per the guidelines, mothers with more serious problems should be referred. The breastfeeding counselling training course aims to
strengthen health professionals’ ability to provide comprehensive and effective counselling to mothers with breastfeeding problems.

Materials for Assessing Student Knowledge and Skills

**IMCI Guidelines for the Assessment of Students.** An overview of the guiding principles for IMCI assessment, including information to help teaching staff plan for the assessment of students. The guidelines offer suggestions as to which competencies to assess and possible methods for assessment, including the advantages, disadvantages and use of each method in relation to IMCI. Annexes contain sample tools for formative and summative assessment of student knowledge and skills. Although the guidelines were developed for IMCI assessment, the concepts and methods also apply to other topics.

**Video Exercises on IMCI.** The video contains 15 case studies designed to assess the students’ ability to correctly identify clinical signs and to classify the severity of a child’s condition in accordance with IMCI clinical guidelines.
Sample Group Checklist of Clinical Signs

Students and teachers can monitor clinical practice experience by completing individual or group checklists of clinical signs observed.

Sample group checklists are shown on the next two pages. The first page lists signs to observe in children age two months up to five years. The second page lists additional signs usually seen in young infants age one week up to two months.

To use the group checklist:

1. Obtain or make an enlarged version of each page of the checklist and hang it on the wall of the classroom. (You can copy it onto flipchart paper.)

2. When students return to the classroom after clinical practice, they should indicate the signs they have seen that day by writing their initials in the box for each sign. Indicating whether signs were seen in outpatient or inpatient practice.

3. Each day students should add to the same checklist.

4. Teachers should monitor the Group Checklist to make sure students are seeing all of the signs.

   -- If you notice that students have not seen many examples of a particular sign, take every opportunity to point out this sign to students when a child with the sign presents during an outpatient session.

   -- Or, talk with the inpatient instructor about locating, in the inpatient ward, a child or young infant with the sign the students need to observe.
### GROUP CHECKLIST OF CLINICAL SIGNS
**Sick Child Age Two Months Up To Five Years**

<table>
<thead>
<tr>
<th>Unable to drink or breastfeed</th>
<th>Vomits everything</th>
<th>History of convulsions (with this illness)</th>
<th>Lethargic or unconscious</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast breathing</td>
<td>Chest indrawing</td>
<td>Stridor in calm child</td>
<td>Restless and irritable</td>
</tr>
<tr>
<td>Sunken eyes</td>
<td>Drinking poorly</td>
<td>Drinking eagerly, thirsty</td>
<td>Very slow skin pinch</td>
</tr>
<tr>
<td>Slow skin pinch</td>
<td>Stiff neck</td>
<td>Runny nose</td>
<td>Generalized rash of measles</td>
</tr>
<tr>
<td>Red eyes</td>
<td>Mouth ulcers</td>
<td>Deep and extensive mouth ulcers</td>
<td>Pus draining from eye</td>
</tr>
<tr>
<td>Clouding of the cornea</td>
<td>Pus draining from ear</td>
<td>Tender swelling behind the ear</td>
<td>Visible severe wasting</td>
</tr>
<tr>
<td>Severe palmar pallor</td>
<td>Some palmar pallor</td>
<td>Oedema of both feet</td>
<td></td>
</tr>
</tbody>
</table>
ADDITIONAL SIGNS IN YOUNG INFANTS
Age One Week up to Two Months

Note: These signs may also be observed in older infants and children age two months up to five years.

<table>
<thead>
<tr>
<th>Mild chest indrawing in young infant (normal)</th>
<th>Fast breathing in young infant</th>
<th>Severe chest indrawing in young infant</th>
<th>Nasal flaring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grunting</td>
<td>Bulging fontanelle</td>
<td>Umbilical redness extending to the skin</td>
<td>Red umbilicus or draining pus</td>
</tr>
<tr>
<td>Many or severe skin pustules</td>
<td>Skin pustules</td>
<td>Lethargic or unconscious young infant</td>
<td>Less than normal movement</td>
</tr>
<tr>
<td>No attachment at all</td>
<td>Not well attached to breast</td>
<td>Good attachment</td>
<td>Not suckling at all</td>
</tr>
<tr>
<td>Not suckling effectively</td>
<td>Suckling effectively</td>
<td>Thrush</td>
<td></td>
</tr>
</tbody>
</table>


Annex 3

PHASE THREE - REVIEW AND REPLAN
IMCI TEACHING

Tools and Materials in this Annex

Report of a Review and Replanning Visit: Outline .......................................................... 3-2
Progress Report Questionnaire: IMCI Pre-Service Training ........................................ 3-4
EXAMPLE: Focus Group Interview with Students ......................................................... 3-12
EXAMPLE: Focus Group Interview with Teachers ....................................................... 3-18
EXAMPLE: Observation form for an IMCI Clinical Practice Session ....................... 3-24
EXAMPLE: Observation form for an IMCI Classroom Session .................................. 3-29
IMCI Sample Observation Checklist ........................................................................... 3-34
IMCI Sample Written Examination ............................................................................. 3-36
Report of a Review and Replanning Visit:
Outline

1. Background

Tell when IMCI was introduced in the country; when the teaching institution became interested in IMCI; and the name(s) of the academic programme(s) selected for IMCI teaching. Give a brief overview (3-6 paragraphs) of the process followed at national or state level, and at teaching institution level, to introduce IMCI into the academic programme(s).

2. Objectives

List the objectives of the review and replanning visit (i.e. What was the purpose of the visit? What results were expected from the visit?)

3. Activities

Briefly describe the activities carried out during each day of the review and replanning visit.

4. Findings

This section should describe the achievements and difficulties experienced by the teaching institution in the following areas:

4.1. Planning for IMCI Teaching (i.e. developing a plan of action and selecting learning objectives)

4.2. Orienting Administrators and Teaching Staff to IMCI

4.3. Placement of IMCI Teaching (i.e. In which academic programme(s), in which years of the programme(s) and in which teaching units? Which teaching unit is responsible for coordinating IMCI teaching?)

4.4. Materials for IMCI Teaching, Learning and Student Assessment

4.5. Selection and Preparation of Clinical Practice Sites

4.6. Training of Teachers and Relevant Staff at Clinical Practice Site(s)

4.7. Coordination (i.e. between different teaching units and with clinical practice sites) and Implementation of IMCI Teaching

If students were assessed, teaching sessions were observed, or focus group interviews were conducted, this section should also provide information about:
4.8. Results of the Assessment of Student Knowledge and Skills in IMCI (i.e. Review of exam results and/or assessment of a sample of students during the review and replanning visit)

4.9. Results of the Observation of Teaching

4.10. Results of Focus Group Discussions (i.e. With teachers and with students)

5. Conclusions and Recommendations

This section should list general conclusions regarding each of the topic areas described in the findings section above.

It should also provide a few broad recommendations for:

- The teaching institution
- The national coordinating group for IMCI pre-service training
- WHO at country, regional and global levels

ANNEXES

This section may include items such as:

- An Agenda of Activities
- Results of Assessments of Student Knowledge and Skills
- Results of Focused Interviews with Teachers
- Results of Focused Interviews with Students
- Results of Observations of Classroom or Clinical Teaching
- Etc.
Progress Report Questionnaire: IMCI Pre-Service Training

The WHO and UNICEF strategy for Integrated Management of Childhood Illness (IMCI) aims to reduce death and the frequency and severity of illness and disability, and contribute to improved growth and development in children under 5 years of age. When applied correctly, the IMCI clinical guidelines promote the accurate identification of major childhood illnesses in outpatient settings, ensure appropriate combined treatment, strengthen the counselling of caretakers and the provision of preventive services, speed up the referral of severely ill children, and aim to improve the quality of care of sick children at the first referral level.

We understand that your faculty has made efforts to incorporate IMCI into one or more academic programmes. We recognize that the approach taken to IMCI teaching depends on the capacity of a teaching institution, the responsibilities of students after graduation and the needs of a country's health system. Consequently, we expect that there is no single way to introduce IMCI into an academic programme, but rather a variety of ways. For this reason, the experience and lessons learned by your faculty would be very useful in our search for effective ways to introduce IMCI teaching. In addition, information provided about your achievements and difficulties would assist WHO in preparing global recommendations on the subject.

We, therefore, ask you to prepare a Progress Report that answers the questions on the following pages. If your faculty previously submitted a similar report to WHO, we ask you to answer only the questions in Section H, experience to date with IMCI teaching and assessment of students.

It is recommended that you designate one person in your faculty, preferably the school's focal person for IMCI, as responsible for writing the report and returning a copy to us. When gathering information for the report, the designated person should collaborate closely with other departments and staff who are responsible for IMCI teaching. In addition, please attach a description of the certificate, diploma or degree programme(s) where IMCI is being introduced. This information can be photo copied from the faculty's annual catalogue or bulletin.

We hope that your faculty will have no difficulty preparing a Progress Report and returning it to WHO within the next few weeks.¹

Thank you in advance for your valuable assistance.

¹ The report should be returned to the WHO representative in your country, to the WHO Regional Office, or to the Department of Child and Adolescent Health and Development (CAH), World Health Organization, Avenue Appia 20, 1211 Geneva 27, Switzerland (Facsimile: +41 22 791 4853, e-mail: baileyr@who.ch)
Recommended Content of the Progress Report

In the Progress Report, please provide the following information about your faculty and the academic programme(s) where IMCI is being introduced; the activities carried out to orient staff and plan for IMCI teaching; the placement of IMCI teaching within the academic programme(s) and the teaching methods used; the approach used to train teachers and relevant clinical staff in the IMCI guidelines; the preparation of clinical practice sites and of teaching, learning and assessment materials; and the experience to date with IMCI teaching and assessment.

A. Information About the Teaching Institution

- Name of the teaching institution
- Address
- Country
- Name of the person preparing this report
- Department of the person preparing this report
- Date (month and year)

B. Information About the Academic Programme(s)

- Name of the certificate, diploma or degree programme(s) where IMCI is being introduced ²
- Number of years needed for a student to complete the selected certificate, diploma or degree programme(s)
- Number of students enrolled in the selected programme(s)
- Name of the department(s) responsible for planning and implementing IMCI teaching
- Number of teaching staff within those department(s)
- Briefly describe how paediatrics or child health is taught within the certificate, diploma or degree programme(s) selected for IMCI introduction, including in what years, the length of paediatric rotations, the main subjects taught during each paediatric rotation, and the proportion of time dedicated to classroom sessions and to clinical practice

C. Orientation and Planning

Achievements

- How and when were the members of your faculty first introduced to the IMCI strategy?
- How did your faculty plan for the introduction of IMCI teaching? Briefly describe the main activities.
- Did the faculty develop or adopt learning objectives for IMCI teaching?
- Does the faculty plan to incorporate IMCI into the formal written curriculum?

² Please attach a description of the certificate, diploma or degree programme(s) where IMCI is being introduced. This information can be photo copied from the faculty's annual catalogue or bulletin.
In your opinion, why did the faculty decide to introduce IMCI teaching?
Approximately how much do you estimate it cost to plan for the introduction of IMCI teaching (i.e. time and/or money)?

Challenges
Describe the main challenges or difficulties experienced with the orientation and planning for IMCI teaching.

D. Placement of IMCI and Teaching Methods Used

Achievements
How is IMCI incorporated into the selected certificate, diploma or degree programme(s)? For each year of a programme, describe what elements of IMCI will be taught, for how many hours or days, and in what setting (e.g. classroom, outpatient clinic, inpatient clinic, homework, etc.). (see Annex A for a list of IMCI topic areas)
Are all three components of the IMCI strategy taught (i.e. 1. Improving the skills of health staff, 2. Improving the health system to support IMCI, 3. Improving family and community practices)? If yes, how?
What is the average ratio of teachers to students in IMCI classroom sessions and in IMCI clinical practice sessions?
What proportion of IMCI clinical practice is supervised by a trained instructor who demonstrates cases, observes students as they practise and provides feedback to students on their performance?
Are aspects of IMCI taught within related subjects such as pulmonology, gastroenterology, haematology, paediatric infectious diseases, infant and child nutrition, etc.? If yes, name the subjects in which IMCI is taught.
List the primary teaching methods used for IMCI. (see Annex A for a list of possible teaching and assessment methods)
Does IMCI classroom and clinical instruction include ways to regularly check how much and how well students are learning? If yes, how is this done?
Are IMCI questions or problems included in oral, written or practical exams? If yes, please explain.
Is each student formally assessed for his or her skills related to IMCI? If yes, how is this done?

Challenges
Describe the main challenges or difficulties experienced with the placement of IMCI teaching.
Describe the main challenges or difficulties with the methods used to teach IMCI and to assess student knowledge and skills.
After some experience with IMCI teaching, does your faculty plan to change the way they teach IMCI? If yes, briefly explain the possible changes.
E. Training of Teachers and Relevant Clinical Staff

Achievements

- How many staff, if trained, would be available to teach IMCI? Indicate how many are mainly classroom teachers, how many are clinical teachers, and how many are both.
- How many teaching staff have attended an IMCI training course? Indicate how many of the trained staff are mainly classroom teachers, how many are primarily clinical teachers, and how many are both.
- What types of IMCI courses were used to train the teaching staff (e.g. standard in-service course, shortened 5-day course, others - please describe)?
- How many teaching staff have facilitated an IMCI in-service training course?
- How many clinical staff at the practice site(s), who are available to assist IMCI teaching, have attended an IMCI training course?
- What types of IMCI courses were used to train staff at the clinical practice site(s) (e.g. standard in-service course, shortened 5-day course, others - please describe)?
- Approximately how much do you estimate it cost to train teachers and relevant clinical staff in IMCI (i.e. time and/or money)?

Challenges

- Describe the main challenges or difficulties experienced with training teachers and relevant clinical staff in the IMCI guidelines.

F. Clinical Practice

Achievements

- Where do students practise IMCI clinical skills?
- What elements of IMCI do students practise during each year of the selected certificate, diploma or degree programme(s) (see list of possible IMCI topics for clinical practice in Annex A)?
- During IMCI clinical practice, does each student manage both outpatient and inpatient cases of childhood illness?
- Does each student see many children with a variety of signs related to cough, diarrhoea, fever, measles, ear problem, malnutrition and anaemia?
- Does each student see children with severe illnesses such as pneumonia, meningitis and severe malaria?
- Does each student manage at least 20 sick children throughout IMCI clinical practice?
- Does each student receive feedback on his/her performance?
- Are students allowed, under supervision, to dispense oral drugs?
- Are the administration and staff at the clinical practice site(s) informed about IMCI?
- Is at least one staff member at each clinical practice site available to help the IMCI clinical instructor to select cases?
Do clinical staff at the practice site(s) regularly manage cases of childhood illness according to the IMCI guidelines?

Approximately how much do you estimate it cost to identify and prepare sites for IMCI clinical practice (i.e. time and/or money)?

Challenges

Describe the main challenges or difficulties experienced with clinical practice for IMCI.

G. Teaching, Learning and Assessment Materials

Achievements

Which WHO materials does the faculty use to teach IMCI? (see Annex A for a list of WHO materials)

What WHO materials does the faculty use to assess IMCI knowledge and skills? (see Annex A for a list of WHO materials)

Which teaching and assessment materials did (or will) the faculty adapt or develop?

Does your faculty use other materials to teach or assess IMCI? If yes, briefly describe those materials.

Who finances or supplies the materials used?

Which materials do students keep after IMCI teaching is finished?

What paediatric textbook do teachers commonly use? What paediatric textbook do students use?

Approximately how much do you estimate it cost to identify, develop and create a supply of teaching and assessment materials for IMCI (i.e. time and/or money)?

Challenges

Describe the main challenges or difficulties experienced with the identification, development and supply of teaching and assessment materials for IMCI.

H. Experience to Date with IMCI Teaching and Assessment of Students

Please summarize your faculty's experience since starting to teach IMCI to students. Include the main achievements and difficulties experienced with the:

- placement of IMCI teaching,
- methods used to teach IMCI,
- methods used to assess student knowledge and skills in IMCI,
- training of teachers and relevant clinical staff in IMCI,
- IMCI clinical practice, and the
- teaching, learning and assessment materials used.

Please enclose with your report examples of materials that the faculty adapted or developed.
Annex A: Progress Report Questionnaire

Possible Topics, Methods and Materials for IMCI Teaching

1. Possible IMCI topics for classroom sessions

The IMCI case management process
The age groups included in the IMCI charts
General danger signs
Breastfeeding attachment and suckling
Principles of assessing and classifying:
  - cough or difficult breathing
  - possible bacterial infection (young infant)
  - diarrhoea
  - fever
  - ear problem
  - nutritional status
  - feeding problem or low weight

Immunization
Referral
Urgent pre-referral treatments
Appropriate outpatient treatments
Follow-up care
Principles of good communication to:
  - assess sick children
  - teach caretakers to give treatments at home

Principles of counselling:
  - to assess and solve feeding problems
  - about feeding during sickness and health
  - about when to return to a health professional
  - about the mother’s own health

Technical basis for the general danger signs
Technical basis for the assessment and classification of:
  - cough or difficult breathing
  - possible bacterial infection
  - diarrhoea
  - fever
  - ear problem
  - malnutrition
  - anaemia
  - feeding problem or low weight

Principles of referral level:
  - triage
  - emergency care
  - monitoring of patient progress
2. Possible IMCI topics for clinical practice sessions

How to use:
- the IMCI charts
- the IMCI case recording form

How to assess:
- general danger signs
- breastfeeding attachment and suckling

How to assess and classify:
- cough or difficult breathing
- possible bacterial infection (young infant)
- diarrhoea
- fever
- ear problem
- nutritional status
- feeding

How to check immunization status

How to identify appropriate treatments

How to give:
- pre-referral treatments
- outpatient treatments
- follow-up care

How to communicate with caretakers

How to advise caretakers about referral

How to teach caretaker's to give treatment(s) at home

How to counsel:
- about feeding and fluids
- about when to return

How to perform referral level:
- triage
- emergency care
- monitoring of patient progress

3. Possible teaching and assessment methods

<table>
<thead>
<tr>
<th>Classroom methods</th>
<th>student presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>lecture</td>
<td>student presentation</td>
</tr>
<tr>
<td>debate</td>
<td>brainstorming</td>
</tr>
<tr>
<td>seminar</td>
<td>distance/self learning</td>
</tr>
<tr>
<td>question and answer (oral drill)</td>
<td>role play</td>
</tr>
<tr>
<td>case study</td>
<td>simulation</td>
</tr>
<tr>
<td>written exercise</td>
<td>individual reading</td>
</tr>
<tr>
<td>video exercise</td>
<td>games</td>
</tr>
<tr>
<td>photograph booklet exercise</td>
<td>individual feedback</td>
</tr>
<tr>
<td>assignment/project</td>
<td>computer based learning</td>
</tr>
</tbody>
</table>
**Clinical practice methods**

demonstration  case presentation
individual student practice  case conference
group practice  individual feedback
group discussion  group feedback
clinical rounds  ward report
patient simulation  case write-up/report
work based (on-the-job) learning  video reviews of consultations
supervised clinical practice

**Assessment methods**

observed practice and feedback
written examination
oral examination
practical examination

4. **WHO teaching and assessment materials**

IMCI course director's guide
IMCI facilitator guide for modules
Set of IMCI modules
IMCI chart booklet
Adapted mother’s card
Photograph booklet
IMCI video tape
IMCI wall charts
Facilitator guide for outpatient clinical practice

Guide for clinical practice in the inpatient ward
Case recording forms
Checklist of clinical signs observed
IMCI pre-service training references
Guidelines for *Management of the child with a serious infection or severe malnutrition*
Breastfeeding counselling course
IMCI observation checklist
IMCI written examination
EXAMPLE:
Focus Group Interview with Students

Note for interviewer:

It is recommended to conduct the focus group interview with a small group of students (from 5 to 10). Try to conduct interview outside of normal teaching hours.

Make sure that you explain the purpose of the interview:

- To collect information about the process of introducing IMCI into an academic programme; and
- To use the information to improve teaching, learning and assessment methods and materials used for IMCI.

Try to create a friendly and relaxing atmosphere. Avoid being an “examiner” or “evaluator.” If possible, organize the interview without the presence of teaching staff. The presence of teachers may affect the answers to some of the questions.

Try to involve all students in the group in the discussion. However, it is not necessary to record every answer, or reach a consensus. Make your own judgement about the answers based of responses from the majority of students. If you feel that certain individual comments or suggestions are interesting, you may record them separately as an example.

If you have an opportunity to conduct the interview with more than one group of students (i.e. in different years or terms of study), try to do it. This will give you an opportunity to make a more objective decision about the overall process of IMCI teaching.
1. RECORD INFORMATION ABOUT THE GROUP

a) Number of students interviewed.

b) Year of study in the academic programme.

c) How much training in IMCI was received (tick √ all relevant topics)?

   Introduction (   ) Assess & Classify (   ), Identify Treatment (   )
   Treat (   ) Follow-up (   ), Counsel mother (   ), All (   )

2. RELEVANCE OF IMCI TO ACADEMIC PROGRAMME

a) Ask students "Is the IMCI concept relevant to their academic programme?" Ask them to rate the relevance on a scale of 1 to 5 (1 = not relevant at all to 5 = fully relevant).

b) Ask why a particular score was given

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

3. THE PROCESS OF TEACHING

a) About how much time has been given to IMCI teaching?

   In classroom? _____ hours. Is this: too short (  ), adequate (  ) too long (  )

   In the clinic? _____ hours. Is this: too short (  ), adequate (  ) too long (  )

   If not adequate, ask why. Then ask for suggestion for improvement.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

b) Time of introduction. Was IMCI introduced at appropriate time in the academic programme?

   Use the following categories: not at all appropriate (  ), neutral (  ), fully appropriate (  )

   Then ask: Why?
If not appropriate, ask for suggestions for improvement.

___________________________________________________________

___________________________________________________________

___________________________________________________________

c) **Suitability for inpatient and/or outpatient case management.** Ask students: “Where should someone use the IMCI clinical guidelines?”

Only in outpatient department (   )

Only in inpatient department (   )

Both in outpatient and inpatient department (   )

Ask **why:**

___________________________________________________________

___________________________________________________________

___________________________________________________________

d) **Teaching methodology.** Ask what **main teaching methods** were used to teach IMCI in the school.

In classroom?

___________________________________________________________

___________________________________________________________

In the clinic?

___________________________________________________________

___________________________________________________________

Ask which methods were used most frequently

___________________________________________________________

___________________________________________________________

Ask which methods were most useful

___________________________________________________________

___________________________________________________________
Ask for any suggestion for improving teaching methodology

___________________________________________________________
___________________________________________________________

e) Opportunities for clinical practice using IMCI. If students participated in clinical practice, ask if they managed patients individually or in groups.

f) If in groups, ask about the size of the group ________ (number of students)

g) Ask on average how many patients each student managed using IMCI guidelines. ____________ (number of patients)

h) Ask students "Was the amount of time scheduled/allowed for clinical practice in IMCI: not enough ( ), enough ( ), too much ( )?"

Ask "why" they gave this answer. And ask for any other comments related to IMCI clinical practice.

___________________________________________________________
___________________________________________________________
___________________________________________________________
___________________________________________________________

4. LEARNING MATERIALS

a) Availability of learning materials. Ask what types of materials were available students used to learn about IMCI:

___________________________________________________________
___________________________________________________________
___________________________________________________________
___________________________________________________________

Ask how students obtained materials. Was it difficult?

___________________________________________________________
___________________________________________________________
___________________________________________________________

Ask about cost of materials (if appropriate):

too expensive ( ), reasonable ( ) no cost ( )
b) **Usefulness of learning materials.** Ask which materials they found most useful? Why?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Ask for any suggestions to improve the content, presentation and availability of learning materials?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

5. **ASSESSING STUDENT PROGRESS.**

a) Ask “Did teachers informally check how well you were learning and give information to help you improve?”

________________________________________________________________________

If yes, how?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

b) Ask “Was IMCI included in a formal examination (written, oral, practical etc.)?”

________________________________________________________________________

If yes, what kind of examination was it?

________________________________________________________________________

________________________________________________________________________

Ask ”Do you feel that the examinations used, accurately measured your knowledge and skills in IMCI?”

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Ask for any suggestions for improving the methods of assessing student knowledge and skills.

6. STUDENT CONFIDENCE TO USE IMCI

a) Ask students if they feel confident that they can use IMCI to manage sick children. Ask them to rate their level of confidence on a scale from 1 to 5 (1 = not confident at all to 5 = very confident).

b) If confidence rate is low ask for suggestions on what should be done to increase it.

7. OTHER COMMENTS OR SUGGESTIONS

If time permits, ask for any comments or suggestions students may have, for example:

a) “What do you not understand about IMCI?”
b) “What do you like or not like about IMCI?”
c) “Will IMCI be useful for your future work?”.
d) “Is teaching of IMCI different from other subjects, if yes, how?”

Interviewer _______________________ Date _____________________
EXAMPLE:
Focus Group Interview with Teachers

Note for interviewer:

It is recommended to conduct the focus group interview with a small group of teachers who are involved with IMCI teaching.

Make sure that you explain the purpose of the interview:

- To collect information about the process of introducing IMCI into an academic programme; and
- To use the information to improve teaching, learning and assessment methods and materials used for IMCI.

Try to conduct interview outside of normal teaching hours. Try to involve all teachers in the group in the discussion. However, it is not necessary to record every answer, or reach a consensus. Make your own judgement about the answers based of responses from the majority of teachers. If you feel that certain individual comments or suggestions are interesting, you may record them separately as an example.

If different teaching units are involved in IMCI teaching, try to conduct the interview with more than one group of teachers. This will give you an opportunity to make a more objective decision about the overall process of IMCI teaching.

Try to create friendly relaxing atmosphere during group interview. Avoid being an “examiner” or “evaluator”.

1. **RECORD INFORMATION ABOUT THE GROUP**
   
a) Number of teachers interviewed.

b) Department in the teaching institution.

c) Positions and teaching responsibilities/specialities within the department.

d) Formal training received in IMCI: 11-day course ( ), training in facilitator skills ( ), none ( ), other (specify) ______________________________

2. **RELEVANCE OF IMCI TO THE ACADEMIC PROGRAMME**
   
a) Ask teachers “Is the IMCI concept relevant to the selected academic programme?” Ask them to rate the relevance on a scale of 1 to 5 (1 = not relevant at all to 5 = fully relevant).

c) Ask why a particular score was given

   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________

3. **THE PROCESS OF TEACHING**
   
a) Ask about how much time was spent on IMCI teaching?

   In classroom? _____ hours. Is this: too short ( ), adequate ( ) too long ( )

   In the clinic? _____ hours. Is this: too short ( ), adequate ( ) too long ( )

   If not adequate, ask why. Then ask for suggestion for improvement.

   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________

b) Time of introduction. Ask if teachers think that IMCI was introduced at appropriate time in the course of study. Use the following categories: not appropriate at all ( ), neutral ( ), fully appropriate ( )

   Then ask: Why?
If not appropriate, ask for *suggestions for improvement*.

______________________________________________________________

______________________________________________________________

______________________________________________________________

c) *Suitability for inpatient and/or outpatient case management*. Ask teachers: “When the IMCI clinical guidelines should be used?”

Only in outpatient department (  )

Only in inpatient department (  )

Both in outpatient and inpatient department (  )

Ask why:

______________________________________________________________

______________________________________________________________

______________________________________________________________

d) *Teaching methodology*. Ask what *main teaching methods* were used to teach IMCI in the school.

In classroom?

______________________________________________________________

______________________________________________________________

______________________________________________________________

In the clinic?

______________________________________________________________

______________________________________________________________

______________________________________________________________

Ask which methods were used most frequently

______________________________________________________________

______________________________________________________________

Ask which methods were most useful

______________________________________________________________

______________________________________________________________

Ask for any suggestion for improving teaching methodology

______________________________________________________________

______________________________________________________________

______________________________________________________________
e) Opportunities for **clinical practice using IMCI**. Ask if students managed patients **individually or in groups**.

f) If in groups ask about the average size of the group. ________ (students)

g) Ask on average **how many patients** each student manage using the IMCI guidelines. ____________ (number of patients)

h) Ask teachers “Was the **amount of time scheduled/allowed for clinical practice** in IMCI: too little (    ), enough (    ), too much (      )?”

Ask why. Ask for any other comments related to IMCI clinical practice, if any

______________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________

4. LEARNING MATERIALS

a) **Availability of learning materials**. Ask what types of IMCI learning materials students were asked to use:

______________________________________________________________
______________________________________________________________
______________________________________________________________

Ask how students obtained materials?

______________________________________________________________
______________________________________________________________
______________________________________________________________

Ask about cost of those materials (if appropriate):

too expensive ( ), reasonable (  ) no cost (    )

b) **Usefulness of learning materials**. Ask which student materials were more useful? And why?

______________________________________________________________
______________________________________________________________
______________________________________________________________

Ask for any suggestions to improve the content, presentation and availability of student materials?

______________________________________________________________
______________________________________________________________
5. **TEACHING MATERIALS**

a) **Availability of teaching materials.** Ask what types of IMCI materials were used by teachers:

_____________________________________________________________________

_____________________________________________________________________

Ask how did teachers obtain materials?

_____________________________________________________________________

_____________________________________________________________________

Ask about cost of those materials (if appropriate):

too expensive ( ), reasonable ( ) no cost ( )

b) **Usefulness of teaching materials.** Ask which teaching materials they found more useful? And why?

_____________________________________________________________________

_____________________________________________________________________

Ask for any suggestions to improve the content, presentation and availability of IMCI teaching materials?

_____________________________________________________________________

_____________________________________________________________________

6. **ASSESSING STUDENT PROGRESS.**

a) Ask “Did you check how well students were learning and give information to help students improve their performance?”

_____________________________________________________________________

_____________________________________________________________________

If yes, how?

_____________________________________________________________________

_____________________________________________________________________

b) Ask “Was IMCI included in a formal examination (written, oral, practical etc.)?”

_____________________________________________________________________
Phase Three – Review and Replan IMCI Teaching

If yes, what kind of examination was it?

Ask about appropriateness of the method(s) used for assessing student knowledge and skills in IMCI

Ask for any suggestions for improving the method of assessing student IMCI knowledge and skills.

7. STUDENT CONFIDENCE TO USE IMCI

a) Ask teachers if they feel confident that their students could use IMCI to manage sick children. Ask them to rate the confidence on a scale of 1 to 5 (1= not confident at all to 5 = very confident).

If the confidence rating is low, ask for suggestions about what should be done to increase it.

8. OTHER COMMENTS OR SUGGESTIONS

If time permits, ask for any comments or suggestions teachers may have, for example:

a) “What do their students not understand about IMCI?”
b) “What do they like, or not like about IMCI?”
c) “Will IMCI be useful for your students in their future work?”
d) “Is teaching of IMCI different from other subjects, if yes, how?”
Phase Three – Review and Replan IMCI Teaching

Interviewer _________________________ Date ______________
EXAMPLE:
Observation Form for an IMCI Clinical Practice Session

Notes for the observer:

Discuss with the unit chief or a responsible teacher the possibility of observing a typical IMCI clinical training session for students. If possible select a training session in the outpatient department rather than in an inpatient hospital ward.

Before the session, try to obtain the following (if they exist):

i. objectives of the session (written or orally from a teacher)
ii. written guidelines for the session (If not available, ask the teacher in advance about his/her plans for conducting the session)

During the session try not to interrupt with questions or other activities such as interviews with students or student assessment.
1. INFORMATION ABOUT THE TEACHING INSTITUTION/UNIT

Name of the teaching institution _________________________________

Name of the teaching unit _________________________________

2. INFORMATION ABOUT SESSION OBSERVED

a. **Topic of the session observed** (according to written materials or based on information from the teacher):

b. **Objectives of the session observed** (according to written materials or based on information from the teacher):

c. **Duration of the session and opportunities for clinical practice**

<table>
<thead>
<tr>
<th>Length of the session (minutes).</th>
<th>Number of students in a group. AND Teacher/student ratio.</th>
<th>Average number of cases that each student managed individually.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did students practice with patients individually or in groups? If in groups, how many students per group?</td>
<td>Average number of outpatients seen by each student:</td>
<td>Average number of inpatients seen by each student:</td>
</tr>
</tbody>
</table>
d. **Use of teaching guidelines.** Note if IMCI teaching guidelines were followed by the teacher (obtain written guidelines for the session before the session starts. If not available, ask the teacher before the session what will be the main elements of the session). Were there deviations from the guidelines? If yes, explain what was added or removed.


e. **Approximate time spent (%) or min) for different session components**

<table>
<thead>
<tr>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Demonstrations</td>
</tr>
<tr>
<td>Discussions</td>
</tr>
<tr>
<td>Questions/answers</td>
</tr>
<tr>
<td>Student evaluation/monitoring/feedback</td>
</tr>
<tr>
<td>Supervised clinical practice by students (individual or in small groups)</td>
</tr>
<tr>
<td>Summary</td>
</tr>
<tr>
<td>Others (describe)</td>
</tr>
</tbody>
</table>

f. **Types of IMCI signs and symptoms demonstrated/practised:**

- Danger signs
  - feel hot/fever
- Fast breathing
  - stiff neck
- Chest indrawing
  - runny nose
- Stridor
  - generalized rash
- Clouding cornea
  - Lethargic
- deep mouth ulcers
  - Sunken eyes
- pus draining of the eye
  - Not able to drink
- Skin pinch (S/VS)
  - ear pain/discharge
- Restless
  - pus draining from the ear
- Drink eagerly/thirsty
  - tender swelling behind the ear
- Blood in the stool
  - Severe wasting visible
- Palmar pallor
  - signs of local bacterial infection
- Oedema on feet
  - assessment of attachment
- Weight for age
  - assessment of positioning
- signs of possible serious bacterial infection
Phase Three – Review and Replan IMCI Teaching

**g. IMCI classifications demonstrated/practised:**

- Cough or difficult breathing
- Possible bacterial infection
- Feeding problem
- Fever
- Nutritional status
- Diarrhoea

**h. Treatment and counselling practised**

<table>
<thead>
<tr>
<th></th>
<th>□ Always □ Frequently □ Sometimes □ Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment identified</td>
<td></td>
</tr>
<tr>
<td>Treatment practised</td>
<td></td>
</tr>
<tr>
<td>Follow-up practised</td>
<td></td>
</tr>
<tr>
<td>Counselling practised</td>
<td></td>
</tr>
</tbody>
</table>

**i. Variety of teaching methods used during the session** (tick all methods used)

- □ demonstration
- □ individual student practice
- □ group practice
- □ observation of student practice
- □ clinical rounds
- □ ward report
- □ case studies
- □ patient simulation
- □ supervised clinical practice
- □ case presentation
- □ case conference
- □ question and answer (oral drill)
- □ individual feedback
- □ group feedback
- □ group discussion
- □ case write-up/report
- □ work based (on-the-job) learning
- □ video reviews of consultations
- □ others (*describe*):

**j. Teaching/learning material and equipment used**

<table>
<thead>
<tr>
<th>Materials used by teachers</th>
<th>Materials used by students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical supplies and equipment used</td>
<td></td>
</tr>
</tbody>
</table>
Phase Three – Review and Replan IMCI Teaching

k. Specific questions asked by students during the session

l. Overall comments about the session

Observer: _________________________    Date :  _________________
EXAMPLE:
Observation Form for an IMCI Classroom Session

Notes for the observer:

Discuss with the unit chief or a responsible teacher the possibility of observing a typical IMCI classroom session for students.

Before the session, try to obtain the following (if they exist):

iii. objectives of the session (written or orally from a teacher)
iv. written guidelines for the session (If not available, ask a teacher in advance about how he/she plans to conduct the session)

During the session try not to interrupt with questions or other activities such as interviews with students or student assessment.
1. INFORMATION ABOUT SCHOOL/DEPARTMENT

Name of the teaching institution ______________________________________

Name of the teaching unit ___________________________________________

2. INFORMATION ABOUT SESSION OBSERVED

a. **Topic of the session observed** (according to written materials or based on information from the teacher):

b. **Objectives of the session observed** (according to written materials or based on information from the teacher):

c. **Duration of the session and opportunities for clinical practice**

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</tr>
</tbody>
</table>
d. **Use of teaching guidelines.** Note if IMCI teaching guidelines were followed by the teacher (Obtain written guidelines for the session before the session starts. If not available, ask the teacher what will be the main elements of the session). Were there deviations from the guidelines? If yes, explain what was added or removed.

e. **Approximate time spent (%) or min) for different session components**

<table>
<thead>
<tr>
<th>Component</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture/explanations</td>
<td></td>
</tr>
<tr>
<td>Reading/written exercises</td>
<td></td>
</tr>
<tr>
<td>Discussions</td>
<td></td>
</tr>
<tr>
<td>Questions/answers</td>
<td></td>
</tr>
<tr>
<td>Student assessment/monitoring/feedback</td>
<td></td>
</tr>
<tr>
<td>Demonstrations</td>
<td></td>
</tr>
<tr>
<td>Summary</td>
<td></td>
</tr>
<tr>
<td>Others (describe)</td>
<td></td>
</tr>
</tbody>
</table>

f. **IMCI content presented during the session**

- The IMCI case management process
- The age groups included in the IMCI charts
- The general danger signs
- Breastfeeding attachment and sucking
- Principles of assessing and classifying:
  - cough or difficult breathing
  - possible bacterial infection (infant)
  - diarrhoea
  - fever
  - ear problem
  - nutritional status
  - feeding problem or low weight
- Immunization
- Referral
- Urgent pre-referral treatments
- Appropriate outpatient treatments
- Follow-up care
- Principles of good communication to:
  - assess sick children
- Principles of counselling:
  - to assess/solve feeding problems
  - feeding during sickness and health
  - when to return to a health facility
  - about the mother’s own health
  - Tech basis for general danger signs
- Tech basis for assessment / class of:
  - cough or difficult breathing
  - possible bacterial infection
  - diarrhoea
  - fever
  - ear problem
  - malnutrition
  - anaemia
  - feeding problem or low weight
- Principles of referral level:
  - triage
  - emergency care
  - monitoring of patient progress
- Other (describe):
teach to give treatments at home

g. Variety of teaching methods used during the session (tick all methods used)

- lecture
- debate
- seminar
- case study
- Individual reading
- Individual feedback
- Photograph booklet
- student presentation
- group discussion
- distance/self learning
- role play
- games
- video exercise
- assignment/project
- demonstration
- brainstorming
- oral drill
- simulation
- written exercise
- computer learning
- Others (describe):

h. Teaching/learning material and equipment used

<table>
<thead>
<tr>
<th>By teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>By students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Classroom equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

i. List specific questions asked by students during the session:

j. Overall comments on the session
Observer: ________________________________    Date : ____________
## A. Assessment

### KEY ASSESSMENT TASKS

(Tasks in bold are needed for all children)

<table>
<thead>
<tr>
<th>Task Description</th>
<th>Assessment needed?</th>
<th>Student Score*</th>
<th>Percent of gold standard**</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CHECKS all danger signs (ASKS if child is able to drink or breastfeed, if child vomits everything, if child had convulsions during this illness. CHECKS if child is lethargic or unconscious, or convulsing now)</td>
<td>2 = Needed</td>
<td>(0, 1, or 2)</td>
<td></td>
<td>The total of student score</td>
</tr>
<tr>
<td>2. ASKS if child has cough or difficult breathing</td>
<td>2.a. If YES, asks for how long, counts breathing rate, looks for chest indrawing and listens for stridor.</td>
<td></td>
<td></td>
<td>The total of assessment needed</td>
</tr>
<tr>
<td>3. ASKS if child has diarrhoea</td>
<td>3.a. If YES, asks for how long, asks if there is blood in stool, observes drinking or breastfeeding, pinches skin of abdomen, looks for sunken eyes.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. ASKS if child has sore throat</td>
<td>4.a. If YES, feels for enlarged lymph node on the neck, look for white exudate on the throat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. ASKS if child has an ear problem</td>
<td>5.a. If YES, asks about ear pain and discharge, looks for pus and feels for swelling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. ASKS if child has fever</td>
<td>4.a. If YES, asks for how long, asks about measles, looks for stiff neck, and signs of measles</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. CHECKS for malnutrition and anemia</td>
<td>4.b. If MEASLES, looks for mouth ulcers, pus draining from eye and clouding of cornea.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. CHECKS for malnutrition and anemia</td>
<td>(looks for visible severe wasting, palmar pallor, oedema of both feet and determines weight for age)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. CHECKS for malnutrition and anemia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. ASKS about other problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* (0 = Not done; 1 = Done, but not correctly; 2 = Done correctly) ** Per cent of examiner’s assessment

### Totals: %

## B. Classification

### KEY CLASSIFICATION AREAS

<table>
<thead>
<tr>
<th>Write the Classification by EXAMINER</th>
<th>Classification needed?</th>
<th>Student Score*</th>
<th>Percent of gold standard**</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. General danger sign?(Y/N)</td>
<td>2 = Needed</td>
<td>(0, 1 or 2)</td>
<td>The total of student score</td>
<td>The total of classification needed</td>
</tr>
<tr>
<td>2. Cough or difficult breathing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Diarrhoea</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dehydration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persistent Diarrhoea</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dysentery</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Sore throat</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Ear problem</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Fever (including Measles)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Malnutrition and anemia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* (0 = Not done; 1 = Done, but not correctly; 2 = Done correctly) ** Per cent of examiner’s classification

### Totals: %
C. Identification of Feeding Problems (if anaemia, very low weight, or less than 2 years)

<table>
<thead>
<tr>
<th>KEY TASKS</th>
<th>Steps needed? 2=Needed</th>
<th>Student Score* (0, 1, or 2)</th>
<th>Percent of gold standard**</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ASKS about breastfeeding, other food or fluids, if feeding changed during illness</td>
<td></td>
<td></td>
<td></td>
<td>The total of student score</td>
</tr>
<tr>
<td>2. IDENTIFIES feeding problems</td>
<td></td>
<td></td>
<td></td>
<td>The total of steps needed</td>
</tr>
</tbody>
</table>

Totals: %

* (0 = Not done; 1 = Done, but not correctly; 2 = Done correctly)  ** Per cent of examiner's conclusion

D. Treatment (given or identified)

<table>
<thead>
<tr>
<th>KEY TREATMENT TASKS</th>
<th>TREATMENT IDENTIFIED by EXAMINER (Y or N)</th>
<th>by STUDENT (Y or N)</th>
<th>Treatment needed? 2=Needed or Done</th>
<th>Student Score* (0, 1, or 2)</th>
<th>Percent of gold standard**</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. IDENTIFIES pre-referral treatment/s</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. PRESCRIBES/IDENTIFIES 2.a. Antibiotic tablets/syrup</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.b. Rehydration Plan A, B or C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.c. Paracetamol/aspirin</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2.d. Vitamin A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.e. Tetracycline eye ointment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.f. Gentian violet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.g. Iron</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.h. Other (specify):</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.i. Other (specify):</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Totals: %

* (0 = Not done; 1 = Done, but not correctly; 2 = Done correctly)  ** Per cent of examiner's treatment

E. Counselling

<table>
<thead>
<tr>
<th>KEY COUNSELLING TASKS (Tasks in bold are needed for all children)</th>
<th>Counselling needed? 2=Needed</th>
<th>Student Score* (0, 1, or 2)</th>
<th>Percent of gold standard**</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gives mother feeding counseling relevant to the child's age</td>
<td></td>
<td></td>
<td></td>
<td>The total of student score</td>
</tr>
<tr>
<td>2. Advises to give child extra fluid and continue feeding during illness</td>
<td></td>
<td></td>
<td></td>
<td>The total of counselling needed</td>
</tr>
<tr>
<td>3. Explains when to return immediately</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Explains reason for referral and gives a referral note</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Gives mother feeding counselling relevant to the child's age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Teaches mother to give oral drugs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Teaches mother to treat local infection</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Totals: %

* (0 = Not done; 1 = Done, but not correctly; 2 = Done correctly)  ** Per cent of examiner's conclusion

GRAND TOTAL: %
INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS (IMCI)

Sample Written Examination

March 2001

Instructions: Select or write the correct answer. Remember that for some questions there may be more than one correct answer.

Note: If needed, you may refer to the IMCI Chart Booklet and Mother's Card. You may also use the IMCI case recording form.

A. The IMCI Guidelines

A.1. What are the five major killers of children?
   a. ___________________________
   b. ___________________________
   c. ___________________________
   d. ___________________________
   e. ___________________________

A.2. Where should the IMCI guidelines be used?
   a. in the inpatient ward of a hospital
   b. in the outpatient ward of a hospital
   c. at first-level health facilities
   d. in specialized hospitals

A.3. The IMCI clinical guidelines describe how to manage a child:
   a. with a chronic problem
   b. with an acute illness
   c. with injuries
   d. during a follow-up visit
   e. with trauma

A.4. The IMCI clinical guidelines are designed for use with which of the following age group(s)?
   a. Birth – 5 years
   b. 2 months – 2 years
   c. 1 week up to 5 years
   d. 2 months up to 9 years
   e. 6 months up to 10 years
B. Assessment and Classification

B.1. When a child is brought to a health facility you should always check for general danger signs. The general danger signs are:

a. child is restless or nervous
b. child is lethargic or unconscious
c. child cries loudly or too long
d. child is not able to drink or breastfeed
e. child vomits frequently
f. child has convulsions
g. child vomits everything

B.2. List the main symptoms for which every sick child should be checked:

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

B.3. What is the cut-off rate for fast breathing in a child who is exactly 12 months old:

a. 60 breaths per minute or more
b. 50 breaths per minute or more
c. 40 breaths per minute or more
d. 30 breaths per minute or more

B.4. Read the description of the following case and write the correct classification:

Pemba is 18 months old. He weighs 9 kg, and his temperature is 37ºC. His mother says he has had a cough for 3 days.

Pemba's mother said that he is able to drink and has not vomited anything. He has not had convulsions. Pemba was not lethargic or unconscious.

You counted 40 breaths per minute. The mother lifted the child's shirt and you did not see chest indrawing. You did not hear stridor or wheeze when you listened to the child's breathing.

Write down Pemba's classification(s):

____________________________________________________________________

B.5. To classify the dehydration status of a child with diarrhoea you should LOOK and FEEL for:

a. __________________________________________
b. __________________________________________
c. __________________________________________
d. __________________________________________
B.6. In addition to assessing dehydration status, the mothers of ALL children with diarrhoea should be asked:

a. For how long has the child had diarrhoea?
b. How many times did the child have watery stool?
c. What did the child eat before the diarrhoea started?
d. Is there blood in the stool?
e. Do other family members have diarrhoea?

B.7. Read the description of the following case and write the correct classification(s):

Heera is 3 years old. She weighs 10 kg. Her temperature is 37ºC. Her mother came today because Heera has diarrhoea.

She does not have any general danger signs. She does not have cough or difficult breathing.

When you asked how long Heera has had diarrhoea, the mother said, "For more than 2 weeks." There is blood in the stool. Heera is irritable during the visit, but her eyes are not sunken. She is able to drink, but she is not thirsty. A skin pinch goes back slowly.

Write down Heera’s classification(s):

__________________________________________________________
__________________________________________________________

B.8. To be classified as having STREPTOCOCCAL SORE THROAT a child must have fever or sore throat and TWO of the following signs:

a. severe pain in the throat
b. not able to drink
c. have enlarged tender lymph node(s) on the throat or tonsils
d. redness seen in the throat
e. white or yellow exudate on the throat or tonsils
f. red (congested) throat

B.9. To be classified as having MASTOIDITIS a child must have the following signs:

a. severe ear pain and redness behind the ear
b. swelling behind the ear
c. pus draining from one of child’s ear
d. pus draining from both child’s ears
e. tender swelling behind the ear
B.10. Read the description of the following case and write the correct classification(s):

_Dana is 18 months old. She weighs 9 kg. Her temperature is 37ºC. Her mother said that Dana had discharge coming from her ear for the last 3 days._

_Dana does not have any general danger signs. She does not have cough or difficult breathing. She does not have diarrhoea and she does not have fever._

_You asked about Dana’s ear problem. The mother said that Dana does not have ear pain, but the discharge has been coming from the ear for 3 or 4 days. You can see pus draining from the child’s right ear. You do not feel any tender swelling behind either ear._

Write down Dana’s classification(s):

__________________________________________________________

B.11. A child should be assessed for the main symptom of FEVER if the child:

a. has a history of fever
b. does not feel well
c. feels hot
d. has temperature 37º
e. has temperature 37.5º or above
f. has generalised rash

B.12. Read the description of the following case and write the correct classification(s):

_Anders is 3 years old. He weighs 9.4 kg. His temperature is 37.5ºC. His mother says he feels hot. He also has a cough, she says._

_Anders was able to drink, had not vomited, did not have convulsions, and was not lethargic or unconscious._

_The mother said Anders had been coughing for 3 days. You counted 51 breaths a minute. You did not see chest indrawing. There was no stridor when Anders was calm, and there is no wheezing._

_Anders does not have diarrhoea._

_Because Anders’ temperature was 37.5ºC you assessed the child further for signs of fever. The child has felt hot for 5 days, the mother said. The child did not have a stiff neck, but there was runny nose, and generalized rash. There is no clouding of cornea, pus draining from the eye, or moths ulcers._

Write down Anders’s classification(s):

__________________________________________________________
B.13. Which children should be checked for malnutrition and anaemia?

a. all children with feeding problem(s)

b. all children who are less than 12 months of age

c. all children brought to the clinic

d. all children who are not breastfeed

B.14. Read the description of the following case and write the correct classification(s):

Kalisa is 11 months old. He weighs 8 kg. His temperature is 37°C. His mother says he has had a dry cough for the last 3 weeks.

Kalisa does not have any general danger signs. You assessed his cough. It has been present for 21 days. You counted 41 breaths per minute. You do not see chest indrawing, but you can hear wheezing noise when the child breathing out. There is no stridor when the child is calm. Kalisa does not have diarrhoea. He has not had a fever during this illness. He does not have an ear problem.

You checked Kalisa for malnutrition and anaemia. Kalisa does not have visible severe wasting. His palms are very pale and appear almost white. There is no oedema of both feet. Look at the weight for age chart in your chart booklet and determine Kalisa's weight for age.

Write down Kalisa's classification(s):

B.15. Review the information below and decide if a contraindication to immunization is present for each of the following children (tick √ appropriate box):

<table>
<thead>
<tr>
<th>If the child:</th>
<th>Immunize this child today if due for immunization</th>
<th>Do not immunize today</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. will be treated at home with antibiotics</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>b. has a local skin infection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. has a chronic heart problem</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. is being referred for severe classification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. is exclusively breastfed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. was jaundiced at birth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. is classified as VERY LOW WEIGHT</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
If the child: | Immunize this child today if due for immunization | Do not immunize today |
---|---|---|
h. Is classified as NO PNEUMONIA: COUGH OR COLD | | |

**C. Feeding problems**

C.1. You should assess the feeding of children who:

- a. are classified as having VERY SEVERE DISEASE
- b. are less than 2 years old and any classification
- c. are classified as having ANAEMIA OR VERY LOW WEIGHT
- d. are classified as having PERSISTENT DIARRHOEA

C.2. Write a "T" by the statements that are True. Write an "F" by the statements that are False.

- a. ____ children should be given fewer feedings during illness.
- b. ____ a 3-month-old child should be exclusively breastfed.
- c. ____ a very thin cereal gruel is a nutritious complementary food.
- d. ____ a 3-year-old child needs 5 feedings each day of family foods or other nutritious foods.
- e. ____ a 5-month-old child should be breastfed as often as he wants, day and night.

C.3. Read the description of the following case and answer the questions.

*Rena is 5 months old and weighs 4 kilograms. She is classified as VERY LOW WEIGHT. When you assess Rena's feeding, her mother tells you that she breastfeeds 4 times in 24 hours and also gives Rena cow's milk by feeding bottle 2 times per day. The mother explains that she gives no other foods to Rena and her feeding did not change during this illness.*

- a. What are Rena's feeding problems?
b. What is the mother doing correctly to feed Rena?

________________________________________________________________________

________________________________________________________________________


c. What feeding advice is needed?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________


C.4. You just counseled the mother of a 5 month old about starting complementary foods. The first and second columns below show your first checking questions and the mother's responses. In the third column, write another checking question to clarify that the mother knows how to feed the child correctly.

<table>
<thead>
<tr>
<th>First Checking Question</th>
<th>Mother's Response</th>
<th>Second Checking Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.4.a. What are some good foods to give?</td>
<td>Thick, nutritious foods</td>
<td></td>
</tr>
<tr>
<td>C.4.b. When will you begin giving these foods?</td>
<td>When he is ready</td>
<td></td>
</tr>
</tbody>
</table>
### D. Treatment

D.1. Review information about the sick children below and decide if they need urgent referral.

<table>
<thead>
<tr>
<th>Patient</th>
<th>Classifications</th>
<th>Urgent referral needed</th>
<th>No need for urgent referral</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Sara</td>
<td>PNEUMONIA, ACUTE EAR INFECTION, NO ANAEMIA AND NOT VERY LOW WEIGHT, no other classifications</td>
<td>No need for urgent referral</td>
<td>No need for urgent referral</td>
</tr>
<tr>
<td>b. Neema</td>
<td>NO PNEUMONIA: COUGH OR COLD, Diarrhoea with NO DEHYDRATION, PERSISTENT DIARRHOEA, NO ANAEMIA AND NOT VERY LOW WEIGHT, no other classifications</td>
<td>No need for urgent referral</td>
<td>No need for urgent referral</td>
</tr>
<tr>
<td>c. David</td>
<td>MASTOIDITIS, NO ANAEMIA AND NOT VERY LOW WEIGHT, no other classifications</td>
<td>No need for urgent referral</td>
<td>No need for urgent referral</td>
</tr>
<tr>
<td>d. Habib</td>
<td>Diarrhoea with SEVERE DEHYDRATION, NO ANAEMIA AND NOT VERY LOW WEIGHT, no other classifications, The clinic can provide IV therapy</td>
<td>No need for urgent referral</td>
<td>No need for urgent referral</td>
</tr>
<tr>
<td>e. Isoke</td>
<td>Diarrhoea with SEVERE DEHYDRATION, SEVERE MALNUTRITION OR SEVERE ANAEMIA, no other classifications</td>
<td>No need for urgent referral</td>
<td>No need for urgent referral</td>
</tr>
</tbody>
</table>
D.2. Read the steps used to teach mother how to give oral drugs at home. Write down missing steps:

1. Determine the appropriate drugs and dosage for the child’s age or weight.
2. Tell the mother the reason for giving the drug to the child
3. _____________________________________________
4. _____________________________________________
5. Ask the mother to give the first dose to her child
6. Explain carefully how to give the drug, then label and package the drug
7. Explain that all the oral drug tablets or syrups must be used to finish the course of treatment, even if the child gets better.
8. _____________________________________________

D.3. For the cases given below identify the correct antibiotic(s) and the amount of the first dose.

<table>
<thead>
<tr>
<th>Type of antibiotic(s)</th>
<th>Amount of 1st dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.3.a. A 6-month-old (7 kg) child has PNEUMONIA</td>
<td></td>
</tr>
<tr>
<td>D.3.b. A 36-month-old child (15 kg) needs an antibiotic for SEVERE DEHYDRATION because there is cholera in the area</td>
<td></td>
</tr>
</tbody>
</table>

D.4. What are the three rules for home treatment of diarrhoea?

a. _____________________________________________
b. _____________________________________________
c. _____________________________________________
E. Counselling

E.1. According to the IMCI guidelines, the mother of a sick child should be counselled about four topics. What are the four topics for counselling?

a. _______________________________________________________

b. _______________________________________________________

c. _______________________________________________________

d. _______________________________________________________

E.2. For the cases given below list the signs that indicate when to return immediately (you will teach the mother to watch for these signs).

<table>
<thead>
<tr>
<th>Signs when to return immediately</th>
</tr>
</thead>
<tbody>
<tr>
<td>E.2.a. A child has:</td>
</tr>
<tr>
<td>no general danger signs</td>
</tr>
<tr>
<td>ACUTE EAR INFECTION</td>
</tr>
<tr>
<td>NO ANAEMIA AND NOT</td>
</tr>
<tr>
<td>VERY LOW WEIGHT</td>
</tr>
<tr>
<td>no other classifications</td>
</tr>
<tr>
<td>E.2.b. A child has:</td>
</tr>
<tr>
<td>no general danger signs</td>
</tr>
<tr>
<td>Diarrhoea with NO DEHYDRATION</td>
</tr>
<tr>
<td>PERSISTENT DIARRHOEA</td>
</tr>
<tr>
<td>NO ANAEMIA AND NOT</td>
</tr>
<tr>
<td>VERY LOW WEIGHT</td>
</tr>
<tr>
<td>no other classifications</td>
</tr>
</tbody>
</table>

E.3. It is important to ask good checking questions to ensure that a mother understood well your treatment instructions. The questions below can be answered with “yes” or “no.”

Rewrite the questions as good checking questions.

<table>
<thead>
<tr>
<th>Rewritten questions as good checking questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>E.3.a. Do you remember when to give the antibiotic?</td>
</tr>
<tr>
<td>E.3.b. Do you understand how much syrup to give your child?</td>
</tr>
<tr>
<td>E.3.c. Do you know how to get to the hospital?</td>
</tr>
</tbody>
</table>
F. Follow-Up

F.1. Read the following case and answer the questions.

Ahmed has been brought in the outpatient clinic for a follow-up visit for pneumonia. He is three years old and weighs 12.5 kg. His axillary temperature is 37°C. He has been taking amoxycillin. His mother says he is still sick and has vomited twice today.

a. How would you reassess Ahmed today? List the signs you would look at and the questions you would ask his mother.

When you reassess Ahmed, you find that he is able to drink and does not always vomit after drinking. He has not had convulsions. He is not lethargic or unconscious. He is still coughing, so he has been coughing now for about 2 weeks. He is breathing 55 breaths per minute. He has chest indrawing. He does not have wheezing or stridor. His mother says that sometimes he feels hot. She is very worried because he is not better. He has hardly eaten for two days.

b. Is Ahmed getting worse, the same, or better?

c. How should you treat Ahmed?
## A. The IMCI Guidelines

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A.1</strong></td>
<td>It is expected that a student should list the five major killers in his/her own country.</td>
</tr>
<tr>
<td><strong>A.2.</strong></td>
<td>“b”, “c”</td>
</tr>
<tr>
<td><strong>A.3.</strong></td>
<td>“b”, “d”</td>
</tr>
<tr>
<td><strong>A.4.</strong></td>
<td>“c”</td>
</tr>
</tbody>
</table>

## B. Assessment and Classification

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B.1.</strong></td>
<td>“b”, “d”, “f”, “g”</td>
</tr>
<tr>
<td><strong>B.2</strong></td>
<td>In generic materials the list includes cough and difficult breathing, diarrhoea, fever, ear infection, malnutrition and anemia <em>(in some countries it may include additional symptoms depending on local adaptation)</em></td>
</tr>
<tr>
<td><strong>B.3</strong></td>
<td>“c”</td>
</tr>
<tr>
<td><strong>B.4</strong></td>
<td>“PNEUMONIA”</td>
</tr>
<tr>
<td><strong>B.5</strong></td>
<td>“Look at the child’s general condition”, “Look for sunken eyes”, “Offer the child fluid (look how the child drinks)”, “Pinch the skin of the abdomen”</td>
</tr>
<tr>
<td><strong>B.6</strong></td>
<td>“a”, “d”</td>
</tr>
<tr>
<td><strong>B.7</strong></td>
<td>“SOME DEHYDRATION”, SEVERE PERSISTENT DIARRHOEA”, “DYSENTERY”</td>
</tr>
<tr>
<td><strong>B.8</strong></td>
<td>“c”, ”e”, “f”</td>
</tr>
<tr>
<td><strong>B.9</strong></td>
<td>“e”</td>
</tr>
</tbody>
</table>
### B. Acute Ear Infection

B.10 **“ACUTE EAR INFECTION”**

B.11 **“a”, “c”, “e”**

B.12 **“PNEUMONIA”, “MEASLES”**

B.13 **“c”**

B.14 **“NO PNEUMONIA: COUGH OR COLD”, “SEVERE ANAEMIA”**

B.15 **“d” – do not immunize, all others - immunize**

### C. Feeding problems

C.1 **“b”, “c”**


C.3.b. She is breastfeeding.

C.3.c. Breastfeed at least 8 times in 24 hours (day and night). If you cannot breastfeed 8 times in 24 hours, use a cup instead of a bottle to give the cow's milk. Give complementary foods 1 or 2 times per day after breastfeeding.

C.4.a. What kind of thick, nutritious food will you give? What are some examples of food you will give?

C.4.b. How will you know when your baby is ready for these foods? What signs you will look for?
## D. Treatment

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>D.1.a.</td>
<td>- NO</td>
</tr>
<tr>
<td>D.1.b.</td>
<td>- NO</td>
</tr>
<tr>
<td>D.1.c.</td>
<td>- YES</td>
</tr>
<tr>
<td>D.1.d.</td>
<td>- NO</td>
</tr>
<tr>
<td>D.1.e.</td>
<td>- YES</td>
</tr>
</tbody>
</table>

D.2  
3. – determine how to measure a dose,  
4. – Watch the mother practice measuring a dose by herself,  
8. – Check the mother’s understanding before she leaves the clinic

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>D.3.a.</td>
<td>first line antibiotic before referral</td>
</tr>
<tr>
<td>D.3.b.</td>
<td>cotrimoxazole to treat cholera. Dosage = 1 adult tablet, two times daily or 3 paediatric tablets two times daily, or 7.5 ml of syrup, two times daily</td>
</tr>
</tbody>
</table>

D.4  
Three rules of home treatment are:  
1. Give more fluids,  
2. Continue feeding,  
3. Counsel when to return

## E. Counseling

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
</table>
| E.1. | Four main items to counsel the mother are:  
1. About food and feeding problems,  
2. About fluid,  
3. When to return,  
4. About her own health |

| E.2.a. | Not able to drink or breastfeed, Becomes sicker, Develops fever |
| E.2.b. | Not able to drink or breastfeed, Becomes sicker, Develops fever, Blood in stool, Drinking poorly |
E.3.a. When you will give antimalarial? For how many days?

E.3.b. How much syrup will you give your child? Show me

E.3.c. How will you get to the hospital?

F. Follow-up

F.1.a. Is he is able to drink? Does he vomits everything? Has he had convulsions? See if he is lethargic or unconscious. Is he still coughing? How long has he been coughing? Count the breaths in one minute. Look for chest indrawing. Look and listen for stridor. Is he breathing slower? Is there fever? Is it less? Is he eating better?

F.1.b. He is worse. He has chest indrawing.

F.1.c. Refer urgently. Before departure give him a dose of amoxycillin (the second line antibiotic), one 250 mg tablet.