IMCI INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS

INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS

IMCI ADAPTATION GUIDE

A guide to identifying necessary adaptations of clinical policies and guidelines, and to adapting the charts and modules for the WHO/UNICEF course

PART 1

A. The Adaptation Process

B. Procedures for Adapting the Charts and Modules

June 2002

DEPARTMENT OF CHILD AND ADOLESCENT HEALTH AND DEVELOPMENT

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The 2002 working draft of the IMCI Adaptation Guide consists of the following sections:

Section A. The Adaptation Process

Section B. Procedures for Adapting the Charts and Modules

Section C. Technical Basis for Adapting the Clinical Guidelines, Feeding Recommendations and Local Terms

Section D. Protocol for Adapting the Feeding Recommendations

Section E. Protocol for Identifying and Validating Local Terms

Section F. Protocol for Designing and Pretesting an Adapted Mother's Card

Section H. Modifying the Generic Chart Booklet: Using Microsoft Publisher®

Please provide comments and further input to WHO/CAH, Geneva, Switzerland.

Preface

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

The Department of Child and Adolescent Health and Development (CAH) of the World Health Organization and UNICEF have responded to this challenge by developing a strategy for the **Integrated Management of Childhood Illness (IMCI)**. A major component of this strategy is the improvement in the case management skills of health staff through the provision of locally adapted guidelines on management of childhood illness, and activities to promote their use.

This ***IMCI Adaptation Guide*** describes a process for countries to use to adapt the generic IMCI guidelines for the care of sick children who come to first-level health facilities. The generic guidelines need to be adapted to ensure that they cover the illnesses that contribute most to childhood mortality in a specific country and that they are appropriate for the local conditions that affect the care of children in the health facility and at home. The guide assists persons in making decisions about what adaptations are needed and in completing the many tasks required to produce adapted materials for training health workers.

Acknowledgements

The WHO Department of Child and Adolescent Health and Development (CAH) gratefully acknowledges the contributions of UNICEF, UNAIDS, and eleven other WHO divisions and programmes* in developing and reviewing this Guide for adapting the generic guidelines for Integrated Management of Childhood Illness:

Office of HIV/AIDS and Sexually Transmitted Diseases (ASD)
Department of Child and Adolescent Health and Development (CAH)
Division of Control of Tropical Diseases (CDT)
Action Programme on Essential Drugs (DAP)
Division of Emerging and other Communicable Diseases Surveillance and Control (EMC)
Global Programme for Vaccines and Immunization (GPV)
Global Tuberculosis Programme (GTB)
Maternal and Newborn Health/Safe Motherhood (MSM)
Programme of Nutrition (NUT)
Oral Health (ORH)
Programme for the Prevention of Blindness and Deafness (PBD)
Special Programme for Research and Training in Tropical Diseases (TDR)

Many individuals also helped in the preparation of the Guide. Special thanks are extended to Sandy Gove for her technical input to the project, including the overall design of the adaptation process and, in particular, her work to bring together in this Guide the technical basis for the IMCI guidelines and possible adaptations.

Others provided their expertise on particular *sections* of the Guide, and for this CAH would especially like to thank Kathy Attawell, Nita Bhandari, Caryn Bern, Nicole Cheetham, Kate Dicken, Marcia Griffiths, Patricia Hudelson, Florrie Johnson, Lulu Muhe, Antonio Pio, Gretel Pelto, Eric Simoes, Adwoa Steel, and Patricia Whitesell. In addition to these persons, many others have used earlier drafts to adapt national guidelines in more than 60 countries and have given valuable feedback to help make this edition more practical.

Finally, the professional contributions of ACT International, Atlanta, Georgia, USA, to the development of the generic IMCI training materials, and to many of the useful tools to adapt them, are greatly appreciated.

* These are the names of divisions and programmes as they existed when the IMCI Working Group developed the generic guidelines.

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A. The Adaptation Process

INTRODUCTION

The WHO/UNICEF course on *Integrated Management of Childhood Illness* (IMCI) teaches health workers in first-level facilities a simplified and effective method for assessing, classifying, and treating the leading causes of mortality in young children. This system uses a very few clinical signs to classify children in ways that will lead to correct action.

Before conducting training and other IMCI activities, each country adapts the case management guidelines and training materials:

- To cover the most serious childhood illnesses that their first-level health workers must be able to treat,
- To make materials consistent with national treatment guidelines and other policies, and
- To make guidelines feasible to implement through the health system and by families caring for their children in the home.

The adaptation process, as a result, is a key element in national preparations for implementing IMCI. It is a mechanism for developing a consensus on technical issues across disease conditions. Adaptation helps to mobilize expertise, within and outside ministries of health, to contribute to the common effort of developing national guidelines to improve the quality of health care for children.

The WHO Department of Child and Adolescent Health and Development of the World Health Organization (CAH), therefore, provides this *IMCI Adaptation Guide* to help countries prepare their national IMCI guidelines and training materials. It is designed for the use of persons who come together to complete the adaptation tasks: staff of relevant Ministry programmes and their advisers, including representatives of university departments, institutions in public health institutions, paediatricians, UNICEF, and other partners involved in the implementation of IMCI in the country. Consultants from WHO and other organizations also use the guide to assist countries in preparing their national guidelines.

The IMCI guidelines

The charts describing the case management guidelines and the related course materials, provided by WHO and UNICEF, are considered to be a "generic" version. These generic materials were designed to be appropriate in the majority of developing countries where infant mortality is higher than 40 per 1 000 live births, including where there is transmission of *P. falciparum* malaria. They concentrate on the conditions that make the greatest contribution, together about 70%, to the mortality of children under the age of 5 years: pneumonia, diarrhoea, malaria, measles, and

malnutrition.[1] These five conditions also account for more than 70% of problems for which mothers bring their children to a health facility.[2]

Ear infection is another common reason that mothers bring their children for care. Although ear infection is not a substantial contributor to mortality, it is a substantial source of disability. Some feel that, if left unmanaged, it contributes to meningitis and sepsis, and thus to mortality. Ear infection is also an important complication of measles and often occurs with pneumonia. As the same two bacteria usually cause both pneumonia and ear infection, the same oral antibiotics can treat these conditions. For these reasons, the management of ear infection has been added to the other conditions covered in generic guidelines.

IMCI training for first-level health workers

The ***generic IMCI course*** is designed to teach health workers how to manage sick children and young infants, based on the IMCI guidelines. During the course, health workers learn the case management of:

- Acute respiratory infections, including pneumonia
- Diarrhoea, including dehydration, persistent diarrhoea, and dysentery
- Meningitis, sepsis
- Malaria
- Measles
- Malnutrition
- Anaemia
- Ear infection

The course emphasizes counselling caretakers on providing home care, as a part of good case management, including when to seek care for a sick child. For other common conditions not covered in the course, such as skin problems, health workers are encouraged to use guidelines and treatments they are already familiar with.

The course also teaches key preventive interventions:

- Immunization, to avoid missing the opportunity to immunize a child during a sick child visit, and
- Nutrition counselling and support for breastfeeding - including the assessment and correction of breastfeeding techniques - because of the effect of better nutrition on reducing malnutrition and the severity of diseases.

The preventive and curative interventions taught in the course are limited to ones proven effective and feasible for health workers in the *first-level health facility*. The guidelines, as a result, assume that these facilities have no additional diagnostic capabilities other than the physical examination of the child, and they are unable to provide inpatient care. The course, as a result, is not designed to train staff who care for severely ill children at hospitals, where there are more diagnostic and treatment capabilities.

The interventions taught in the course are limited also by their number and complexity to those that are most effective and can be learned by first-level health workers during the scheduled days for the course. The basic generic course is designed to be conducted within a minimum of eleven, very full days. The schedule, however, has been applied with a few changes in different settings, including in the preservice training of health workers. Increasing the number of interventions to be taught lengthens and in other ways affects the schedule.

Training also includes at least one ***follow-up visit*** to each health worker within four weeks of the course. Decisions made during the adaptation of training materials, therefore, also affect the job aids used during follow-up visits. The results of adaptation decisions, however, should not depend on using the follow-up visit to introduce additional clinical skills, as there is not enough time during a visit. This visit by a specially-trained supervisor instead reinforces the skills health workers have learned during the course and helps to solve difficulties in applying the new approach to children seen in the health facility.

The need for adaptation

Adaptation is the process of deciding on and producing the changes needed to make the generic IMCI chart and course materials fit a particular country's circumstances.

Making the generic guidelines as widely applicable as possible has minimized the number of adaptations a country needs to do. The guidelines, however, still need to be adapted to cover the childhood illnesses that contribute most to childhood mortality in a specific country. For this, consensus must be reached on the childhood conditions to include in the course. Countries where there is no transmission of *P. falciparum* malaria, for example, remove the consideration of malaria from the guidelines and training materials. Other countries where dengue haemorrhagic fever is an important problem modify the materials to include it.

Some adaptations are *essential* in all countries. The following are essential adaptations, with an example of the adaptations made in Uganda:

- Select effective *first- and second-line antibiotics* for treating pneumonia, dysentery and cholera. These must be antibiotics that can be made available in first-level facilities.

  Uganda selected cotrimoxazole and amoxycillin for treatment of pneumonia; cotrimoxazole and nalidixic acid, for dysentery; cotrimoxazole and erythromycin, for cholera.

- Identify appropriate *complementary foods* for children of different age groups. These foods must be readily available, affordable, and culturally acceptable for mothers to give their children.

  After a study to identify locally appropriate and available foods in the Central Region, Uganda made this recommendation for complementary foods to be introduced to children age 6 months up to 12 months: *Thick porridge made out of either maize or cassava or millet or soya flour. Add sugar and oil mixed with either milk or pounded groundnuts.*

- Identify specific *local terms for signs of illness* used in the communities in which IMCI is being implemented. These terms help health workers assess the child's illness, and help mothers to better recognize when to take a child to the health worker for care.

  In the Central Region, there was no commonly understood term for fever. A study found that the best term that described fever, without other signs or conditions of illness, was *ayokya omubiri* (hot skin). The study also revealed that caretakers may not spontaneously volunteer the information that a child has had *olukusense* (the local word for measles) for fear of spreading the illness to other children in the house by naming it. Other words, such as *mulangira* (The Prince), may be used to avoid the name.

In addition to the above essential adaptations, *consensus on case management guidelines* also needs to be reached for each condition covered in the course. Some of these guidelines may need to be adapted. For example:

- Countries have different policies on which children should receive vitamin A. These policies are based on the epidemiology of vitamin A deficiency (where xerophthalmia is a problem) and the feasibility of implementing various supplementation plans through the first-level health facility. The generic guidelines on vitamin A, therefore, need to be reviewed and adapted, if necessary, to fit national policies and conditions that affect their implementation.

- The recommendations on breastfeeding, including the timing for introducing complementary foods, may need to be adapted, to make the interventions during the sick child visit compatible with other efforts to improve nutrition.

- Where HIV infection is highly prevalent, countries may consider several adaptations to the generic training materials. These include, for example, how to manage the child with related infections that do not respond to initial treatment, and how to counsel mothers on breastfeeding. Recommendations on how to

counsel mothers on breastfeeding need to consider several factors: the availability of HIV testing facilities, the training of persons to counsel mothers, the accessibility to adequate breastmilk substitutes in sufficient supply for those mothers who choose not to breastfeed, and the ability of the individual mother to give the substitute safely and in adequate amounts.

THE ADAPTATION PROCESS

The work of adaptation is done by an *adaptation subgroup* of the larger IMCI Working Group responsible for introducing and implementing IMCI in the country.

The IMCI Working Group designates a *coordinator of the adaptation subgroup* to coordinate the adaptation process and gather input from Ministry staff and other experts. (Sometimes this is the same person as the IMCI focal person who provides staff support for the work of the larger IMCI Working Group.) The country may also request technical assistance from the World Health Organization to help with specific adaptation tasks or to train national experts in adaptation. The needs for technical assistance should be discussed during the initial planning meetings for IMCI.

The entire adaptation process, as a result, involves a large number of people. It serves as an activity to gain wide consensus on the new approach to case management contained in the guidelines before the implementation of training and other IMCI activities. The adaptation process, to reach consensus on the guidelines and produce adapted materials, can take *at least six months up to a year.* The time depends on such factors as whether national treatment policies exist or need to be developed, and the need for agreement on health system issues, including which drugs should be available in first-level facilities.

The flowchart on the next page summarizes the major tasks in adaptation. (These tasks occur in Step 3 of the Early Implementation Phase, as they are introduced in the *IMCI Planning Guide*[3].)

In *Task 1, Initiate the adaptation process,* the process starts with the preparation of a plan for how the adaptation subgroup will do its work. The adaptation subgroup then begins a review of the generic guidelines and compares them to existing national guidelines and policies.

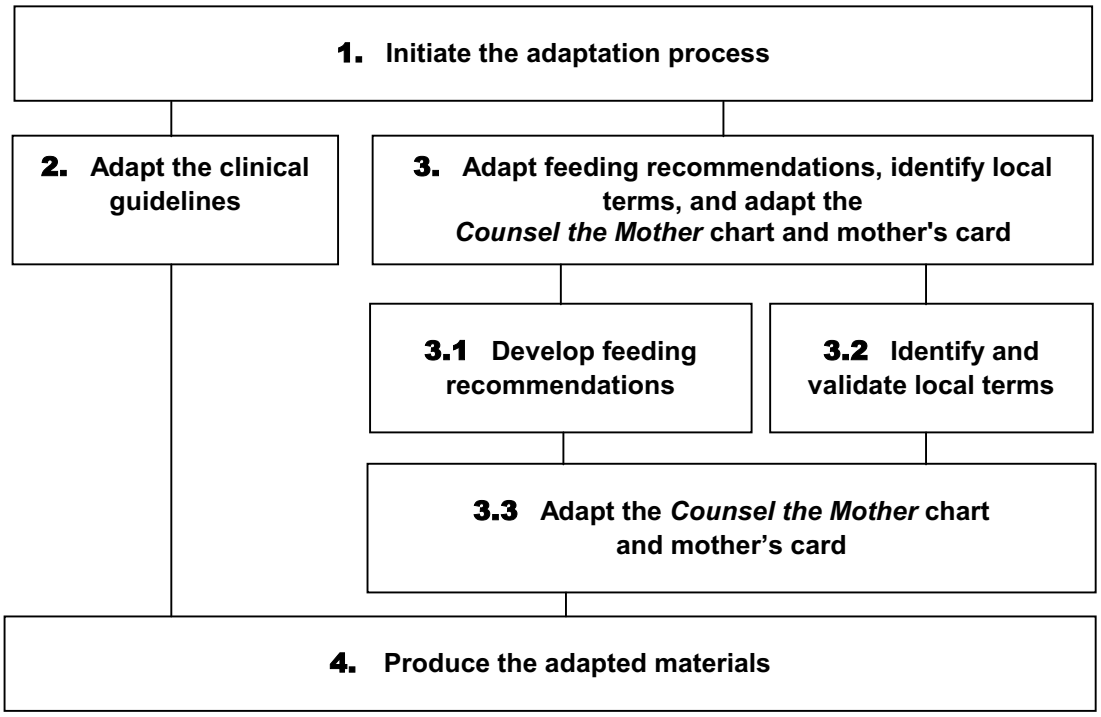
In *Task 2, Adapt the clinical guidelines,* the adaptation subgroup works with interested units in the Ministry and other expert advisers to achieve consensus on changes in the generic guidelines. These changes are needed to ensure that the guidelines fit the existing national guidelines, policies, and other circumstances in the country.

In *Task 3, Adapt the feeding recommendations, identify local terms, and adapt the Counsel the Mother chart and mother's card,* the adaptation subgroup takes steps to strengthen the health worker's ability to communicate with caretakers. This task includes the adaptation of guidelines and materials to be appropriate for local conditions and cultures to support the efforts of families to care for their children.

These local adaptations can be used to develop community-based activities, as well as to improve communication with families in health facilities.

Once consensus among key Ministry officials and other national experts is reached on the adapted guidelines, the subgroup with support staff can complete *Task 4, Produce the adapted materials.* Changes need to be made in the generic charts and throughout the training materials, including the mother's card. To complete this task, careful staff work is needed to revise all the generic course materials to correctly reflect the adaptations and then to produce the adapted guidelines and course materials for use in training health workers.

ADAPTATION TASKS



4. Produce the adapted materials

IMCI ADAPTATION GUIDE

This *IMCI Adaptation Guide* includes:

- A description of the tasks in the adaptation process, and who should contribute to them (Sections A and B).
- The technical basis for the generic guidelines, including the research that supports the generic recommendations (Section C).
- Technical considerations in reviewing possible adaptations (Section C).
- Three simple-to-use protocols to gather and organize information needed to improve home care and communication with mothers: to adapt the feeding recommendations, to identify and validate locally-used terms for signs of illness, and to design and test an adapted card for counselling mothers (Sections D, E and F).
- Instructions on how to make the physical changes in the charts and IMCI training modules (Section B).
- Instructions for how to use the Microsoft Publisher® computer programme (Section H).

The coordinator of the adaptation subgroup needs to be familiar with all the materials provided to assist the adaptation process. The coordinator uses them as needed to guide the work of the adaptation subgroup and to orient other persons designated to do specific tasks. The table on the next page identifies who might use specific materials.

The basic set of materials for the *IMCI Adaptation Guide* includes Sections A, B, C, D, E, F, and H. Additional *sections* and other materials to use in producing specific changes in the materials should be requested from WHO when a country starts the adaptation process. Computer files, which are regularly updated, contain the generic charts and modules, and an illustration book includes copies to use in producing camera-ready materials for printing the modules locally.

Users of the *IMCI Adaptation Guide* and related materials

Task	Materials	Users
1. Initiate the adaptation process	*Section* A. The Adaptation Process	Coordinator of adaptation subgroup - to organize the adaptation process Others on the adaptation subgroup - to understand the process
	Section B. Procedures for Adapting the Charts and Modules	Coordinator of adaptation subgroup - to organize and supervise the work of producing adapted charts and modules, including their translation (see Task 4, below)
2. Adapt the clinical guidelines	*Section* C. Technical Basis for Adapting clinical Guidelines, Feeding Recommendations, and local Terms	Coordinator of adaptation subgroup - to refer to and use specific *sections*, as needed, to guide technical discussions for reviewing generic guidelines and making adaptation decisions
3.1 Develop feeding recommendations	*Section* D. Protocol for Adapting the Feeding Recommendations	Coordinator of adaptation subgroup - to orient the work of persons selecting appropriate feeding recommendations and, if needed, conducting home trials to test recommendations Nutrition study team - to propose feeding recommendations and, if needed, to conduct home trials of feeding recommendations
3.2 Identify and validate local terms	*Section* E. Protocol for Identifying and Validating local Terms	Coordinator of adaptation subgroup - to orient the work of persons identifying appropriate local terms of illness and, if necessary, validating terms in the field Local terms study team - to review existing materials and, if necessary, conduct interviews with caretakers in the field to identify appropriate local terms
3.3 Adapt the *Counsel the Mother* chart and mother's card	*Section* F. Protocol for Designing and Pretesting an adapted Mother's Card	Coordinator of adaptation subgroup - to orient the work of persons designing the mother's card, incorporating identified feeding recommendations and local terms, and to organize the pretest of the adapted card Communication or health education team - to adapt mother's card and pretest it with local mothers

Task	Materials	Users
4. Produce the adapted materials	*Section* E. Changes in materials needed for specific adaptations (See also *Section* B, above)	Coordinator of adaptation subgroup - to organize and supervise the work Adaptation subgroup - to incorporate specific adaptation decisions into charts and modules Secretary or computer support person - to enter the changes into the computer files for the charts and modules
	Section H. Modifying the generic Chart Booklet: Using Microsoft Publisher® Computer files for the chart booklet and other course materials	Coordinator of adaptation subgroup - to produce drafts of adapted charts for review by Ministry staff and other experts Secretary or computer support person - to enter the changes into the computer files for the charts and other training materials
	Section E. Illustrations and paste-ups for the course modules	Coordinator of adaptation subgroup and secretary - to produce camera-ready charts and other training materials for reproduction

PRINCIPLES OF ADAPTATION

The IMCI guidelines and course for first-level health workers were designed by balancing various principles, while making some compromises. Decisions concerning adaptation, therefore, also need to maintain these principles:

- **Provide guidelines that address the leading causes of mortality and morbidity but not *all* of the paediatric conditions that lead a mother to seek care from a health facility.**

  Limit the number of conditions covered. No course can cover every condition. The IMCI guidelines are effective because they focus on a limited number of important conditions for which effective case management or prevention can be delivered by outpatient health workers. As a result, the generic course does not cover some causes of paediatric morbidity or mortality, either because the conditions are not common or because effective and affordable ways to manage them are not available, particularly at a first-level health facility.

  The health worker, however, is taught to assess and treat any *other problems* that a child has. How to manage these various problems, however, is not described. Health workers instead are advised to continue to manage these problems based on what they have learned previously during their preparation for clinical work. They

should also refer children who cannot be adequately assessed or treated at the first-level facility.

In the adaptation of the course, it is also not feasible to include all conditions. And this would not substantially increase the health workers' ability to reduce child mortality. In general, *conditions should only be added if they are a major cause of mortality in the country or area.* For example, treatment of dengue haemorrhagic fever has been added in several countries where it accounts for a significant amount of morbidity and mortality, and where mortality can be prevented with appropriate and available treatment. The basic course as designed is already a very full eleven days, and the addition of other conditions will require lengthening the course.

- **Provide guidelines that, when used by outpatient health workers, are safe and effective.**

  Ensure that the care provided is safe for most children seen. Developing safe and effective guidelines requires balancing the sensitivity, specificity, and positive predictive value of the signs and symptoms used for classification of the illness. A certain amount of over treatment also must be accepted, to assure adequate treatment of most children seen with potentially life-threatening disease.

  Provide the best care possible for seriously ill children. Limiting referral to the most seriously ill children is also necessary because of the difficulty of referral in many locations.

  In the IMCI course module *Treat the Child*, an annex titled "Where referral is not possible" (Annex E, page 117) provides suggestions for the management of seriously ill children who cannot be referred. The suggestions summarized in the text, however, are not taught during the generic course.

  In some settings where referral is difficult, adaptations to the treatment recommendations for a condition might reduce the number of children referred. If this change is considered, it is also important to consider the safety of these recommendations for the individual child and the need to modify outpatient management to assure adequate care.

  Cover an essential set of skills in the course. Great effort has been made to simplify the course and to reduce the amount of material it covers. Further reduction or simplification may seem desirable to some but would compromise the effectiveness of the course and case management practices of health workers. For example, not teaching nutritional counselling would result in substantially less effective management of diarrhoeal disease, and the subsequent management of disease would be less effective against malnutrition. It would also seriously compromise the health worker's delivery of effective case management if instructions on how to teach the mother to give treatment or to communicate more effectively with the mother were to be eliminated. Therefore, any adaptation that

would eliminate a significant portion of the training on these important skills is not recommended.

Limit the guidelines to what health workers can learn. Safe and effective guidelines must not be too difficult. There must be an effective and feasible way to systematically teach health workers the skills and knowledge to implement them. Any adaptations in clinical guidelines require serious attention to adapting the training materials as well, to ensure that health workers will learn and be able to do the adapted procedures correctly. This would require additional training time to be added to the course, which may not be acceptable or feasible.

Therefore, the consideration of adaptations should include an estimation of their impact on the *skills needed* to implement them, on the *training methods* to be used, and on the *complexity and duration of the course*.

- **Provide guidelines that use the minimum number of clinical signs and symptoms to choose the correct classification and treatment plan.**

Limit the number of clinical signs to learn. The course teaches signs that health workers can learn in a relatively brief time and then use reliably. Clinical signs of disease tend not to vary among locations and thus require little or no adaptation.

Often, however, experienced clinicians have favourite clinical signs that they use, and they may want to add these signs to the IMCI *Assess and Classify* chart. While other clinical signs may work, clinical experience and research results have shown that additional signs do not add significantly to the performance of the *Assess and Classify* chart. Furthermore, because the steps on the chart are interdependent, changes in the clinical signs required to classify one problem could have an unintended impact on the effectiveness of other decisions on the chart.

Keep the assess-classify-treat system simple. The system of using clinical signs to arrive at classifications in the generic guidelines has been tested and proven effective to assure identification and treatment of most cases of potentially life-threatening disease.

In addition to limiting the number of signs, it is necessary to avoid whenever possible requiring too many combinations of signs to make a classification. Field testing of the charts indicated that combining signs is very confusing to first-level health workers, and combined signs are difficult to teach.[4] This finding required some compromises in the construction of the *Assess and Classify* and *Young Infant* charts, but permitted significant simplification.

The simplified generic charts can perform well in most circumstances. Studies in the Gambia,[5] Kenya,[6] Ethiopia[2], and Uganda[7] found that charts performed well when used by health workers compared with when experienced paediatricians used them. These studies contributed to further improvements in the charts.

Changing the clinical signs will also require changes to be made in every module and costly changes in the video and photograph booklet. For all of these reasons, *any adaptation of clinical signs should be avoided if possible.*

- **Provide guidelines that use the minimum number of essential drugs.**

  The drugs presented in the generic materials are effective in most locations and tend to be the least costly available. Adaptations should take care not to increase the number of drugs required or substitute more costly drugs unnecessarily. (The drugs recommended in the adapted guidelines need to be available in first-level facilities and for the training health workers. See the *IMCI Planning Guide* for guidance on planning to improve the availability of drugs.)

- **Provide guidelines that take into account local feeding practices and use local terms to improve communication with mothers and other caretakers.**

  Adaptation is essential to make some guidelines locally appropriate and effective. The global generic guidelines cannot specify local feeding recommendations or use the local terms for illness that mothers in a specific area or cultural group can understand.

  The adaptation process, therefore, includes steps to identify local feeding recommendations. This requires identifying foods that are culturally and nutritionally appropriate for different age groups, and identifying solutions to common feeding problems.

  The adaptation process also includes steps to identify terms for clinical signs that mothers can understand. Effective case management depends on the health worker using local terms in assessing the history of illness and in counselling the mother about when to return with the child to seek additional care from the health worker.

PREPARING FOR ADAPTATION

Adequate planning is important, to complete the many tasks of adaptation and the production of course materials. The direct participation of relevant persons and the support of others in the Ministry of Health need to be obtained. Qualified persons need to be identified to carry out specific tasks.

Before the adaptation process begins, several tasks are completed as part of the introduction of IMCI in the country and the initial work done by the IMCI Working Group. These tasks contribute to preparations for adaptation, as well as to the implementation of other IMCI activities. The following tasks, completed during the Introduction Phase, are described in the *IMCI Planning Guide.* These tasks are summarized below as they affect the adaptation process:

- *Orient important groups and individuals,* who are involved in the implementation of IMCI in the country and may contribute to decisions that affect the adaptation process. The orientation should include an introduction to the generic IMCI guidelines, the content of the course, and an overview of the adaptation process.

- *Establish an IMCI management structure*, including:
  - An *IMCI Working Group,* which includes representatives of all relevant units in the Ministry and their expert advisers, including paediatricians and other experts in key technical areas that may be addressed during the adaptation process. The IMCI Working Group makes an overall plan for implementing IMCI activities, including the adaptation process, and sets up the *adaptation subgroup*. The members of the IMCI Working Group should have sufficient authority to confirm adapted case management guidelines.
  - An *IMCI Working Group coordinator,* who is a senior member of the Ministry of Health. This person should be in a position to help build consensus across technical groups on difficult adaptation questions.
  - A national *IMCI focal person,* who has day-to-day responsibility for ensuring that IMCI planning and implementation, including adaptation, moves ahead. Some qualities of an IMCI focal person, which will facilitate adaptation and other activities, are: a good clinician with experience in disease control programmes, experienced in health worker training, able to communicate well with technical staff in other programmes of the Ministry, able to arrange and contract for local assistance with specific adaptation tasks, energetic and well-organized, and available to work full-time on IMCI activities.
  - *A small adaptation subgroup*, including staff, for example, from the ARI, CDD, Malaria, and Maternal and Child Health programmes, and the appropriate nutrition project or programme. Some countries may include staff from the Essential Drugs Programme, or the training and health education units of the Ministry. Although consulting with staff from the EPI and AIDS programmes is essential, they usually do not need to be involved in the bulk of adaptation work. The subgroup should remain small enough for the group to be productive, and include staff who can make or facilitate decisions and compromises on programme guidelines. The adaptation subgroup may further divide into smaller teams to address particular adaptation issues.
  - A *coordinator of the adaptation subgroup,* who has day-to-day responsibility for ensuring that the adaptation process moves ahead. In some cases, this may be the same as the IMCI focal person or someone with similar qualities. The coordinator organizes meetings of the adaptation subgroup, provides the staff work for the subgroup, circulates policies and guidelines for review, and manages the process of building consensus across units of the Ministry and technical experts.
  - *Staff or local consultants* to carry out reviews and, if needed, field studies to identify specific adaptations. They need to be able to use the protocols for making appropriate feeding recommendations, identifying locally understood terms for signs of illness, and developing and testing the mother's counselling card.
  - *Secretarial and/or computer support staff* to complete the tasks to produce adapted materials: charts, modules, facilitator guides, and the mother's card.

- *Train key personnel in IMCI.* In selecting persons to train, include one or more Ministry staff or local consultants who are likely to be central to the adaptation process.

- *Prepare the national IMCI focal person and the coordinator of the adaptation subgroup,* including:
  - *Training in an IMCI course,* which is essential to understand the implications of adapting the course materials. WHO can help to identify an IMCI course in another country, so that these persons can be trained before starting their IMCI responsibilities. (*Note: It is helpful if at least one and preferably more of the other members of the adaptation subgroup also attend an IMCI course*.)
  - *Training in an adaptation workshop,* if possible, to help them learn the adaptation tasks and become familiar with the materials to facilitate the process.

Annex A-1 (page 45) summarizes the desired qualifications of persons contributing to the adaptation process.

Note: During the introduction of IMCI in countries that are completing the adaptation process for the first time, tasks may be identified that need outside assistance. Even with a trained adaptation coordinator and others trained on the adaptation subgroup, assistance from a specially trained adaptation consultant will usually be needed to facilitate the building of consensus and help with the completion of tasks at critical times during the adaptation process. The country may request this technical assistance from WHO.

ACHIEVING CONSENSUS

Before training materials are adapted, consensus must be reached on clinical guidelines for all the conditions covered in the IMCI course, and other local adaptations. The aim is to achieve a high level of consensus among members of the adaptation subgroup, their expert advisors, and others in relevant units of the Ministry. This can be a time-consuming, difficult process. But it is necessary for wide support for the implementation of IMCI.

Strategies for achieving consensus

Achieving consensus requires frequent communication with interested persons. The effort to achieve consensus continues throughout the adaptation process and is essential in order to gain wide support for the implementation of IMCI in the country. (See the box for strategies for developing consensus.)

Strategies for developing consensus on the adapted IMCI guidelines

- Report regularly to the larger IMCI Working Group.
- Meet individually with persons from other programmes or institutions or with other key individuals who are not included in the adaptation subgroup but are relevant to guideline decisions.
- Make sure key programmes or specialists are not excluded.
- Circulate memos with meeting results, lists of information needed, and unresolved issues.
- Lobby for enough time for the process of resolving specific issues.
- Circulate draft guidelines in a format that is easy to review.
- Circulate drafts of clinical guidelines, decisions on feeding recommendations and local terms.
- Hold a special meeting of all people relevant to a particular technical issue to endorse guidelines in that area, and/or to settle a final issue. For example, hold a meeting of local malaria experts in the MOH and university to adapt or revise national malaria treatment recommendations.
- Involve experts outside the adaptation subgroup on specific issues, when necessary.

The path, starting with a review of guidelines and ending with consensus on the adapted guidelines, is usually not direct. On some issues, consensus may be reached quickly. Other issues may need to be reconsidered several times.

For example, the adaptation subgroup may find that it is difficult or impossible to refer severely ill children in some areas where IMCI will be implemented. The group may, therefore, need time to explore ways to improve treatment for severe illness in the first-level facility. The group will need to work with others on the IMCI Working Group, such as representatives of the Essential Drugs Programme, to provide more effective drugs in these facilities. Negotiations may go back and forth between units, until there is consensus on the most effective drugs that can be made available in the first-level health facility.

Countries also vary in the formality involved in developing their own adapted guidelines. The degree of formality may vary also by topic. Iron or antipyretic treatment recommendations, for example, are unlikely to need endorsement by technical bodies. Antimalarial treatment recommendations almost always do.

Achieving consensus takes more time as the review circle widens from the adaptation subgroup to other interested units of the Ministry and technical advisors. New persons brought into the process need to be oriented to the assess-classify-treat system and the principles of adaptation, and on particular programme issues.

When key individuals and units reach consensus, the final adapted clinical guidelines are added to the adapted feeding recommendations, local terms, and mother's cards. These are the basis for modifying the charts and modules.

Final consensus meeting

Although consensus is developed throughout the adaptation process, a final consensus meeting may need to be called to endorse the adapted guidelines.

The final consensus meeting is held after decisions on the technical guidelines have been made by relevant staff, and consensus has already been achieved. The adaptation subgroup is cautioned against having the consensus meeting prematurely. If there are one or two final issues that still need to be resolved, however, these may be brought to this broadly representative group.

At this meeting, present the adapted clinical guidelines, feeding recommendations and the draft mother's card. The group should endorse the adapted guidelines and give their commitment to support their use. The plans for the production of the adapted charts and modules should be presented.

ADAPTATION TASKS

Following is an overview of the four major adaptation tasks:

Task 1. Initiate the adaptation process
Task 2. Adapt the clinical guidelines
Task 3. Adapt feeding recommendations, identify local terms, and adapt the *Counsel the Mother* chart and mother's card
Task 4. Produce the adapted materials

This overview is written for the *national IMCI focal person* and the *coordinator of the adaptation subgroup*. These instructions can also be used to orient the adaptation subgroup. References to other *sections* in the *IMCI Adaptation Guide* direct users to more detailed information on how to complete the tasks.

Task 1. Initiate the adaptation process

1.1. Review current clinical guidelines and policies

Begin collecting information needed for making decisions about adaptations. You will need information on existing clinical guidelines and policies, and the epidemiology of illness in the country in order to help the adaptation subgroup make appropriate decisions. See the box on the next page for a checklist of information to gather to inform the adaptation process. (The IMCI Working Group may have gathered some of this information. If so, bring the information together for the use of members of the adaptation subgroup.)

1.2. Outline the adaptation process, and start a preliminary plan

The adaptation process usually takes *at least six months, but may take up to one year*. It is essential to allow enough time to reach consensus on the adaptations needed and to complete the production of printed charts and modules. You will find that some of these tasks can be completed at the same time. For example, the field studies for identifying feeding recommendations, validating local terms, and testing the mother's card can be done while the adaptation subgroup is adapting the clinical guidelines and circulating them for review.

Adequate planning is important to complete the many tasks of adaptation and the production of course materials. This planning begins in the IMCI Working Group where all IMCI activities are coordinated. The adaptation subgroup, however, will need a more detailed plan to carry out specific adaptation tasks. Start to make a preliminary plan.

Checklist:

Information to gather

Epidemiological data

1. ___ Distribution of high, low, no malaria risk areas in the country (see Section *C. Technical Basis for Adapting clinical Guidelines, feeding Recommendations, and local Terms,* item 4.1, page 54)
2. ___ Rate of malnutrition based on criteria of weight or height by age, and the growth chart used in the country (see Section *C. Technical Basis,* item 9, page 99)
3. ___ Prevalence of vitamin A deficiency
4. ___ Rate, intensity, geographic distribution of infection with hookworm and whipworm in children (for ages 2, 3, and 4 years of age)
5. ___ Whether dengue haemorrhagic fever, typhoid, or borreliosis are significant clinical problems in children and, if so, during what seasons of the year or in what subpopulations
6. ___ Other common health problems (e.g. wheezing)

Clinical guidelines and national policies

7. ___ Policy statements on case management, including case management charts and other summaries of clinical guidelines for managing children:
   - — ARI
   - — Diarrhoeal disease
   - — Malaria
8. ___ Nutrition or MCH programme policies on:
   - — Promotion of breastfeeding
   - — Infant feeding and complementary feeding recommendations
   - — Therapeutic feeding and supplementary feeding of malnourished children
9. ___Vitamin A policies on:
   - — Use in measles cases
   - — Supplementation policies (regular supplementation policy, if any, or linked with immunization after 6 months of age, or to children with specific diseases)
10. ___ Immunization policies on:
    - — Schedule
    - — Availability of vaccines for administration in clinic on a daily basis

Drugs

11. ___ National essential drugs list
12. ___ List of drugs recommended for treating conditions addressed in the IMCI guidelines and those supplied to first-level health facilities (including formulations supplied)
13. ___ Guidelines for drug use issued from Essential Drugs Programme (or pharmaceutical division)
14. ___ Information from country or adjoining countries on antimicrobial susceptibility of:
    - — *Streptococcus pneumoniae*
    - — *Influenzae*
    - — *Vibrio cholerae*
    - — *Shigella* species
    - — *P. falciparum* malaria

Programme activities

15. __ Breastfeeding Counselling Course (whether given; who has been trained; whether health workers can observe breastfeeding in clinics)
16. ___ Mother's counselling cards and any other communication materials for the following programmes:
    - — ARI
    - — CDD
    - — Malaria
    - — Nutrition, including breastfeeding and complementary foods
    - — Immunization
17. ___ Training of workers in first-level facilities in cold chain and vaccine administration
18. ___ Who is doing what in relation to community-based child health and nutrition programmes
19. ___ Child deworming efforts (See Section *C. Technical Basis*, item 12.2, page 127)
20. ___ Results of studies, if any, identifying local terms for signs of illness (e.g. focused ethnographic studies)

Include in the plan the persons and financial resources for carrying out the adaptation tasks, such as conducting meetings, using the study protocols to make local adaptations, translating materials, and making changes on the computer files. Schedule approximately when this work is to be done. This tentative schedule will need to be developed more completely as you learn more about the adaptation process by reading this guide and organizing the tasks to be done by the adaptation subgroup.

1.3 Set up and facilitate meetings with the adaptation subgroup

Facilitate the first meeting. The purpose of the first meeting is to orient members to the adaptation process. (For the suggested membership of the adaptation subgroup, see *Preparing for Adaptation,* at the beginning of this *section*.)

Note: It is often helpful to meet with key individuals in the Ministry before the meeting, to anticipate some of the adaptation issues that are likely to be raised during the meeting. If scheduling individual meetings is possible, see Tasks 2.1 and 2.2.

The box below has a list of topics to cover during the first meeting. To prepare for these topics, refer to the information in this section of the *IMCI Adaptation Guide*.

Topics for the first meeting of the adaptation subgroup

1. The **objectives** of the subgroup:
   a. To adapt clinical guidelines
      - Assemble the relevant, existing national guidelines (this task was begun during the preparation),
      - determine whether adaptation is required beyond the essential (and recommended) adaptations, and
      - prepare a statement of the policies to use in the course and their brief technical justification.
   b. To establish feeding recommendations.
   c. To identify local terms for signs of illness relevant to the course.
   d. To approve a mother's counselling card.
2. An overview or **briefing** on the general case management process.

   Note: Materials for use in this briefing can be requested from WHO.
3. The **need for adaptation**. (See the *Introduction* in this *section* of the *IMCI Adaptation Guide*.)
4. The **adaptation process and major tasks**. (See the *Introduction*.)
5. The **principles of adaptation.** (See the *Principles of adaptation.*)
6. Preliminary **plan for work and meetings** of the adaptation subgroup (see Task 1.2, above) with **next steps**.

Give each member:

- A copy of the generic chart booklet.
- An IMCI course description. (You may use the information sheet on *IMCI training course for first-level health workers: Linking integrated care and prevention* from the ***IMCI Information*** kit.)
- A copy of the *Introduction* and *Principles of adaptation* from this *section*.
- Information you and others have collected on existing national guidelines (Task 1.1).

More detailed explanations on each of these topics, particularly the briefing on the case management process, is needed than was presented in the orientation for the IMCI Working Group. The adaptation subgroup members need to understand the charts well enough to assess whether an adaptation is necessary and the implications of a change.

They can cover these topics in a two-day meeting. Adaptation subgroups in many countries, however, have longer initial meetings and are able to begin the activities described below in Task 2. Therefore, continue with Task 2, if this is possible.

Note: It may be useful to describe the general case management process, first, with a brief overview of each technical area. Details on the technical basis for each area, and possible adaptations, may be presented when the subgroup begins Task 2.1.

Task 2. Adapt the clinical guidelines

Introduction

To adapt the clinical guidelines, the coordinator actively facilitates, and later carries out, the decisions of the adaptation subgroup. The subgroup reviews the generic case management guidelines, the country's existing clinical guidelines and policies, and the epidemiology of childhood illness in the country. Through this review, they decide whether adaptations beyond the *essential* (and *recommended*) adaptations are needed. If so, they consider possible adaptations and progressively gather information to narrow down the list to the most important adaptations to make in the generic materials.

The adaptation subgroup drafts case management guidelines that will later serve as the basis for making changes in the generic guidelines and course materials. The case management guidelines, including the adaptations, also briefly describe their technical justification.

Note: While the subgroup discusses and resolves clinical issues, activities should go on simultaneously to specify adaptations of feeding recommendations, identify local terms, and develop a mother's card, described in Task 3.

Before a description of the specific tasks in adapting the clinical guidelines, following is background information on two areas that affect the process: 1) types of clinical adaptations, and 2) implications for adding possible adaptations.

Types of clinical adaptations. Two *sections* of this guide facilitate decisions on the adaptation of clinical guidelines: this *Section A. The Adaptation Process*, and *Section C. Technical Basis.*

Section C. Technical Basis describes the generic guidelines and the research and other technical basis for recommending them. In addition, adaptations are presented as 1) essential adaptations, 2) recommended adaptations, or 3) possible adaptations.

- **Essential adaptations**

  ESSENTIAL ADAPTATONS must be done in every country. There are blanks in the generic charts for writing in the *essential clinical adaptations*. These include the recommended first- and second-line antibiotics and antimalarials, and other treatment recommendations. The box identifies the essential adaptations on the IMCI *Treat the Child* chart.

Essential clinical adaptations:
To fill in the blanks on the *Treat the Child* chart

1. **Oral antibiotic treatment of pneumonia, ear infection and very severe disease**
   First- line antibiotic: _____
   Second-line antibiotic: _____

2. **Oral antibiotic treatment for dysentery**
   First- line antibiotic: _____
   Second-line antibiotic: _____

3. **Oral antibiotic treatment for cholera**
   First- line antibiotic: _____
   Second-line antibiotic: _____

4. **Oral antimalarial treatment**
   First- line antimalarial: _____
   Second-line antimalarial: _____

5. **Safe soothing remedy to soothe the throat, relieve the cough**
   _____

6. **Oral antibiotic treatment for local bacterial infection in young infants**
   First-line antibiotic: _____
   Second-line antibiotic: _____

If young infants with blood in the stool are not referred to hospital
First-line antibiotic for dysentery: _____
Second-line antibiotic for dysentery: _____

Most countries have an Essential Drugs Programme and/or provide an official list of drugs supplied to first-level facilities. It is important to include the drugs recommended in the adapted IMCI guidelines on that official list.

If necessary, adaptations in the drug formulation and other changes in the treatment recommendations on the IMCI charts could be made to fit the current options on the drug list. But these changes should be made only if the alternative treatments on the drug list are effective and safe.

If the options available on the list of essential drugs are less than optimal (less effective or less safe for children), the adaptation process should result in a recommendation to change the essential drugs list. Changing the official list may take a long time.

- **Recommended adaptations**

  Since completion of the generic materials, new information and additional expert reviews have suggested the need for updates on some clinical guidelines, and the adaptation process is a means to update them. It is recommended, therefore, that *all countries* make the following *recommended adaptations*:

  ˜ Refer to hospital all young infants with blood in the stool.
  ˜ Give multivitamin and mineral supplement for two weeks to all children with PERSISTENT DIARRHOEA.
  ˜ Select an appropriate treatment for children classified as both MALARIA and PNEUMONIA.
  ˜ Do not give iron to children with known sickle cell anaemia
  ˜ Extend the treatment to prevent hypoglycaemia to include children with SEVERE MALNUTRITION and SEVERE PNEUMONIA OR VERY SEVERE DISEASE.
  ˜ Provide treatment to prevent hypothermia for children referred to hospital.

  Discuss each of these recommended adaptations with the relevant individual programme and the adaptation subgroup. In preparation for the discussions, review the technical basis for these recommended adaptations in Section *C. Technical Basis.*

- **Possible adaptations**

  In general, it is preferable to use the generic materials without additional clinical adaptations beyond the essential (fill-in-the-blank) and recommended adaptations listed above.

POSSIBLE ADAPTATIONS may be considered, however, if the country's guidelines, policies, or epidemiology of childhood illness differs substantially from those assumed in the generic materials. Adaptations from this category, however, should be kept to the minimum needed for the guidelines to work effectively in the country. Some examples of possible adaptations are:

- Remove a condition from the charts and training exercises, such as malaria where there is no transmission of *P. falciparum* malaria in the country.
- Add a condition, such as dengue haemorrhagic fever, if it is an important contributor to mortality (and morbidity) of children.
- Add a treatment to be consistent with national policy, such as routine supplementation with vitamin A during sick child visits or with measles immunization.
- Change the use of axillary to rectal temperature, if rectal temperature is used in first-level facilities.
- Substitute a different drug or drug formulation for one that is recommended and is available to first-level facilities.
- Substitute a current, appropriate practice in first-level facilities for one taught in the IMCI course, such as the use of otoscopy for assessing an ear problem or a height board for assessing weight-for-height.
- Add a diagnostic test, if it is routinely available and health workers know how to use it, such as a blood smear for malaria.

Listed in Section *C. Technical Basis* are also possible adaptations that WHO does *not* recommend. The reasons for discouraging *POSSIBLE (discouraged) ADAPTATIONS* are provided.

Implications for adding possible adaptations. Adaptations, such as those listed as possible adaptations, require extensive and multiple changes throughout the charts, modules, facilitator guides, and other training materials (sometimes including changes in the training video). These changes go well beyond filling in the blanks.

For example, a change on the *Treat the Child* chart could require changes in: the wall chart, chart booklet, throughout the text and exercises in the *Treat the Child* module, answer sheets for exercises, drills and other exercises in the Facilitator's guide, and supply lists in the facilitator and director guides.

The required changes for many adaptations are presented in Section H. *Modifying the generic Chart Booklet.* You may find it useful to glance at Section C to identify the extent of changes that will be required before deciding to make a specific adaptation to the generic materials.

As a result, in general, *many additional adaptations beyond the essential and recommended ones should be discouraged.* Adaptations should only be undertaken if, in the context of sick child training, they are considered important enough to warrant the effort to modify the instructional materials and additional course requirements (training time, drug supplies, etc.).

The adaptation subgroup will follow a process for identifying the adaptations in the clinical guidelines. What follows is a description of the tasks to be done.

2.1 Make a preliminary list of clinical adaptations and additional information needed.

Meet with one or two other persons who are knowledgeable about national guidelines and the contents of the IMCI course (e.g. the CDD or ARI programme manager). With them prepare issues to discuss in adaptation subgroup and with other advisors to the adaptation process.

Make a list of likely adaptations (essential, recommended, and possible) and the information needed for an appropriate decision. This list is your guide for discussions with individual programmes of the Ministry and the adaptation subgroup. Following is a description of how to prepare this list.

Identify adaptations that need to be discussed. Several resources contribute to making the first list of possible adaptations:

- The questions in Annex A-2, page 47, which point to potential adaptation issues to address.
- The existing national guidelines and other information collected in Task 1.2. Many questions in Annex A-2 can be answered by referring to this information.
- Additional information on current practices in first-level facilities and existing case management guidelines, shared by the national IMCI focal person and others participating in initial planning discussions.
- Information on specific issues in Section C. *Technical Basis*. The table in Annex A-2 refers you to these specific issues in Section C.

The questions in Annex A-2 serve as a tool in your discussions with other Ministry staff and the adaptation subgroup. Use the questions to help focus on the few possible adaptations to discuss, and eliminate those that do not need to be considered.
Go through the questions, and take notes on the differences between the generic guidelines, and existing epidemiological conditions and national policies. The thinking generated by the questions should aim for improving the management of sick children through IMCI.

Differences do not always mean that adaptation of the IMCI guidelines is required. The following are three ways to address the differences:

- *Do not adapt the generic IMCI guidelines, and accept the differences.* A difference between generic and national guidelines may exist, but it may not

require changes in the generic course, as it is unlikely to interfere with the implementation of IMCI.

- *Do not adapt the generic IMCI guidelines; instead change existing national policies, guidelines, and other conditions affecting the management of sick children.* The generic guidelines may represent needed improvements over existing guidelines. The adaptation process and other IMCI activities provide an opportunity to update national guidelines and make them consistent with the recent advances in the management of childhood illness. This may require negotiation with the relevant programme in the Ministry, improving drug supplies, or making other changes. (See the example in the box.)

Example:
Using the questions in Annex A-2

Question 25: In the national malaria programme guidelines, can first-level facility health workers give a first dose of quinine intramuscularly before referring a child with suspect severe malaria?

Is it effective as a single agent against P. falciparum malaria?

The preliminary discussion identified that there is no quinine at first-level facilities now. But quinine would be the appropriate pre-referral treatment, given the high level of chloroquine resistance and the potential toxicity of intramuscular chloroquine.

It was decided that the first action to take was to discuss the use of quinine IM with the national malaria control programme and then the adaptation subgroup. If agreement can be reached on this change in the national guidelines, and the drug can be supplied to first-level facilities, then the answer to both questions in item 25 would be YES.

Therefore, NO adaptation of the generic IMCI course is required.

- *Adapt the generic IMCI guidelines and course materials.* The differences may identify key aspects of case management in the country that must be addressed by changes in or additions to the guidelines and course.

Prepare the preliminary list of adaptations, the technical basis for their consideration, and information needed. After answering the questions in Annex A-2, prepare a preliminary list of adaptations from your notes on the table. Keep in mind all information about existing national guidelines, policies, epidemiology, and the availability of drugs. (Questions that you cannot answer should be asked in individual meetings with national staff and, if needed, expert advisors.) Document the first list of adaptations:

- Read the relevant parts of Section C. *Technical Basis* for technical information to guide specific decisions about each essential, recommended, and possible adaptation.
- For each adaptation that may be considered, write notes on the technical basis for it.
- List additional information needed to decide about adaptation. (See Annex A-3, page 53, for a sample format.)

Plan how to gather additional information. Identify which issues to discuss with others in the Ministry, and which issues need the advice of outside technical experts (such as from the university medical school). Determine how and from whom the information can be gathered. Identify also additional information that can be provided by individual members or teams from the adaptation subgroup.

Note: Revise the plan after each meeting with the adaptation subgroup. During the meeting, identify members to interview key experts or members who may have information available from other Ministry units.

2.2 Gather missing information needed for a review of possible adaptations

Discuss particular questions with individuals representing Ministry programmes concerned with the remaining questions. Meet with an appropriate representative of the programme, such as the programme manager or director. The representative should be knowledgeable and have sufficient authority to make decisions or suggest ways to proceed.

Time will be needed during the meeting to briefly orient the representative to the IMCI course. The extent of orientation will depend on whether the representative has attended other IMCI activities, such as the IMCI orientation meeting, or has read briefing papers on IMCI.

In addition to an orientation to the IMCI course, provide brief explanations on:

- The adaptation process
- The reason the input of the person is needed
- The part of the chart booklet relevant to his or her programme

Often the representative can answer questions directly. If not, the representative can identify what information and/or process is needed to make a decision.

Visit a representative of the Essential Drugs Programme, if necessary. The IMCI Working Group will be discussing how to ensure the availability of essential IMCI drugs. If the adaptation subgroup needs more information, however, it may be necessary for members of the adaptation subgroup to meet with a representative from the national Essential Drugs Programme. Use this as an opportunity:

- To identify the drugs and drug formulations available in first-level facilities. (Refer to Annex A-4, page 59, for a worksheet to help you compare the drugs included in the generic IMCI materials with the drugs available in first-level facilities.)
- To determine whether the representative anticipates changes in the list of drugs used in the treatment of childhood illness.
- To clarify the procedures for adding or substituting items on the essential drugs list.

Seek information from additional sources, if needed. The first round of discussions may suggest additional questions or sources for additional information. Other agencies or non-governmental organizations (NGOs), for example, may be responsible for activities, such as vitamin A supplementation, promotion of breastfeeding, or deworming efforts. Determine how their activities and guidelines might relate to IMCI activities, in general, and adaptation issues, in particular.

Revise the list of adaptations and information needed. Revise the list of adaptations to reflect the answers you have gathered, and identify the remaining issues to discuss with the adaptation subgroup. During each revision of the list of likely adaptations, try to focus on the most important adaptations to be made. Identify, first, the likely *essential adaptations* and *recommended adaptations* to make. Refer to *2.0 Principles of adaptation* to help limit the number of *possible adaptations* to be added, and set priorities.

2.3 Arrange meetings of the adaptation subgroup, continue to gather information, and resolve issues

The information you have gathered can now be used to facilitate discussions in the adaptation subgroup on the generic guidelines and adaptations. The early adaptation subgroup meetings may require a full day. Later meetings to resolve specific issues may be shorter, provided the activities to gather information are completed between meetings.

The box lists the topics to cover in the meeting. Additional meetings, scheduled as needed, will cover these same topics until all adaptation issues are resolved. *Several meetings to achieve consensus will be needed.* Experts, senior officials, and other persons interested in particular adaptation issues may be invited to specific meetings to help the group resolve them. Some issues may need to be taken back to the IMCI Working Group.

Topics for the second and remaining meetings of the adaptation subgroup

1. Discuss **adaptations being considered** (essential, recommended, and possible adaptations).

   a. Review the list of adaptations being considered, in order of their location on the charts. For each adaptation, present the rationale for them. Discuss them, as time allows. (It may be useful to review the technical basis for the related generic guideline also.)

   b. Get consensus on adaptations the subgroup can agree on.

   c. Identify information needed to make a decision on an adaptation, when the group cannot agree.

2. Agree on **work to be done to resolve issues**. Identify what will be done to gather more information and who is the appropriate person to do it.

3. Plan studies or review progress in obtaining **information to adapt feeding recommendations, identify local terms, and develop and test the mother's card (Task 3)**.

4. Reach consensus, as time allows, on **generic guidelines that do not need adaptation**.

Following is additional guidance on how to discuss adaptations and identify work to resolve remaining issues.

Discuss adaptations. Present the preliminary list of adaptations to the subgroup. Describe each adaptation, in order of its location on the charts. Facilitate a discussion on each, similar to the early process you completed to prepare for this meeting (in Task 2.1).

Some adaptations may seem reasonable. The relevant programme may have agreed to them in an individual meeting. In these cases, little or no discussion might be needed for the subgroup to endorse this decision.

On other adaptations, the subgroup may not be ready to make a decision on whether to include the adaptation or what exactly it should include. If the subgroup *cannot agree* about a particular adaptation:

- State that the issue is one that will require more discussion to resolve than is possible in the meeting.
- Ask the members to specify exactly the information that they would need to make a decision. Writing the items of information on a flipchart is helpful, so that all can see what has been recorded.
- Explain that the subgroup will come back to the issue at a later meeting. And move on to the next issue.

It is important to review all adaptations to be considered during this early discussion, rather than spend too much time discussing one or two controversial issues.

As it is not advisable to make adaptations unless they are truly necessary, focus the discussion on important adaptations that are necessary and feasible to implement. Members may suggest some adaptations that need to be discouraged or considered only at the insistence of a national programme.

The box on the next page lists some strategies for *limiting possible clinical adaptations.* Raising one or more of the questions listed may help you limit the possible adaptations to those that are most important.

Agree on work to be done to resolve issues. At the end of the meeting, the subgroup has a list of clinical adaptations, and a list of issues that require additional information. A decision may require consultation with relevant persons to determine whether an adaptation is required and, if so, the exact wording of the adapted guideline.

For example, community health workers currently distribute vitamin A supplements. In two years, the donor will withdraw support. More information is needed on whether the supplementation policy will continue and, if so, how will vitamin A supplies be maintained, and which health worker will deliver it. This information can contribute to a decision on whether and how to include vitamin A supplementation in the adapted IMCI guidelines.

By the end of the meeting, the subgroup members know their assignments for gathering information. These assignments are added to the plan for gathering information begun in Task 2.2.

Distribute notes of the meeting containing a record of all decisions to all members of the adaptation subgroup.

2.4 Draft the clinical guidelines

As the subgroup reaches a consensus in each technical area, write the adaptations in the appropriate places on a copy of the generic IMCI chart booklet. Also write a *description of the guidelines* for each area, including a statement of the accepted generic guidelines. Provide the technical basis for each decision.

Discussion strategies for limiting possible clinical adaptations

Use one or more of the following questions or strategies to help the subgroup look critically at possible adaptations.

1. Is the adaptation really necessary for this training course? Consider:

The course aims at widespread training of first-level facility health workers in the management of leading killers - this is a deliberately focused and limited course. Not including a topic in the course does *not* limit the interventions available to health workers.

2. Can the country afford it? Consider:

- The cost of a recommended treatment.
- The time to train the health worker - additional training requires additional days.
- The increased complexity of the guidelines.
  If the assessment is changed - the time and expense of changing the video and photo booklets.

3. Can it be included *later?*

- Change it in subsequent revisions of the course, based on early experiences.
- Include in follow-on training.

4. Can it be included *elsewhere?*

IMCI is an outpatient, in-service course. Excluding a clinical problem in this course does not exclude other work to improve management of the problem. For example, can it be approached earlier, in preservice training, and then health workers will treat it as an "other problem" on the IMCI charts?

5. Should we defer a decision while gathering more information? Such as by:

- A review (by a visit) of first-level facility practice and potential.
- Consultation with other experts.
- Consultation with global or regional WHO programmes.

6. Discuss the epidemiological and public health considerations, not just clinical considerations, of making the adaptation.

7. Refer to the *Principles of Adaptation* and use them as criteria for evaluating possible adaptations.

2.5 Identify the drugs and supplies needed at first-level health facilities

In addition to describing the clinical guidelines, finalize a list of the drugs and supplies that will be needed at first-level health facilities to implement the guidelines. (See Annex A-4 to review the list you prepared on the worksheet.) Add this list to an annex in the draft guidelines.

The IMCI Working Group will need this information to plan for making the required drugs available. This is a complex process of negotiating among

various Ministry of Health units and levels, and solving problems in the procurement and distribution of drugs. Communicate frequently with members of the IMCI Working Group as you make progress in identifying the IMCI drugs and other supplies.

2.6 Circulate the guidelines for comments, and revise them

The process described above continues. The subgroup meets whenever progress can be made in expanding the agreed-upon guidelines, and as many times as necessary to reach consensus. Revise the guidelines as consensus is reached on various components.

Then, distribute a copy of the draft of adapted guidelines, with a letter describing what you would like them to review, to:

- IMCI Working Group members,
- Other relevant Ministry staff,
- Key paediatricians in university medical schools, and
- Selected paediatricians in paediatric associations.

Ideally those receiving a copy of the draft of adapted guidelines know about IMCI through an orientation seminar or other meeting. If not, a meeting or letter will need to explain the adaptation process.

Give the reviewers enough time, about two weeks, to comment. You may visit them and follow-up their comments with specific questions or responses to their concerns.

Note: The generic charts are on a computer diskette. See Section H, Modifying the generic Chart Booklet: Using Microsoft Publisher® for instructions on how to revise the charts.

Task 3. Adapt the feeding recommendations, identify local terms, and adapt the *Counsel the Mother* chart and Mother's Card

While the adaptation subgroup is working on clinical issues, work proceeds simultaneously to develop the locally appropriate feeding recommendations for the IMCI *Counsel the Mother* chart and module, and to identify effective local terms for clinical signs. After the feeding recommendations and local terms have been identified, a specialist designs and pretests an adapted mother's card that incorporates these results. These adaptations are categorized as *ESSENTIAL ADAPTATIONS.*

Arrange for this work to be done, and orient persons who can help with these tasks. You will need to review the work and the results to ensure that recommendations resulting from these efforts are technically sound and appropriate for use in the IMCI guidelines.

As with the clinical guidelines, work to achieve consensus among persons interested in these technical areas. Build consensus among Ministry staff and appropriate advisors interested in improving nutritional and communication interventions, and among the members of the adaptation subgroup and the IMCI Working Group.

Three study protocols in Part 3 "Study Protocols" guide this work:

- *Protocol for adapting the feeding recommendations*, Section D
- *Protocol for identifying and validating local terms*, Section E
- *Protocol for designing and pretesting an adapted mother's card*, Section F

The protocols describe a process of:

- Using available sources of information to develop the locally appropriate recommendations and materials.
- If available sources are inadequate to produce appropriately adapted materials, conducting short field studies to gather additional information from the homes and communities where IMCI will be implemented.
- Analysing the information from the review of available sources and/or field studies to produce locally appropriate guidelines.

What follows below is a summary of the more detailed descriptions of the steps presented in the three protocols.

3.1 Develop feeding recommendations

Appropriate age-specific feeding recommendations and the solutions to common feeding problems need to be identified before the adaptation process is complete and the IMCI course can be used. These are *essential* adaptations.

The blanks in the following box must be filled in also on the generic *Counsel the Mother* chart. Specify good complementary foods for infants and young children age 6 months up to 2 years and snacks for children age 2 years up to 5 years.

Additional feeding recommendations may also include these possible adaptations:

- Add common solutions to feeding problems to those already listed in the *Counsel the Mother* chart and module.
- Specify locally appropriate feeding recommendations for children with persistent diarrhoea.
- In the modules *Counsel the Mother* and/or *Management of the Sick Young Infant,* add or adapt information about locally available breastmilk substitutes and locally relevant information on constraints to breastfeeding.

Essential adaptations to feeding recommendations:
To fill in the blanks on the *Counsel the Mother* chart

Energy and nutrient-rich complementary foods, which are culturally acceptable, for:

1. Children age 4 - 6 months up to 12 months _____

_____

_____

2. Children age 12 months up to 2 years _____

_____

_____

3. Nutritious foods to give to children age 2 years up to 5 years, in addition to family foods, three times daily:

_____

_____

_____

To review existing information and, when necessary, do a study with household trials, takes approximately two-three weeks. Local costs are usually about US$ 2,000-4,000, depending on the number of sites in the household trials.

Recruit and brief appropriate staff to study local feeding practices and problems. Identify a qualified staff person or recruit a consultant or team to review existing information and possibly gather additional information from the field. (See Annex A-1, page 44, for suggested qualifications of a person to carry out the *Protocol*.)

Brief the person thoroughly on the generic IMCI feeding recommendations and the task to adapt them, and provide relevant IMCI briefing materials on adaptation to help explain the purpose of the work. Provide a copy of the protocol.

Since this individual may not be familiar with the IMCI course, it is also important to explain the approach to nutrition counselling presented in the *Counsel the Mother* module and on the *Counsel the Mother* chart. Information to make adaptation decisions are needed on:

- Age-specific recommendations for feeding (using the age categories in the food box), which are appropriate in health as well as during illness, will appear on the *Counsel the Mother* chart. These need to include a limited list of foods and snacks that are energy and nutrient-rich, *and* are acceptable to mothers. The recommendations are summarized in the food box.
- Common feeding problems, which can potentially be corrected based on nutrition counselling, are also needed for the chart. Review the list on

the *Counsel* chart, and explain that this list can be changed to include common problems found locally.

- Health workers will use the mother's counselling card. Explain how it will be used and what types of information it will contain.
- Describe any other specific nutrition information needed for the country or specific area, as indicated in the *Protocol* in Section D.
- Explain that, although the space for recommendations on the charts is limited, explanations can also be added to the modules.

Conduct a study of local feeding practices and problems. The *Protocol* describes the following steps:

1. Draft feeding recommendations based on existing information.*

   Review available information on local nutrition and, if necessary, conduct exploratory interviews of experts, clinicians, and other key informants on local feeding problems. In some cases, the study of local feeding practices and problems may require only a review of available information and interviews, without requiring additional research to collect new information.

   Draft feeding recommendations for each of the categories needed, for example: for each age group, for modifying common feeding problems, for breastfeeding, and for children with persistent diarrhoea.

2. If needed, conduct a study of local feeding practices and problems.

   Decide whether additional information is needed to know whether the recommendations are acceptable to mothers. If not, go to step 4 to finalize the feeding recommendations. In many countries, however, it may be necessary to set up a small study with household trials to identify acceptable foods and improved feeding practices.

   If household trials are needed, prepare to conduct them. Select sites, and recruit and train interviewers and supervisors. Adapt the questionnaires and instructions, provided in the *Protocol*, to make them appropriate for the recommendations to be tested, and translate them. Household trials are conducted in three visits to mothers with young children. The trials in two sites can be completed in six days by a team of three interviewers.

   Include in the report of the study:

   - Suggestions for adaptations (in the form of draft adaptations for the charts).
   - Suggestions for explanations to insert in the *Counsel the Mother* module and relevant breastfeeding *sections* of the *Management of the Sick Young Infant* module, and the rationale for the recommendations.

* The adaptation group decides whether they need more information on appropriate home fluids for preventing dehydration. The need for more information is unlikely, especially in countries with an active CDD programme. If more information is needed, however, the identification of acceptable home fluids may be included in the household trials.

- A description of additional adaptations, such as important feeding problems to add and relevant information for counselling mothers about those feeding problems.

3. Revise feeding recommendations, based on household trials.

   Review the results of the household trials with the person who conducted or supervised the study. Determine the implications of the results for feeding recommendations. Select the most feasible and acceptable recommendations to include in the case management guidelines, including the mother's card.

   Decide whether significant regional differences exist that warrant different feeding recommendations. These would usually require separate mother's counselling cards. (See also section C. *Technical Basis,* item 13, page 135.)

4. Obtain appropriate reviews and finalize feeding recommendations.

   Request reviews from local medical and nutrition professionals, national programme staff, and others involved in adapting IMCI guidelines. Revise the recommendations based on their comments.

5. Adapt the food and counselling boxes in the training materials.

   Add the age-specific feeding recommendations to the box *Feeding Recommendations during Sickness and Health,* and recommendations on local feeding problems in the box *Counsel the Mother About Feeding Problems.*

3.2 Identify and validate local terms

Effective communication, and therefore effective case management, depend on the health worker using terms for clinical signs that the mother understands.

When the health worker is assessing a child and asking a mother about her child's main symptoms, the mother must understand, or her answers will not be valid. The health worker must also use local terms to teach a mother the signs to watch for in her sick child, and to return to the health worker if these signs appear.

The identification of local terms for effective communication with mothers, therefore, is an *essential* adaptation. When assessing a child and counselling a mother, the health worker will need to know the local terms for the clinical signs in the table below.

Essential adaptation:
Local terms for use in communicating with mothers

Clinical Sign	Needed for Assessment	Needed to Advise on When to Return
Diarrhoea	✓	
Blood in the stool	✓	✓
Fever	✓	✓
Fast breathing		✓
Difficult breathing	✓	✓
Measles	✓	
Becomes sicker		✓
Not able to drink or breastfeed	✓	✓
Drinking or breastfeeding poorly	✓	✓
Convulsions	✓	

The *Protocol for Identifying and Validating Local Terms* presents the steps to select local terms for clinical signs. The whole process, including the field visits, can be completed in about two weeks. Local costs should be approximately US$ 2,000-3,000.

Recruit and brief appropriate staff to identify and validate local terms. Identify a qualified staff person or recruit a consultant (or a two-person team) to follow the *Protocol*. (See Annex A-1, page 44, for suggested qualifications of an individual to carry out the *Protocol*.) The individual must be fluent in the local language and have expertise in qualitative interviewing techniques. Some clinicians have this experience and the ability; others do not.

Brief the individual thoroughly on the generic IMCI guidelines, particularly the approach to counselling the mother presented in the *Counsel the Mother* module and on the *Counsel the Mother* chart, and the use of the mother's card. Provide the relevant IMCI briefing materials on adaptation to help explain the purpose of the work. Provide a copy of the *Protocol.*

Since the individual may not be familiar with the IMCI course, it is important to explain how the local terms will be used by a health worker.

Identify the local terms for the essential clinical signs. The objective of the protocol is to identify the terms families use. These are often not the terms health workers use simply translated into the local language. The *Protocol* describes the following steps:

1. Assess existing information on local terms.

   Gather information on local terms from written sources, and by short interviews of available clinicians and caretakers. Review the results and determine whether the current information is sufficient for use in adapting the materials. Begin to identify the terms that are valid, and identify those for which you do not have enough information. (Significant regional differences may suggest that different terms be used in different regions.)

2. Validate local terms through interviews with caretakers of sick children.

   If further information is required to validate the terms mothers use to describe sick children who have specific clinical signs, arrange a small field study. Identify interviewers, locate health facilities where caretakers of sick children can be interviewed, develop interview forms, and pretest the questions and procedures.

   Conduct interviews with caretakers of sick children who have the particular signs that need to be validated. Examine the child to determine the appropriateness of proposed local terms for the visible or described signs.

3. Select local terms to adapt the chart and training materials.

   Discuss the results of the study with the individual who conducted or supervised it. Together review the local terms identified for each of the clinical signs, discuss any uncertainties in choice of local terms, and make sure that local terms fit the needs of the course and the mother's card. Decide if significant regional differences warrant different terms in different regions.

   Present the conclusions of the study to the adaptation subgroup for their review. There are several ways the adaptation subgroup may decide

to use the local terms in the IMCI case management guidelines and training materials:

- Use the local terms on the *mother's counselling card*. This is the most important place to include the local terms for advising mothers when to return with their sick child to the health worker.
- Use the local terms in the *Counsel the Mother* module, where health workers learn to use the mother's card.
- Use the local terms on the *Assess and Classify* chart, or on the *Counsel the Mother* chart.
- Give a list of the local terms to facilitators who can introduce their use in clinical sessions when participants counsel mothers.
- Give the local terms also to the specialist designated to develop the design for the mother's card. The local terms will be used to describe the signs indicating the mother should return the child to the health worker.

The local terms should also be added to the list of key words, given to translators of the modules and other materials. (See Annex B-4, page 28, in Section B. *Procedures for Adapting the Charts and Modules*.)

3.3 Develop a mother's counselling card

The adapted feeding recommendations and the signs for when to return are then included on a mothers card used by health workers to communicate with mothers. The local mothers card needs to be designed and tested to ensure that mothers can understand the messages and the illustrations are clear.

These adaptations may need to be done in different localities where IMCI is being introduced to improve the effectiveness of messages on home care and extend IMCI more fully into the community. Time can be saved by gathering the information through the adaptation process in order to prepare feeding recommendations and identify local terms that will support timely careseeking. The adapted messages can be used to design community-based interventions, as well as to train local health workers.

The *Protocol for designing and pretesting an adapted mother's card* provides guidance on this task for an individual with health education expertise and skills in designing printed materials for communication. (See Annex A-1, page 45, for the qualifications needed to do these tasks.)

The mother's card provides reminders, in words and pictures, of the key messages that a health worker needs to teach a mother about how to care for a sick child at home. The health worker shows it to a mother when counselling her. In some countries health workers give mothers a copy to take home. The generic card includes:

- When to return immediately to the clinic,
- When and which extra fluids should be given,
- How to feed the child, by age, and

- Immunizations (if the country does not have separate immunization cards).

The studies you have completed on current feeding practices and local terms may have revealed differences between one geographical area or cultural group and the rest of the population. Variations can be accommodated in different ways. For example, variations in local terms could be accommodated by listing terms from more than one language, by printing several versions of the card, or by leaving blanks for the health worker to fill in. Sometimes the differences can be accommodated on the same card. Often there are one or two common languages that are widely understood and could be used on the card, even if there are many local dialects.

Differences in feeding recommendations and local terms, however, may be significant enough to warrant different versions of the mother's card for different areas of the country or for different ethnic groups within an area. The first version of the card to be developed, however, should be appropriate for the areas where the IMCI course will first be used.

Note: Some countries have mother's cards, which have been previously successfully promoted and used. When an appropriate mother's card exists, you may consider adapting it to include the important messages for IMCI, rather than adapting the generic card provided with the IMCI materials.

The *Protocol* describes the following steps in developing a mother's card:

1. Design an adapted mother's card(s).

   The designer of the mother's card should be given: the generic mother's card as an example, the adapted feeding recommendations, and the local terms for the clinical signs to return to clinic. The designer uses this information and creates a layout and illustrations that will be effective in communicating with mothers.

   The *Protocol* provides guidance on the design. Two or three different designs of a card with the same content should be developed, for testing purposes.

2. Circulate drafts of the mother's card.

   Circulate drafts of the mother's card for comment to the adaptation subgroup and the IMCI Working Group. Also send them to any programmes that have experience using posters or other counselling aides with mothers of young children, and to individuals or groups in the MOH or university with expertise in health education.

   Review the comments with the designer of the card. Identify the changes the designer should make before pretesting the card with mothers. If necessary, send the new drafts to a few selected reviewers for their final review before the pretest.

3. Pretest the mother's card and revise as needed.

After the content and initial designs of the draft cards have been approved, the card should be pretested with mothers and with health workers to assess their understanding and reactions to it. In a pretest, responses to two or three different designs are compared to find out which one communicates best and is easiest to use. A final version of the card is developed based on the results.

4. Plan for a review of communication messages in IMCI areas, and the promotion of key health messages.

   The completed mothers card summarizes key health messages to be promoted within health facilities and in the community: to improve nutrition, to seek care for a sick child from a health worker, and to bring the child to be immunized according to schedule. The messages on the mother's card also have been adapted for the main languages and cultures in communities where IMCI is being implemented.

   The members of the adaptation subgroup should work with the IMCI Working Group to identify how to promote these improved and adapted messages through the health facility and through community-based interventions. Using the content on the mother's card as a standard, they should prepare a plan to review existing communication materials produced by the Ministry of Health, UNICEF, and others to ensure that their messages are consistent with IMCI and are appropriately adapted to communities. In collaboration with partners working within communities, they can also help identify ways to more widely promote the messages.

Task 4. Produce the adapted materials

The last task is to produce the adapted materials. This task should not be done until there is consensus on the guidelines. (See *Achieving Consensus* at the beginning of this section, page 15.)

Finalize the adapted guidelines and make the changes on all the charts and other materials. If necessary, translate all the materials. Then oversee and carefully check the production of the adapted charts, adapted modules and other training materials by support staff.

Provided in this guide are the following materials to help you make the changes:

- *Section B. Procedures for Adapting the Charts and Modules* describes step-by-step how to produce the adapted materials. It covers marking the changes on the charts and recording forms with red pencil, entering changes on the computer files, translating, proofing, and finally printing the adapted materials.
- *Section H. Modifying the generic Chart Booklet* lists many common adaptations. For each of these, it specifies all the places in the materials where changes should be made and shows the exact changes needed. If an adaptation is described in Section H, it will be considerably quicker to adapt the course materials.

OUTPUTS OF ADAPTATION

The outputs of adaptation include:

Course materials

- Adapted chart booklet
- Adapted charts
- Adapted modules
- Adapted recording forms
- Adapted facilitator guide for modules
- Adapted answer sheets
- Adapted mother's card(s)
- For a few adaptations, adapted facilitator guides for inpatient and outpatient clinical practice

Other materials to prepare

- Summary of adapted guidelines
- Adapted drug list

In the unusual circumstance that clinical signs are added, adapting the video and/or photograph booklet is necessary. Adapting the video is possible, but it is not recommended because of production difficulties and considerable expense. Contact WHO for information on how this might be done, if required.

The materials, including the video, may need to be translated. It is important that all the decisions that went into reaching consensus on the technical guidelines and the content of the materials be incorporated into the translation of the final adapted materials. Translated materials must be carefully proofread before they are produced. (See Section B. *Procedures for Adapting the Charts and Modules*.)

This set of materials will be used to conduct the first training courses. During the first use of the materials, the need for additional changes may be identified. For this reason, the numbers produced during first printing of the materials should be limited to the numbers needed during the early implementation of training courses.

References

1. World Bank. *World development report 1993: Investing in health*. New York, Oxford University Press, 1993.

2. Simoes EAF et al. Performance in clinic after training with a draft version of the WHO/UNICEF course Management of Childhood Illness in Gondar, Ethiopia. *Bulletin WHO: IMCI Supplement,* 1997 (in press).

3. *IMCI Planning Guide (for the implementation of the integrated management of childhood illness).* Geneva, World Health Organization, 1998 (unpublished document in preparation, to be available on request from the Division of Child Health and Development, World Health Organization, 1211 Geneva 27, Switzerland).

4. Gove S et al. Results of the Arusha, Tanzania, field test of the WHO/UNICEF training course Management of Childhood Illness. *Bulletin WHO: IMCI Supplement,* 1997 (in press).

5. Weber M et al. Evaluation of an algorithm for the integrated management of the sick child in an area with seasonal malaria. *Bulletin WHO: IMCI Supplement,* 1997 (in press).

6. Perkins BA et al. Evaluation of an algorithm for integrated case management in an area of high malaria transmission. *Bulletin WHO: IMCI Supplement,* 1997 (in press).

7. Kolstad PR et al. Using the integrated management of childhood illness approach in western Uganda. *Bulletin WHO: IMCI Supplement,* 1997.

Section A

ANNEXES

Annex A-1 Suggested qualifications for staff or consultants involved in adaptation

Annex A-2 Questions to summarize the required clinical adaptations

Annex A-3 Summary of likely adaptations and information needed (followed by a sample from *Uganda*)

Annex A-4 Drug list for integrated management of the sick child at first-level (outpatient) health facilities

Annex A-5 Suggested information to gather at outpatient facility visits to confirm current case management practices

Annex A-6 A sample set of adaptations made in two countries: Tanzania and Uganda

Annex A-1

Suggested qualifications for staff or consultants involved in adaptation

1. Coordinator of adaptation subgroup

This is a demanding position, requiring many skills and good clinical and programme background. The individual needs the following characteristics:

- Has attended an IMCI course. If possible, he or she has participated as a facilitator.
- Has been trained in adaptation by participating in an adaptation workshop. (This is extremely helpful. If this is not possible, the assistance of trained adaptation consultant can be requested from WHO to prepare the coordinator and others involved in adaptation.)
- Has substantial clinical experience in the outpatient care of sick children in developing countries, including involvement in managing young infants and malaria cases (if the country has malaria transmission).
- Has experience in disease control programmes, including experience in health worker training.
- Can be assigned to spend a substantial portion of time on adaptation tasks.
- Can communicate well with technical staff in other programmes, and arrange or contract for local assistance.
- Has good organizational and planning skills.
- Is patient and attentive to detail.

2. Person to carry out the *Protocol for adapting the feeding recommendations*

The characteristics below may be present in one individual, or a team of people who will work together may have them. The person or persons should:

- Have a good knowledge of infant and child nutrition.
- Be able to review available information and determine information needs.
- Be able to identify sources of information on feeding practices.
- Have qualitative interviewing skills.
- Have experience organizing a study and training interviewers.
- Have experience in data analysis and interpretation.
- Be willing and able to follow the protocol after thorough briefing.

3. Person to carry out the *Protocol for identifying and validating local terms*

The characteristics below may be present in one individual, or in a team who will work together. The person or persons should:

- Have expertise in qualitative interviewing techniques. (Some clinicians may be able to carry out the study under the guidance of a social scientist or other professional with qualitative interviewing experience.)
- Be fluent in the language spoken by mothers in the area.
- Be willing and able to follow the protocol after thorough briefing.

4. Person to carry out the *Protocol for designing an adapted mother's card*

This person should:

- Have expertise in health education and designing communication materials.
- Have expertise in graphics design and access to the appropriate equipment to produce designs (this will often be an artist or graphics designer).

5. Person to carry out the *Protocol for pretesting an adapted mother's card*

This person should:

- Be familiar with methods of pretesting communication materials.
- Have expertise in qualitative interviewing techniques.

6. National staff who assist the coordinator

This staff should include two or more individuals to share the work of making and checking all changes in the chart and modules, such as:

- A secretary or other person who is very skilled in managing computer files, and producing and editing documents on the computer using a word processing software (Word for Windows).
- A clinician or trainer to assist the focal person to check the changes and help oversee the graphics work, proofread copy, and interact with the printer to produce quality materials.
- A graphics software expert able to work with files containing the wall charts and chart booklet using a layout program (Microsoft Publisher®).

Annex A-2

Questions to summarize the required clinical adaptations

Use the following table to guide your preparation for discussions about clinical adaptations.

Note that since completing the generic guidelines and training materials, further evidence and/or review has suggested several alterations or updates in the course. These are identified as RECOMMENDED ADAPTATIONS and are marked with an asterisk [*] in this table.

The abbreviations of sections in the table refer to the following sections:

- *C. Technical Basis for Adapting clinical Guidelines, Feeding Recommendations, and local Terms;* and

- *Study Protocols* (section D, E and F).

Questions to summarize the required clinical adaptations

Determine clinical adaptations required	If YES, tick [YES]	If NO, tick [NO]	Possible adaptations or additional information needed
ARI			
1. Is cotrimoxazole the first-line antibiotic recommended for outpatient treatment of suspected pneumonia? Is it also the recommended first-line antibiotic for acute ear infection? Can it be given for a child with suspected meningitis or serious bacterial infection before referral to hospital if s/he is able to take oral medication	[YES] to all three questions: Fill in the chart blank: >Give an Appropriate Oral Antibiotic >FOR PNEUMONIA, ACUTE EAR INFECTION OR VERY SEVERE DISEASE: First-line antibiotic: **Cotrimoxazole** [If a single formulation of cotrimoxazole for children is provided to first level facilities, simplify the dosing table for this on your chart (see Section C). No other adaptation required.]	[NO] to any question: See Section C2.	
2. Is amoxycillin provided to first level health facilities as the second-line antibiotic for pneumonia and acute ear infection?	[YES] Fill in the chart blank: >Give an Appropriate Oral Antibiotic >FOR PNEUMONIA, ACUTE EAR INFECTION OR VERY SEVERE DISEASE: Second-line antibiotic: **amoxycillin** If a single formulation of amoxycillin is provided to first level facilities, simplify the dosing table for this on your chart (see Section C).	[NO] See Section C2.	
3. Is the breathing rate counted for 60 seconds using a watch?	[YES] No adaptation required.	[NO] See Section C2.	
4. How are children presenting with wheezing managed: ˜ Is wheezing a significant problem? - Are first level facility workers expected to recognize wheezing? ˜ Are they supplied with oral salbutamol and the equipment and drugs to administer a rapid-acting bronchodilator in their facility?	[YES] to all: See Section C2.	[NO] to any question: No adaptation required.	
5. Is there a recommended safe soothing remedy for a young child with cough or sore throat?	[YES] Fill in chart blank: >Soothe the throat, relieve the cough with a Safe Remedy: o Safe remedies to recommend: _____ _____	[NO] See Section C2.	

Determine clinical adaptations required	If YES, tick [YES]	If NO, tick [NO]	Possible adaptations or additional information needed
6. Have any common harmful remedies been identified, which health workers should warn mothers against?	[YES] Fill in chart blank. >Soothe the throat, relieve the cough with a Safe Remedy: o Harmful remedies to discourage: _____ _____	[NO] See Section C2.	
7. Can first-level facilities be supplied with parenteral chloramphenicol, for pre-referral treatment of severe pneumonia or very severe disease, or severe febrile disease?	[YES] No adaptation required.	[NO] See Section C2.	
Diarrhoeal disease 8. Have home fluids for diarrhoea been identified? Are these ORS solution, food-based fluids such as soup, rice water, and yoghurt drinks, or clean water?	[YES] to both questions: No adaptation needed other than including in mother's counselling card. *Note: If inadequate data to select home fluids, consider adding to household trial of feeding recommendations. See Section D.*	[NO See Section C3.	
9. Are ORS packets (enough for 2 litres) given to mothers of children with diarrhoea who visit a facility?	[YES] No adaptation required.	[NO] See Section C3.	
10. Are the first- and second-line antibiotics for Shigella known and included in dosing chart?	[YES] Fill in chart blanks: >Give an Appropriate Oral Antibiotic: >FOR DYSENTERY: First-line antibiotic for Shigella: _____ Second-line antibiotic for Shigella: _____	[NO] See Section C3.	
11. Are the first- and second-line antibiotics for cholera known and included in dosing chart?	[YES] Fill in chart blanks: >Give an Appropriate Oral Antibiotic: >FOR CHOLERA: First-line antibiotic for Cholera: _____ Second-line antibiotic for Cholera: _____	[NO] See Section C3.	
12. Should multivitamins be recommended daily for 2 weeks in children with persistent diarrhoea? (this is a recommended adaptation*)	[YES] Adaptation recommended. See Section C3.	[NO] No adaptation required (present the data in Section C3).	

Determine clinical adaptations required	If YES, tick [YES]	If NO, tick [NO]	Possible adaptations or additional information needed
13. The IMCI guidelines recommend metronidazole treatment for bloody diarrhoea only after the first- and second-line antibiotics fail, either by providing or prescribing or referring for treatment (see page 11 of Follow-up module). Is this acceptable?	[YES] No adaptation required.	[NO] See Section C3.	
14. Plan C and the *Treat* module, Section 6.3, page 75, provide suggestions for possible intravenous solutions and rate of infusion. Do these need to be made more specific For country use?	[YES] Adaptation required. See Section C3.	[NO] No adaptation required.	
Fever 15. Is paracetamol provided by first level facilities for fever in young children?	[YES] No adaptation required. [If a single formulation is provided to health facilities, use the simplified box for this on your chart - see Section C.]	[NO] See Section C5.	
16. Do clinics use axillary measurement of temperature?	[YES] No adaptation required.	[NO] See Section C5	
Malaria 17. Is *P. falciparum* malaria transmitted in some areas?	[YES] No adaptation required.	[NO] See Section C4. If *no* malaria anywhere, SKIP to question 29.	
18. Is P. vivax malaria transmitted in some areas?	[YES] Adaptation may be required. See Section C4.	[NO] No adaptation required.	
19. Read the description of high and low malaria risk areas in Section C4. Then answer: Is there a mixture of identifiable high and low malaria risk areas?	[YES] No adaptation required.	[NO] See Section C4.	
20. Should the entire country be considered a high malaria risk area?	[YES] See Section C4. Adaptation required.	[NO] No adaptation required.	

Determine clinical adaptations required	If YES, tick [YES]	If NO, tick [NO]	Possible adaptations or additional information needed
21. Are there areas with no malaria risk?	[YES] See Section C4.	[NO] No adaptation required.	
22. Is chloroquine the first-line oral antimalarial?	[YES] Fill in chart blank: >Give an Oral Antimalarial First-line antimalarial: **Chloroquine** (No additional adaptation required) [If a single formulation of chloroquine is provided to first level facilities, use the simplified box for this on your chart. See Section E.]	[NO] See Section C4.	
23. Is sulfadoxine-pyrimethamine the second-line antimalarial? Is this available in first-level health facilities?	[YES] to both questions: > Give an Oral Antimalarial Second-line antimalarial: **Sulfadoxine + pyrimethamine** (No additional adaptation required.)	[NO] to either question: See Section C4.	
24. Is the first-line antimalarial given empirically, without requiring a blood smear?	[YES] No adaptation required.	[NO] See Section C4.	
25. In the national malaria programme guidelines, can first level facility health workers give a first dose of quinine intramuscularly before referring a child with suspected severe malaria? Is it effective as a single agent against *P. falciparum* malaria?	[YES] to both questions: No adaptation required. [If a single formulation of quinine is provided to health facilities, use the simplified box for this on your chart (see Section E).]	[NO] to either question: See Section C4.	
26. Do the conditions exist for using cotrimoxazole alone for pneumonia/malaria overlap (children presenting with fever, cough and fast breathing): – more than 80% malaria is *P. falciparum*; – *P. falciparum* malaria is susceptible to Fansidar; and – compliance to 5 days of cotrimoxazole is likely? Is it acceptable to the national malaria programme to use cotrimoxazole for pneumonia/malaria overlap?	[YES] to both: No adaptation required.	[NO] to either question: See Section C4.	

Determine clinical adaptations required	If YES, tick [YES]	If NO, tick [NO]	Possible adaptations or additional information needed
27. Does severe malaria occur in young infants (less than 2 months of age)?	[YES] See Section C4.	[NO] No adaptation required.	
28. Is there a high rate of resistance to the first-line antimalarial? If substantial rate of resistance to first-line antimalarial, should anaemia be treated with the second-line antimalarial? Is a blood smear used to assess treatment failures?	[YES] to one or more: See Section C4.	[NO] No adaptation required.	
Other causes of fever			
29. Are first-level health workers seeing measles cases?	YES] No adaptation required.	[NO] See Section C6.	
30. Is borrelliosis a significant problem in children under 5 years?	[YES] See Section C7.	[NO] No adaptation required.	
31. Is dengue haemorrhagic fever a significant problem in children under 5 years?	[YES] See Section C7.	[NO] No adaptation required.	
Ear infection			
32. Is ear infection a significant problem? Are antibiotics supplied for the treatment of ear infection?	[YES] to both questions: No adaptation required.	[NO] to either question: See Section C8.	
33. Are first level facility workers trained to use a pneumatic otoscope? Do most have this equipment available?	[YES] See Section C8.	[NO] to either question: No adaptation required.	
34. Is antibiotic treatment recommended for chronic ear infection with discharge 14 days or more? Are children with chronic ear infection which does not respond to wicking referred for further assessment and treatment?	[YES] to either: See Section C8.	[NO] to both: No adaptation required.	

Determine clinical adaptations required	If YES, tick [YES]	If NO, tick [NO]	Possible adaptations or additional information needed
Nutrition			
35. If the national weight-for-age chart is similar to the generic chart, can the generic chart be used? Does a threshold for very low WFA of -3 z-score on an NCHS standard perform well in identifying a manageable percentage of children for feeding assessment and follow up? Do a significant number of these children have wasting, rather than stunting only?	[YES] to all questions: No adaptation required.	[NO] to any question: see Section C.	
36. Are first level facility health workers already trained to recognize growth faltering? Do they perform well in recognizing growth faltering? Are adequate growth monitoring cards for mothers already available, regularly used correctly, and used to counsel mothers? (Correct means correct plotting and recognition of growth faltering.)	[YES] to all questions: See Section C9.	[NO] to either question: no adaptation required.	
37. Are first level facility health workers already trained to use height boards and determine weight-for-height? Are accurate height boards already provided and maintained in good repair in first-level health facilities?	[YES] to both questions: See Section C9.	[NO] to both questions: no adaptation required.	
Anaemia			
38. Is oral iron provided for treatment of anaemia as an outpatient? Is the formulation included on the iron-dosing chart?	[YES] to both questions: No adaptation required.	[NO] to either question: see Section C10.	
39. Is anaemia diagnosed in first-level health facilities based on clinical examination, not by haemoglobin or haematocrit determination? Is anaemia assessed by palmar pallor?	[YES] to both questions: No adaptation required.	[NO] See Section C10.	

Determine clinical adaptations required	If YES, tick [YES]	If NO, tick [NO]	Possible adaptations or additional information needed
40. Are there many children with sickle cell anaemia? Are there other significant causes of anaemia besides iron deficiency, malaria, hookworm, or whipworm?	[YES] to either question: See Section C10.	[NO] to both questions: no adaptation required.	
Vitamin A in measles 41. Are two doses of vitamin A given to children with measles not requiring hospitalization (the current WHO/UNICEF recommendation)? Is it acceptable to refer children with corneal clouding to hospital after a single dose of oral vitamin A? Is the vitamin A formulation a 50, 100 or 200 thousand IU capsule (circle the formulations provided to first-level health facilities)?	[YES] to all questions: No adaptation required. If a single formulation, simplify the dosing table (see Section E).	[NO] to any question: See Section C12.	
42. Is vitamin A supplementation provided on a regular, 4- or 6-monthly basis to young children over 6 months of age with doses recorded on a record kept by the mother? Should sick child visits be used as an opportunity to update vitamin A supplementation? Can supplies be made available to support this decision?	[YES] to all three questions: Adaptation required (see Section C12).	[NO] to *any* question: No adaptation required.	
Mebendazole 43. Is mebendazole used to treat children under 5 years with clinical anaemia? Is this treatment limited to areas with hookworm/whipworm? Is mebendazole in 100 mg or 500 mg tablets on the drug list?	[Yes] to all questions: No adaptation required.	[NO] to any question: See Section C11.	
44. Are children 2 years and older dewormed regularly?	[YES] See Section C11.	[NO] No adaptation required.	

Determine clinical adaptations required	If YES, tick [YES]	If NO, tick [NO]	Possible adaptations or additional information needed
Immunization			
45. Does the immunization schedule used in your country correspond to the standard EPI immunization schedule on the generic chart?	[Yes] No adaptation required.	[NO] See Section C15.	
46. Do the contraindications to immunization correspond to those presented in the modules (see Section C11)?	[Yes] No adaptation required.	[NO] See Section C15.	
Young infant-serious bacterial infection			
47. Can first-level facilities be supplied with benzylpenicillin and gentamicin, for pre-referral treatment of serious bacterial infection?	[YES] No adaptation required.	[NO] See Section C16.	
48. Should young infants with blood in the stool be referred to hospital? (This is a recommended adaptation.*)	[YES] Adaptation required. See Section C3 and C16.	[NO] Fill in the chart blanks for first- and second line oral antibiotics for Shigella.	
49. Are the first- and second-line antibiotics for local bacterial infection in young infants known and included on the dosing chart?	[YES} Fill in the chart blanks: >Give an Appropriate Oral Antibiotic For local bacterial infection; First-line antibiotic: _____ Second-line antibiotic: _____	[NO] See Section C19.	
Gentian violet			
50. Is full-strength gentian violet supplied in a concentration of 0.5%? Can this be supplied to first-level health facilities? Can it be diluted to half-strength (0.25% concentration) for use in the mouth, for mouth ulcers in children with measles and for thrush?	[YES] to all questions: No adaptation required.	[NO] to any question: see Section*s* C6 and C16.	
High prevalence HIV areas			
51. Is there a high prevalence of HIV infection?	[YES] Adaptation *may* be appropriate. See Section C20.	[NO] No adaptation required.	

Determine clinical adaptations required	If YES, tick [YES]	If NO, tick [NO]	Possible adaptations or additional information needed
Clinical records 52. Is there (or will there be) an established system of patient charting, multivisit cards, or patient registers? Do health workers need to learn to record their classification, treatment, and follow-up plans on these forms, based on what they have learned in the IMCI course?	[YES] to both questions: adaptation required. See Section C25.	[NO] to either question: no adaptation required.	
Prevention of hypoglycaemia 53. Should the recommendation to treat the child to prevent low blood sugar be extended to children with SEVERE PNEUMONIA OR VERY SEVERE DISEASE or SEVERE MALNUTRITION OR SEVERE ANAEMIA?(this is a recommended adaptation*)	[YES] - adaptation required. See Section C18.	[NO] No adaptation required.	
54. Is intravenous D10 or D50 available in the first-level health facilities? Are health workers already trained to administer intravenous fluids?	[YES] to both questions - adaptation required. See Section C18.	[NO] to either question. No adaptation required.	
Prevention of hypothermia 55. Should the recommendation to advise the mother to keep the infant warm on the way to hospital be extended to include all severely malnourished children? (This is a recommended adaptation*.)	[YES] - adaptation required. See Section C17.	[NO] No adaptation required.	
Where there is no referral 56. Can the treatments listed in Annex E be provided in some first-level health facilities for severely ill children who cannot be referred (through repeated clinic visits or home visits)? Are additional or alternative treatments available?	[YES] to either question - adaptation required. See Section C20.	[NO] to both questions. No adaptation required.	

Annex A-3

Summary of likely adaptations and information needed (followed by an example from *Uganda*)

Essential adaptations **(in italics) and Other adaptations**	**Information needed**
Danger signs	
Cough or difficult breathing *First-line antibiotic for pneumonia:* _____ *Second-line antibiotic for pneumonia:* _____ *Safe, soothing remedy:* _____	
Diarrhoea *First-line antibiotic for dysentery:* _____ *Second-line antibiotic for dysentery:* _____ *First line antibiotic for cholera:* _____ *Second-line antibiotic for cholera:* _____	
Fever: *First-line oral antimalarial:* _____ *Second-line oral antimalarial:* _____	
Ear infection	
Malnutrition	
Anaemia	
Immunization	
Vitamin A	
Mebendazole	
Young infant *First-line antibiotic for local bacterial infection*: _____ *Second-line antibiotic for local bacterial infection:* _____	

Essential adaptations **(in italics) and Other adaptations**	**Information needed**
Mother's counselling card:	
Age-specific feeding recommendations: *Complementary foods for child 4-6 months up to 12 months:* _____ _____ *Complementary foods for child 12 months up to 2 years:* _____ _____ *Nutritious foods (snacks) to give to child age 2 years up to 5 years, in addition to family foods:* _____	
Common, modifiable feeding problems	
Local terms: □ whole country □ region: *Diarrhoea:* _____ *Blood in stool:* _____ *Fever:* _____ *Fast breathing:* _____ *Difficult breathing:* _____ *Measles:* _____ *Not able to drink :* _____ *Drinking poorly:* _____ *Not able to breastfeed:* _____ *Breastfeeding poorly:* _____ *Becomes sicker:* _____ *Convulsions:* _____	
Other topics	

Example: Initial list of likely adaptations and information needed in *Uganda*

Essential adaptations **(in italics)** **Other possible adaptations and information needed**
Danger signs: no change
Cough or difficult breathing *First-line antibiotic for pneumonia:* *cotrimoxazole* *Second-line antibiotic for pneumonia:* *procaine penicillin* Should amoxycillin be added or substituted as second line, to avoid injections. *Safe, soothing remedy:* locally made linctus? What would the recipe be? Tea with honey or plain honey are common recommendations. Harmful remedies: review results of study already done - decide which (if any) to discourage on the chart. Include wheezing? Information needed: ˜ Cost of treatment ˜ How significant a problem is wheezing in Uganda? ˜ Can metered dose inhalers be added to new essential drug list? ˜ Do health workers now trained in ARI use rapid-acting bronchodilators if one is available? Some peripheral clinics have only salbutamol; health centres also have epinephrine. Is epinephrine use avoiding referral for some children with wheezing?
Diarrhoea *First-line antibiotic for dysentery:* *cotrimoxazole currently but needs to be reconsidered.* ˜ *Need to highlight extent of cotrimoxazole resistance and use of nalidixic if definitive resistance.* *Second-line antibiotic for dysentery:* *ampicillin or nalidixic acid in epidemic or emergency.* ˜ *Ampicillin needs to be reconsidered.* *More information will be collected on shigella resistance; ability of lab to do resistance testing; WHO may be sending someone from Harare to assist.* Is local brew a source of shigella infection? Some outbreaks mostly in men. *First-line antibiotic for cholera:* _____ *Second-line antibiotic for cholera:* _____ Wording of advice on persistent diarrhoea needs to be examined- concern whether it will promote dilution of milk and other foods - already recognized as a problem. Home fluid recommendations have never been established or studied. CDD Programme would like to combine home fluid study with food study.

***Essential adaptations* (in italics)** **Other possible adaptations and information needed**
Fever *First-line oral antimalarial:* *chloroquine* *Second-line oral antimalarial:* sulfadoxine-pyrimethamine; third line is oral quinine- will that remain available at first-level health facilities. ˜ Malaria Programme will review pneumonia/malaria report and CTD antimalarial treatment manual to consider further whether cotrimoxazole can be recommended for pneumonia/malaria overlap. Needs bigger forum to discuss. ˜ Almost no low malaria risk areas. Will check with certain paediatricians/professors who might object if all Uganda is considered high risk. This needs further discussion. ˜ Intramuscular antimalarial for severe malaria is currently chloroquine. Need safety data comparing chloroquine and quinine (small Mulago Hospital study suggested chloroquine better than quinine - has influenced clinicians). ˜ Need more data on malaria in first 2 months. Concern that in epidemic malaria areas where the mothers are less immune that it may be necessary to also treat young infants with fever empirically for malaria.
Ear infection Big problem, especially in children with measles or HIV. ˜ Material for wicking a problem. Cheap polyester now used predominantly for clothing in villages - poor absorbency? Provide gauze in EDP kit, or can national medical stores send gauze separately to clinic. Adapt recommendations in wicking box.
Malnutrition ˜ Obtain current DHS data. Look at proportion of children who are stunted by age; distribution of low WFH children by WFA, by age.
Anaemia ˜ Possible adaptation: no iron to sicklers. Or just no iron to sicklers who are receiving repeated transfusions (uncommon in Uganda)? Mothers know if child is a sickler (just ask). ˜ Review guidelines for iron treatment of sicklers. ˜ Iron formulations: iron/folate tablets only in EDP kit. Explore opposition to iron syrup.
Immunization ˜ Schedule on chart OK. ˜ Need to clarify measles immunization at 6 months (with 9 month repeat) if hospitalized; exposed to a case. ˜ Check with EPI to see if contraindications to vaccines in modules fit with national guidelines.
Vitamin A - Reconsider current policy targeting vitamin A at children with malnutrition, persistent diarrhoea, pneumonia, and with measles immunization. Currently no policy to give routine vitamin A supplementation although this would be desirable. Concern not to give vitamin A to all children. - Reconsider vitamin A through food sources and the promotion of this in feeding recommendations in course. - 200 000 IU formulation in EDP kit -? Include dosing information for other formulations.
Mebendazole - Obtain results of study on massive deworming. - Many paediatricians and mothers deworm every 3 months once ambulatory. Consider regular use mebendazole in children over ?1 year/?2 years.

Annex A-4

Drug list for integrated management of the sick child at first-level (outpatient) health facilities

Drug description	Generic MCI course, using common first- and second-line drugs	Your country's drug list for IMCI
ORAL DRUGS:		
First-line antibiotic for pneumonia, ear infection	Cotrimoxazole	
Second-line antibiotic-pneumonia, ear infection	Amoxycillin	
First-line antibiotic for local bacterial infection in young infants	Cotrimoxazole	
Second-line antibiotic for local bacterial infection in young infants	Amoxycillin	
First-line antimalarial	Chloroquine	
Second-line antimalarial	Sulfadoxine-pyrimethamine	
First-line antibiotic for shigella	Cotrimoxazole	
Second-line antibiotic for shigella	Nalidixic acid	
First-line antibiotic for cholera	Tetracycline	
Second-line antibiotic for cholera	Cotrimoxazole or erythromycin	
Vitamin A	Vitamin A	
Anthelminthic	Mebendazole	
Antipyretic	Paracetamol	
Iron formulation	Iron syrup/iron-folate tablet	
LOCAL TREATMENT: For thrush, mouth ulcers	Gentian violet	
Antibiotic eye ointment	Tetracycline eye ointment	
PARENTERAL DRUGS: Pre-referral antibiotic treatment	**Chloramphenicol**	
Pre-referral treatment for serious bacterial infection in young infant	Benzylpenicillin Gentamicin	
Pre-referral antimalarial treatment	**Quinine**	
VACCINES:	DPT Measles OPV BCG	
Other drugs, depending on adaptation		

Annex A-5

Suggested information to gather at outpatient facility visits to confirm current case management practices

Adaptations need to be feasible and practical to implement in first-level health facilities. Visits to health facilities can provide useful information about the practices of health workers, and the availability of drugs and other conditions for case management.

If this information is not available from Health Facility Surveys and other sources, members of the IMCI Working Group and the adaptation subgroup should visit a few facilities in the areas where IMCI will be implemented. Visits should include both an urban and rural health centre and the most peripheral type of facility from which health workers will be trained using the IMCI course.

Note: This brief survey may be conducted by the IMCI Working Group as a part of other IMCI planning activities. The visit to facilities, for example, can identify whether facilities in the districts where IMCI is to be implemented are ready for integrated case management. See the IMCI Planning Guide for more details on information to gather during planning for the introduction of IMCI activities. The items listed here can inform the planning process, as well as adaptation decisions.

During the visits, collect qualitative, descriptive information on:

1. **TARGET AUDIENCE** for adapting materials (and planning for training)

   Who is providing the care for sick children in this facility? [The persons may fit the official job descriptions of who can provide clinical care, or may include other workers who provide primary care.]

   In what language did the various types of health workers receive their preservice clinical training? What languages are they comfortable reading? [Confirm whether translation will be needed and time should be allowed for it.]

2. **CURRENT GUIDELINES**

   What guidelines do the health workers actually follow for detection and treatment of:
   - acute respiratory infections, including pneumonia
   - diarrhoea, including dehydration, dysentery, and persistent diarrhoea
   - malaria
   - severe malnutrition
   - measles
   - anaemia
   - ear infection
   - bacterial infection in young infants
   - breastfeeding problems

   How do practices differ from current guidelines? [What are some of the reasons, e.g. lack of essential drugs, health workers lacking training, for differences that may be relevant to implementing IMCI guidelines?]

   What growth chart do they use, if any?

How frequently are children immunized? If this differs from national guidelines, what are the reasons?

3. TRAINING IN CARE OF YOUNG INFANTS AND BREASTFEEDING

Have health workers been trained in lactation counselling?
Do they know where to refer a woman with a breastfeeding problem?

4. EQUIPMENT AND JOB AIDES

Do they have a functional scale?
Do they have a watch?
Do they have an equipped ORT corner?
Do they have posted dosing schedules, CDD chart, other potentially relevant health posters?

5. DRUGS

List the drugs and their formulations in stock in the clinic.
Is there IV equipment? (We could refer to the pages of the CDD Guide and or the drug list appendix to assist in this review)

6. CHARTING

Do they chart?
Do they keep records in the clinic, or does the mother keep them?
What immunization record is kept?
Is vitamin A record kept?

[Should the course be adapted to build on current charting systems?]

7. FOLLOW-UP

Do they have any system for follow-up visits of sick children (special status in the queue; way to know if the mother keeps the follow-up appointment)?

8. Add specific questions which have come up in the list of possible adaptations and information needed: _____
_____
_____
_____

Annex A-6

A sample set of adaptations made in two countries

TANZANIA

Essential adaptations (in italics) and other adaptations
Danger signs Add under LOOK: See if the child is convulsing now Add treatment box: Treat Convulsing Child with Diazepam Rectally
Cough or difficult breathing *First-line antibiotic for pneumonia:* *Cotrimoxazole* *Second-line antibiotic for pneumonia:* *Amoxycillin or procaine penicillin* *Safe, soothing remedy: Breastmilk for exclusively breastfed infant* *Tea with honey* *Lemon tea* Pre-referral intramuscular antibiotic: chloramphenicol or benzylpenicillin.
Diarrhoea *First-line antibiotic for dysentery:* *Cotrimoxazole* *Second-line antibiotic for dysentery:* *Nalidixic acid or ciprofloxacin* *First-line antibiotic for cholera:* *Tetracycline* *Second-line antibiotic for cholera:* *Erythromycin or cotrimoxazole or Furazolidone* Recommended home fluids for plan A and during illness: Soup, plain uji, fresh fruit juice, green coconut juice, yogurt drinks.
Fever *First-line oral antimalarial:* *Chloroquine* *Second-line oral antimalarial:* *Sulfadoxine-pyrimethamine (Fansidar)* or *Sulfalene-pyrimethamine (Metakelfin)* Whole country is high malaria risk (delete low malaria risk). Cotrimoxazole is not used to treat malaria in children who have signs of pneumonia or ear infection. In follow-up instructions, separate advice for children treated with chloroquine only and children treated with both chloroquine and cotrimoxazole. Use blood smear where available if fever persists after 2 days or returns within 14 days.
Ear infection If pus is draining from the ear after 2 weeks of adequate wicking, refer the child to hospital.
Malnutrition No changes. Generic weight for age chart used.
Anaemia No iron to child with sickle cell anaemia.
Immunization Schedule: 4-8-12 weeks.
Vitamin A Give third dose of vitamin A in one month for measles. Vitamin A supplementation to all children age 9-24 months, one dose every 4-6 months. Vitamin A syrup formulation deleted. Add "any child > 12 months weighing less than 8 kg" to dosing row for children 6 months up to 12 months.

Essential adaptations (in italics) and other adaptations
Mebendazole Whole country has hookworm/whipworm.
Young infant *First-line antibiotic for local bacterial infection: Amoxycillin* *Second-line antibiotic for local bacterial infection: Cotrimoxazole or procaine penicillin* Refer young infant with blood in stool to hospital. If 1 month or older, treat convulsions now with diazepam rectally.
Mother's counselling card: one "generic Tanzanian" card for whole country
Age-specific feeding recommendations *Complementary foods for child 4-6 months up to 12 months:* • *Give thick, enriched uji or mixed food containing milk or mashed foods (ndizi za kupika, rice, potato, or uji). Add beans, other legumes, meat, fish, or groundnuts.* • *Also add greens and fruits such as pawpaw, mango, banana or avocado.* • *Add spoonful of extra oil to the child's food.* *Complementary foods for child 12 months up to 2 years: same as above*. *Nutritious foods (snacks) to give to children age 2 years up to 5 years, in addition to family foods:* • *Give twice daily mixed nutritious foods: thick enriched uji, milk, fruits, or other nutritious snacks.*
Common, modifiable feeding problems If the mother has decided on early weaning off the breast, counsel the mother to: Continue breastfeeding until the child is one year old; breastfeed the child early in the morning and in the evening if the mother has to work outside the home.
Local terms: intended for whole country (Swahili) *Convulsions:* _____ *Not able to drink or breastfeed:* *kama hawezi kunywa* *Fast breathing:* *kama anapumua haraka* *Difficult breathing:* *kama anapumua kwa shida* *Diarrhoea:* _____ *Blood in stool:* *kama arraharisha damu* *Fever:* *kama ana homa* *Measles:* _____ *Becomes sicker:* *kama amezidiwa* *Drinking poorly:* *kama anakunywa kwashida* *Breastfeeding poorly:* *kama ananyenya kwa shida*

UGANDA

Essential adaptations (in italics) and other adaptations
Danger signs: no change
Cough or difficult breathing *First-line antibiotic for pneumonia:* *cotrimoxazole* *Second-line antibiotic for pneumonia:* *amoxycillin or procaine penicillin* *Safe, soothing remedy: breastmilk for exclusively breastfed infants, simple linctus, tea with honey.* Harmful remedies to discourage: remedies containing codeine, phenergan, ipecacuanha, or Piriton (chlorpheniramine). Give vitamin A to children with PNEUMONIA or SEVERE PNEUMONIA.
Diarrhoea *First-line antibiotic for dysentery:* *cotrimoxazole* *Second-line antibiotic for dysentery:* *nalidixic acid* (use as first-line if during epidemics or if severe case. *First-line antibiotic for cholera:* *cotrimoxazole* *Second-line antibiotic for cholera:* *erythromycin* Give vitamin A to children with PERSISTENT DIARRHOEA or SEVERE PERSISTENT DIARRHOEA. Food-based fluids: bean soup, rice water, and passion fruit juice without sugar.
Fever *First-line oral antimalarial:* *chloroquine* *Second-line oral antimalarial:* *sulfadoxine-pyrimethamine* Whole country is high malaria risk (delete low malaria risk). Cotrimoxazole is not used to treat malaria in children who have signs of pneumonia or ear infection. In follow-up, if fever persists after 2 days or returns within 14 days: - if child has been treated with cotrimoxazole, use oral quinine instead of sulfadoxine-pyrimethamine. - if laboratory facilities available, do a blood smear for malaria parasite. Only chloroquine 150 mg base tablet and 50 mg base/5 ml used. Only quinine 300 mg formulation used.
Ear infection Gauze as alternative to absorbent cloth for wicking the ear.
Malnutrition Generic WFA chart used.
Anaemia If pallor, ask if the child is a sickler. Give iron if child is not a sickler; give folic acid if child is a sickler.
Immunization Give measles immunization to a child age 6 months up to 9 months if exposed to a case. Repeat the immunization at 9 months.
Vitamin A If child is 9 months or older, ask if the child has had vitamin A previously. If not, give vitamin A in clinic. Disease targeted treatment for pneumonia, persistent diarrhoea, severe malnutrition. Do not give this treatment to the same child more than 3 times/year or/if the child has had a dose of vitamin A within the previous month. Give three doses for measles, persistent diarrhoea, severe malnutrition: mother brings child back for third dose 2 to 4 weeks later. Delete vitamin A syrup formulation.

Essential adaptations (in italics) and other adaptations

Mebendazole

Give mebendazole to all children 1 year or older who have not had a dose in previous 6 months.

Give 250 mg for children less than 2 years.

Young infant

First-line antibiotic for local bacterial infection:	*cotrimoxazole*
Second-line antibiotic for local bacterial infection:	*amoxycillin (or procaine penicillin if amoxycillin is not available)*
First-line antibiotic for dysentery:	*cotrimoxazole*
Second-line antibiotic for dysentery:	*nalidixic acid*
Intramuscular antibiotics:	chloramphenicol plus benzylpenicillin.

Mother's counselling card: several planned. First region: Lugandan

Age-specific feeding recommendations

Complementary foods for child 4-6 months up to 12 months and for child 12 months up to 2 years:

Thick porridge made out of either maize or cassava or millet or soya flour. Add sugar and oil mixed with either milk or pounded ground nuts. Mixtures of mashed foods made out of either matooke or potatoes or cassava or posho (maize or millet) or rice. Mix with fish or beans or pounded groundnuts. Add green vegetables.

Give a snack like egg or banana.

Nutritious foods (snacks) to give to child age 2 years up to 5 years, in addition to family foods:

Banana, egg or bread

Common, modifiable feeding problems

- Add: If the mother is not giving green leafy vegetables or other foods rich in Vitamin A: - Encourage her to provide Vitamin A rich foods frequently e.g., green leafy vegetables, carrots, liver, etc.
- Specify fresh cow's milk as example of a locally appropriate breastmilk substitute.
- Add: If the child is being given diluted milk or porridge: - Do not dilute the milk. - Remind mother that thick foods which are dense in energy and nutrients are needed by infants and young children.
- Add to "If the child is less than 6 months old and is taking other milk or foods": - If mother is away from the child due to work, etc, suggest that mother express breastmilk to leave for the baby.

Local terms: Lugandan

Convulsions:	*obwesika*
Not able to drink or breastfeed:	_____
Fast breathing:	_____
Difficult breathing:	*asabubi*
Diarrhoea:	*ekiddukano or embiro*
Blood in stool:	*ekiddukano kyomusayl or embiro zomusayi*
Fever:	*ayoka omubiri*
Measles:	*olukusense*
Becomes sicker:	_____
Drinking poorly:	_____