

Use of an Integrated Health Facility Assessment for Planning Maternal and Child Health Programs

Results from Four African Countries

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 **BASICS**

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BASICS is a global child survival support project funded by the Office of Health and Nutrition of the Bureau for Global Programs Field Support and Research of the U S Agency for International Development (USAID) The Agency s Child Survival Division provides technical guidance and assists in strategy development and program implementation in child survival including interventions aimed at child morbidity and infant and child nutrition

BASICS is conducted by the Partnership for Child Health Care Inc (contract no HRN-C-00-93-00031-00 formerly HRN-6006-C-00-3031-00) Partners are the Academy for Educational Development John Snow Inc and Management Sciences for Health Subcontractors are the Office of International Programs of Clark Atlanta University, Emory University, The Johns Hopkins University's School of Hygiene and Public Health, Porter/Novelli, and Program for Appropriate Technology in Health

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Recommended Citation

Murray John, and Serge Manoncourt 1998 *Use of an Integrated Health Facility Assessment for Planning Maternal and Child Health Programs* Published for the U S Agency for International Development by the Basic Support for Institutionalizing Child Survival (BASICS) Project Arlington Va

Abstract

The integrated health facility assessment and planning approach is designed for use by primary health care programs that are planning to integrate child health care services The assessment collects information on the case management of all important causes of infant and childhood morbidity and mortality in developing countries (acute respiratory tract infections [ARI] diarrhea, malaria measles and malnutrition) and on the facility "supports (drug supply equipment supervision and training) that are required to allow integrated practice This information is designed to help programs plan and prioritize the program elements that are essential for integration of child health services, including health worker training, health worker supervision, drug supply, availability of essential equipment and health facility organization It is hoped that as ministries of health and other groups develop integrated child health programs, they will consider the implementation of the Integrated Management of Childhood Illness (IMCI) program developed by the World Health Organization and UNICEF This report summarizes the background objectives, methods and application of this method as a program planning tool

Cataloging-in-Publication Data

Murray, John

Use of an integrated health facility assessment for planning maternal and child health programs / John Murray, Serge Manoncourt —Arlington, Va BASICS 1998

73 p , 28 cm

1 Health planning—developing countries 2 Medical care—needs assessment—methodology
3 Child health services—developing countries I Manoncourt, Serge II BASICS Project III Title

RA394 9M981u 1998

Cover photo courtesy of WHO/UNICEF/R LEMOYNE

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Acronyms

ARI	acuter (lower) respiratory tract infection
BASICS	Basic Support for Institutionalizing Child Survival
BCG	bacillus of Calmette and Guerin (tuberculosis vaccine)
CDD	control of diarrheal diseases
DPT	diphtheria, pertussis, and tetanus vaccine
EPI	Expanded Program on Immunization
HHRAA	Health and Human Resources Analysis for Africa
IMCI	Integrated Management of Childhood Illness
MCH	maternal and child health
MOH	ministry of health
NGO	nongovernmental organization
OPV	oral polio vaccine
ORS	oral rehydration salts
ORT	oral rehydration therapy
RHF	recommended home fluid
SALFA	Lutheran health NGO
SARA	Support for Analysis and Research in Africa
SCM	standard case management
SNNPR	Southern Nations and Nationalities People's Region
TT	tetanus toxoid
UNICEF	United Nations Children's Fund
URTI	upper respiratory tract infection
USAID	U S Agency for International Development
WHO	World Health Organization

Acknowledgments

Use of an Integrated Health Facility Assessment for Planning Maternal and Child Health Programs Results from Four African Countries was developed and written by Drs Serge Manoncourt and John Murray for the U S Agency for International Development's (USAID) Basic Support for Institutionalizing Child Survival (BASICS) Project. The health facility assessment was developed and field tested with the support and technical assistance of the ministries of health (MOH) of Eritrea, Madagascar, Ethiopia, and Morocco. The authors owe a large debt to many individuals, all of whom were critical to the planning, implementation, and further development of the assessment. Special thanks are extended to Drs Afeworki Abraham and Mismay Ghebriwet and to Teclai Estefanos, Afeworki Berhe, and Tesfa Michael Asfaha of the Eritrean MOH, to Drs Feno Etienne, Emelie Razafarisoa, Odon Andrianarisoa, Marie-Jeanne Andriamanga, and Andriamahefa Rakotoarisoa of the Madagascar MOH, to Drs Mary Carnell and Robertine Rahelimalala and to Bodo Radaody-Ralarosy of BASICS Madagascar, to Drs Estifanos Biru, Shiferew Tefsa Maraim, and Getachew Assefa and to Sr Workenesh Kereta of the MOH in Ethiopia, to Drs Paul Freund, Mengistu Asnake, and Mulageta Betre, and to Wondimu Amdie of BASICS Ethiopia, to Drs Tyane, A Zerrari, H Chekli, A Lyaghfour, M Braikat, and L Rjimat of the MOH in Morocco, and to Dr Maye Olivola of BASICS Morocco. We also wish to acknowledge the diligence and valuable input of all the other MOH staff in Eritrea, Madagascar, and Ethiopia who participated as surveyors and support staff. For their technical reviews and valuable suggestions, we are grateful to Jennifer Bryce, Mariam Claeson, Rebecca Fields, Pat Kelly, Eckhard F Kleinau, Jane Lucas, and Ronald J Waldman.

Executive Summary

The integrated health facility assessment and planning approach is designed for use by primary health care programs that are planning to integrate child health care services. The assessment collects information on the case management of all important causes of infant and childhood morbidity and mortality in developing countries (acute respiratory tract infections [ARI], diarrhea, malaria, measles, and malnutrition) and on the facility “supports” (drug supply, equipment, supervision, and training) that are required for integrated practice. This information is designed to help programs plan and prioritize the program elements essential for integration of child health services, including health worker training, health worker supervision, drug supply, availability of essential equipment, and health facility organization. It is hoped that as ministries of health and other groups develop integrated child health programs, they will consider the implementation of the Integrated Management of Child Illness (IMCI) program developed by the World Health Organization and UNICEF.

This report summarizes the background, objectives, methods, and application of this method as a program planning tool. Results (summarized as key indicators) from four African countries (Eritrea, Ethiopia, Madagascar, and Morocco) are described, and a summary of how the country programs applied these data is presented. Follow-up actions in most countries involved (1) the development of an integrated maternal and child supervisory checklist, (2) the development of supervisory mechanisms and skills of district-level health staff, (3) training in integrated maternal and child health topics, (4) improving the availability of essential drugs, and (5) improving the time available with mothers and children to conduct essential tasks.

Four key lessons were learned from the use of this method. First, district-level managers and health staff are able to use this approach successfully to evaluate the quality of facility-based care in their own areas and then to plan activities using this information. Second, routine supervision is possible in most countries. Action plans have focused on improving the quality of existing supervision by using a simple integrated checklist to improve health worker skills and solve problems at health facilities. Third, the process is more important than the data gathered. It is the *process* of collecting simple information using direct observation and then using this information to make decisions that has been most useful. Fourth, further work is needed to ensure that district staff can replicate this method routinely. The impact of this method on the quality of facility-based care will be evaluated in mid-1998.

Background

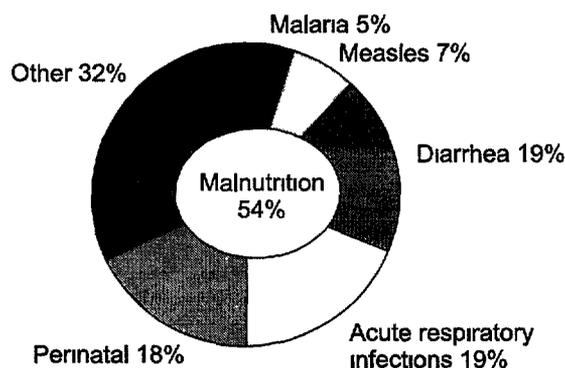
Need for an Integrated Approach to the Management of Illness in Infants and Children

Data available from many developing countries suggest that at least 70 percent of all childhood mortality is the result of five major conditions: diarrheal diseases, acute lower respiratory tract infections (ARI), malnutrition, malaria, and measles (see figure 1). There is evidence that children often have several conditions at the same time, managing just one of these conditions may not prevent death from other underlying conditions. In addition, there is evidence that malnutrition, even mild malnutrition, can increase the likelihood of mortality from a number of different disease entities.¹ In order to improve the health of children in developing countries, therefore, programs need to focus on all five of the most common causes of morbidity and mortality, including malnutrition, at the same time.

Integrated Management of Childhood Illness (IMCI) is an approach designed to improve the management of all of the most important causes of morbidity and mortality in infants and children at health facilities.² This approach requires that health workers comprehensively assess and manage every sick child coming to a health facility and that the facility elements (drug supply, equipment, supervision) to support this comprehensive approach are in place.

Figure 1

Distribution of 11.6 million deaths among children less than 5 years old in all developing countries, 1995



Source: World Health Organization, based on data taken from Murray C J L and A D Lopez, eds, 1996, *The global burden of disease*, Cambridge: Harvard University Press; and Pelletier D L, E A Frongillo, and J P Habicht, 1993, Epidemiological evidence for a potentiating effect of malnutrition on child mortality, *Am J Public Health* 83: 1130–33.

1 Pelletier D L, E A Frongillo, and J P Habicht, 1993, Epidemiological evidence for a potentiating effect of malnutrition on child mortality, *Am J Public Health* 83: 1130–1133; Pelletier, D L, E A Frongillo, D G Schroeder, and J P Habicht, 1995, The effects of malnutrition on child mortality in developing countries, *Bull World Health Organ* 73(4): 443–448.

2 WHO/CDR, 1995, Integrated management of the sick child, *Bull World Health Organ* 73(6): 735–740.

Integrated Health Facility Assessment and Planning Approach

The integrated health facility assessment and planning approach is designed for use by primary health care programs that are planning to integrate child health care services. The assessment collects information on the case management of all important causes of infant and childhood morbidity and mortality in developing countries (ARI, diarrhea, malaria, measles, and malnutrition) and on the facility “supports” (drug supply, equipment, supervision, and training) required for integrated practice. This information is designed to help programs plan and prioritize the program elements essential for integration of child health services, including health worker training, health worker supervision, drug supply, availability of essential equipment, and health facility organization. It is hoped that as ministries of health (MOHs) and other groups develop integrated child health programs, they will consider the implementation of the IMCI program developed by the World Health Organization (WHO) and UNICEF in collaboration with other groups. This facility assessment is designed to measure a number of the “core” elements required for the conduct of IMCI training, it does not assess the development of policies or planning and management activities.

The assessment has the following characteristics:

- *It is rapid.* The total duration of the survey, including training of surveyors, data collection, data entry, and analysis, is three weeks.
- *It is conducted before or after IMCI training has been implemented.* This survey can be used to prepare for the implementation of IMCI. If necessary, health worker performance can be validated by comparing it with the IMCI clinical case management algorithm “gold standard.”
- *It is relatively inexpensive.* Costs are reduced by keeping the number of surveyors to a minimum (a total of 15 surveyors and supervisors are proposed) and by completing all survey activities in a three-week period.
- *It is a local-level program planning tool.* It is hoped that lower-level health staff will use this survey for evaluating and monitoring child health programs in their areas and for developing local strategies to improve the delivery of integrated child health services, in close collaboration with program staff from higher levels.
- *It is one step in a process of integrated infant and child health program development.* The collected data should be used by local program managers and health staff to develop strategies appropriate for local conditions.

When to Use an Integrated Health Facility Assessment and Planning Approach

This assessment is designed to be a local-level planning tool. Effective use of facility-based data requires that local health staff and health planners solve problems and develop programs in their own areas based on local conditions. The complexity of integrated child health programs increases the need for ongoing evaluation and revision of programs in close collaboration with local staff. Local health staff should be involved in planning and decisionmaking. For this assessment to be most useful, a number of programmatic decisions should have been made. These include the following:

- A commitment by the primary health care program at the national and subnational levels to develop integrated and infant and child health programs using local data that tailor program interventions to local conditions
- A commitment by the national primary health care program to allow local program managers and facility-based health staff to develop strategies that improve the delivery of integrated infant and child services
- Motivated local program managers and local health staff who are committed to the development of integrated infant and child health care programs and who are prepared to follow up activities over time
- Adequate resources available to allow follow-up of the facility assessment, including development of local program strategies and ongoing monitoring of these activities

Objectives of the Integrated Health Facility Assessment and Planning Approach

The objectives of the health facility assessment are listed below

- 1 To determine—
 - Current knowledge and practices of health workers at outpatient clinics regarding the assessment and management of sick children
 - The principal barriers to effective case-management practices for sick children
 - The adequacy of training and supervision of health workers
- 2 To use the information obtained on case-management practices, training, and supervision and on barriers to integrated child health programs to—
 - Prioritize and plan improvements in outpatient health facilities at all levels, including staffing, clinic organization, equipment requirements, drug and material supplies, and case-management practices
 - Improve and develop preservice and in-service training for outpatient health workers
 - Improve and develop a strategy for supervising and monitoring health worker performance over time
- 3 To train provincial health workers in survey techniques, collection and analysis of survey data, and use of data to improve the quality of integrated case management in outpatient health facilities

Methodology of the Integrated Health Facility Assessment and Planning Approach

Selection of a Sampling Unit

This health facility assessment is designed to be a tool for local health planning. It is important, therefore, that a sampling unit be selected that represents an area where programmatic activities will be implemented in the future. Health staff responsible for the sampling unit need to be involved in the planning, conduct, interpretation and follow-up of the survey. Possible sampling units are as follows:

- *An administrative region* Results from the assessment would be used to develop, plan, and monitor regional programmatic interventions
- *An administrative district* Results from the assessment would be used to develop, plan, and monitor district programmatic interventions
- *The catchment area for specific projects or health organizations* Results from the assessment would be used to develop, plan, and monitor programmatic interventions in the area served by specific program, group, or organization

Identification of Counterparts at the Local Health Administrative Level

It is important that health staff selected as the primary sampling unit at the administrative level be involved in the process of survey planning and that local staff are involved with the conduct of the assessment itself. This is an essential requirement for building local capacity to use this assessment technique for program planning and management in the longer term. Local counterparts may include program managers, medical officers, and experienced health workers of a number of different categories. Local counterparts are involved in the following tasks:

- Agreement on the objectives of the health facility assessment
- Final decisions on the timing of the assessment and logistics planning
- Selection of surveyors
- Selection of a sample of health facilities
- Planning of follow-up activities

Selection of a Sample of Health Facilities

A sample size of 25–30 facilities is recommended for this assessment. This sample size is logistically manageable and will allow indicators to be calculated with a reasonable level of precision. Increasing the sample size further will require more time in the field or more surveyors, either of which will make it more difficult to control the quality of data collected. In smaller administrative units, this sample size will represent a census of all health facilities. In larger administrative units, health facilities are line-listed and a subsample is selected by simple random sampling. It is important to represent each category of health facility (e.g., health post, health center, and hospital) in the sample.

Training of Surveyors

Surveyor training is scheduled the week before field activities. The number of trainers/facilitators is flexible and depends greatly on experience and availability of local human resources. The quality of the training is improved if the trainer-trainee ratio is at least 1:6. The training objectives are to prepare surveyors/supervisors to (1) perform all survey tasks, including use the four survey forms, management of survey activities at a health facility, and identification of solutions to problems, (2) reach an agreement and establish rules on how to interpret questions or words, and (3) achieve intra- and intersurveyor reliability for the completion of all questions.

Conducting the Survey

Each survey team comprises three individuals: one supervisor and two surveyors. Data collection is conducted during the week following surveyor training. Each team visits one health facility per day for a total of five or six days. If, for example, the sample size is 25 facilities, five teams will be required. Teams visit a child health clinic in the morning and travel to the next location in the afternoon.

All children under 5 years of age presenting to the health facility during the survey period whose caretakers describe them as having fever/malaria, cough/difficulty breathing/pneumonia, or diarrhea are included in the sample. The caretakers of these children are given an enrollment card that allows them to be followed through the facility and ensures that the surveyors include them in the survey. It is important that *all* children and mothers coming to the clinic are identified and that mothers are asked the reason for the visit. Only sick children meeting these criteria will be included in the survey; children described as having any other condition are not included.

Assessment Instruments

Four assessment instruments are completed at each health facility: *observation of the health worker's practice* when managing sick children, an *exit interview with the caretakers* of sick children, an *interview with the health worker*, and an *equipment and supply checklist*. These instruments are presented in Annex A. Members of the assessment team are responsible for administering these instruments, as outlined below.

Surveyor 1: Observation of the consultation between the health worker and the caretaker and child and interview with the health worker. The surveyor is positioned in the examination room close enough to the health worker to be able to hear and observe the observation clearly and accurately. It is important that surveyors be as unobtrusive as possible and not disrupt the consultation session. A new observation questionnaire is completed for each infant or child seen. At the end of each consultation session, the surveyor fills out an interview questionnaire for the observed health worker.

Surveyor 2: Exit interview with the mothers of sick children. Following the consultation, mothers of all sick children are interviewed as quickly as possible. This is often performed outside of the health facility, away from other caretakers and children, since their presence may bias the responses. Because exit interviews often take longer than the clinical consultation, it is important to have a place for mothers to wait for the interview with their children. In some areas, it may be necessary for an interpreter to ask

questions in the local language. A local interpreter is identified by the supervisor, as required, at each health facility.

Supervisor Equipment and supply checklist The supervisor is responsible for conducting the facility equipment and supply checklist. Most of this assessment requires direct observation and can be done during the consultation session. For some sections it may be necessary to ask clinic staff some direct questions (e.g., the location of the drugs, patient registers, and stock cards).

Data Entry and Analysis

Questionnaires are checked and coded by supervisors at the end of each facility visit. Data are entered into an EpiInfo database by local data entry staff during each day of data collection. Use of a database has proved to be the most efficient method of analyzing data, although hand tallies would be possible if computer resources were not available. Data analysis and discussion of the results are conducted by survey teams. Not all participants need to understand or use EpiInfo during the data analysis; instead, key members of the groups are led through the analysis steps so they can understand and calculate the indicators themselves. Local staff work in groups of two or three to calculate indicators, with coordinators providing assistance as required. As each indicator is calculated, the group is encouraged to discuss the results and possible solutions to problems. The experience of surveyors and supervisors is used to help develop practical and realistic solutions.

The analysis plan focuses on those indicators thought to be the most useful for program planning and monitoring (see the Results section). During the analysis, other questions probably will be raised, a further analysis can be conducted to investigate specific questions. Local survey staff work through the analysis plan and then discuss possible approaches and strategies for improving performance. The numerators and denominators required to calculate each key indicator as well as supporting information for each key indicator are described in the Results section.

Use of Assessment Information

Data collected by this integrated facility assessment should be used as quickly as possible for local program planning. Approaches that have been used are outlined below.

Selection of 5–10 key indicators to improve the quality of care at health facilities The analysis plan includes a total of 26 indicators. Since not all of these indicators can be used for program planning and monitoring, it is important that program managers and health staff prioritize them. Each indicator is given a ranking based on the following criteria:

- Public health or clinical importance (10 = very important, 1 = not very important)
- Feasibility of making a change in the indicator (10 = high feasibility of change, 1 = low feasibility of change)
- Resources required to make a change in the indicator (10 = few resources required, 1 = many resources required)

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- Time required to make a change in the indicator (10 = relatively little time required, 1 = a lot of time required)

Each indicator is scored for each of the above criteria, and these are added to give an overall figure. Indicators are then ranked, the higher the score, the more important and programmatically useful the indicator. Each district-level team discusses the indicators and gives them a score according to the situation in their own area. Once each indicator has been scored, the top 5–10 indicators can be listed. If several indicators have the same score, the groups may need to discuss them further and attempt to rescore them according to suggested criteria. A final list of 5–10 prioritized indicators is produced by each group.

Group discussion: Getting consensus on the final list of program indicators. The top-ranked 5–10 indicators from each small group are presented in plenary session. Those indicators that all groups agree on can be identified immediately, other indicators can be discussed until consensus on whether to include them is reached. A final list of 5–10 group indicators used to develop and monitor local primary health care programs is then developed.

Discussion of key indicators with survey teams to develop practical strategies for improving child health programs. Strategies for improving the final list of prioritized indicators can then be developed by the large group. The following elements are discussed:

- 1 Importance of the indicator and why it was chosen

(Example: The proportion of sick children who had their immunization cards checked at the sick child visit. Every visit by a sick child is an opportunity to vaccinate that child. If all sick children needing immunizations were vaccinated at each visit, vaccination coverage would be significantly increased.)

- 2 Barriers to improving the selected indicator

(Example: Immunization cards may not be checked because health workers do not realize the importance of doing so, because health workers believe that any illness is a contraindication to vaccination, because mothers never bring vaccination cards with them, or because immunization clinics are not conducted every day.)

- 3 Solutions to improving the selected indicator

It is useful to consider solutions according to the resources and inputs required to implement them. Proposed solutions should be realistic, practical, and specific. Recommendations that are too general (“organize training,” “get more health staff”) are often not useful for program planning.

- a Solutions that require minimal additional resources and can be implemented with existing staff (short-term options)

(Example: Health workers can be taught to ask for and look at children’s vaccination cards and made aware that most sick children do not have any contraindications to vaccination. Children can be referred to the next session if vaccinations are not given every day.)

- b Solutions that require some additional resources and need more input from existing staff to implement, these are likely to be medium-term options

(Example Mothers can be encouraged to bring vaccination cards with them at every visit, supervisors can reinforce health worker practice)

- c Solutions that require considerable additional resources and more staff to implement, these options are likely to be long term and to require high-level decisions such as increasing staff at health facilities or improving the storage and management of drugs at the national level

(Example Health facilities can conduct vaccination clinics every day, preservice training programs can teach the importance of vaccination screening)

The survey coordinator and local supervisors note the outcome of all discussions during the discussion sessions. Results are incorporated into implementation plans.

Production of a summary report of assessment findings The summary report is brief and designed to present a background to the survey (objectives, sampling and methods used) as well as descriptive information, key indicators, and a few graphs that summarize information thought to be useful or important. The summary report is designed to provide immediate feedback to health staff at all levels (national, regional, and district) and to facility health staff. Surveyors can take copies of the report back to their areas with them.

Presentation of a summary of survey findings to key national, regional, and district health staff The summary presentation is designed to update higher-level health staff on the outcome of the survey. The presentation reviews descriptive information, key indicators, and summary graphs. Ideally, the presentation is made by the local supervisor(s) responsible for developing program implementation plans. Presenters can highlight problem areas and discuss plans for further follow-up action.

Feedback and planning meetings with local health staff In order to plan follow-up actions in local areas, supervisors are encouraged to present survey findings to the health staff working at health facilities in these areas. It is particularly important to involve first-level health personnel in the process of discussion and decisionmaking. Local health staff need to understand key indicators and can be encouraged to discuss the barriers and possible solutions to improving their own practice. Local health staff are also encouraged to develop solutions that are feasible with existing resources. Supervisors note their suggestions for incorporation into the program implementation plan.

Development of program action plan and supervision strategy Supervisors are encouraged to develop program implementation plans for their areas based on inputs from survey teams and local health staff. The data presented in the summary report often allow the development of a focused action plan. It is important that strategies can be managed with available resources and that local health staff perceive that they address priority concerns. Strategies can be presented as short-, medium-, and long-term options. Action plans should include an approach for monitoring and evaluating key programmatic indicators. Supervisors can monitor the quality of facility and health worker performance during routine visits by using a standard assessment tool. In some countries, the survey questionnaire instruments have been adapted as monitoring tools to collect information on the selected key indicators.

Validation of the Health Worker Diagnosis

This assessment does not routinely compare the diagnosis made by the health worker with a “gold standard” diagnosis to determine whether the health worker has classified sick children correctly.

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However, validation should be considered when possible, since it improves the quality of the data collected

When to consider validation of the health worker diagnosis Comparing the diagnosis or classification of sick children made by the health worker with the correct or gold standard classification made by an observer trained in the use of the IMCI clinical case-management algorithm may be useful under the following conditions

- Adapted IMCI training materials are available and health staff have been trained in the use of the IMCI approach. These trained staff can be used to reexamine each sick child during the health facility assessment
- The districts selected for the health facility assessment will be targeted for future IMCI training. In this case, a measure of how well health workers classify sick children according to the IMCI clinical algorithm can be compared before and after training
- Health workers in the selected district have already received IMCI training, making it useful to see whether they are classifying sick children correctly

Information provided by validation of the health worker diagnosis In the outpatient setting, where diagnostic facilities are not available, the IMCI clinical classification of a sick child is considered to be the best measure of the actual diagnosis. Comparing the health worker with this gold standard allows two indicators to be calculated, (1) proportion of sick children classified correctly and (2) proportion of sick children classified correctly who were treated correctly. For coding boxes for these indicators, see Annex A (Questionnaire 1 Observation Checklist—Sick Child, boxes G and J)

Conducting validation of the health worker diagnosis at the health facility The assessment at health facilities remains very similar to the standard method. If validation is required, the sick child is reexamined by a trained observer in another room once the child has been seen by the health worker. This observer assesses and classifies the child using the IMCI clinical algorithm and records the assessment, classification, and treatment steps on a supervisor checklist form. The “gold standard” classification and treatment given are then compared with those of the health worker, and the information is entered into the coding boxes on the observation questionnaire. Following this reexamination, the child’s caretaker should receive an exit interview.

Application of the Health Facility Assessment and Planning Approach in Four African Countries

The application of this integrated health facility assessment and planning approach in four African countries is summarized below

Eritrea

Training of survey teams was conducted June 14–17, 1995, and field work was conducted June 18–25, 1995. Questionnaire data were coded and then entered into EpiInfo (version 6.0) software by data entry personnel supervised by consultant staff. Data analysis and discussion were conducted June 26–29, 1995, by survey teams under the guidance of consultant epidemiologists. The use of survey information to improve the quality of all health services was discussed, with an emphasis on how each participant would use the information in his or her own area. Findings were presented by the survey team to a larger group of representatives from divisions of the MOH and other organizations on June 30, 1995.

The sample for this survey was a single-stage, self-weighting, stratified/cluster probability sample, representative of the entire country. For the purposes of the survey, the country was divided into four areas representative of the geographic, ethnic, and demographic characteristics of the country. The four selected areas were as follows:

- Area 1 Gash Setit (representative of the western lowland provinces with a dry, hot climate, border areas, several tribal groups, and remote and isolated populations)
- Area 2 Asmara (representative of an urban setting)
- Area 3 Hamasien, Seraye, AkeleGuzai (representative of the central highland provinces, with higher population density, closer to population centers)
- Area 4 Denkalia (representative of the eastern lowlands and the coastal areas)

Within each of these sampling areas, the sampling frame consisted of all hospitals, health centers, and health stations. A complete list of facilities was obtained from the Health Information and Research Unit of the MOH. Health facilities were stratified by type and randomly selected according to their proportions, with the use of random number tables. Thus, one hospital, one health center, and three health stations were chosen per area. Because of logistical restraints, only three health facilities were selected in the Denkalia area, many facilities are remote and very difficult to reach by car. The final sample ($n = 18$) consisted of 3 hospitals, 5 health centers, and 10 health stations.

In Asmara and the central highland provinces, the survey was administered in Tigrigna, the national language. In the lowland provinces, where Tigrigna often is not spoken, the exit interview component of the survey was administered in the regional language using local interpreters. All questionnaires were translated into Tigrigna and then back-translated to verify the accuracy of the translation. Questionnaires were field-tested at health stations in the province of Hamasien. Final questionnaires were printed in both English and Tigrigna.

Ethiopia

Four focus zones have been chosen by the Southern Nations and Nationalities People's Region (SNNPR) for all BASICS project activities: Hadiya, KAT, North Omo, and Sidama. Within each of these zones, the zonal committees selected five focus *woredas* (districts) for implementation of all low-level project activities. The MOH of the SNNPR is committed to the delivery of an integrated package of essential child health services at health facilities.

Training of survey teams was conducted September 16–20, 1996, in Awassa, the capital of the SNNPR. Following the field visits, some survey questions were further modified. Intersurveyor reliability was 80–90 percent for each of the questionnaires by the end of the training period. Field work was conducted September 23–26, 1996. Data analysis was conducted September 28–October 3, 1996, by the survey teams, local BASICS project staff, and consultant epidemiologists. The survey findings were used by each zonal and *woreda* team to discuss priorities for improving the quality of maternal and child care in their areas.

The sampling frame for this survey comprised all health facilities ($n = 32$) in five focus *woredas* (Alaba, Bonke, Boloso Sore, Dale, and Konteb). It was not possible to obtain an equal probability sample of health facilities in each *woreda*, all facilities not accessible during the data collection period were excluded. A total of 19 facilities were visited representing 59 percent of all facilities in the focus *woredas*. The proportion of facilities visited in each *woreda* were as follows: Alaba, 1 of 2 (50%), Bonke, 3 of 5 (60%), Boloso Sore, 5 of 6 (83%), Dale, 4 of 9 (44%), and Konteb, 4 of 10 (40%).

Survey instruments were translated into and administered in Amharic, the national language, whenever possible. Interpreters were used to administer questionnaires in those areas where Amharic was not understood or used. Questionnaires were field-tested at health facilities in advance to check the comprehensibility of the questions and the accuracy of the translation.

Madagascar

The Ministry of Health and Population, in collaboration with the BASICS project, is working in two districts in Madagascar (Antsirabe II and Fianarantsoa II) to improve the health of caretakers and children by focusing on the five most important causes of morbidity and mortality. One component of this program is to improve the quality of primary health care provided at health facilities in the focus districts.

Training of survey teams was conducted April 15–19, 1996, in Fianarantsoa II. Field work was conducted April 22–27, 1996. Data analysis was conducted April 29–May 1, 1996, by a local team comprising the director of preventive medicine, the medical directors of the two focus districts, national managers for the control of diarrheal diseases (CDD), ARI, malaria, nutrition, and SALFA programs, local BASICS project staff, and consultant epidemiologists. Discussions emphasized how participants would use the information in their own areas. Findings were presented by the survey team to a larger group of representatives from divisions of the MOH and other organizations on May 2, 1996.

The survey included all health facilities in both districts, except for one health station in Antsirabe II (Bemasonandro), which was excluded because it was inaccessible by road. A total of 29 facilities were visited in Fianarantsoa II and 26 facilities in Antsirabe II.

Survey instruments were translated into French and administered in Malagasy, the national language. Questionnaires were field-tested at health stations in advance to check the comprehensibility of the questions and the accuracy of the translation.

Morocco

The MOH in Morocco is planning to begin implementation of IMCI in two provinces, Agadir and Meknes. This assessment was planned as a baseline assessment of health worker performance before the implementation of IMCI training in these two provinces. It was decided to include a validation step so that the performance of health workers could be compared to an IMCI gold standard classification. A small number of health staff at the national level had already received training in IMCI.

Training was conducted June 23–27, 1997, in Rabat. Field work was conducted June 30–July 8, 1997. Data analysis and discussion with survey teams, facilitated by a nutritionist and a consultant epidemiologist, were conducted July 29–31, 1997. A final summary of the key indicators was presented to the MOH and other groups on August 1, 1997.

The sampling frame for this assessment was all health facilities (urban, peri-urban, and rural) in the two selected provinces that were staffed by at least one physician ($n = 24$). Ten facilities were selected from each province for a total of 20 sites. Selection criteria included geographic accessibility, estimated number of children seen per day, and likelihood that IMCI training would be conducted for the staff at these sites in the future. Questionnaires, which were translated into and administered in Arabic, were field-tested at health stations in advance to check the comprehensibility of the questions and the accuracy of the translation. In some areas of Agadir province, Berber was spoken by caretakers, and interpreters were used. Survey teams for this survey consisted of four persons: two surveyors, one supervisor, and a validator trained in IMCI who reexamined every sick child after the health worker.

Results from the Integrated Health Facility Assessment and Planning Approach in Four African Countries

Descriptive Information

A summary of the total number of children observed, and their age distributions, is presented in table 1

Table 1 Integrated Health Facility Assessments, 1995–97 Total Number of Facilities Visited, Number of Children Observed, and Their Age Distributions

Country	Number of facilities visited	Number of children observed	Median age in months (range) of children observed
Eritrea	18	190	15 (2–58)
Ethiopia	19	144	12 (0–59)
Madagascar	55	341	11 (0–59)
Morocco	20	142	19 (2–59)

A summary of the types of health workers responsible for seeing sick children presenting to all categories of health facility is presented in table 2

Table 2 Integrated Health Facility Assessments, 1995–97 Type of Health Workers Seeing Sick Children in Outpatient Clinics

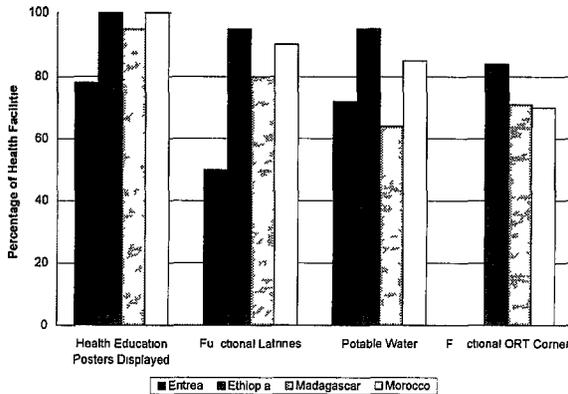
Country	Number of—				Total
	Physicians	Nurses	Health Assistants/ <i>Aides Sanitaires</i>	Nurse Midwives	
Eritrea	1	12	5	—	18
Ethiopia	3	3	13	—	19
Madagascar	4	20	29	2	55
Morocco	19	1	—	—	20

In most health facilities, health assistants or *aides sanitaires* were most frequently responsible for seeing sick children in the outpatient setting. This has implications for training, both of these groups should be able to effectively assess, classify, and treat the common causes of infant and childhood mortality and morbidity.

Facility Equipment, Supplies, and Record Keeping

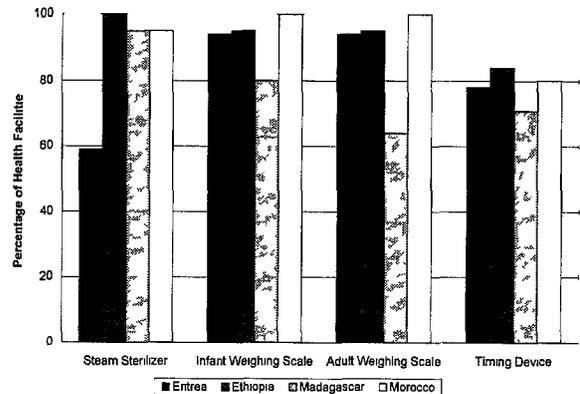
Health facility supports, the availability of basic equipment, and documentation and records are summarized in figures 2–5

Figure 2
Health Facility Supports



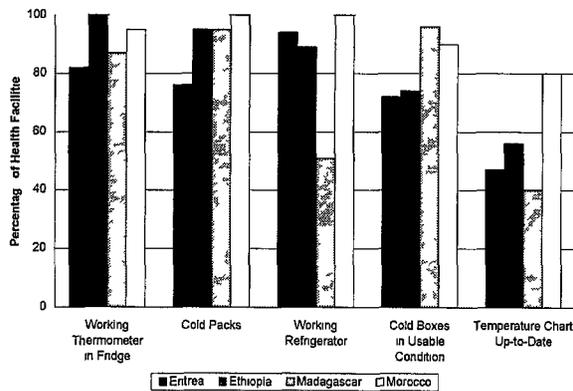
Note Numbers of sites Eritrea 18 Ethiopia 19 Madagascar 55 Morocco 20 Data for functional ORT corner are not available from Eritrea

Figure 3
Availability of Functional Equipment



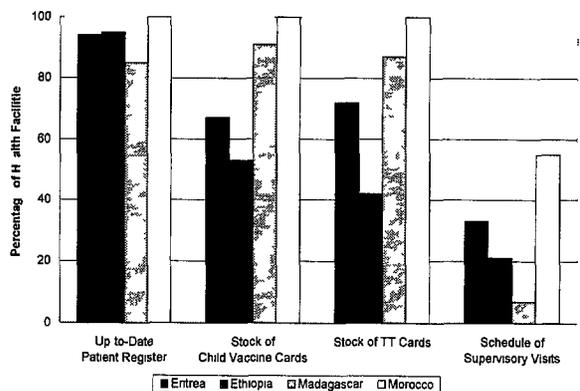
Note Numbers of sites Eritrea 18 Ethiopia 19 Madagascar 55 Morocco 20

Figure 4
Availability of Cold Chain Equipment



Note Numbers of sites Eritrea 18 Ethiopia 19 Madagascar 55 Morocco 20

Figure 5
Availability of Documentation and Records



Note Numbers of sites Eritrea 18 Ethiopia 19 Madagascar 55 Morocco 20

Most facilities had all essential equipment as well as adequate seating, potable water, and latrines, all of which are needed for providing basic child health services at health facilities. Functioning oral rehydration therapy (ORT) corners were not available in about 30 percent of facilities, this may reflect a

lack of awareness of the importance of oral rehydration for mildly and moderately dehydrated children in the facility. A functional refrigerator was not available in all facilities, which limits their ability to provide regular immunization services. A first step in improving the capacity of facilities to deliver immunization services would be to rehabilitate existing refrigerators and to train health workers to provide regular refrigerator maintenance. An even lower proportion of sites did not have an up-to-date temperature chart and had not been able to regularly monitor conditions of vaccine storage. Health worker training and supervision should reinforce the regular use of a temperature chart and an understanding of its importance.

A high proportion of all facilities were lacking at least one essential medication on the day of the survey, and 74–90 percent of facilities had experienced at least one stock-out of essential medications in the previous month. Delays in the delivery of essential supplies have a negative impact on the quality of case management. There are a number of points at which the delivery of drug supplies to facilities could have been compromised, including the ordering and delivery of drugs to peripheral sites, the maintenance and use of stock inventories, and at the level of the central store. At many health facilities, supplies needed to be picked up from a central store by health workers who often did not have the means to do so. Most facilities did not have written treatment guidelines for health workers or a schedule of supervisory visits. The introduction of both should be considered as part of a strategy to improve routine supervision and quality of care.

Indicators for Program Monitoring

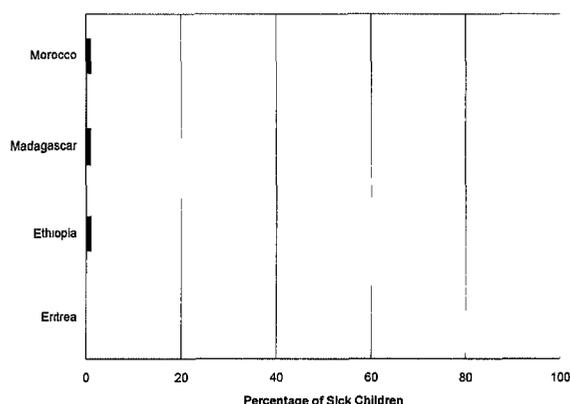
For program planning and monitoring, data collected at health facilities were summarized as key indicators. Indicators are valid and reliable measures that can be used for tracking changes in health worker performance overtime. Indicators can be used by supervisors to focus problem-solving activities at facilities and to help identify other program elements that may require attention such as training, drug supply, and logistics. Definitions for all indicators and a brief discussion of their programmatic importance are presented in Annex B.

General Assessment Tasks

Performance of general assessment tasks (indicators 1 and 2) is summarized in figures 6 and 7.

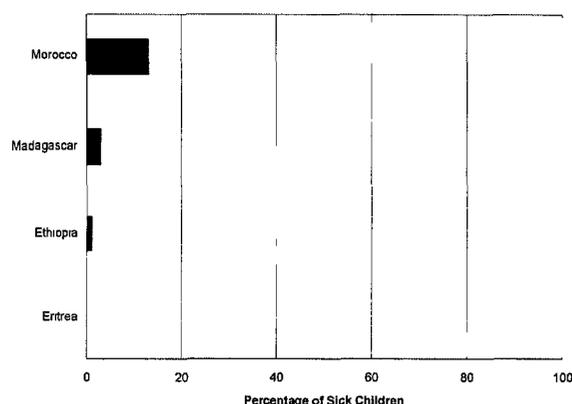
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Figure 6
Indicator 1 Sick Children Screened for Severe Illness



Note Screening tasks included checking for (1) ability to drink or breastfeed (2) whether child is vomiting everything (3) whether child had convulsions and (4) whether child is conscious Number of children Eritrea 190 Ethiopia 144 Madagascar 341 Morocco 142

Figure 7
Indicator 2 Sick Children Whose Caretakers Were Asked All Key History Questions



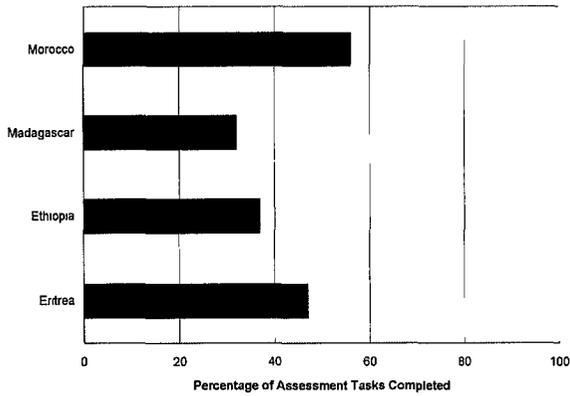
Note Key history questions included the following Does the child have (1) a cough or difficulty breathing? (2) diarrhea? (3) fever? (4) an ear problem? Number of children Eritrea 190 Ethiopia 144 Madagascar 341 Morocco 142

There is evidence that health workers are not regularly using an integrated or combined approach to the assessment of sick children. Most health workers did not screen for severe illness or ask all the key history questions. There are a number of reasons why health workers may not be assessing children systematically, including lack of awareness of the importance of this approach, lack of practical training in approaches or methods to follow, time restrictions, and poor clinic organization. In all four countries, follow-up actions included strengthening in-service training and supervision of health workers to reinforce the importance of asking all key history questions. In addition, it was thought to be important to identify possible barriers to asking these questions in the practical setting.

Disease-Specific Assessment Tasks

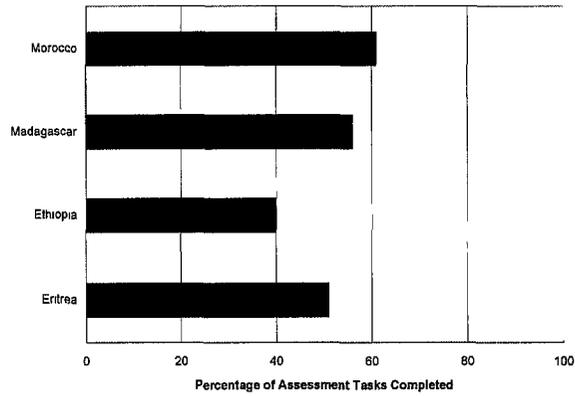
The proportions of assessment tasks completed for sick children with complaints of ARI, diarrhea, and fever (indicators 3–5) are shown in figures 8–10.

Figure 8
Indicator 3 Assessment Tasks Completed for Sick Children with a Complaint of ARI



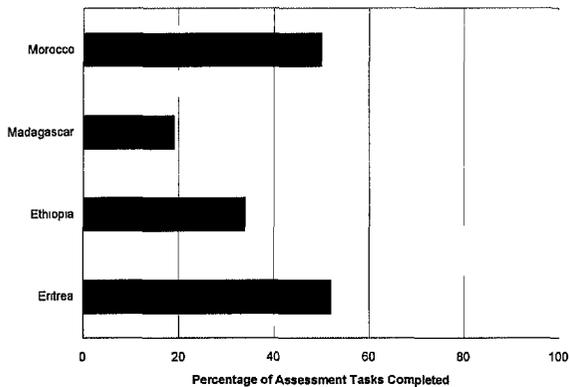
Note Core assessment tasks were (1) ask about duration of symptoms and (2) count respiration rate Number of children Eritrea 102 Ethiopia 103 Madagascar 266 Morocco 77

Figure 9
Indicator 4 Assessment Tasks Completed for Sick Children with a Complaint of Diarrhea



Note Core assessment tasks were (1) ask about duration of symptoms (2) ask about blood in stool and (3) assess skin turgor Number of children Eritrea 127 Ethiopia 69 Madagascar 67 Morocco 65

Figure 10
Indicator 5 Assessment Tasks Completed for Sick Children with a Complaint of Fever



Note Core assessment tasks were (1) ask about duration of symptoms and (2) assess ears and throat Number of children Eritrea 120 Ethiopia 114 Madagascar 158 Morocco 79

There is evidence that health workers may not be regularly using a standard case-management approach for the assessment of ARI, diarrhea, or fever

For children with diarrhea, most health workers did not assess skin turgor even though it is a critical step for correctly classifying children with diarrhea Health workers were even less likely to perform other

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tasks required to correctly classify diarrhea, including looking for sunken eyes and asking the child to drink. Training in the management of diarrheal diseases has been conducted widely in all of the African countries presented here. This gap in practice may not be due to a lack of knowledge but to a lack of regular supervision and of awareness of the importance of correctly classifying children with diarrhea. In addition, many facilities surveyed in all four countries did not have a functioning ORT corner, suggesting that the management of diarrhea is not a high priority.

For children with ARI, most health workers did not count the respiratory rate, which is the most critical step for correctly classifying these children. Auscultation with a stethoscope is still widely practiced, although in the hands of most peripheral health workers this method has a low sensitivity and specificity. There are a number of reasons why health workers may not be counting the children's respiratory rate, the most important being a lack of awareness of the importance of this approach, lack of practical training in the approaches or methods to follow, and lack of a timing device.

For children with fever, most health workers did not check the ears and throat. They were even less likely to look for stiff neck and measles. In areas with endemic malaria, any fever during the malaria season was diagnosed presumptively as malaria. In countries with a high malaria risk, this approach has a high sensitivity.

In all countries, plans included strengthening in-service training and supervision of health workers in the key assessment tasks and using local problem-solving to address the barriers to regularly conducting these assessment tasks.

Nutritional Screening

The proportions of sick children whose nutritional status was assessed and whose weight was plotted on a growth chart (indicators 6 and 7) are shown in figures 11 and 12.

Figure 11
Indicator 6 Sick Children Whose Nutritional Status Was Assessed

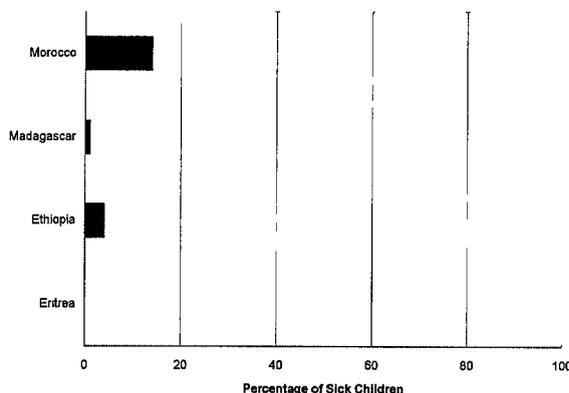
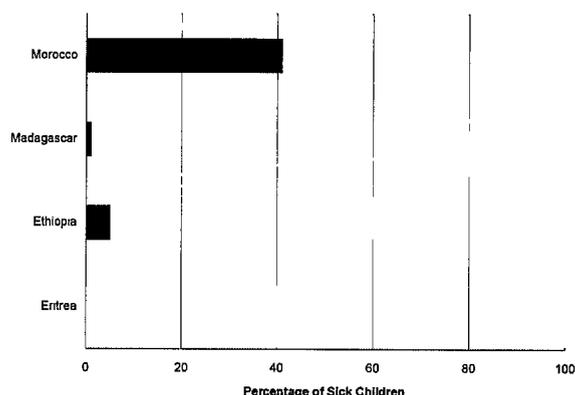


Figure 12
Indicator 7 Sick Children Whose Weight Was Plotted on a Growth Chart



Note: Nutrition assessment tasks were (1) plot weight for age (2) observe nutritional status and (3) look for pallor.
Number of children: Eritrea 190, Ethiopia 144, Madagascar 341, Morocco 142.

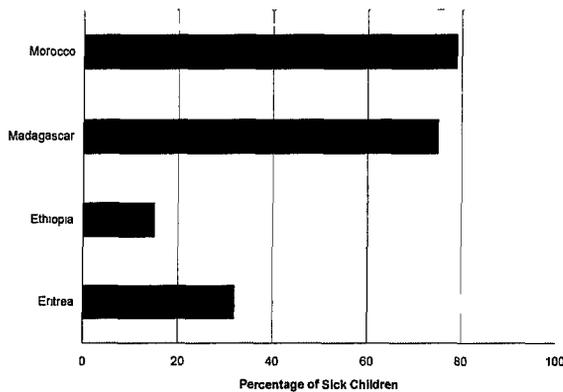
Note: Number of children: Ethiopia 144, Madagascar 341, Morocco 142. Data for Eritrea are not available.

The nutritional status of sick children is not regularly assessed. In many health facilities, children were not weighed at the time of the visit and other basic screening tasks for malnutrition were not conducted, even though facility equipment reviews revealed that most facilities visited had a functional weighing scale and a stock of growth charts available. There is a lack of awareness of the importance of malnutrition and the need for routine screening and an absence of clear guidelines on how to manage undernourished children. It is possible that health workers do not screen for malnutrition because they do not feel that there are any concrete actions that they can take. In all four countries, the importance of strengthening preservice and in-service training and supervision of first-level health workers in the area of nutrition was recognized.

Vaccination Screening

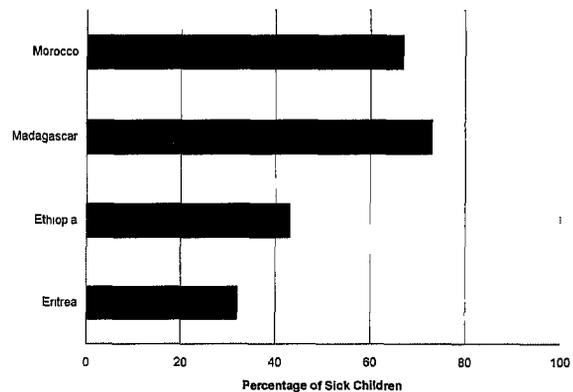
Data on vaccination screening of women and their children at the time of the sick children's visit to a health facility (indicators 8–10) are shown in figures 13–15.

Figure 13
Indicator 8 Sick Children Whose Vaccination Cards Were Checked at the Sick Child Visit



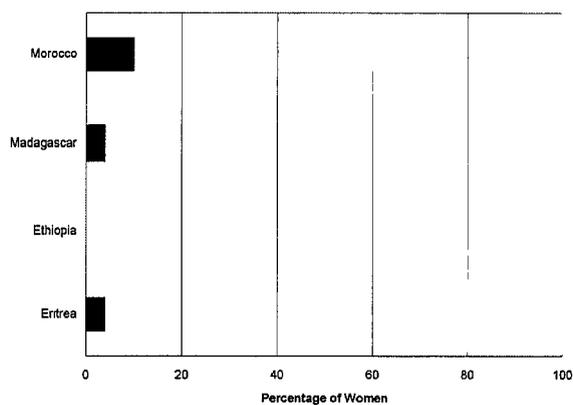
Note: Number of children: Eritrea 190, Ethiopia 144, Madagascar 341, Morocco 142.

Figure 14
Indicator 9 Sick Children Needing a Vaccination Who Received One the Same Day or Were Referred



Note: Number of children: Eritrea 24, Ethiopia 21, Madagascar 78, Morocco 30.

Figure 15
Indicator 10 Women Whose Vaccination Cards Were Checked at the Sick Child Visit



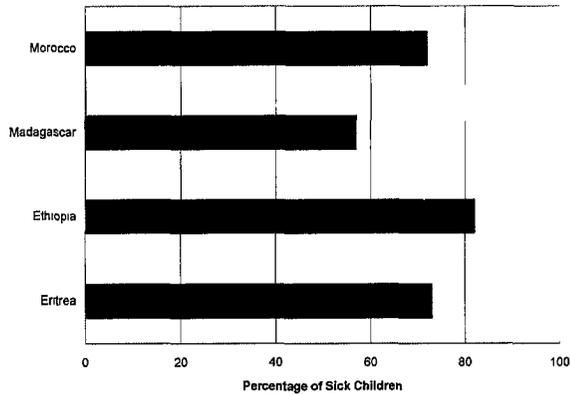
Note Number of women Eritrea 190 Ethiopia 119
Madagascar 341 Morocco 134

Country programs had mixed results for these indicators, but all missed opportunities to vaccinate sick children and women. Most facilities had a stock of vaccines and a functional cold chain. Checking the vaccination status of every woman and child is a relatively simple, quick, and inexpensive clinical action. Improved health worker practice in this area should encourage more caretakers to bring their own and their children's vaccination cards with them at every visit. Vaccinating women, infants, and children who need vaccines on the day of the visit is an ideal way to eliminate missed opportunities. If this is not possible, caretakers should at least be referred to the next vaccination session and the importance of this next visit strongly reinforced. The current barriers to regular assessment of the vaccination status of women should be investigated, as well as the barriers to the provision of daily vaccination sessions. Pre- and in-service training and routine supervision need to emphasize the importance of screening the vaccination status children and every woman of child-bearing age and avoiding missed opportunities to vaccinate.

Treatment

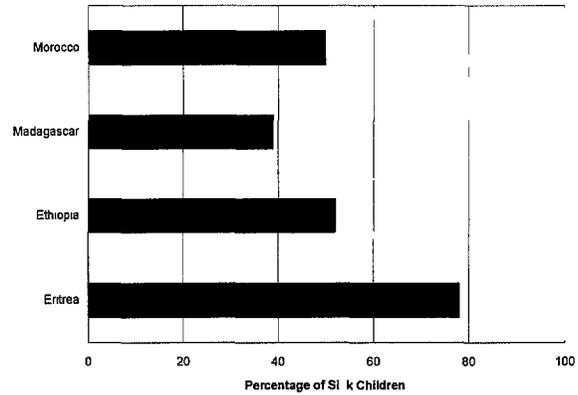
The proportions of sick children who were treated appropriately according to the diagnosis made by the health worker (indicators 11–14) are shown in figures 16–19.

Figure 16
Indicator 11 Sick Children Treated Appropriately according to the Health Worker's Diagnosis



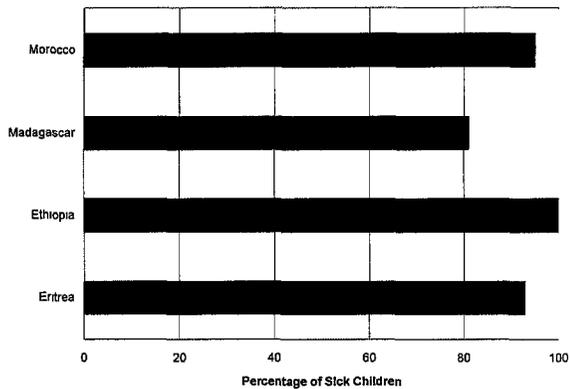
Note Number of children Eritrea 190 Ethiopia 144 Madagascar 341 Morocco 142

Figure 17
Indicator 12 Children with Diarrhea Who Were Treated Appropriately



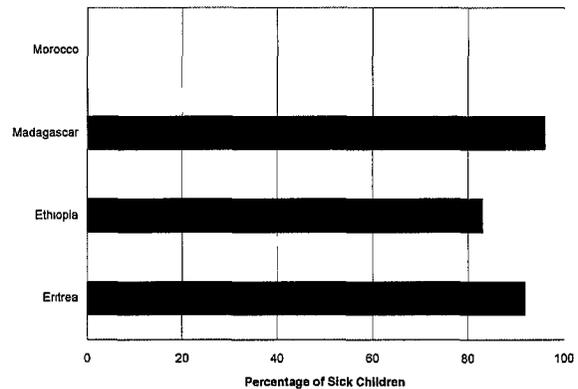
Note Correct treatment = ORS or RHF Number of children Eritrea 72 Ethiopia 29 Madagascar 44 Morocco 28

Figure 18
Indicator 13 Children with Pneumonia Who Were Treated Appropriately



Note Correct treatment = recommended antibiotic may include antipyretic agent Number of children Eritrea 15 Ethiopia 52 Madagascar 121 Morocco 40

Figure 19
Indicator 14 Children with Malaria Who Were Treated Appropriately



Note Correct treatment = recommended antimalarial agent and antipyretic Number of children Eritrea 12 Ethiopia 36 Madagascar 24 Data for Morocco not available

Approximately half of the health workers surveyed treated sick children correctly according to the national treatment guidelines' clinical classifications. This measure of appropriate treatment does not allow us to determine whether the classification or diagnosis made by the health workers is correct, or whether another, underlying pathology has been missed. Common treatment errors included the use of antibiotics for the treatment of simple diarrhea, the use of antibiotics for the treatment of upper respiratory tract infections (URTI), and polypharmacy (e.g., antibiotics and an antimalarial for a

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diagnosis of malaria) This measure does not investigate whether the given or prescribed doses of the medications are correct

Antibiotics and antidiarrheals are overused by health workers for the treatment of simple diarrhea. Many facilities lacked functional oral rehydration corners, perhaps reflecting a lack of awareness of the importance of oral rehydration for the prevention and management of dehydration. A stock of oral rehydration salts (ORS) sachets was available in most facilities. The recommendation and use of oral fluids is a simple, cheap, and effective treatment strategy. Improving the use of ORT should also emphasize the importance of correctly instructing caretakers on the administration of these fluids at home. Possible barriers to the acceptance of oral fluids by caretakers and communities may need to be investigated; it was noted that many caretakers who had treated their child for diarrhea at home had given traditional medicines or antibiotics. There may be pressure on health workers from caretakers to give drugs or medicines instead of simple oral fluids.

Health workers usually gave or prescribed an antibiotic for a diagnosis of a lower respiratory tract infection. Antibiotics were frequently given inappropriately for simple URTI. This may reflect the limited assessment and classification skills noted earlier; health workers may not feel confident that they are correctly identifying all cases of lower respiratory tract infection. In most facilities, antibiotic stock-outs were common; improving the rational use of antibiotics could improve their availability. Factors contributing to the overuse of antibiotics need to be better identified; there may be pressure on health workers from caretakers to give drugs or medicines.

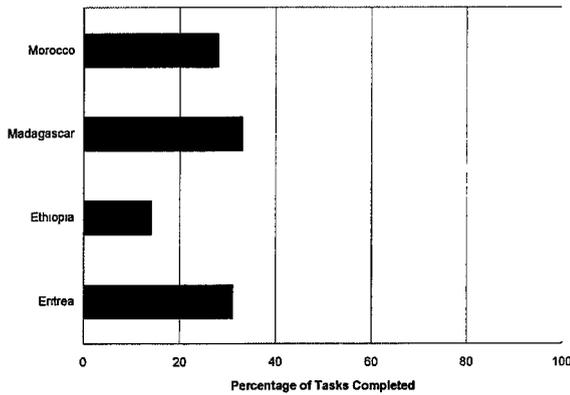
Health workers usually gave or prescribed an antimalarial for diagnosis of malaria. In most countries with endemic malaria, fever is commonly treated presumptively during the malaria season with antimalarial agents. Health workers also appeared to be generally aware of the need to give children with fever an antipyretic agent. Of more concern is the counseling given to the caretakers of children on how to take antimalarial tablets; there is evidence that caretakers are not routinely instructed on how to properly administer the medication and there is a high potential for either subtherapeutic or toxic doses (see indicator 22 and figure 27).

Overall, it was felt to be important that training and regular supervision should reinforce correct treatment practices and address some of the factors influencing the overuse of antibiotics. It is important that health workers understand that reducing the overuse of medications at first-level facilities can improve stock availability, reduce drug costs, and limit the development of antimicrobial resistance.

Counseling

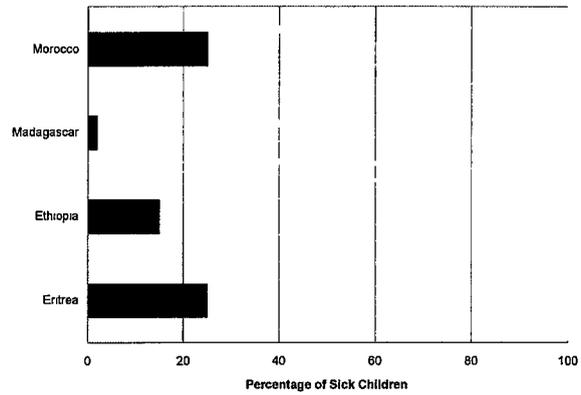
Data on the performance of counseling tasks by health workers to the caretakers of sick children (indicators 15–18) are given in figures 20–23.

Figure 20
Indicator 15 Treatment Counseling Tasks Completed for Sick Children



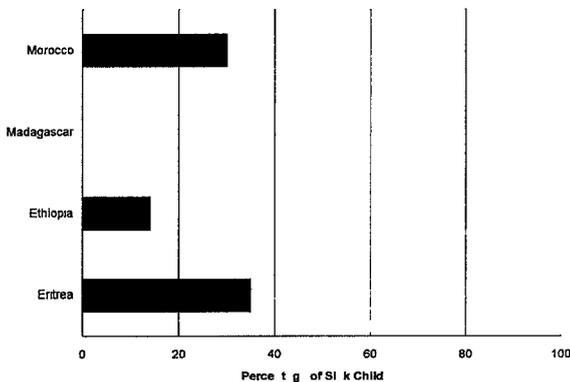
Note Treatment counseling tasks are (1) explain how to give medication (2) demonstrate how to give medication and (3) ask open ended question to check caretaker s comprehension Number of children Eritrea 143 Ethiopia 143 Madagascar 52 Morocco 121

Figure 21
Indicator 16 Sick Children Whose Caretakers Were Counselored on the Need to Give Home Fluids



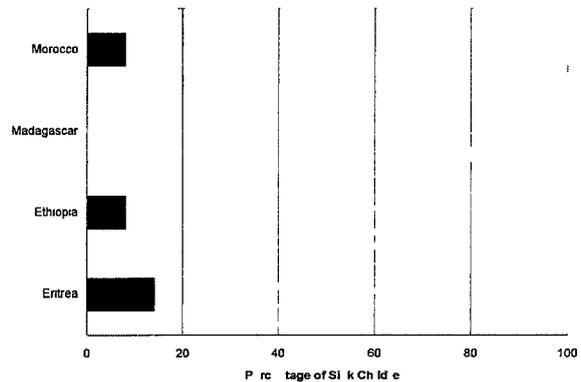
Note Fluid counseling tasks included (1) breastfeed more often and longer at each feeding (if appropriate) and (2) increase other fluids such as soup rice water yoghurt drinks or clean water Number of children Eritrea 190 Ethiopia 144 Madagascar 341 Morocco 142

Figure 22
Indicator 17 Sick Children Whose Caretakers Were Counselored on the Need to Continue Feeding during and after the Illness



Note Feeding counseling tasks included (1) need to continue breastfeeding (if appropriate) and (2) need to give other foods more frequently and actively Number of children Eritrea 190 Ethiopia 144 Morocco 142 Data for Madagascar not available

Figure 23
Indicator 18 Sick Children Whose Caretakers Were Counselored on Danger Signs of When to Return Immediately



Note Danger signs included (1) for all sick children— inability to drink or breastfeed worsening of illness development of fever (2) for children with simple URTI—development of fast or difficult breathing (3) for children with diarrhea—development of blood in the stool drinking poorly Correct counseling required that caretakers were given at least three danger signs (Eritrea) or caretakers were given at least two danger signs (Morocco and Ethiopia) Number of children Eritrea 190 Ethiopia 144 Morocco 142 Data for Madagascar not available

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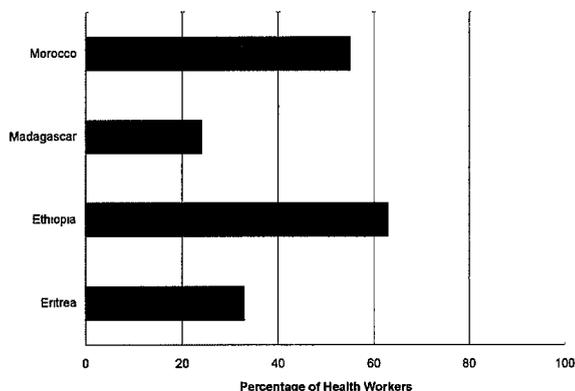
Key treatment counseling messages are not systematically given by health workers. There are a number of possible reasons for this, including lack of the following: systematic training or reinforcement of the importance of communicating with caretakers, knowledge of the most important messages to give, appreciation of the important role that home case management plays in the outcome of a child's illness, time to adequately counsel caretakers, and health education materials. It was generally agreed by district and facility staff that strategies for improving communication will need to be developed in close collaboration with health workers. Possible strategies for improving communication include reinforcing communication principles through the provision of regular supervision and in-service training, providing simple health education materials, and considering the reorganization of clinic activities to allow health workers more time to conduct counseling. The quality of counseling will also need to be addressed, as a relatively small proportion of caretakers knew how to give all essential medications correctly (see indicator 22 and figure 27). Counseling on how to give medications will need to emphasize practical demonstrations.

There is generally a lack of awareness of the importance of nutrition (see nutrition assessment indicators 6 and 7). For appropriate counseling, it is important that health workers take a simple nutritional history from the caretaker and be aware of the national feeding guidelines. Many countries have not developed national feeding guidelines based on local practices and food availability. Conducting appropriate nutritional counseling also requires more time with each caretaker, and health workers often feel that time is limited in the outpatient setting. To improve counseling practices, a number of areas need to be addressed, including (1) the development of clear national guidelines on breastfeeding and complementary feeding, (2) improved pre- and in-service nutritional training for first-level health workers, (3) improved supervisory methods to reinforce nutrition counseling, (4) the development of simple health education messages and materials, and (5) the development of approaches to removing the barriers to conducting nutritional counseling.

Health Worker Support

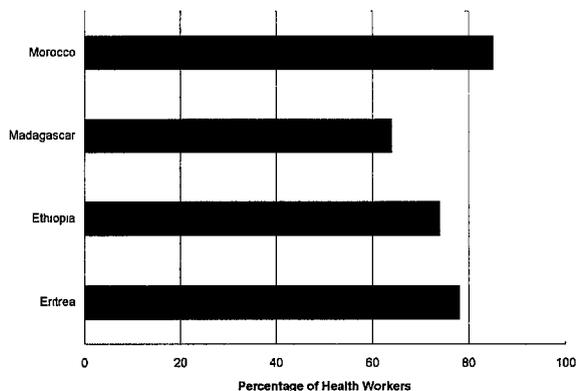
Data from indicators that measure health worker training and supervision and stock-outs of essential drugs (indicators 19–21) are given in figures 24–26.

Figure 24
Indicator 19 Health Workers Who See Sick Children and Have Received Training in a Child Health Topic in the Last 1–3 Years



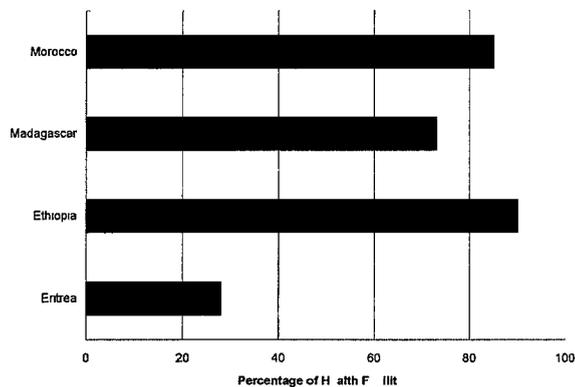
Note Child health topics could include SCM in EPI CDD ARI malaria nutrition measles or IMCI Number of health workers Eritrea 18 Ethiopia 19 Madagascar 55 Morocco 20

Figure 25
Indicator 20 Health Workers Who See Sick Children and Have Received at Least 1 Supervisory Visit in the Last 6 Months



Note Number of health workers Eritrea 18 Ethiopia 19 Madagascar 55 Morocco 20

Figure 26
Indicator 21 Health Facilities That Had at Least 1 Stock-Out of Essential Drugs in the Previous Month



Note Number of sites Eritrea 18 Ethiopia 19 Madagascar 55 Morocco 20

Some training had been received by a relatively high proportion of health workers. It seems likely, however, that the quality of training was often less than ideal and did not always involve clinical practice. The indicators on clinical practice (indicators 1–18) suggest that despite training, health workers are not learning practical methods for conducting standard case management in outpatient facilities and not routinely assessing, classifying, and treating children according to standard case

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management (SCM) standards. In addition, health workers are not routinely giving messages on the home management of children, suggesting that routine training also needs to focus on essential counseling tasks. The quality of training needs to be improved and linked to on-going supervisory strategies. When a training strategy is being designed, all the factors that influence the sustainability of health worker practice should be considered, such as the average consultation time, the availability of drugs and supplies, the frequency of vaccination clinics, the staffing of the clinic, and barriers to the referral of very sick children. Some of these factors may need to be addressed for training to be effective. Others may be addressed by improving awareness of them as potential barriers and developing strategies for their management as a component of training.

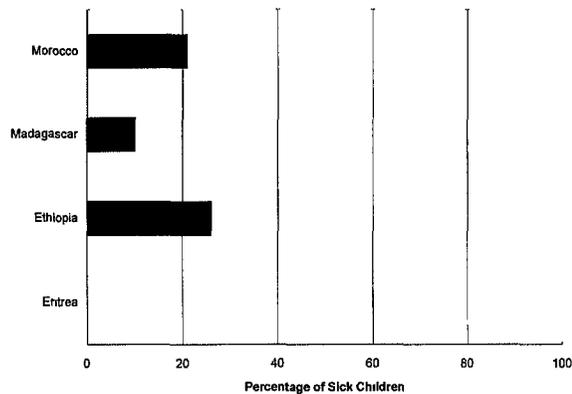
It is encouraging that a high proportion of health facilities visited had received at least one supervisory visit in the previous six months. The quality of the feedback given to health workers and the activities undertaken to keep them up to date remain uncertain. Supervisors rarely observed case-management practices, for example, or spoke to caretakers as they left the clinic. Supervision can be strengthened by training supervisors to evaluate facilities systematically using a supervisory checklist and to provide feedback and educate health workers at the time of the supervisory visit. In addition, the regularity and timeliness of supervisory visits may be improved by using existing cars and fuel supplies more efficiently and by developing strategies for conducting integrated supervision. Schedules for supervisory visits should be distributed in advance to health staff at all levels. Supervisors should be educated in the identification of possible barriers to effective case management and trained in strategies for overcoming these barriers. Regular supervision is critical to maintaining skills at the clinic level.

Essential medications had been available at all times in the 30 days preceding the survey in less than one-quarter of facilities. Drug availability in public facilities is important for ensuring that health workers can provide quality case management. At many facilities, lack of adequate transportation prevented timely delivery and collection of supplies. Developing skills for the management of stock inventories at health clinics should be a component of routine pre- and in-service training. Stocks of essential medications may be managed more efficiently by improving prescribing practices and reducing the inappropriate use of antibiotics and other medications. The inappropriate use of antibiotics is common in many of the facilities visited. The systems for ordering, storing, and distributing drugs to peripheral sites also needs to be assessed, drugs and supplies should be distributed on the basis of the number of cases seen by each facility. A formal review of the drug distribution system should be considered to identify areas that may not be functioning effectively.

Caretaker Knowledge

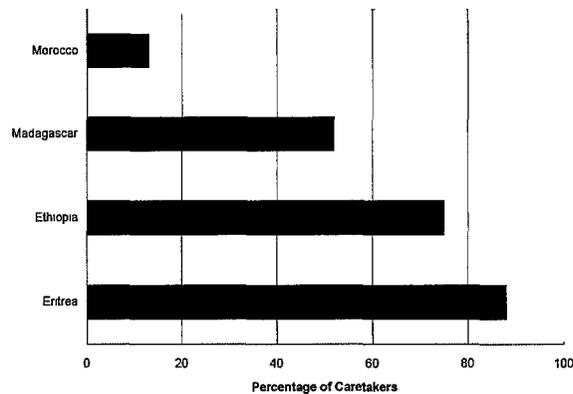
Data on indicators measuring caretaker knowledge for managing sick children at home (indicators 22 and 23) are presented in figures 27 and 28.

Figure 27
Indicator 22 Children Receiving Oral Therapy Whose Caretakers Knew How to Administer the Treatment Correctly



Note Number of children Ethiopia 144 Madagascar 341 Morocco 140 Data for Eritrea not available

Figure 28
Indicator 23 Caretakers of Sick Children Who Knew at Least 2 Signs for Seeking Care Immediately



Note Signs for seeking immediate care include (1) for all sick children— inability to drink or breastfeed worsening of illness development of fever (2) for children with simple URTI—development of fast or difficult breathing (3) for children with diarrhea—development of blood in the stool drinking poorly Number of caretakers Eritrea 186 Ethiopia 144 Madagascar 341 Morocco 140

A very low proportion of caretakers of sick children knew how to administer correctly the oral medications (including ORS) that had been given or prescribed by the health worker. It is likely, therefore, that these sick children would not receive an appropriate treatment course of the oral therapy at home. All sick children who receive incomplete or partial treatment courses are at greater risk of dying from the underlying pathology. In addition, incomplete or partial treatment doses of antimicrobials may increase the risk of antimicrobial resistance. The use of inappropriately high doses of some agents, in particular chloroquine, may produce toxicity. Data on the treatment counseling of caretakers by health workers (see indicator 15) suggest that health workers are not giving appropriate instructions on how to give oral agents, which is an important first step in improving caretaker treatment practices in the home. Including a demonstration of how to administer the oral agent should be an important component of counseling. Better labeling and written instructions may also help caretakers administer the medications correctly. In some countries there may be other barriers to the prescription or administration of full treatment courses, including limited availability of the medications or prohibitively high prices that make them unaffordable.

A high proportion of caretakers of sick children knew at least two danger signs that require immediate care-seeking, suggesting that caretakers often recognize when their child is unwell or getting sicker. Even if caretakers recognize illness, however, they may not seek timely care from a trained health provider because of cultural and social norms and practices, limited access to trained providers, lack of time, and the cost of treatment. Health workers should reinforce the need to return immediately when danger signs are noticed, in many facilities, such counseling is not done routinely (see indicator 18). Programs may need to investigate barriers to effective care-seeking when danger signs are noticed in the home using

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qualitative methods Community-based health education programs should include messages that emphasize recognition of illness and appropriate care-seeking

Indicators for Which Validation Was Performed

The proportions of sick children classified and treated correctly (indicators 24 and 25) in Morocco are given in tables 3 and 4

Table 3 Percentage Agreement between Validator Classification and Health Worker Classification

Children Classified Correctly	% Agreement between Validator and Health Worker (Proportion)		
	Agadir	Meknes	Total
All sick children	43 (31/72)	59 (41/70)	51 (72/142)
Children with pneumonia	54 (14/26)	73 (8/11)	59 (22/37)
Children with diarrhea	59 (16/27)	74 (17/23)	66 (33/50)
Children with dehydration	0 (0/8)	33 (1/3)	9 (1/11)
Children with dysentery	25 (1/4)	0 (0/1)	20 (1/5)
Children with anemia	25 (2/8)	20 (1/5)	23 (3/13)
Children with severe malnutrition or very low weight	45 (5/11)	13 (1/8)	31 (6/19)

Table 4 Percentage Agreement between Validator Treatment and Health Worker Treatment

Children Treated Correctly	% Agreement between Validator and Health Worker (Proportion)		
	Agadir	Meknes	Total
All sick children	36 (26/72)	59 (41/70)	47 (67/142)
Children with pneumonia	59 (16/27)	77 (10/13)	65 (26/40)
Children with diarrhea	23 (5/22)	38 (8/21)	30 (13/43)
Children with dysentery	0 (0/4)	0 (0/1)	0 (0/5)

All health workers observed in the Morocco survey were physicians and therefore had received more training than most first-level health workers. Approximately half of all health workers classified sick children correctly according to the IMCI case-management protocol. Agreement between health workers and the validator can be further stratified by classification. Table 3 demonstrates that classification was done less well for dehydration, dysentery, anemia, and malnutrition. Almost half of all health workers treated sick children correctly according to the IMCI case-management protocol. Agreement between health workers and the validator can be further stratified by classification. Table 4 demonstrates that treatment was done less well for diarrhea and dysentery than for pneumonia. Forty-six percent (13/28) of cases of simple diarrhea were treated with an antibiotic or antidiarrheal. Treatment and classification of these conditions may need to be reinforced through routine supervision as well as training.

Follow-Up to Integrated Health Facility Assessment and Planning Activities

In all countries where this method has been used, health staff have developed local action plans emphasizing the need to develop strategies that can be implemented with available personnel and financial resources. Action plans have emphasized improving simple clinical skills, including simple screening tasks (for severity and for the presenting complaint), assessment of the vaccination status of women and children at the time of the sick child visit, assessment of nutritional status, and the use of simple clinical examination tasks such as counting respiratory rate and assessing skin turgor. In all four countries, a high proportion of health facilities had received at least one supervisory visit in the previous six months, and supervision has therefore formed the core element of their follow-up strategies. Strategies for improving the quality of health worker performance have included the following:

- 1 The development of an integrated maternal and child supervisory checklist. In many countries, district-level staff have adapted the health facility assessment instruments for this purpose. Including an observation component in regular visits to health facilities and developing strategies that encourage health workers to solve problems themselves has been emphasized.
- 2 The development of supervisory mechanisms and skills of district-level health staff. District-level staff have been encouraged to take responsibility for developing a supervisory approach in their own areas. In some areas, supervisory skills training has been conducted, in others, district-level staff have adopted an “on-the-job training” approach, developing a checklist and then testing it themselves in their own districts. Local staff’s solving of problems themselves has been emphasized. Local mechanisms for reaching facilities regularly with available transportation have been explored.
- 3 Training in integrated maternal and child health topics. In some areas, it has been recognized that local staff need more training in addition to supervision. Attempts have been made to improve the quality of the training (ensuring that clinical practice is involved) and to incorporate some of the gaps identified by the facility assessment in all trainings (screening vaccination status of women and children and assessing nutritional status, for example).
- 4 Improving the availability of essential drugs. This is a complex task, and a number of levels of the health care delivery system, including the national level, need to be involved in strengthening the availability of supplies at lower levels. Local strategies that were suggested included improving the availability of antibiotics by reducing their irrational use for simple diarrhea and URTI, improving stock management by facility-based health staff, and improving the collection of available supplies from district-level stores by sharing vehicles or collecting drugs when visits are made for other reasons.
- 5 Improving the time available with mothers and children to conduct essential tasks. There is often insufficient time for managing mothers and children comprehensively. Strategies proposed to improve this situation have included dividing screening tasks among health staff members (for example, plotting weight on a growth chart and counting respiratory rate could be conducted by nonclinical staff before the clinical examination, counseling could be conducted by staff trained in counseling for sick children and mothers after the clinical review) and increasing the availability of sick child and vaccination clinic services (if services are offered more often, there may be fewer attendees at each session).

Lessons Learned

There are four key lessons learned from the use of this method in developing countries

- 1 District-level managers and health staff are able to use this approach to evaluate the quality of facility-based care in their own areas and then to plan activities based on this assessment. In many countries, health systems have been decentralized and more autonomy has been given to district staff to manage their own programs and budgets. This type of method gives district managers a structured approach for designing and monitoring their own programs.
- 2 Routine supervision is possible in most countries. Action plans have focused on improving the quality of existing supervision by using a simple integrated checklist to improve health worker skills and solve problems at health facilities. District-level managers have worked on local mechanisms for improving supervision with existing resources. In general, district managers have developed their own systems for supporting regular supervision and have not followed a “blueprint” or rigid set of guidelines. It remains to be seen how well these systems will operate in the longer term and whether initial commitment to supervision will be sustained over time.
- 3 The process is more important than the data gathered. Use of this approach has strengthened program planning and trained district staff in methods to improve the programs in their areas. It is the *process* of collecting simple information using direct observation and then using this information to make decisions that has been useful. In a programmatic sense, the process has been more valuable than the data itself. If health staff can internalize this process and then recognize the benefits of solving problems for themselves, there is a chance that this type of approach will be sustainable in the longer term.
- 4 Further work is needed to ensure that district staff can replicate this method routinely. There is concern that the current method may not be truly replicable in the longer term because it involves the entry and analysis of data using a software program. It is acknowledged that many districts in developing countries may not have these resources available to them for some time to come. For this reason, the method could be even further simplified and indicators could be calculated by hand. The method needs to be made more practical for low-level health staff.

Conclusions

This district-level approach for collecting and using data from health facilities to plan maternal and child health programs has proved useful in a number of developing countries. It trains district-level program managers to collect simple information and then use this information to plan program activities. An emphasis is placed on the development of strategies that are feasible using locally available resources and that can be sustained in the longer term. The process of collecting information by direct observation and then using this information to solve problems has been an important tool for strengthening the capacity of health staff to make improvements. It remains to be seen whether the application of this method will result in clear improvements in the quality of facility-based care and whether it will be sustainable in the longer term. Follow-up evaluations of facility-based programs where this approach has been applied will be conducted in mid-1998.

Annex A. Health Facility Assessment Questionnaires

1 OBSERVATION CHECKLIST— SICK CHILD

Province/District _____	HW Category _____	Date ____/____/____
Facility Name _____	Facility Type _____	Facility Status _____
Interviewer No _____	Child's Age (months) _____	Child ID No _____

Begin Timing the Observation Now Time _____

- 1 What reason does the caretaker give for bringing the child to the health facility? (Check all that apply)
 Diarrhea/vomiting Fever/malaria Difficulty breathing/cough/pneumonia
- 2 Does the health worker ask the age of the child or have the age available? Y N
- 3 Is the child weighed? Y N
- 4 Is the child's weight plotted on a growth chart? Y N

Does the health worker ASK about (or does the caretaker REPORT)—	Does the health worker perform these EXAMINATION tasks—
Danger signs 5 Not able to drink or breastfeed? Y N 6 Vomits everything? Y N 7 Convulsions? Y N 8 Change in consciousness/lethargic/sleepy? Y N	13 Look for lethargy or unconsciousness? Y N
9 a Diarrhea? Y N b For how long? Y N c Is there blood in the stool? Y N	14 Observe drinking or breastfeeding? Y N 15 Pinch the skin on abdomen? Y N 16 Look for sunken eyes? Y N
10 a Cough or difficult breathing? Y N b For how long? Y N	17 Raise the shirt? Y N 18 Count breaths/minute? Y N 19 Look for chest indrawing? Y N
11 a Fever? Y N b For how long? Y N	20 Look or feel for stiff neck? Y N 21 Look for generalized rash? Y N 22 Look for cough runny nose or red eyes? Y N
12 a Ear problem? Y N b Ear pain? Y N c Ear discharge? Y N d If YES, for how long? Y N	23 Look for pus from ear? Y N 24 Feel for swelling behind ear? Y N
	Malnutrition 25 Undress and look for wasting? Y N 26 Look for palmar or conjunctival pallor? Y N 27 Look for edema of both feet? Y N

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A All danger signs (Q 5 to Q 8 [or Q 13]) assessed? Y N

B All main symptoms (Q 9 to Q 12) assessed? Y N

C Number of diarrhea assessment tasks completed? (History and Examination) 0 1 2 3 4 5

D Number of ARI assessment tasks completed? (History and Examination) 0 1 2 3 4

E Number of fever assessment tasks completed? (History and Examination) 0 1 2

F Nutritional status correctly assessed? (Q 4, Q 25 to Q 27) Y N

Immunization and Screening

28 a Does the health worker ask for the *child's* immunization card? Y N

If NO, go to question 29

b If YES, does the child have the card? Y N

c Is the *child* referred for vaccination—
 Today Another day Not referred Up to date

29 a Does the health worker ask for the *caretaker's* vaccination card? N/A Y N

If NO or N/A, go to question 30

b If YES, does the caretaker have the card? Y N

c Is the *mother* referred for vaccination—
 Today Another day Not referred Up to date

Diagnosis and Treatment

How does the health worker classify the child?							
30	Simple diarrhea	Y	N	39	Very severe febrile disease	Y	N
a	No dehydration	Y	N	40	Malaria	Y	N
b	Some dehydration	Y	N	41	Severe complicated measles	Y	N
c	Severe dehydration	Y	N	42	Measles (eye and mouth complications)	Y	N
31	Dysentery	Y	N	43	Measles	Y	N
32	Persistent diarrhea	Y	N	44	Fever other cause (specify) _____	Y	N
33	Severe persistent diarrhea	Y	N				
34	Severe pneumonia	Y	N	45	Mastoiditis	Y	N
35	Pneumonia	Y	N	46	Acute ear infection	Y	N
36	Upper respiratory infection (cough or cold)	Y	N	47	Chronic ear infection	Y	N
37	Severe malnutrition	Y	N	48	No diagnosis	Y	N
38	Anemia or very low weight (moderate malnutrition)	Y	N				

Annex A Health Facility Assessment Questionnaires

If validation is performed

G a Health worker classification agrees with validator?	N/A	Y	N
G b Severely ill children classified correctly?	N/A	Y	N

What does the health worker administer or prescribe for the child?			
49	Immediate referral?	Y	N
50	Antimalarial injection	Y	N
51	Antimalarial tablets/syrup	Y	N
52	Paracetamol/aspirin	Y	N
53	Tepid bath	Y	N
54	Antibiotic injection	Y	N
55	Antibiotic tablets/syrup	Y	N
56	Vitamin A or vitamins	Y	N
57	ORS/RHF	Y	N
58	Antidiarrheal/antimotility	Y	N
59	Metronidazole tablet/syrup	Y	N
60	Tablet/syrup unknown type	Y	N
61	Injection unknown type	Y	N
62	Other (specify) _____	Y	N
63	None	Y	N

H Is the medication appropriate for the diagnosis?	Y	N
---	---	---

I a Diarrhea case received appropriate medication?	N/A	Y	N
I b Pneumonia case received appropriate medication?	N/A	Y	N
I c Malaria case received appropriate medication?	N/A	Y	N

If validation is performed

J a Is the child treated correctly?	N/A	Y	N
J b Severe classification correctly referred?	N/A	Y	N
J c Pneumonia case correctly treated?	N/A	Y	N
J d Diarrhea case correctly treated?	N/A	Y	N
J e Malaria case correctly treated?	N/A	Y	N

Interpersonal Communication

For all oral medications—

64 a Does the health worker explain how to administer medications/ORS?	N/A	Y	N
b Does the health worker demonstrate how to administer medications/ORS?	N/A	Y	N
c Does the health worker ask an open-ended question to verify the comprehension of how to administer medications/ORS?	N/A	Y	N

K Number of treatment tasks performed? (Circle one)	0	1	2	3
--	---	---	---	---

65	Does the health worker explain when to return for follow-up?	Y	N
66	Does the health worker explain the need to give more liquid at home?	Y	N
67	Does the health worker explain the need to continue feeding or breastfeeding at home?	Y	N
68	Does the health worker tell the caretaker to bring the child back for the following signs?		
	Child is not able to drink or drinking poorly	Y	N
	Child is not able to breastfeed/eat	Y	N
	Child becomes sicker	Y	N
	Child develops a fever	Y	N
	Child develops fast or difficult breathing	Y	N
	Child develops blood in the stool	Y	N
	Change in consciousness/lethargic	Y	N

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L	Are at least three of the Q 68 messages circled?	Y	N
---	--	---	---

Check the Time of the Observation as the Caretaker Leaves Time _____

Duration of observation _____minutes

- The surveyor may need to ask the health worker about the diagnosis made and the treatment given during the consultation, but only if these two components were not stated during the consultation
- The surveyor *must complete* this form *before* the next child observation

END OF HEALTH WORKER OBSERVATION

2 EXIT INTERVIEW—SICK CHILD

Province/District _____	Date ____/____/____
Facility Name _____	Facility Type _____
	Facility Status _____
Interviewer No _____	Child's Age (months) _____
	Child ID No _____

Greet the caretaker and say that you would like to ask some questions about his/her visit to the health facility today

- 1 Did the health worker give you any oral medicines at the health facility today? Y N
If NO, go to question 2
If YES, compare the caretaker's medications with the samples for identification of the oral medicines

Complete the table below for the listed oral medications. Fill in the information in the table below by asking—

**HOW MUCH medicine will you give the child EACH TIME?
 HOW MANY TIMES will you give it to the child EACH DAY?
 HOW MANY DAYS will you give the medicine to the child?**

If the caretaker's answer is—

"As required," write AR in the appropriate cell
 "Until completed," write UC in the appropriate cell
 "I don't know," write DK in the appropriate cell

Medicine	How Much Each Time?	How Many Times/Day?	How Many Days?	All Correct? (Y or N)
Chloroquine tab/syrup				
Antibiotic tab/syrup Name _____ Dose/tab _____				
Aspirin tab/syrup OR Paracetamol tab/syrup Dose/tab _____				
ORS/RHF				
Other _____				

A Caretaker knows how to give ALL essential medications correctly? N/A Y N

- 2 What will you do for your child when you return home? (Check all that apply)
- ___ Doesn't know
 - ___ Continue feeding or breastfeeding the child
 - ___ Give the same quantity or more fluids to the child
 - ___ Complete course of medications/ORS/RHF
 - ___ Bring the child back if he/she doesn't get better or gets worse

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B Caretaker knows at least two aspects of home case management? Y N

- 3 How will you know if the child becomes worse at home? (Check all that apply)
- | | |
|--|---|
| <input type="checkbox"/> Doesn't know | <input type="checkbox"/> Vomiting begins or continues |
| <input type="checkbox"/> Fever begins or doesn't go away | <input type="checkbox"/> Child unable to drink |
| <input type="checkbox"/> Child unable to eat | <input type="checkbox"/> Child has convulsions |
| <input type="checkbox"/> Diarrhea continues | <input type="checkbox"/> Child has difficulty breathing |
| <input type="checkbox"/> Child has chest indrawing | <input type="checkbox"/> Blood in stool |
| | <input type="checkbox"/> Other (specify) _____ |

C Caretaker knows at least two signs of child getting worse at home? Y N

- 4 Which diseases will be prevented by the immunizations you or your child has received? (Check all that apply)
- | | |
|---|--|
| <input type="checkbox"/> Doesn't know | <input type="checkbox"/> Measles |
| <input type="checkbox"/> Diphtheria | <input type="checkbox"/> Tuberculosis |
| <input type="checkbox"/> Tetanus | <input type="checkbox"/> Polio |
| <input type="checkbox"/> Whooping cough | <input type="checkbox"/> Other (specify) _____ |
- 5 a Do you know what might happen as a side effect after the immunization? Y N
- b If YES, what were you told? (Check all that apply)
- | | |
|--|---|
| <input type="checkbox"/> Fever | <input type="checkbox"/> Pain at injection site |
| <input type="checkbox"/> Irritability/crying | <input type="checkbox"/> Swelling |
| <input type="checkbox"/> Other (specify) _____ | |
- 6 How many vaccination visits does a child need in the first year of life to complete the series of vaccinations? _____
- | | | |
|----------------------------------|------------------------------------|---------------------------------------|
| <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect | <input type="checkbox"/> Doesn't know |
|----------------------------------|------------------------------------|---------------------------------------|
- 7 a Did your child receive an immunization today? Y N
- b If NO, (Prompted question Check a single response)
- | |
|--|
| <input type="checkbox"/> Referred for vaccination another day |
| <input type="checkbox"/> Was not given or referred for vaccination |
| <input type="checkbox"/> Up to date |
- 8 Do you have your child's vaccination card?
- | | | | |
|------------------------------|-------------------------------|---|---------------------------------------|
| <input type="checkbox"/> Yes | <input type="checkbox"/> Lost | <input type="checkbox"/> Never received | <input type="checkbox"/> Left at home |
|------------------------------|-------------------------------|---|---------------------------------------|

If the caretaker has the card, record the dates of ALL VACCINES GIVEN, both today and in the past, and the child's birth date and age

Birth date ___/___/___ Age ___ Months

Immunization	Received	
Polio-0 (birth)	Y	N
BCG	Y	N
DPT-1	Y	N
Polio-1	Y	N
DPT-2	Y	N
Polio-2	Y	N
DPT-3	Y	N
Polio-3	Y	N
Measles	Y	N

Annex A Health Facility Assessment Questionnaires

D Child is up to date? Y N

9 Do you have your own vaccination card?
 Yes Lost Never received Left at home N/A

If YES, copy the caretaker's tetanus toxoid vaccinations in the table below. If the caretaker's TT doses are recorded on the child's vaccination card, copy them here also.

Immunization	Received
TT-1	Y N
TT-2	Y N
TT-3	Y N
TT-4	Y N
TT-5	Y N

E Caretaker has received at least TT-2? Y N

10 a Did you receive a tetanus vaccination today? N/A Y N
 b If NO, (Prompted question Check a single response)
 Referred for vaccination another day
 Was not given or referred for tetanus vaccination
 Up to date

11 a Were you prescribed any oral medication at your last visit? Y N
 b If YES, where did you go to get your medication?
 The health facility Mission hospital
 Private pharmacy Drug vendor

c Were you able to get the medication? Y N
 If NO, why not?
 No drugs available No money/could not afford
 No source Other

END OF EXIT INTERVIEW

Thank the caretaker for answering your questions and ask if he/she has any questions. Be sure that the caretaker knows how to prepare ORS for a child with diarrhea, when to return for vaccination, how to give the prescribed medications, and when to return if the child becomes worse at home.

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3 HEALTH WORKER INTERVIEW

Province/District _____	HW Category _____	Date ____/____/____
Facility Name _____	Facility Type _____	Facility Status _____
Interviewer No _____		Child ID No _____

Introduce yourself to the health worker Tell him/her that you would like to ask some general questions about the health facility, followed by some questions about his/her job

- 1 Where does the health facility *usually* get medications and supplies? (Check a single response)

<input type="checkbox"/> Government supplier	<input type="checkbox"/> Private pharmacy supplier
<input type="checkbox"/> Community pharmacy	<input type="checkbox"/> NGO/Mission
<input type="checkbox"/> Other (specify) _____	
- 2 How are supplies *usually* received? (Check a single response)

<input type="checkbox"/> Delivered to facility	<input type="checkbox"/> Both
<input type="checkbox"/> Picked up from the supplier	<input type="checkbox"/> Other (specify) _____
- 3 What is the *most common* cause of a delay in delivery of supplies? (Check a single response)

<input type="checkbox"/> Inadequate transport	<input type="checkbox"/> Insufficient fuel
<input type="checkbox"/> Administrative difficulties	<input type="checkbox"/> Insufficient staff
<input type="checkbox"/> Financial problems	<input type="checkbox"/> Rupture of stock at the central store
<input type="checkbox"/> Other (specify) _____	
- 4 Do you have a regular supervisor? Y N
If NO, go to question 9
- 5 Do you have a schedule for supervisory visits? Y N
- 6 How many times have you had a visit from a supervisor—

- In the last 6 months	_____ (number of times)
- In the last 12 months	_____ (number of times)
- Supervisor works here and sees worker daily	_____
- 7 What did your supervisor do the last time he/she supervised you? (Check all that apply)

<input type="checkbox"/> Delivered supplies (fuel medicines etc)
<input type="checkbox"/> Observed immunization technique
<input type="checkbox"/> Observed management of sick children
<input type="checkbox"/> Reviewed reports prepared by health worker
<input type="checkbox"/> Updated health worker on current information
<input type="checkbox"/> Discussed problems with supplies and equipment
<input type="checkbox"/> Other (specify) _____
- 8 a Did you receive feedback from that supervisory session? Y N
 b **If YES**, in what form?

<input type="checkbox"/> Supervisory register	<input type="checkbox"/> Written report
<input type="checkbox"/> Oral report	<input type="checkbox"/> Other (specify) _____
- 9 What are the most difficult problems that you face in doing your job? (Check all that apply)

<input type="checkbox"/> Lack of training	<input type="checkbox"/> Lack of feedback on performance
<input type="checkbox"/> Caretakers don t bring children to clinic	<input type="checkbox"/> Inadequate transport
<input type="checkbox"/> Lack of time	<input type="checkbox"/> Lack of motivation
<input type="checkbox"/> Staff shortages	<input type="checkbox"/> Poor working environment
<input type="checkbox"/> Lack of supplies and/or stock	(health facility housing)
<input type="checkbox"/> Lack of supervision	<input type="checkbox"/> Other (specify) _____
- 10 Have you discussed these problems with your supervisor? N/A Y N
- 11 How many child-health-related training sessions have you received in the last 12 months? _____
If NO training received, go to question 14

Annex A Health Facility Assessment Questionnaires

- 12 What type of training was it? _____
- 13 Did your *last* training involve clinical practice? Y N
- 14 In this clinic at what ages do you give—

(Age in WEEKS but in MONTHS for measles only)

	First	Second	Third	Fourth
DPT				
Polio				
BCG				
Measles				

A EPI vaccination schedule all correct?	Y N
--	------------

- 15 To whom do you give tetanus toxoid? (Check all that apply)
- ___ Doesn't know
- ___ Pregnant women
- ___ Women of childbearing age (15–49)
- 16 On what occasion would you give tetanus toxoid? (Check all that apply)
- ___ Antenatal clinic visit
- ___ Visit for curative services of mother
- ___ Visit with child for immunization or treatment
- 17 On what days are immunizations given? (Circle days)
- M T W Th F Sa Number of immunization days/week _____
- 18 a Does the health facility have an antenatal clinic? Y N
- b If YES, on what days is the clinic held? (Circle days)
- M T W Th F Sa Number of clinic days/week _____
- c If NO, why are antenatal clinics not held? (Check all that apply)
- ___ Doesn't know
- ___ No staff
- ___ No supplies
- ___ No training
- ___ No space available
- ___ Other (specify) _____
- 19 What are the signs that would make you refer a child to the next level of health facility? (Check all that apply)
- ___ Child is lethargic/abnormally sleepy/unconscious
- ___ Child has not responded to usual treatment
- ___ Child is not eating or drinking
- ___ Child has severe dehydration
- ___ Child has severe malnutrition/anemia
- ___ Child has had convulsions
- ___ Child looks very unwell
- ___ Child has a very high fever
- ___ Child vomits everything
- ___ Child has severe pneumonia
- ___ Other (specify) _____

B Health worker knows at least three signs for referral?	Y N
---	------------

- 20 a Have you ever wanted to refer a child to the next level of health facility but have not been able to do so? Y N
- If NO, go to question 21**
- b If YES why could you not refer the child? (Check all that apply)
- ___ Next level of health facility too far
- ___ No transport available
- ___ Parents didn't have enough money
- ___ Caretaker/parents refused to go
- ___ No fuel available
- ___ Other (specify) _____
- 21 What do you see as your role in communicating with caretakers when they bring their child to the health facility? (Check all that apply)
- ___ Giving information on danger signs to watch for
- ___ Giving information on what to do at home
- ___ Giving information on how to give medicine at home
- ___ Finding out what caretakers have done at home and what are the symptoms of the child's illness
- ___ Giving information on how to prevent illness
- ___ Telling caretakers when to come back to the health facility

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Use of an Integrated Health Facility Assessment

- Ensuring that mothers understand what to do at home
- Giving group talks
- Other (specify) _____

22 What prevents you from communicating with caretakers when they bring their children to the health facility?
(Check all that apply)

- I don't know how
- Someone else does it
- They don't listen
- Language barriers prevent effective communication
- I don't have any education materials
- It isn't important
- It isn't really my role
- No time
- They don't understand/comprehend what we say
- Other (specify) _____

END OF HEALTH WORKER INTERVIEW

Thank the health worker for his/her cooperation and answer any questions that he/she may have about the correct recommendations for immunizations or management of sick children

4 EQUIPMENT AND SUPPLIES CHECKLIST

Province/District _____	Date ____/____/____
Facility Name _____	Facility Type _____
Interviewer No _____	Facility Status _____

Category of health staff with child case management responsibilities (curative and preventive)

Category	Number Assigned to the Facility	Number Present the Day of the Survey
Physician		
Nurse		
Midwife		
Health assistant		
Community health worker		

Patient and Worker Accommodation

- | | | |
|---|---|---|
| 1 Is there adequate seating for patients? | Y | N |
| 2 Is there a covered waiting area? | Y | N |
| 3 Is there potable water? | Y | N |
| 4 Is there a <i>functional</i> toilet or latrine? | Y | N |
| 5 Is there a <i>functional</i> waste disposal area/pit? | Y | N |
| 6 a Are health information posters displayed? | Y | N |
| b If YES, are they written in the local language? | Y | N |
| 7 Is an ORT corner present and being used? | Y | N |

Equipment and Supplies

Are the following equipment and supplies present in the health facility?

- | | | | | | |
|----|-------------------------------|---|---|--------------------------|-----|
| 8 | Transportation | | | | |
| | Vehicle | Y | N | If YES in working order? | Y N |
| | Motorcycle | Y | N | If YES in working order? | Y N |
| | Bicycle | Y | N | If YES in working order? | Y N |
| 9 | Social mobilization equipment | | | | |
| | Megaphone | Y | N | If YES in working order? | Y N |
| | Flip-chart | Y | N | If YES in working order? | Y N |
| | Counseling cards/pamphlets | Y | N | If YES in working order? | Y N |
| 10 | Weighing equipment | | | | |
| | Adult weight scale | Y | N | If YES in working order? | Y N |
| | Baby weight scale | Y | N | If YES in working order? | Y N |
| | Salter | Y | N | If YES in working order? | Y N |

Medical Supplies

- | | | | | | |
|----|---|---|---|--------------------------|-----|
| 11 | Thermometer | Y | N | If YES in working order? | Y N |
| 12 | Stethoscope | | | | |
| | - Regular | Y | N | If YES in working order? | Y N |
| | - Obstetrical | Y | N | If YES in working order? | Y N |
| 13 | Otoscope | Y | N | If YES in working order? | Y N |
| 14 | Tongue depressor | Y | N | If YES in working order? | Y N |
| 15 | Watch with a second hand or other timing device | Y | N | If YES in working order? | Y N |

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Use of an Integrated Health Facility Assessment

- | | | | | | | |
|------|--|--------------|--------------|--------------------------|---------------------|-------------|
| 16 | Steam sterilizer | Y | N | If YES in working order? | Y | N |
| 17 | Cooker or stove | Y | N | If YES in working order? | Y | N |
| 18 | Measuring and mixing utensils | | | | Y | N |
| 19 | Cups and spoons | | | | Y | N |
| 20 a | Refrigerator | | | | Y | N |
| | If NO, go to question 21 | | | | | |
| | b If YES— | | | | | |
| | - Type | ___ Electric | ___ Kerosene | ___ Gas | ___ Solar | ___ Mixed |
| | - Condition | ___ Good | ___ Fair | ___ Poor | ___ Nonfunctional | |
| | - Freeze-watch indicator? | | | | | Y N |
| | - Working thermometer inside? | | | | Y N | Temp ___ °C |
| | - Temperature chart? | | | | | Y N |
| | c In the last 30 days temperature record up to date ? | | | | | Y N |
| | - Temperature above 8°C | | | | ___(number of days) | |
| | - Temperature below 0°C | | | | ___(number of days) | |
| 21 | Cold packs | | | | | Y N |
| 22 | Cold boxes | | | | | Y N |
| | Condition | ___ Good | ___ Fair | ___ Poor | ___ Nonfunctional | |

Availability of Drugs and Other Supplies the Day of the Survey (Circle Y or N for each item)

- | Supplies— | Available | | Available | |
|-----------|--|---|-----------|---|
| 23 | Drugs for pneumonia | | | |
| | <i>Penicillin tablets/syrup</i> | Y | N | <i>Ampi/amoxicillin tablets/syrup</i> Y N |
| 24 | Drugs for Shigella | | | |
| | <i>Cotrimoxazole tablets/syrup</i> | Y | N | <i>Nalidixic acid</i> Y N |
| 25 a | Drugs for malaria | | | |
| | <i>Chloroquine tablets</i> | Y | N | <i>Fansidar</i> Y N |
| | b Injectable quinine | | | Y N |
| 26 | Injectable penicillin | | | Y N |
| 27 | Injectable chloramphenicol | | | Y N |
| 28 | Paracetamol | | | Y N |
| 29 | Aspirin | | | Y N |
| 30 | Tetracycline eye ointment | | | Y N |
| 31 | Gentian violet | | | Y N |
| 32 | Iron | | | Y N |
| 33 | Vitamin A | | | Y N |
| 34 | Mebendazole | | | Y N |
| 35 | Sterile water for injection | | | Y N |
| 36 | ORS | | | Y N |
| 37 | IV solution for severe dehydration | | | Y N |
| 38 | Needles | | | Y N |
| 39 | Syringes | | | Y N |
| 40 a | Are expired drugs in the health facility? | | | Y N |
| | b If YES, which ones? _____ | | | |
| | Vaccines— | | | Available |
| 41 | BCG | | | N/A Y N |
| 42 | OPV | | | N/A Y N |
| 43 | DPT | | | N/A Y N |
| 44 | Measles | | | N/A Y N |
| 45 | Tetanus toxoid | | | N/A Y N |
| 46 | Are expired vaccines in the refrigerator? | | | N/A Y N |
| | If YES, which ones? _____ | | | |
| 47 | Are frozen vials of DPT or TT in the refrigerator? | | | N/A Y N |

Annex A Health Facility Assessment Questionnaires

48 Rupture of stock in the last 30 days? Y N
 If YES—

Item	Number of Days of Stock Outs/Last 30 Days
Vaccines	
Syringes/needles	
ORS	
Essential drugs	
Cards/forms	

49 Are drugs and other supplies adequately organized and appropriately stored? Y N

Documentation and Record Keeping

Are the following items present in the health facility?

- | | | |
|---|-------|-----|
| 50 a Immunization register | | Y N |
| b If YES is it up to date? | | Y N |
| 51 Immunization tally sheets | | Y N |
| 52 Stock of vaccination/child health cards | | Y N |
| 53 Stock of TT/maternal health cards | | Y N |
| 54 Stock of essential drugs cards | | Y N |
| 55 Notifiable disease report forms | | Y N |
| 56 a All essential monthly reporting forms | | Y N |
| b If YES are they up to date? | | Y N |
| 57 a Is a patient register kept? | | Y N |
| b If YES is it up to date? | | Y N |
| 58 Number of patients seen in last month | _____ | |
| 59 Number of patients 0–4 years of age seen in last month | _____ | |
| 60 Average number of patients seen per day | _____ | |

END OF EQUIPMENT AND SUPPLIES CHECKLIST

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5 VALIDATION CHECKLIST (HEALTH WORKER PERFORMANCE)

Province/District _____	HW Category _____	Date ____/____/____
Facility Name _____	Facility Type _____	Facility Status _____
Interviewer No _____	Child's Age (months) _____	Child ID No _____

Does the caretaker report—		Are these signs present?	
Danger signs		Lethargic or unconscious?	Y N
Not able to drink or breastfeed?	Y N	Restless or irritable?	Y N
Vomits everything?	Y N		
Convulsions	Y N		
Diarrhea?	Y N	Child drinking or breastfeeding?	Eagerly Poorly
What is the duration of the diarrhea?	_____	Skin pinch on abdomen	
Is there blood in the stool?	Y N	goes back?	Slowly Very slowly
		Sunken eyes?	Y N
Cough or difficult breathing?	Y N	Number of breaths/minute?	_____
What is the duration of the ARI?	_____	Chest indrawing?	Y N
Fever?	Y N	Stiff neck?	Y N
What is the duration of the fever?	_____	Generalized rash?	Y N
		Cough runny nose or red eyes?	Y N
Ear problem?	Y N	Pus from ear?	Y N
Ear pain?	Y N	Swelling behind ear?	Y N
Ear discharge?	Y N		
If YES, duration?	_____		
		Malnutrition	
		Visible wasting?	Y N
		Palmar or conjunctival pallor?	Y N
		Edema of both feet?	Y N
		Low weight for age?	Y N
Immunizations up to date?	Y N		

Annex A Health Facility Assessment Questionnaires

Supervisor classification					
Simple diarrhea	Y	N	Very severe febrile disease	Y	N
No dehydration	Y	N	Malaria	Y	N
Some dehydration	Y	N	Severe complicated measles	Y	N
Severe dehydration	Y	N	Measles (eye and mouth signs)	Y	N
Dysentery	Y	N	Measles	Y	N
Persistent diarrhea	Y	N	Fever other cause (specify)	Y	N
Severe persistent diarrhea	Y	N	_____		
Severe pneumonia	Y	N	Mastoiditis	Y	N
Pneumonia	Y	N	Acute ear infection	Y	N
No pneumonia cough or cold	Y	N	Chronic ear infection	Y	N
Severe malnutrition or anemia	Y	N			
Anemia or very low weight	Y	N			

Supervisor treatment					
Immediate referral?	Y	N			
Antimalarial injection	Y	N	ORS/RHF	Y	N
Antimalarial tablets/syrup	Y	N	Antidiarrheal/antimotility	Y	N
Paracetamol/aspirin	Y	N	Metronidazole tablet/syrup	Y	N
Tepid bath	Y	N	Tablet/syrup unknown type	Y	N
Antibiotic injection	Y	N	Injection unknown type	Y	N
Antibiotic tablets/syrup	Y	N	Other (specify) _____	Y	N
Vitamin A or vitamins	Y	N	None	Y	N

Annex B: Definitions of Key Indicators

1 PROPORTION OF CHILDREN SCREENED FOR SEVERE ILLNESS

Definition

Numerator The number of sick children who were screened for severe illness

Denominator The total number of sick children

Important Terms

Screened for Severe Illness All sick children should be checked for (1) ability to drink or breastfeed, (2) whether they are vomiting everything, (3) whether they have had convulsions, (4) whether they are lethargic or unconscious. Effective screening requires that all four of these tasks be performed.

Discussion

Children demonstrating the signs of severe illness are at increased risk of death and should be referred immediately to the next level health facility. For program planning, it is often useful to disaggregate this indicator in order to see which screening tasks were usually performed and which were not. Individual screening tasks may need to be targeted through supervision or training.

2 PROPORTION OF CHILDREN WHOSE CARETAKERS WERE ASKED ALL KEY HISTORY QUESTIONS

Definition

Numerator The number of sick children whose caretakers were asked all key history questions

Denominator The total number of sick children

Important Terms

Key History Questions The caretakers of all sick children should be asked about the main presenting symptoms for each of the most important causes of morbidity and mortality: (1) Does the child have cough or difficult breathing? (for ARI), (2) Does the child have diarrhea? (for watery diarrhea, dysentery, or persistent diarrhea), (3) Does the child have fever? (for malaria, meningitis, or measles), (4) Does the child have an ear problem? (for acute or chronic ear infection). Effective screening requires that all four of these history questions be asked. This measure does not include other history questions required for the appropriate classification of illness, such as the duration of each of these symptoms and, for diarrhea, whether or not there is a history of bloody diarrhea.

Discussion

Since sick children often have more than one illness at the same time, all children should be screened for the most important causes of morbidity and mortality. Children with multiple complaints need to be assessed for each and managed appropriately. For program planning, it is often useful to disaggregate this indicator in order to see which history questions are usually performed and which are not. Individual elements may need to be targeted through supervision or training.

3 PROPORTION OF ASSESSMENT TASKS COMPLETED FOR SICK CHILDREN WITH A COMPLAINT OF ARI

Definition

Numerator The number of assessment tasks completed for sick children with a complaint of ARI

Denominator The total number of assessment tasks required for sick children with a complaint of ARI

Important Terms

Assessment Tasks for ARI If the caretakers of sick children give a history of ARI, the assessment involves asking a key history question and conducting key examination tasks, as follows (1) Ask about the duration of the symptoms, (2) count the breaths in one minute (3) look for chest indrawing, (4) look and listen for stridor If four examination tasks are required for each sick child, the denominator for this indicator becomes the number of sick children with a complaint of ARI multiplied by 4

Discussion

Correct assessment is required in order to classify and treat children appropriately This indicator, which measures the proportion of the required assessment tasks that are completed for ARI, may be useful for program planning since it indicates which tasks are not performed routinely These tasks can be targeted directly through supervision or training It may also be useful for demonstrating change in health worker performance over time since health workers may progressively increase the proportion of essential tasks that are completed

4 PROPORTION OF ASSESSMENT TASKS COMPLETED FOR SICK CHILDREN WITH A COMPLAINT OF DIARRHEA

Definition

Numerator The number of assessment tasks completed for sick children with a complaint of diarrhea

Denominator The total number of assessment tasks required for sick children with a complaint of diarrhea

Important Terms

Assessment Tasks for Diarrhea If the caretakers of sick children give a history of diarrhea, the assessment involves asking key history questions and conducting key examination tasks, as follows (1) Ask about the duration of the symptoms, (2) ask about a history of bloody diarrhea, (3) look at skin turgor on the abdomen (minimum examination requirement), (4) look for sunken eyes, (5) assess how the child is drinking, (6) assess the child's general condition (lethargic or unconscious, restless or irritable) If six assessment tasks are required for each sick child, the denominator for this indicator becomes the number of sick children with a complaint of diarrhea multiplied by 6

Discussion

Correct assessment is required in order to classify and treat children appropriately This indicator, which measures the proportion of the required assessment tasks that are completed for diarrhea, may be useful for program planning since it indicates which tasks are not performed routinely These tasks can be directly targeted through supervision or training It may also be useful for demonstrating change in health

worker performance over time since health workers may progressively increase the proportion of essential tasks that are completed

5 PROPORTION OF ASSESSMENT TASKS COMPLETED FOR SICK CHILDREN WITH A COMPLAINT OF FEVER

Definition

Numerator The number of assessment tasks completed for sick children with a complaint of fever
Denominator The total number of assessment tasks required for sick children with a complaint of fever

Important Terms

Assessment Tasks for Fever If the caretakers of sick children give a history of fever, the assessment involves asking a key history question and conducting key examination tasks, as follows (1) Ask about the duration of the symptoms, (2) look for runny nose (minimum examination requirement), (3) look for stiff neck, (4) look for a generalized rash, cough, or red eyes If four assessment tasks are required for each sick child, the denominator for this indicator becomes the number of sick children with a complaint of fever multiplied by 4

Discussion

Correct assessment is required in order to classify and treat children appropriately This indicator, which measures the proportion of the required assessment tasks that are completed for fever, may be useful for program planning since it indicates which tasks are not performed routinely These tasks can be directly targeted through supervision or training It may also be useful for demonstrating change in health worker performance over time, since health workers may progressively increase the proportion of essential tasks that are completed

6 PROPORTION OF SICK CHILDREN WHO HAD NUTRITIONAL STATUS ASSESSED

Definition

Numerator The number of sick children who had their nutritional status assessed
Denominator The total number sick children

Important Terms

Assessment of Nutritional Status All sick children should have their nutritional status assessed The key assessment tasks are (1) look for visible wasting, (2) determine weight for age, and (3) look for palmar or conjunctival pallor (minimal requirement), should also include (4) look for edema of both feet

Discussion

Correct assessment of nutritional status is required for all sick children regardless of their presenting complaint This indicator is an aggregate measure and may be universally low in countries beginning the development of integrated programs For program planning, it is often useful to disaggregate this indicator in order to look at how well health workers perform each of the assessment tasks These tasks can be directly targeted through supervision or training

7 PROPORTION OF SICK CHILDREN WHOSE WEIGHT WAS PLOTTED ON A GROWTH CHART

Definition

Numerator The number of sick children whose weight was plotted on a growth chart
Denominator The total number sick children

Important Terms

Weight Plotted on a Growth Chart For this to be carried out, the child must be weighed and the weight entered on a weight-for-age chart

Discussion

An assessment of weight for age is required for all sick children regardless of their presenting complaint as part of a nutritional assessment. For program planning, it is often useful to disaggregate this indicator in order to look at whether health workers are weighing children at all. Program interventions may need to encourage health workers to weigh children before they can begin to learn how to plot the weight on a growth chart. This indicator does not measure how effectively health workers interpret the information recorded on the growth chart.

8 PROPORTION OF CHILDREN WHO HAD THEIR VACCINATION CARD CHECKED AT THE TIME OF THE SICK CHILD VISIT

Definition

Numerator The number of sick children whose caretakers were asked for the child's vaccination card at the time of the sick child visit
Denominator The total number sick children

Important Terms

Vaccination Card A card used to record vaccinations received by infants and children, kept at home by the caretaker. In many countries, this card also includes a growth monitoring chart, space for recording tetanus toxoid (TT) vaccinations for women of reproductive age, and space for recording doses of vitamin A.

Discussion

All infants and children should have their vaccination status checked at the time of any facility visit. If infants and children are eligible for vaccination, they should receive it on the same day or, barring that, be referred to the next vaccination session. Caretakers without vaccination cards should be encouraged to bring them at every facility visit and referred to the next vaccination clinic. This indicator measures only whether health workers are screening the vaccination status of infants and children, not whether they act on this information appropriately.

9 PROPORTION OF SICK INFANTS AND CHILDREN NEEDING A VACCINATION WHO RECEIVE IT ON THE DAY OF THE FACILITY VISIT OR ARE REFERRED TO THE NEXT VACCINATION CLINIC

Definition

Numerator The number of sick infants and children needing a vaccination who receive it on the day of the facility visit or are referred to the next vaccination clinic

Denominator The number sick children needing a vaccination

Important Terms

Needing a Vaccination The standard vaccination schedule for infants is as follows Birth, BCG and OPV-0, 6 weeks, DPT-1 and OPV-1, 10 weeks, DPT-1 and OPV-2, 14 weeks, DPT-3 and OPV-3, 9 months, measles

Discussion

All infants and children should have their vaccination status checked at every facility visit. If infants and children are eligible for vaccination, they should receive it on the same day or, barring that, be referred to the next vaccination session. Caretakers without vaccination cards should be encouraged to bring them at every facility visit and referred to the next vaccination clinic.

10 PROPORTION OF WOMEN WHO HAD THEIR VACCINATION CARD CHECKED AT THE TIME OF THE SICK CHILD VISIT

Definition

Numerator The number of caretakers of sick children who were asked for their vaccination card at the time of the sick child visit

Denominator The total number of caretakers

Important Terms

Vaccination Card A card used to record vaccinations received by women of childbearing age, kept at home by the woman. In some countries, the TT vaccination card may be included on the child's health card.

Discussion

All women of childbearing age should have their vaccination status checked at every facility visit. If women of childbearing age are eligible for vaccination, they should receive it on the same day or, barring that, be referred to the next vaccination session. Caretakers without vaccination cards should be encouraged to bring them at every facility visit and referred to the next vaccination clinic. This indicator measures only whether health workers assess the vaccination status of women attending the facility with their sick child, not whether they act on this information appropriately.

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11 PROPORTION OF SICK CHILDREN WHO WERE TREATED APPROPRIATELY FOR THE DIAGNOSIS MADE BY THE HEALTH WORKER

Definition

- Numerator The number of sick children who received appropriate medication for the diagnosis made by the health worker
- Denominator The total number sick children

Important Terms

Appropriate Medication All sick children should be classified or given a diagnosis by the health worker. The basic health facility assessment does not validate the health worker diagnosis, so it is not possible to determine whether the diagnosis made by the health worker is correct according to a standard case-management protocol. Once the health worker has decided on a diagnosis, however, they usually decide on a treatment strategy. Common guidelines for treatment of the common causes of childhood morbidity and mortality are as follows:

Any severe illness immediate referral

Simple (watery) diarrhea ORS or a recommended home fluid (RHF)

Bloody diarrhea (dysentery) antimicrobial agent (according to local susceptibility pattern, commonly co-trimoxazole, ampicillin, or nalidixic acid)

Pneumonia antimicrobial agent (according to local susceptibility pattern, commonly co-trimoxazole or amoxicillin)

Fever (malaria) antimalarial agent (according to local susceptibility pattern, commonly chloroquine), antipyretic agent (commonly aspirin or paracetamol)

Fever and rash (measles) vitamin A capsules, antipyretic agent, sometimes antibiotic

Anemia or very low weight ferrous sulfate, mebendazole, may include an oral antimalarial agent

Discussion

Health workers should treat each sick child appropriately on the basis of their classification or diagnosis of the child. Appropriate treatment guidelines based on international (IMCI) standards should be incorporated into national treatment guidelines in each country. This indicator is an aggregate measure and does not give information on all of the underlying diagnoses made by health workers. For program planning, it is often useful to disaggregate this indicator in order to look at how well health workers perform each of the most important classifications (see indicators 12–14). Treatment of these conditions may need to be directly targeted through supervision or training. The classification and treatment of sick children can be compared to the “gold standard” IMCI classification and treatment as determined by a validator who re-examines each sick child (see indicators 24 and 25).

12 PROPORTION OF CHILDREN WITH DIARRHEA WHO WERE TREATED APPROPRIATELY

Definition

Numerator The number of sick children who were diagnosed with diarrhea by the health worker and who received ORS or an RHF

Denominator The total number sick children with a diagnosis of diarrhea

Important Terms

Diagnosis of Diarrhea All sick children classified by the health worker with simple (watery) diarrhea on the basis of examination of the skin turgor, mucous membranes, sunkenness of the eyes, ability of the child to drink, and conscious state of the child

Treated Appropriately Cases of simple diarrhea should be given ORS or an RHF. Antimicrobials or antimotility agents are not indicated.

Discussion

Health workers should treat each sick child appropriately on the basis of their classification or diagnosis of the child. Appropriate treatment guidelines, based on international standards, should be incorporated into national treatment guidelines in each country. This indicator does not investigate whether or not fluid is given under supervision at the health facility. Health workers can prescribe the fluid or give it directly to the caretaker of the sick child. The indicator on counseling/treatment information (indicator 16) investigates whether or not caretakers are instructed in how to mix and administer the fluid at home. Health worker training or supervision can target the treatment of diarrhea if necessary, including the establishment and use of an ORT corner. The classification and treatment of sick children with diarrhea can be compared to the “gold-standard” IMCI classification and treatment as determined by a validator who reexamines each sick child (see indicators 24 and 25).

13 PROPORTION OF CHILDREN WITH PNEUMONIA WHO WERE TREATED APPROPRIATELY

Definition

Numerator The number of sick children who were diagnosed with pneumonia by the health worker and who received an appropriate antibiotic

Denominator The total number sick children with a diagnosis of pneumonia

Important Terms

Diagnosis of pneumonia All sick children classified by the health worker with a lower respiratory tract infection on the basis of examination of the upper airway and counting the respiratory rate

Treated Appropriately All lower respiratory tract infections should be treated with an appropriate antimicrobial (usually co-trimoxazole or amoxicillin). Upper respiratory tract infections should not receive an antimicrobial.

Discussion

Health workers should treat each sick child appropriately on the basis of their classification or diagnosis of the child. Appropriate treatment guidelines, based on international standards, should be incorporated into national treatment guidelines in each country. Health workers can give or prescribe the drug to the

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caretaker of the sick child. The indicator on counseling/treatment information (indicator 15) investigates whether or not caretakers are instructed in how to administer the antimicrobial at home. Health worker training or supervision can target the treatment of ARI if necessary. The classification and treatment of sick children with ARI can be compared with the “gold standard” IMCI classification and treatment as determined by a validator who reexamines each sick child (see indicators 24 and 25).

14 PROPORTION OF CHILDREN WITH MALARIA WHO WERE TREATED APPROPRIATELY

Definition

Numerator The number of sick children who were diagnosed with malaria by the health worker and who received an appropriate antimalarial
Denominator The total number sick children with a diagnosis of malaria

Important Terms

Diagnosis of Malaria All sick children classified by the health worker with probable malaria on the basis of clinical signs and the local epidemiology of malaria

Treated Appropriately All cases of malaria should be treated with an appropriate antimalarial (usually chloroquine) and an antipyretic agent

Discussion

Health workers should treat each sick child appropriately on the basis of their classification or diagnosis of the child. Appropriate treatment guidelines, based on international standards, should be incorporated into national treatment guidelines in each country. Health workers can give or prescribe the drug to the caretaker of the sick child. Indicator 16 investigates whether caretakers are instructed in how to administer the antimicrobial at home. Health worker training or supervision can target the treatment of malaria if necessary. The classification and treatment of sick children with malaria can be compared with the “gold standard” IMCI classification and treatment as determined by a validator who reexamines each sick child (see indicators 24 and 25).

15 PROPORTION OF TREATMENT COUNSELING TASKS COMPLETED FOR SICK CHILDREN

Definition

Numerator The total number of treatment counseling tasks completed for sick children
Denominator The total number of treatment counseling tasks required for all sick children

Important Terms

Treatment Counseling Tasks The caretakers of all sick children who are given or prescribed treatment by the health worker should be appropriately counseled on how to administer the treatment at home. These tasks should include (1) explaining how to administer an oral medication at home, (2) demonstrating how to give the oral medication at home, and (3) asking the caretaker questions to verify whether or not he or she has understood. If three treatment counseling tasks are required for each sick child given treatment, the denominator becomes the number of sick children given treatment multiplied by 3.

Discussion

Correct treatment counseling is critical to ensuring that sick children are treated appropriately at home. The three counseling tasks that this indicator comprises are the essential minimum tasks required to improve home treatment. This indicator may be useful for program planning since it can show which counseling tasks are not performed routinely. These tasks can be targeted directly through supervision or training. It may also be useful for demonstrating change in health worker performance over time since health workers may progressively increase the proportion of essential tasks that are completed.

16 PROPORTION OF SICK CHILDREN WHOSE CARETAKERS ARE GIVEN COUNSELING ON THE NEED TO GIVE FLUIDS AT HOME

Definition

Numerator The number of sick children whose caretakers are given counseling on the need to give more fluids at home
Denominator The total number of sick children

Important Terms

Counseling on Fluids The caretakers of all sick children should be appropriately counseled on the need to give more fluids during the child's illness. Counseling tasks should include the need to (1) breastfeed more frequently and for longer at each feed (for breastfeeding infants and children) and (2) increase other fluids such as soup, rice water, yoghurt drinks, or clean water.

Discussion

All sick children should increase their fluid intake during illness to avoid dehydration. This is particularly true for diarrheal illnesses but also for other illnesses that may make children anorexic and less likely to drink. Appropriate counseling is critical to helping caretakers understand the need to increase fluids at home. Fluid counseling tasks can be targeted directly through supervision or training.

17 PROPORTION OF SICK CHILDREN WHOSE CARETAKERS ARE GIVEN COUNSELING ON THE NEED TO CONTINUE FEEDING BOTH DURING AND AFTER THE CHILD'S ILLNESS

Definition

Numerator The number of sick children whose caretakers are given counseling on the need to continue feeding both during and after the child's illness
Denominator The total number of sick children

Important Terms

Counseling on Feeding The caretakers of all sick children should be appropriately counseled on the need to continue feeding both during and after illness. Counseling should be based on a simple nutritional assessment that asks about breastfeeding (frequency and whether it is done at night) and other foods (types of foods, frequency, and whether the child is fed actively or passively). Key counseling tasks should include (1) an explanation of the frequency of breastfeeding (if appropriate), (2) an explanation of

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the types of food that should be given, their frequency, and how to actively feed the child, and (3) other specific counseling, if required (for example, for persistent diarrhea)

Discussion

All sick children should increase their food intake during and after illness to avoid undernutrition. This is particularly true for diarrheal illnesses but also for other illnesses that may make children anorexic. A number of studies suggest that diarrheal illness in childhood contributes to secondary malnutrition and that both continued feeding during the illness and increased feeding during the convalescent phase are important in reducing this nutritional impact. There are also data suggesting that any illness in children is likely to reduce caloric intake and predispose the child to malnutrition following each illness episode. Continued breastfeeding during diarrhea shortens duration and reduces the risks of dehydration and growth faltering due to diarrhea. Continued feeding maintains the activity of intestinal digestive enzymes during illness, promoting nutrient absorption, this, in turn, prevents nutritional deterioration and possibly lack of appetite.

18 PROPORTION OF SICK CHILDREN WHOSE CARETAKERS ARE GIVEN APPROPRIATE COUNSELING ON DANGER SIGNS OF WHEN TO RETURN IMMEDIATELY

Definition

Numerator The number of sick children whose caretakers are given appropriate counseling on danger signs of when to return immediately

Denominator The total number of sick children

Important Terms

Counseling on Danger Signs The caretakers of all sick children should be appropriately counseled on the danger signs that require that they return immediately to the health facility. These should include the following: (1) for all sick children— inability to drink or breastfeed, worsening of illness, development of fever, (2) for children with simple URTI— development of fast or difficult breathing, (3) for children with diarrhea— development of blood in the stool, drinking poorly. This indicator can be scored according to local guidelines. In some countries, appropriate counseling for danger signs has been defined as giving at least two signs for immediate return.

Discussion

Any sick child that develops signs of a severe or worsening illness at home should be brought immediately to the health facility, since this may require a change in therapy or immediate referral. Caretakers are likely to recognize simple and nonspecific signs of severe illness at home.

19 PROPORTION OF HEALTH WORKERS WHO SEE SICK CHILDREN AND WHO HAVE RECEIVED TRAINING IN A CHILD HEALTH TOPIC IN THE LAST ONE TO THREE YEARS

Definition

Numerator The number of health workers who see sick children who received appropriate training on a child health topic in the previous one to three years

Denominator The total number of health workers who see sick children

Important Terms

Appropriate Training Training should involve the use of standard case management (SCM) for the management of the common causes of morbidity and mortality. SCM uses a clinical algorithm to assess, classify, and treat sick children and does not require diagnostic facilities. SCM guidelines should be based on international standards as recommended by WHO. Training should involve clinical practice and last at least three days.

Child Health Topic Child health topics could include expanded program on immunization (EPI), control of diarrheal diseases (CDD), ARI, malaria, malnutrition, measles, and IMCI.

Discussion

Health workers who are responsible for seeing sick children at outpatient facilities need appropriate training in order to improve their technical knowledge and clinical practice. Training is rarely sufficient, on its own, to change health worker practice, since there are a number of other factors that can influence practice, such as the availability of essential equipment and supplies, facility organization, and supervision. Country training programs need to decide on the appropriate frequency of training required for health workers. In some countries, refresher training is required every 12 months.

20 PROPORTION OF HEALTH WORKERS WHO SEE SICK CHILDREN AND HAVE RECEIVED AT LEAST ONE SUPERVISORY VISIT IN THE LAST SIX MONTHS

Definition

Numerator The number of health workers who see sick children and have received at least one supervisory visit in the last six months

Denominator The total number of health workers who see sick children

Important Terms

Supervisory Visit Supervisors should visit health facilities periodically in order to review the practice of health workers, solve problems, and provide support to health staff. Effective supervision usually requires at least the following elements: (1) observation of health worker practice in using a checklist, (2) review of the facility supports (drugs, equipment and supplies), (3) interviews with health staff, (4) feedback of the findings to health staff, and (5) individual and group discussions for problem solving.

Discussion

Regular and supportive supervision, with an emphasis on observing health worker practice and problem solving, is essential to improving and sustaining health worker performance. Country programs often define the desired frequency of supervision according to local circumstances. Countries developing integrated maternal and child health programs usually support this process by developing integrated supervisory checklists. This indicator measures the frequency of supervisory visits, not the quality of supervision provided.

21 PROPORTION OF HEALTH FACILITIES THAT HAVE EXPERIENCED AT LEAST ONE STOCK-OUT OF ESSENTIAL DRUGS IN THE PREVIOUS MONTH

Definition

Numerator The number of health facilities that have experienced at least one stock-out of essential drugs in the previous month

Denominator The total number of health facilities

Important Terms

Stock-Out Absence of an item of stock at the health facility Children coming to the health facility during this period would be unable to receive this agent A recall period of 30 days is usually used to reduce recall bias If an item of stock was unavailable for 1 or more days during this 30-day period, it is classified as a stock-out

Essential Drugs Usually defined by the national primary health care program and the national pharmacy A minimum package of essential medications has been defined by WHO to support the implementation of IMCI This package includes a limited number of antimicrobials (for ARI, dysentery, measles, acute ear infection), antimalarials (intramuscular quinine, chloroquine), antipyretic agents (paracetamol, aspirin), ORS (for diarrhea), vitamin A (for measles, severe malnutrition), ferrous sulfate (for anemia or very low weight), mebendazole (for anemia or very low weight), tetracycline eye ointment (for measles), gentian violet (for mouth ulcers) The final package of essential medications must be defined by each country program according to local guidelines

Discussion

The package of essential medications should always be available for the treatment of sick children One day or more without stock is considered to be a failure of the ordering, procurement, or distribution system that needs to be improved This information can be obtained directly from a stock card in countries where they are routinely used If stock cards are not used, it is obtained by interviewing the health worker in charge of drug management This indicator usually counts expired medications as “not available”

22 PROPORTION OF CHILDREN RECEIVING ORAL THERAPY WHOSE CARETAKERS KNOW HOW TO ADMINISTER THE TREATMENT CORRECTLY

Definition

Numerator The number sick children receiving oral medications whose caretakers know how to administer the treatment correctly

Denominator The total number of sick children receiving oral medications

Important Terms

Oral Medications Could include any tablet, capsule, or syrup given or prescribed in the health facility, including ORS or an RHF

Correct Administration of Treatment For most medications, caretakers need to know how many tablets or capsules to take each time they give the medication, how many times a day to give the medication, and how many days to continue the treatment To be classified as “correct,” they must perform each of these

elements correctly International treatment guidelines for the most common medications are available from WHO

Discussion

Caretaker knowledge of how to give treatment appropriately is an essential requirement for correct home treatment This information is usually collected by asking the caretaker directly when he or she leaves the facility with the child (exit interview) To assist with recall of the dosing, caretakers are often shown examples of the tablets or capsules that they have been prescribed and asked to demonstrate how they will give the medication at home This measure is a proxy measure for correct treatment in the home

23 PROPORTION OF CARETAKERS OF SICK CHILDREN WHO KNOW AT LEAST TWO SIGNS FOR SEEKING CARE IMMEDIATELY

Definition

Numerator The number of caretakers of sick children who know at least two signs for seeking care immediately

Denominator The total number of caretakers of sick children

Important Terms

Signs for Seeking Care Immediately Caretakers of all sick children should be aware of the danger signs that require that they seek care immediately These should include the following (1) for all sick children—inability to drink or breastfeed, worsening of illness, development of fever, (2) for children with simple URTI—development of fast or difficult breathing, (3) for children with diarrhea—development of blood in the stool, drinking poorly This indicator can be scored according to local guidelines In many countries, appropriate knowledge of danger signs has been defined as giving at least two signs for immediate return

Discussion

Children demonstrating the signs of severe illness in the home are at increased risk of death and should be taken to a health facility immediately In the absence of treatment, mortality from pneumonia, malaria, and dysentery has been demonstrated to be high For example, data from Nepal indicate that untreated pneumonia had a rapid course, with an average interval between the appearance of fast breathing and death of three to five days Other studies have reported even shorter intervals, especially in infants Effective treatment can be provided by a variety of groups and individuals in communities, and it is important that these health providers have the skills to correctly manage sick infants and children The first step in the provision of effective treatment requires that caretakers seek appropriate care for their infant or child Data from Bolivia indicate that a high proportion of mothers of infants and children who had died did not recognize that their children were unwell until they were close to death There is evidence that caretakers are more likely to recognize simple signs of illness, such as rash (measles) and generalized convulsions, than they are to recognize symptom complexes For program planning, it is often useful to disaggregate this indicator in order to see which screening tasks were usually performed and which were not Individual screening tasks may need to be targeted through supervision or training

Indicators in Which Validation Is Performed

24 PROPORTION OF SICK CHILDREN CLASSIFIED CORRECTLY

Definition

Numerator The number of sick children classified correctly according to a “gold standard” classification

Denominator The total number of sick children

Important Terms

Classified Correctly A health worker must give a sick child the same classification as that of the validator conducting a reexamination of the same sick child using the IMCI algorithm. The validator classification using a standard protocol is considered to be a gold standard classification and as close to the actual diagnosis as it is possible to get in the outpatient setting. If the child has multiple classifications, the health worker must classify all of these correctly to be considered correct.

Discussion

Correct classification is required in order to decide on the most appropriate treatment. This indicator requires that screening and assessment tasks have been performed correctly, and it therefore may not demonstrate change until these other preliminary tasks have been mastered. In addition, correct classification may not be possible if the health worker does not have some items of essential equipment, such as a timing device for counting respiratory rate or a weighing scale for determining weight for age.

25 PROPORTION OF SICK CHILDREN TREATED CORRECTLY

Definition

Numerator The number of sick children treated correctly according to a “gold standard” classification

Denominator The total number of sick children

Important Terms

Treated Correctly A health worker must give a sick child the same treatment as that of the validator conducting a reexamination, which is based on a classification using the IMCI protocol and is considered to be as close to the correct treatment as it is possible to get in the outpatient setting. It is assumed that sick children who are treated correctly at the health facility and at home will be more likely to survive the illness. If the child has multiple classifications, the health worker must treat all of these correctly in order to be considered correct. This measure does not require that the health worker has classified the sick child correctly. It is likely, however, that children treated correctly will also have been classified correctly.

Discussion

Correct treatment is based on a correct classification using the IMCI protocol. This indicator assumes that screening, assessment, and classification tasks have been performed correctly, and it therefore may

Annex B Definitions of Key Indicators

not demonstrate change until these other preliminary tasks have been mastered. In addition, correct treatment may not be possible if the health worker does not have essential drugs or supplies (such as needles or syringes). It may be useful to disaggregate this indicator into subcategories in order to investigate where problems are occurring. For example, treatment of severe illness, pneumonia, or simple diarrhea can be analyzed separately.

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