

User's Guide for the *Pneumonia Care Assessment Toolbox*

April 1998

PVO Child Survival Support Program (CSSP)
The Johns Hopkins University School of Public Health (JHSPH)
in collaboration with USAID/BHR/PVC

The PVO Child Survival Support Program (CSSP) is operated by The Johns Hopkins University School of Hygiene and Public Health and is funded by the U S Agency for International Development Bureau for Humanitarian Response Office of Private and Voluntary Cooperation, Child Survival and Health (USAID/BHR/PVC/CSH) under Contract FAO-C-00-93-00010-00



The User's Guide was prepared for CSSP by William Weiss



User's Guide for the *Pneumonia Care Assessment Toolbox* April 1998

TABLE OF CONTENTS

CHAPTER 1 - INTRODUCTION	1
WHAT is the Pneumonia Care Assessment Toolbox?	1
General Objective	1
Specific Objectives	2
WHY a User's Guide?	3
Purposes	3
Who is this guide for?	3
CHAPTER 2 - COORDINATION AND MANAGEMENT	4
WHO to involve and what are their roles?	4
Who to involve?	5
Roles?	5
WHAT are the tasks?	7
Planning	7
Preparations	10
Implementation	11
WHERE to carry out the PCA Toolbox?	12
WHEN to carry out the PCA Toolbox?	13
WHY carry out the PCA Toolbox?	14
CHAPTER 3 - ANALYSIS	15
SUMMARIZE Conclusions of Each Tool	15
Quality of Care	15
Adequate Access	17
Care-Seeking Practices	18
SELECT a Strategy	19
Quality of Care	20
Adequate Access	22
Care-Seeking Practices	22
DEVELOP an Action Plan	22
Feedback to decision-making group(s)	23
Select project objectives and indicators	24
Determine next steps to accomplish each objective	25

APPENDICES

- A WHO Protocol for ARI Case Management
- B USAID Protocol for PCM (DIP Guidelines)
- C Background on PCA Toolbox
- D Suggestions for Training and Using the PCA Toolbox
- E Scheduling the PCA Toolbox

CHAPTER 1

WHAT is the Pneumonia Care Assessment Toolbox?

INTRODUCTION

The Pneumonia Care Assessment (PCA) Toolbox is a set of easy to use assessment methods or tools. Staff of a Child Survival or a maternal and child health project can use the PCA Toolbox to rapidly assess how childhood pneumonia is cared for in project communities. More specifically, the tools enable project staff and counterparts to assess the three dimensions of a community pneumonia case management intervention:

- Quality of care,
- Access to care, and,
- Caretaker practices

Each tool utilizes a different method to assess key aspects of pneumonia care. The PCA Toolbox, as a set, provides project managers with information useful for developing action plans to improve the care of children in the project area who have pneumonia.

Note Appendices A, B, and C provide essential reading for those persons considering using the PCA Toolbox. Facilitators who are deciding on whether to use the PCA Toolbox should read Appendices A, B, and C before beginning any planning.

General Objective

That the detailed implementation plans (DIP) of PVO Child Survival projects - with a pneumonia case management intervention - will describe the current situation and what the project plans to do to improve the following:

(1) *Quality of care* - The DIP will describe the status of training, practice and supervision of health workers treating childhood pneumonia and the status of supplies of essential antibiotics, the DIP will also describe the project's plans to improve quality of care.

(2) *Access to care* - The DIP will describe the current access of project communities to health workers with adequate training, supervision and supplies of essential antibiotics, the DIP will also describe plans to improve access, if needed.

Specific Objectives

(3) *Caretaker practices* - The DIP will describe caretakers' beliefs and how they care for a child with pneumonia, the DIP will also describe the project's plans to improve caretakers' prompt recognition of signs of pneumonia in children, immediate care seeking for children with pneumonia signs from appropriate health workers, and compliance with a health workers' treatment instructions

Staff of PVO Child Survival projects with pneumonia case management interventions will do the following, with the aid of the PCA Toolbox

(1) *assess* the quality of care given by health workers who treat children from the beneficiary population who have acute respiratory infections,

(2) *assess* the level of access of the beneficiary population to health workers with the authority to treat childhood pneumonia,

(3) *assess* health practices of mothers in the beneficiary population for children with pneumonia,

(4) *identify* specific areas for improvement in quality of care, access and caretaker practices for pneumonia,

(5) *establish* priorities of action to improve pneumonia care for children in the beneficiary population (for example, assure quality of care before educating families about the importance of seeking medical treatment for a child with pneumonia signs),

(6) *investigate and determine* the root causes of identified problems,

(7) *develop* an action plan to address root causes of identified problems and *incorporate* plan into the DIP, and,

(8) *monitor* the implementation of the action plan (Is the intervention being carried out as planned? Are the levels of quality, access and appropriate caretaker practices improving? Are more children being treated for pneumonia from all age groups and gender? How do you know?)

WHY a User's Guide?

Purposes

This User's Guide has been developed to provide practical guidance on how to use the Pneumonia Care Assessment (PCA) Toolbox. It provides the following:

- 1 Guidance on when to use the tools within a project lifeline,
- 2 Key technical references,
- 3 Suggestions on how to coordinate carrying out the tools,
- 4 Suggestions on how to develop strategies for improving pneumonia care after analysis of the results of each individual.

Who is this guide for?

This User's Guide has been developed for managers of PVO Child Survival (or other maternal and child health) projects and for the technical staff working at PVO headquarters who backstop these projects.

Consultants working for PVOs may also find this guide helpful when planning activities to evaluate projects or help with project design.

The PCA Toolbox was designed for use at the district level and below. District Health Managers and Teams may also find this guide and the PCA Toolbox useful for developing plans to improve care of childhood pneumonia within the district.

CHAPTER 2

COORDINATION AND MANAGEMENT

This chapter discusses the key coordination and management issues that users need to consider when carrying out the PCA Toolbox. The key issues discussed in this chapter are as follows

- WHO to involve and what are their roles
- WHAT are the tasks
- WHEN to carry out the PCA Toolbox
- WHERE to carry out the PCA Toolbox
- WHY carry out the PCA Toolbox

WHO to involve and what are their roles?

Carrying out the PCA Toolbox requires projects to do the following activities

- (1) interview and observe health workers,
- (2) review health records,
- (3) interview community members,
- (4) make conclusions about how well families and health workers care for childhood pneumonia, and
- (5) develop a plan of action for improving pneumonia care in communities served by the project

Note that these activities include evaluating the performance of health workers. The activities also include making decisions about actions to take in health facilities and communities. Therefore, these activities may be threatening to health workers, ministry of health and other political officials, families and community leaders. For this reason, project staff must be very sensitive as to how they carry out these activities. Projects can minimize the threat of these activities by informing and involving key persons from the ministry of health and the communities from the beginning of the planning stages.

Note also that involvement of key persons from the ministry of health and the communities will be necessary for the success of any intervention the project will carry out to improve the care of childhood pneumonia. For example, ministry of health support is critical to improving the quality of pneumonia case management in government health facilities. Support from community leaders is critical for the success and sustainability of interventions to promote prompt care-seeking for children with pneumonia. Projects should also seek to involve counterparts from NGOs working in the area.

Who to involve?

Ministry of health counterparts should participate in the following activities

- Planning the timing of the assessments,
- Adapting assessment forms according to national policy,
- Carrying out the assessments interviews, observations, and discussions
- Analysis and discussion of findings
- Feedback
- Development of action plans

Community counterparts should participate in the following activities

- Planning the timing of the assessments,
- Carrying out the assessments interviews, observations, and discussions, *
- Analysis and discussion of findings, *
- Feedback,
- Development of action plans *

* depending on interest and/or skills

NGO counterparts should participate in the following activities

- Carrying out the assessments interviews, observations, and discussions
- Analysis and discussion of findings
- Feedback
- Development of action plans

Roles?

The following roles/functions are needed to carry out the PCA Toolbox

1. Technical Coordinator

Often the project manager, but someone who can devote nearly full-time to this effort, this person is overall responsible for coordinating and managing use of the PCA Toolbox. This person is specifically responsible for the following

- Obtaining approval from the MOH
- Deciding what tools to use
- Deciding when to use the tools
- Adapting the forms
- Deciding who to involve
- Selecting the assessment sites
- Training assessment teams
- Conduct of the assessment
- Analysis and development of the action plan

2. Administration/Logistics Coordinator

This person is responsible for the following activities

- Liaison with the MOH and communities
- Assist in deciding when to use the tools
- Obtaining needed supplies and equipment
- Arranging for transportation (training, field work)
- Arranging for facilities (training, analysis)
- Salary and per diem of assessment team members

3. Trainer/supervisors (4 - 5 persons)

Often project technical staff or MOH or NGO counterparts
Four to five persons are needed if the project plans to carry out each PCA tool in a single day. Many of the PCA Toolbox tools require 4-5 assessment teams to complete the tool in a single day. (The suggested composition of each team is one supervisor and two to four team members) Therefore, one supervisor would be needed for each of five assessment teams. Less supervisors are needed if each tool is carried out over a period of days, requiring less than five assessment teams each day. These persons assist the Technical Coordinator to do the following

- Train the assessment teams
- Supervise assessment teams in the field
- Assist in analysis and development of action plans

4. Assessment team members (10 - 12 persons)

Usually project staff and counterparts from the MOH, NGOs and the community. Ten to 12 persons are needed if the project plans to carry out each PCA tool in a single day (Five teams each with two persons and a supervisor are needed to complete most tools in a single day). Less persons are needed if each tool is carried out over a period of days. Other potential sources of assessment team members are students, nurses or staff of other ministries (education, agriculture). The role of these persons are to carry out the following assessment activities

- observe and interview health workers
- interview community members
- review health records

5. Decision makers

These are persons in the ministry, communities and private health providers with the authority to make or support decisions to improve the quality of pneumonia care in the project area. These persons should be involved in feedback

WHAT are the tasks?

sessions at minimum. Ideally, these persons would be involved in planning and development of action plans.

The following are the key tasks that project staff will need to coordinate and manage when using the PCA Toolbox.

Planning Tasks

- 1 Obtain MOH support for the assessment
- 2 Determine which tools to use
- 3 Develop schedule for carrying out assessments

Preparation Tasks

- 4 Select sites
- 5 Adapt forms
- 6 Identify persons to carry out assessment
- 7 Arrange for logistical support

Implementation Tasks

- 8 Train persons to implement tools
- 9 Carry out assessment
- 10 Analysis of findings
- 11 Develop action plan

Planning

1. Obtain MOH support for the assessment

In many or most cases, the health facilities that serve a project's beneficiary population will be run by the government. Therefore, MOH approval will be necessary for project staff to carry out some of the PCA tools such as the facility surveys. In addition, MOH support will be necessary to improve the quality of health facility services based on the findings of the PCA Toolbox.

This is also an opportunity to invite MOH involvement in the planning and implementation of the PCA Toolbox. It is best if, during facility surveys and discussions with the community, the MOH is represented as a member of each team working in the field.

2. Determine which tools to use

The PCA Toolbox was originally designed for use by a PVO Child Survival project funded by USAID. A PVO Child Survival project is required to complete and submit to USAID a detailed implementation plan (DIP) during the first six months after project funding begins. The PCA Toolbox was primarily designed to be used by a PVO Child Survival project during the first six months of the project. It will

provide information necessary for the design of an effective pneumonia case management intervention. Specifically, the PCA Toolbox provides information requested by the USAID DIP guidelines. (See DIP Guidelines in Appendix B)

To identify the specific tools in the PCA Toolbox that a project should use, refer to the section in each tool entitled "Draw Conclusions." This section highlights the key information obtained from each tool. Projects should consider using the tools that will provide the key information the project needs for developing the DIP (or in the case on non-USAID funded projects, the intervention to reduce childhood deaths from pneumonia)

A project should use the tools that will answer key questions that the project has no better or other way of answering. (See Appendix B for examples of key questions) For example, the project can use the tool, *Community Terms and Beliefs about Pneumonia Care* if there have been no local ethnographic studies of terms and beliefs for pneumonia or if the project does not have someone on staff skilled in ethnographic assessments

Note The overlap in information obtained from the tools is part of the design of the PCA Toolbox. Since sample sizes used in the tools are small, and often selected purposively rather than randomly, it is useful to use several types of methods to collect the same information. This is a technique called triangulation, using different sources of information to increase the confidence that information obtained from one source is valid. If three sources provide the same or similar answers to a question, one can be more confident that they have found the "true" answer to the question.

Example of Triangulation The PCA Toolbox includes three tools that provide information about the terms a community uses to identify pneumonia and its signs and symptoms: (1) *Community Terms and Beliefs about Pneumonia Care*, (2) *Community Group Discussions about Pneumonia Care Practices*, and (3) *Pneumonia Case Narratives*. The first tool, *Community Terms and Beliefs*, was designed specifically to identify terms for pneumonia and its signs and symptoms. The other two tools have been designed to provide an opportunity to confirm the findings of the *Community Terms and Beliefs* tool. Therefore, it is useful to carry out all three of these tools if the project has no other sources of information about the terms the community uses for pneumonia. And, it will be most useful if the project uses the *Community Terms and Beliefs* tool before the other two.

If there is no national program for training health workers in either standard ARI case management (SCM) or IMCI (Integrated Management of Childhood Illness), then a project does not need to carry out the tool, *Rapid ARI Case Management Tool*. In this situation, it will be sufficient to carry out the tool *Rapid Survey of Health Facility Capacity*. There is no need to assess if health workers manage cases using a standard protocol if training in the standard protocol has not been given to health workers. The project can assume that the baseline value for indicators such as “percent of children presenting to a health facility with cough or difficult breathing who receive standard ARI case management” will be zero. The focus of projects would be primarily on training health workers in standard ARI case management and ensuring adequate supply of essential drugs.

If at least some of the health workers in the project area have received training in SCM, then it will be useful to carry out both facility assessment tools mentioned above. This will help identify if there are problems with the training, or more likely, with supervision. For example, if health worker knowledge of SCM is poor, then this means that the health worker did not receive adequate training. If, however, a health worker’s knowledge of SCM is good but h/she does not follow the SCM protocol, this can reflect a problem with supervision rather than training (health workers are not doing what they know to do). For example, supervisors may not be using a “supervisor’s checklist” during supervision and/or supervision visits are too infrequent.

The World Health Organization (WHO) has developed an alternative method/tool to identify community terms and beliefs about pneumonia care. This tool is called *Procedures for local adaptation of ARI home care advice (LAP)*. LAP, unlike the PCA Toolbox, requires the use of videotape. A videotape of children with pneumonia is shown to mothers and mothers are asked what they call the disease and how they would treat it. The PCA Toolbox tool, *Community Terms and Beliefs about Pneumonia Care*, provides more information about the LAP tool and how to order it from WHO.

Chapter 2 - Coordination and Management

Preparations

3. Develop schedule for carrying out assessments

Information about when to use the assessment tools is provided below

4. Select sites

Information about where to carry out the assessment tools is provided below

5. Adapt forms

Two types of adaptations of forms are needed, depending on the county

- Adapt forms so that they reflect national protocols for ARI case management. Where national protocols differ from WHO protocols, projects will need to adapt the following forms

1 Appendix B of Rapid Survey of Health Facility Capacity, Rapid Knowledge Survey for ARI Case Management what is considered a correct answer to each question on the form should reflect national protocols

2 Appendix C of Rapid Survey of Health Facility Capacity, Assessment of Availability of Trained providers and Essential Drugs what is considered the correct drugs for treating pneumonia (section II) should reflect national protocols

3 Appendix E of Rapid Survey of Health Facility Capacity, Tabulation Tables for the Rapid Knowledge Survey for ARI Case Management changes to Appendix E should reflect changes made to the Rapid Knowledge Survey for ARI Case Management (Appendix B of the *Rapid Survey of Health Facility Capacity*)

4 Appendices B and C of Rapid ARI Case Management Survey, Observation of ARI Case Management what is considered a correct management of a child with ARI on the summary instructions should reflect national protocols

- Translate the forms that include questions to health workers or community members who do not speak English

1 Appendix B of *Rapid Survey of Health Facility Capacity*, Rapid Knowledge Survey for ARI Case Management

2 Appendices A and B of *Community Group Discussions Pneumonia Care Practices & Satisfaction with Health Services*

3 Appendix A of *Community Terms and Beliefs about Pneumonia Care*.

4 Appendix A of *Pneumonia Case Narratives*

A project may also want to translate the instructions, tabulation tables and summary forms in each of the tools that the project has decided to use

6. Identify Persons to carry out assessments

Guidance on the persons needed to carry out the PCA Toolbox is provided in the section "WHO to involve" above

7. Arrange for Administrative/Logistical support

Administrative and logistical support includes procurement of equipment and supplies, arranging for salary and per diem of assessment team members, arranging for transportation of assessment teams to training sites and field sites, coordinating permission from the government and communities, scheduling with the MOH and communities, and arranging for facilities to conduct training and analysis

Implementation

9. Train persons to implement tools

There are two suggested approaches to training project staff and counterparts in use of the tools. Both approaches rely on trainees learning the tools one at a time and by practicing the tools in the classroom and the field. The two approaches differ, however, on the type of practice the trainee will experience.

Approach 1 Trainees are given a minimum orientation to the forms and the rationale behind the tool. The trainees do one or two role plays only and spend the rest of the training day in the field (community or health facility). In this approach, mistakes and learning are done in the field and

Note Suggested experiences for training persons in the use of each tool is provided in Appendix D

during the discussions following the field experience. Often, using this approach, the information obtained during the “field exercise” is substantial and therefore also useful for the assessment of pneumonia care practices. This approach is quicker and more experiential than Approach #2 but requires easy access to field sites.

Approach 2 Trainees are given substantial training in the classroom including orientation, demonstrations, role play and debriefing. The trainers, using this approach, try to catch mistakes prior to the field experience. The field experience and debrief is therefore not as long. This approach is more didactic than Approach #1 but does not require easy access to field sites.

10. Carry out assessments

Each tool contains detailed instructions on how to carry out the assessments.

11. Analysis of findings

Analysis begins by drawing conclusions about the findings of each individual tool. Then, these conclusions are summarized across the tools to identify areas for improvement in pneumonia care. The project then investigates the barriers to improving pneumonia care. More detailed guidance is given in Chapter 3 of this guide.

12. Develop action plan

A project identifies strategies to overcome barriers to effective pneumonia care and make plans to implement this strategy. This information is used to develop the DIP for the pneumonia case management intervention. More detailed guidance is given in Chapter 3 of this guide.

WHERE to carry out the PCA Toolbox?

The PCA Toolbox is carried out in health facilities and in communities. One tool, *Geographic Access to Health Services*, can be carried out anywhere.

Facility Assessments The following tools are carried out in health facilities (public and/or private)

- *Rapid Survey of Health Facility Capacity*,
- *Rapid ARI Case Management Survey**
- *Health Services Utilization*

* This tool also can be modified for use with Community Health Workers

Note Guidance on selecting specific sites is tool specific and is provided in the detailed instructions for each tool in the PCA Toolbox

WHEN to carry out the PCA Toolbox?

Because the PCA Toolbox is carried out in health facilities, it is important to coordinate activities with persons representing the facilities (MOH or private providers).

Community Assessments. The following tools are carried out in communities

- *Community Terms and Beliefs about Pneumonia Care* ,
- *Community Group Discussions Pneumonia Care Practices & Satisfaction with Health Services,*
- *Pneumonia Case Narratives*

Because the PCA Toolbox is carried out in communities, it is important to coordinate activities with representatives from those communities

Appendix E charts two possible approaches for a PVO Child Survival project to use the Toolbox within the first six months of the project

Approach 1 Use different tools within the Toolbox over a three to four month period after the project begins but prior to writing the Detailed Implementation Plan (DIP)

This approach suggests using some tools before carrying out a quantitative household knowledge, practice and coverage (KPC) survey and some tools after

Tools that are good to use before a KPC survey include *Health Services Utilization, Geographic Access to Health Services,* and *Community Terms and Beliefs about Pneumonia Care* These tools will help provide local translations of words used during the KPC survey, and provide a context for helping to analyze the results of the KPC survey

Tools that are good to use after a KPC survey include *Community Group Discussions about Pneumonia Care Practices* and *Pneumonia Case Narratives* The KPC survey will identify individual mothers or caretakers that the project should talk to in more depth For example, mothers who during the survey reported that their child had rapid and difficult breathing during the two weeks before the survey

The remaining tools - *Rapid Survey of Health Facility Capacity, Rapid ARI Case Management Survey,* and *Community Group Discussions Satisfaction with Health Services* - can be carried out before or after the KPC survey

Approach 2 Use each of the tools during a specific 10-day period (Pneumonia Care Assessment Week) after carrying out the Rapid Knowledge, Practice and Coverage (KPC) Survey

Hint In any case, projects should use the tool, *Community Terms and Beliefs about Pneumonia Care*, before carrying out the KPC Survey to identify local terms for "rapid breathing" and "difficult breathing". On project specific KPC Survey questionnaires, the questions within the ALRI Module should be translated to include local terms for "rapid breathing" and "difficult breathing". Project staff can easily carry out this tool in a single day and, the tool can be adapted to identify local terms for other diseases such as diarrhea

Appendix E also provides guidance on other times in the project time line that a project should use the PCA Toolbox

WHY carry out the PCA Toolbox?

In recent years, PVO Child Survival projects have increasingly decided to include a "case management of pneumonia" intervention. This represents a current trend of PVOs shifting from primarily community-based interventions (ORT, EPI promotion, breastfeeding promotion and nutrition education) to including interventions that have an additional requirement of year round access to high quality health services (management of pneumonia and obstetric emergencies). This trend has led to increased awareness that for some interventions improving access and quality of services are key project activities (in addition to the traditional project activities of improving caretaker practices). To this end, USAID is encouraging projects with pneumonia case management interventions to ensure that beneficiary communities have access to quality health services prior to promoting the use of those services.

The PCA Toolbox provides a project manager with essential information about the care children pneumonia receive and why they receive this level of care. Without this essential information, a project manager will not be able to design an effective intervention to improve the quality of pneumonia care. A project manager can use this information to identify barriers to effective care. This information is used to develop an action plan to overcome these barriers and improve the quality of care that children with pneumonia receive.

Note Appendices B and C provide a detailed rationale for why a project should use the PCA Toolbox or equivalent assessment methods

CHAPTER 3

ANALYSIS

The purpose of this chapter is to provide practical guidance on how to analyze the data gathered by seven different assessment tools and how to develop a single plan to improve pneumonia care in a project area. The following steps are suggested for analysis of the PCA Toolbox:

- 1 Summarize the findings across tools for each of three topics: quality of care, access to care, and care-seeking practices
- 2 Select a strategy for improving quality of care, access to care (if needed) and care-seeking for a child with pneumonia
- 3 Develop an action plan of next steps for accomplishing each objective

A project uses the output of this analysis to develop the pneumonia case management intervention section of the project's DIP.

**SUMMARIZE
Conclusions of
Each Tool**

The final section of each tool asks users to "Draw Conclusions" about pneumonia care with the information gained from the tool. To summarize the conclusions of each tool, by topic area, projects should carry out three sessions: (1) quality of care, (2) access to care, and (3) care-seeking practices. For each session, project staff should pull together the conclusions of each tool providing information about the relevant topic and then summarize the findings. The DIP guidelines in Appendix B provide the key information that needs to be summarized. Appendix C indicates which tools are likely to provide information about each topic to be summarized.

Quality of Care

To summarize the findings about quality of care, carry out the following steps:

- *Collect* the written conclusions for each tool in the PCA Toolbox with information about the quality of care given by health care providers,
- *Gather* an 'analysis' group together from the persons who were involved in carrying out the PCA Toolbox and persons knowledgeable about the training that health providers in the area receive,

- *Present* the conclusions of each relevant tool to the analysis group and *allow* time for questions and clarifications
- On newsprint, using a group process, the analysis group *answers* the following questions
 - 1 **What types of health providers in the project area provide treatment of any kind to children who may have pneumonia? What is the percentage of children with pneumonia who are taken to each of these types of providers? Which of these health providers currently has the authority to provide antibiotics to children with pneumonia?**
 - 2 **What percentage of each type of provider is trained in standard ARI case management (or in IMCI)? Does the training include substantial hands-on practice assessing and treating children and counseling mothers? Does the training include the use of video to demonstrate chest indrawing? What percentage of children with pneumonia are seen by a health provider trained in standard ARI case management (or in IMCI)?**
 - 3 **What is the level of knowledge of health providers about standard ARI case management? What are the gaps in knowledge? Assessment? Classification? Treatment? Counseling?**
 - 4 **Are adequate quantities of appropriate antibiotics available for each type of provider care for children with pneumonia? Are antibiotics used rationally? Are health workers provide with an appropriate timing device to assess for fast breathing?**
 - 5 **How consistent are each type of health providers' case management practices with the WHO and/or MOH protocols? What percentage of children with ARI presenting to health providers receive standard ARI case management? What specific case management tasks (assessment, classification, treatment, counseling) do health providers not do?**
 - 6 **How often are health providers supervised regarding their ARI case management practices? Do supervisors use a supervisor's checklist when making supervision visits? If**

so, does the checklist include observing ARI case management tasks and checking the supply of appropriate drugs? What is level of knowledge among supervisors about standard ARI Case Management?

- 7 What appears to be the main reasons why health providers do not provide standard ARI case management to children with ARI? Lack of training? Poor training? Infrequent supervision? Supervision is not supportive? Lack of timers, written or graphic protocols, or appropriate drugs? What are other ARI case management problems?
- 8 What are community members attitudes about the quality of care they receive from health providers who treat sick children? What specific things do community members feel are problems in the care they receive from these health providers? What specific things do community members like? What specific things can health facilities do to improve community satisfaction with health services?

Adequate Access

To summarize the findings about access to care, carry out the following steps

- *Collect* together the written conclusions for each tool in the PCA Toolbox with information about access to care,
 - *Gather* an 'analysis' group together from the persons who were involved in carrying out the PCA Toolbox and persons who have traveled extensively throughout the project area
 - *Present* the conclusions of each relevant tool to the analysis group and *allow* time for questions and clarifications
 - On newsprint, using a group process, the analysis group *answers* the following questions
- 1 How much time and money does the project or community think reasonable to spend to travel to/from and use the services of a health provider for childhood pneumonia?

- 2 Given the answer to #1 above, what is the percentage of the project beneficiary population that currently has sufficient access to a health provider with authorization to treat childhood pneumonia? Are there differences in the level access on different days of the week or at different times of the year? Are there other important problems in your area which relate to access (For example, language differences)?
- 3 What areas or groups are without sufficient year round access to a health provider with authorization to treat childhood pneumonia? Do these areas or groups have access to persons whom the MOH would be willing to authorize receipt of training and antibiotics for treating childhood pneumonia? (For example, community health workers, TBAs, traditional healers)
- 4 What are the main reasons why households do not have year round access? Cost of drugs/services? Distance? Cost of transport? Seasonal problems? Local health workers not trained or authorized to treat pneumonia? Are these problems the project can address directly or does the project need to find an alternative solution to improving access?

**Care-Seeking
Practices**

To summarize the findings about care-seeking practices, carry out the following steps

- *Collect* together the written conclusions for each tool in the PCA Toolbox with information about care-seeking practices,
 - *Gather* an 'analysis' group together from the persons who were involved in carrying out the PCA Toolbox and persons who are knowledgeable about community beliefs and practices
 - *Present* the conclusions of each relevant tool to the analysis group and *allow* time for questions
 - On newsprint, using a group process, the analysis group *answers* the following questions
- 1 What are local words for fast breathing, difficult breathing, chest indrawing and pneumonia? Are these signs recognized by caretakers as serious?

- 2 What do caretakers believe causes pneumonia? Are any of these beliefs barriers to seeking care from a trained provider for a child with pneumonia?
- 3 What signs and symptoms of pneumonia lead caretakers to seek help outside the household? Who makes decisions in the household about when and where to seek care outside the home? Do caretakers seek treatment outside the home promptly for a child with fast and difficult breathing (on the same day as onset)?
- 4 Are there differences in care-seeking for children with pneumonia between groups of certain ethnicity, age or gender?
- 5 Which health providers do caretakers go to for treatment of these signs and symptoms? Who are the first providers seen? The second? Why do caretakers seek treatment from these providers? Are there providers identified whom the project or MOH does not work with currently?
- 6 For those children prescribed antibiotics, do caretakers comply with treatment instructions (dosage, duration)?
- 7 How much do families report paying for care for their child's pneumonia? How do they feel about the cost of this care?

SELECT a Strategy

To select an overall strategy to improve pneumonia care in the project area, projects should select specific strategies to improve the following three dimensions of a pneumonia case management intervention (1) quality of care, (2) access to care, and, (3) care-seeking practices. A project will probably need two to three strategies to improve upon each of these dimensions.

The suggested process for selecting an overall strategy is to conduct three independent strategy sessions, one for each dimension (quality of care, access to care, and care-seeking practices). For each strategy session, project staff should pull together the summary findings developed in the step above. The DIP guidelines in Appendix B provides additional information about appropriate strategies for improving pneumonia care.

Quality of Care

Hint Gather the same persons who were part of the analysis group that summarized the findings of quality of care Or, do the two sessions (summarize findings & select a strategy) concurrently

To select a specific strategy to improve quality of care, carry out the following steps

- *Collect* the summary findings about the quality of care given by health care providers,
- *Gather* an 'analysis' group together from the persons who were involved in carrying out the PCA Toolbox and persons knowledgeable about the training that health providers in the area receive,
- *Present* the summary findings about quality of care analysis group and *allow* time for questions and clarifications
- On newsprint, using a group process, the analysis group *answers* the following questions

1 What precisely are the specific problems, needs or opportunities that the project should address?

Example The following are common problems identified in quality pneumonia care

- No or few health workers are trained in standard ARI case management,
- Health worker training is poor (evidence - knowledge and practice of "trained" health workers is poor),
- Supervision of health workers is poor (the level of knowledge of health workers appears much better than health worker practices),
- Essential drugs or equipment is not available (cotrimoxazole, timers)
- poor facility environment (long waits, overcrowded, mothers treated rudely, cleanliness, operating at times that are difficult for community members to come, etc)

2 What operational definition best fits the problems identified?

Examples

- 5% of health workers who treat sick children are trained in standard ARI case management
- 2 out of 10 facilities have at least one person trained in standard ARI case management
- 3% of health workers know how to assess for pneumonia in an infant/child with cough or difficult breathing?
- 1% of children presenting to a health facility with cough or difficult breathing received standard ARI case management

Examples - continued

- 1 out of 10 facilities had the antibiotics that are recommended for home treatment of pneumonia in stock during the preceding three months
- The average waiting time at a health facility for a caretaker with a sick child is five hours
- Mothers in 4 of 4 focus groups commonly felt that medical assistants at facilities treated them rudely
- None of the ten facilities are open more than five days a week

3 What priority areas should the project focus on that will improve quality of care?

Hint Select 2-4 priority areas to focus on Select areas to focus that will combine to have the greatest impact during the life of the project In general, the areas to choose from for improving quality of care are the following

- Increase numbers who are trained,
- Improve quality of training,
- Increase frequency of supervision
- Improve quality of supervision,
- Communicate protocol clearly to all workers,
- Ensure adequate supply of antibiotics,
- Improve health facility environment (provider-client relations operating hours, cleanliness etc)

Hint A "criteria matrix" is a useful tool for prioritizing options Project staff can use a criteria matrix to help them select 2-4 strategies for improving the quality of pneumonia care during the life of the project An example of a criteria matrix is provided below

Example Criteria Matrix - Options for Improving Quality of Care

Options #1 - #7	Criteria (rating 7 = best, 1 = worst)			Total
	Feasibility of improving	Low Cost of improving	Importance of Problem	
Increase # of health workers trained	4	3	7	14
Increase quality of training	5	5	1	11
Ensure adequate supply of antibiotics	3	4	6	13
Decrease waiting time at health facility	2	2	3	7
Operate during weekday evenings	1	1	4	6
Increase frequency of supervision	6	6	2	14
Improve client provider relations	7	7	5	21

Using this example, the project chooses to focus on options #1, 3, 6 and 7 as its strategy to improve quality of care (Increase # of trained health workers, ensure adequate supply of antibiotics, increase frequency of supervision, improve client provider relations)

Chapter 3 - Analysis

Adequate Access

To select specific strategies to improve access, carry out the steps listed in the "Quality of Care" section above. For analysis, use instead the findings of the PCA Toolbox regarding access to care.

Hint Common problem areas regarding access to care and that project can improve upon are the following:

- availability of trained health workers within a reasonable travel time,
- availability of transport to health facilities,
- cost of transport to health facilities,
- seasonal problems with access to health facilities

Care-Seeking Practices

To select specific strategies to improve care-seeking practices, carry out the steps listed in the "Quality of Care" section above. For analysis, use instead the findings of the PCA Toolbox regarding care-seeking practices.

Hint Common problem areas regarding care-seeking practices and that project can improve upon are the following:

- families do not recognize signs of pneumonia,
- families delay care-seeking from appropriate providers,
- families believe that pneumonia has a spiritual cause,
- current messages to families are not specific,
- current messages to families do not use local terms,
- health messages do not reach sufficient numbers,
- delivery methods for messages are not appropriate

DEVELOP an Action Plan

Project staff can continue to develop an action plan, once the project has selected its strategy to improve the three components of a pneumonia case management intervention (quality, access, care-seeking).

The following steps are suggested to develop a preliminary action plan that can be used to develop the detailed implementation plan (DIP):

- 1 Feedback to decision-making group(s)
- 2 Select project objectives and indicators,
- 3 Determine next steps to accomplish each objective

Feedback to decision-making group(s)

During this step, project staff present the strategies identified in the "Select a Strategy" step above to a decision-making group(s) for approval and modification

The following feedback process is suggested

- 1 Project staff should make three mini-presentations (1) strategies to improve quality of care, (2) strategies to ensure adequate access to care, and (3) strategies to improve care-seeking practices
- 2 Following each presentation, project staff should try to get agreement on the project strategies and obtain ideas, suggestions, and commitments for support from the groups the members represent

2 A suggested feedback meeting agenda is as follows

Agenda	
I	- Welcome/Introductions - Purpose and Background of the meeting
II	- Summarize "Quality of Care" Findings - (If needed, review the technical basis for the standard case management protocol) - Present strategies to Improve Quality of Care - Discussion/Approval/Modification of strategies - Ideas for next steps/commitments
III	- Summarize "Access" Findings - Review the definition used for "access" - Present strategies to improve access - Discussion/Approval/Modification of strategies - Ideas for next steps/ask for commitments
IV	- Summarize "Care-Seeking" Findings - Present strategies to improve care-seeking - Discussion/Approval/Modification of strategies - Ideas for next steps/ask for commitments
V	- Summarize the strategies approved - Summarize next steps/commitments made
VI	- Refreshments (most important)

The decision-making group(s) should include persons that have the authority to approve decisions of the group For example, the decision-making group(s) can include

- the district health officer,
- representatives of the MOH/WHO office that conducts training in standard ARI case management or IMCI,
- representatives of the project communities (traditional and/or elected),
- the person(s) responsible for supervision of local health workers,
- a representative of private health providers,
- a representative of traditional healers

The decision-making group(s) can also include the members of the three analysis groups formed in the steps above

Select project objectives and indicators

During this step, the project should determine the specific objectives and indicators that will address the strategies identified above

- 1 The project should have at least two to three objectives One related to improvements in quality of care One related to improvements in care-seeking And, if access is a problem, one related to improvements in access to care
- 2 The objectives should quantify the effect or outcome of the project strategies
- 3 The objectives should be realistic given the time and resources the project has to accomplish the strategies selected
- 4 Specific indicators are needed to measure achievement of objectives
- 5 The number of objectives (for the pneumonia case management intervention) should be sufficient for assessing the effectiveness of the strategies the project has chosen to improve pneumonia care

Hint Choose objectives that will be the effect of several strategies, if possible Too many objectives, however, hinder the project's ability to focus In general, 2-4 objectives should be sufficient

See example of objectives and indicators below

Examples

- 1 **Objective** By the end of the project, 60% of children presenting to a health facility with cough or difficult breathing will receive standard ARI case management
Indicator At the end of the project, 60% of children presenting to a health facility on the day of the survey received standard ARI case management
Selected strategies that affect the outcome of the objective
 - Increase the number of trained health workers
 - Improve frequency of supervision
 - Ensure availability of essential antibiotics

- 2 **Objective** By the end of the project, 90% of communities in the project area will be within one-hour's travel time of a health worker trained to provide standard ARI case management
Indicator At the end of the project, 90% of communities in the project area are within one-hour's travel time (5 km) of a health worker who is trained in standard ARI case management
Selected strategies that affect the outcome of the objective
 - Increase the number of trained health workers
 - Train CHWs in communities distant from facilities

- 3 **Objective** By the end of the project, 60% of families will seek care from an appropriate provider when their children have fast and difficult breathing (local terms)
Indicator At the end of the project, 60% of mothers of children less than 24 months of age who had fast and difficult breathing within the last two weeks, sought treatment for her child from an appropriate provider
Selected strategies that affect the outcome of the objective
 - Improve provider-client relations at facilities
 - Train CHWs in communities distant from facilities
 - Improve content of messages to families
 - Increase coverage of messages to families

**Determine
next steps to
accomplish each
objective**

Project staff develop a preliminary plan of action by carrying out the following steps

- 1 Investigate root causes of problems, if not clear
- 2 Identify next steps needed to implement strategies What will address root causes of problems?

1 Investigate root causes of problems

It is not always clear why problems identified by the PCA Toolbox occur. In order to implement strategies effectively, project staff should understand the causes of the problems underlying the strategy. This will lead to a better understanding of the barriers to implementing the strategy.

Project staff should choose the most appropriate methods to investigate root causes

Example

Objective By the end of the project, 60% of children presenting to a health facility with cough or difficult breathing will receive standard ARI case management

Selected strategies that affect the outcome of the objective

- Increase the number of trained health workers
- Improve frequency of supervision
- Ensure availability of essential antibiotics

Investigate Root Causes Question (Method)

- 1 Why are few health workers in the project area trained in standard ARI case management? (Interview District Health Officer, interview person in charge of WHO/MOH training in standard ARI Case Management)
- 2 Why is supervision of health workers currently infrequent? (Interview with supervisors)
- 3 Why is cotrimoxazole often out of stock? (Interview with pharmacists, and health workers, review protocols for ordering drugs)

Brainstorming and quality improvement tools such as “tree diagrams” or “cause and effect diagrams (fishbone)” are helpful for generating a list of “possible” root causes of a specified problem. A list of “possible” root causes can help a project manager decide what to investigate first and what are the best methods to investigate root causes. A list of possible root causes also provides a project manager with topics to discuss during an interview.

This step may take several days depending on the number of questions and the difficulty of the methods of investigation.

2 Identify next steps needed to implement strategies What will address root causes of problems? What agreements were made during feedback sessions?

Informed by (a) the root causes of problems identified in the step above and (b) agreements made during feedback sessions, project staff identify the next steps needed to implement each strategy.

Example

1. Strategy Improve frequency of supervision

Identified Root Causes of problem Supervision of health workers is infrequent because supervisors are assigned many additional tasks there is no goal for frequency of supervision visits - it is not a priority

Next Steps (1) Explore with MOH how to reduce the amount of additional tasks for supervisors
(2) Encourage the MOH to develop and communicate standards for frequency of supervision visits
(3) Assist MOH to develop a tracking and reporting system for the frequency of supervision visits

2. Strategy Increase coverage of pneumonia health messages

Identified Root Causes of Problem There is no program that delivers health messages about pneumonia to families in the project area This is because prevention of pneumonia deaths has not been a priority in the district, although there is a national program Prevention of pneumonia deaths is not a priority because most people in the project area are unaware of its importance as the leading cause of child deaths

Next Steps (1) Collect data on inpatient and outpatient admissions for pneumonia in the project area (burden of pneumonia),
(2) Present data on burden of pneumonia to community leaders, school officials, and media groups and ask for suggestions on how best to get messages to families,
(3) Explore different media/persons that can be used to provide health messages to families, older children and community leaders

Carrying out these “next steps,” will provide the information the project needs to develop a DIP This information will help project staff decide how best to implement each strategy for improving pneumonia care in the project area In the DIP, the project will identify the “who, what, where, when” components for each strategy to improve pneumonia care in the project area

APPENDIX A

**WORLD HEALTH ORGANIZATION
PROTOCOL:**

**MANAGEMENT OF THE YOUNG CHILD
WITH AN ACUTE RESPIRATORY
INFECTION**

Guidelines for First-Level Health Facilities

TABLE OF CONTENTS

Section 1 Assess the Child	1
Section 2 Classify the Illness of the Child Age Two Months up to Five Years	8
Section 3 Classify the Illness of the Young Infant (Age less than Two Months)	18
Section 4 Treatment Instructions	25
Annex A Referring a Child to a Hospital	34
Annex B Technical Bases for Standardized Case Management of Acute Respiratory Infections	37
Annex C ARI Case Management Charts for Community Health Workers	44

APPENDIX A
World Health Organization Protocol
Management of the Young Child with an Acute Respiratory Infection

SECTION 1 ASSESS THE CHILD

"Assess" means obtaining information about the child's illness by asking the mother questions, looking at, and listening to the child. In this section you will be told what information to obtain about the child, and how to obtain it. The meaning of the signs will be described in later sections.

A child with cough or difficult breathing could have pneumonia, which is a serious disease that can result in death. However, a cough or difficult breathing can also be caused by a common cold, a blocked nose, a dusty environment, whooping cough (pertussis), tuberculosis, measles, croup or wheezing disorders. By carefully assessing a child, you will take the first important step towards preventing unnecessary deaths from pneumonia and other severe diseases.

The steps for assessing a child are described in detail on the following pages. You will ask the mother questions about the child's health. You will also look at and listen to the child for signs of difficult breathing and general signs of the child's condition.¹

You asked the mother why she came to the health centre when you selected the management chart, so you know that you will be using the assessment questions listed on the chart, *Management of the Child with Cough or Difficult Breathing*. Find the title "Assess" on the chart now, and locate the subheadings "Ask" and "Look, Listen."

The chart will also be presented in the module in small sections so that you can learn how to use it. Below is the section of the chart that lists the points you should cover during the assessment.

ASK
How old is the child? Is the child coughing? For how long? Age 2 months up to 5 years: Is the child able to drink? Age less than 2 months: Has the young infant stopped feeding well? Has the child had fever? For how long? Has the child had convulsions?

LOOK, LISTEN	
(Child must be calm) Count the breaths in one minute. Look for chest indrawing. Look and listen for stridor. Look and listen for wheeze. Is it recurrent?	See if the child is abnormally sleepy or difficult to wake. Feel for fever or low body temperature (or measure temperature). Look for severe malnutrition.

¹ If you see a child who is obviously very very sick, and in need of care that you cannot provide, you should refer the child to a hospital immediately without assessment.

The assessment process described in this module considers the steps you should follow to identify respiratory infections or other related illnesses. Your programme may also include other assessment steps -- for example, screening for immunization status.

It is important to keep the child as calm as possible because a child who is crying and upset may exhibit signs that can be confused with signs of illness. Before beginning the assessment, ask the mother

- Not to wake up the child, if the child is asleep
- Not to undress or disturb the child

Then start the assessment. Record the information you learn about the child on a piece of paper so it is easy to remember.

ASK the mother (or caretaker)

- **How old is the child?**
- **Is the child coughing? For how long?**
- **Age 2 months up to 5 years Is the child able to drink?**

The child is not able to drink if he is not able to drink *at all*. This includes the child who is too weak to drink when offered fluids, is not able to suck or swallow, or who repeatedly vomits and keeps nothing down.

Breast-feeding children may have difficulty sucking when their noses are blocked. However, if they are not severely ill, they still can breast-feed if their nose is cleared.

- **Age less than 2 months Has the young infant stopped feeding well?**

This question is similar to the one listed above. The difference between the two questions, however, is that the sign in the older child is not able to drink at all. In the young infant, the sign is breast-feeding or bottle-feeding *less than half* of what the young infant usually takes. Mothers can estimate changes in the amount of breast-feeding from the length of time the child sucks.

- **Has the child had fever? For how long?**
- **Has the child had convulsions?**

Ask the mother if the child has had convulsions during the current illness.

LOOK, LISTEN

The next part of this section describes how to look at and listen to a child to find out whether the child has signs of difficult breathing such as chest indrawing, fast breathing, stridor or wheeze

It is especially important to look and listen to the child's breathing only when the child is quiet and calm. It is not possible to accurately count the breathing rate, or assess other signs of difficult breathing in a child who is frightened, crying or angry. To calm the child, give the child something to play with, ask the mother to breast-feed the child, or suggest they wait in another room until the child calms down.

Count the breaths in one minute

Look for breathing movement anywhere on the child's chest or abdomen. If you are not able to see this movement easily, ask the mother to lift the child's shirt. If the child starts to cry or becomes upset, have the mother calm the child again before counting.

As children get older, their breathing rate slows down. Therefore, the cutoff you will use to determine if a child has fast breathing will depend on the age of the child.

If the child is	Then he has fast breathing if you count
<i>Age less than 2 months</i>	<i>60 breaths per minute or more</i>
<i>Age 2 months up to 12 months</i>	<i>50 breaths per minute or more</i>
<i>Age 12 months² up to 5 years</i>	<i>40 breaths per minute or more</i>

² A child who is exactly 12 months old would have fast breathing if he breathed 40 or more times per minute

Appendix A - WHO Protocol for Standard ARI Case Management

There are a number of methods you can use to count a child's breaths. Three which are useful are ³

- 1 Use a sounding timer that sounds after one minute (60 seconds). Count the child's breaths for one minute.
- 2 Use a watch with a second hand, or a digital watch. Ask another health worker to tell you when 60 seconds have passed so that you can watch the child's chest. If you cannot find another health worker to help you, put the watch where you can glance at the second hand while looking at the child's chest to count the breaths.
- 3 Use a watch with a second hand, or a digital watch. Count to the breathing rate cutoff, then look back at the watch to see if this took more than one minute.

Repeat the count of a child age 2 months up to 5 years if you are unsure of the count (for example, if the child was actively moving and it was difficult to watch the chest).

However, repeat the count of a young infant EVERY time you count 60 breaths per minute or more. This is important because the breathing rate of a young infant is often erratic. The young infant will occasionally stop breathing for a few seconds, followed by a period of very rapid breathing. This is why it is also important to count the young infant's breathing for a full 60 seconds. Determine if a young infant has fast breathing in this way:

- * If you count less than 60 breaths per minute, the young infant does not have fast breathing.
- * If you count a rate of 60 breaths or more, wait and recount the rate.

If the second count is also 60 or more breaths per minute, the young infant has fast breathing.

However, if the second count is less than 60 breaths per minute, the young infant does not have fast breathing.

³ All three of these methods can also be used with a half minute count for children age 2 months up to 5 years. For children 2 months up to 12 months, fast breathing is 25 breaths or more in a half minute; for children age 12 months up to 5 years, fast breathing is 20 breaths or more in a half minute. For young infants it is important to count for a full minute because the breathing rate is often irregular.

If you have not already lifted the child's shirt when looking for fast breathing, ask the mother to lift it now, before you look and listen for chest indrawing, stridor and wheeze. Before looking for these signs, make sure you know when the child is breathing IN and when the child is breathing OUT.

Look for chest indrawing

Look for chest indrawing when the child breathes IN. The child has chest indrawing if *the lower chest wall goes in when the child breathes in*. Chest indrawing occurs when the effort required to breathe in is much greater than normal. In normal breathing, when the child breathes IN, the whole chest wall (upper and lower) and the abdomen move OUT. With chest indrawing, when the child breathes IN, the lower chest wall moves IN, while the upper chest wall and abdomen move OUT. If only the soft tissue between the ribs or above the clavicle goes in when the child breathes in (intercostal retractions), this is not chest indrawing⁴.

Be especially careful when looking for chest indrawing in young infants. Mild chest indrawing is normal in young infants because their chest wall is soft. However, severe chest indrawing (very deep and easy to see) is a sign of pneumonia.

If there is any question about whether the child has chest indrawing, reposition the child and look again. If the child's body is bent at the waist, it is hard to judge the movement of the lower chest wall. Reposition the child so he is lying flat in the mother's lap. If the chest indrawing is still not clearly visible, assume that the child does not have chest indrawing.

Chest indrawing is only significant if it is present all the time and definitely visible. If you see it only when the child is upset or trying to feed, but not when resting peacefully, do not count this as chest indrawing.



The child breathing in WITHOUT chest indrawing.



The child breathing in WITH chest indrawing.

⁴ Chest indrawing as defined here is the same as "subcostal indrawing" or "subcostal retractions".

Look and listen for stridor

Look to see when the child is breathing IN. Stridor is a harsh noise made when the child breathes IN. Listen for stridor by holding your ear near the child's mouth, since the noise may be difficult to hear. Stridor occurs when there is a narrowing of the larynx, trachea, or swelling of the epiglottis which interferes with air entering the lungs. These conditions are often called croup.

Sometimes you will hear a wet noise if the nose is blocked. Clear the nose, and listen again. Often, a child who is not very ill will have stridor only when the child is crying or upset, so be sure to look and listen for stridor when the child is calm.

Look and listen for wheeze

Look to see when the child is breathing OUT. A child with wheezing makes a soft musical noise or shows signs that breathing OUT is difficult. Listen for the wheeze noise by holding your ear near the child's mouth, since the noise may be difficult to hear. Wheezing is caused by a narrowing of the air passages in the lungs. The breathing out takes longer than normal and requires effort.

Sometimes so little air moves that there is no noise. Look to see if the breathing out phase requires great effort, and is longer than normal.

If the child is wheezing, ask the mother if her child has had a previous episode of wheezing within the last year. A child with "recurrent wheeze" has had more than one episode of wheeze in a 12-month period.

You should also look at and listen to the child for other signs of the child's general condition. To do this, you must touch the child to find out if certain signs are present. The child does not have to be calm to get the following information.

See if the child is abnormally sleepy or difficult to wake

An abnormally sleepy child is drowsy most of the time when the child should be awake and alert. This sick child often will not look at the mother or watch your face when you talk. The child may stare blankly and may not appear to see.

Ask the mother if the child has seemed unusually sleepy or difficult to wake. Look to see if the child awakens when the mother talks, or when you clap your hands. A child who is difficult to wake may continue to sleep even with the mother's voice or a loud clap. Even a very young baby, who sleeps a lot, should waken naturally with these disturbances, or when the mother begins to undress the child.

- **Feel for fever or low body temperature (or measure temperature)**

Measure the child's temperature, if possible. A temperature of 38°C ⁵ or more is a fever. Less than 35.5°C ⁶ is an abnormally low body temperature, called hypothermia.⁷

If you do not have a thermometer, feel the child's body to see if it is hot or too cold. Sometimes the hands and feet may feel cold in a child who is not adequately wrapped. However, cold calves and armpits indicate the child is hypothermic (too cold).

Check for severe malnutrition

Check for severe malnutrition by looking at the child.⁸ Look for either

Severe marasmus, which is an extreme wasting away of fat and muscle so that the child looks like skin and bones, or

Kwashiorkor, which is identified by a generalized swelling of the body and thin, sparse hair.

You have now gone through all the tasks for assessing the children with a cough or difficult breathing, including the questions to ask the mother, and what to look and listen for.

5 The Fahrenheit equivalent for 38°C is 100.4°F

6 The Fahrenheit equivalent for 35.5°C is 96°F . These thresholds are based on rectal temperature. The thresholds for auxiliary temperature readings are approximately 0.5°C lower.

7 Be sure the thermometer is capable of reading below 36°C .

8 Other methods can be used to determine if a child is severely malnourished, such as measuring weight and height, or the circumference of the arm. Follow the policy of your national programme.

SECTION 2 CLASSIFY THE ILLNESS OF THE CHILD AGE TWO MONTHS UP TO FIVE YEARS

In the previous section you learned how to assess the child. In this section, you will learn how to interpret the signs for a child age 2 months up to 5 years⁹. You will make a decision about how to classify the child's illness, and then identify the appropriate treatment for that illness.

"Classify the illness" means making decisions about the type and severity of disease. This is done by answering questions about the signs you saw during the assessment. You will then put each child into one of four classifications:

Very Severe Disease
Severe Pneumonia
Pneumonia (not severe)
No Pneumonia Cough or Cold

2.1 Identify the boxes on the chart that describe how to classify the child age 2 months up to 5 years

The first piece of information you will use from the assessment is the age of the child. This is important because you will use a different section of the chart when classifying a child 2 months up to 5 years of age than when classifying a young infant.

Look at the case management chart on the wall and find the section, "Classify the Illness" again. Then find the subheading:

THE CHILD AGE 2 MONTHS UP TO 5 YEARS

⁹ Young infants die more often of pneumonia, and are therefore managed somewhat differently from an older child. This section describes how to classify the illness of a child age 2 months up to 5 years of age (i.e., 2-59 months of age). Step 3 describes how to classify the illness of young infants (i.e., age less than two months).

2.2 Decide if the child has VERY SEVERE DISEASE

There are four classifications of disease for a child age 2 months up to 5 years: Very Severe Disease, Severe Pneumonia, Pneumonia (not severe), and No Pneumonia (Cough or Cold). To classify a child's illness, you must follow the steps as they are presented in this section of the module. The first step is to decide if the child should be classified as having Very Severe Disease.

You can tell if a child has very severe disease by using the information from the assessment to decide if the child has a "danger sign." **Ask this question about EVERY CHILD you see with a cough or difficult breathing**

Does the child have danger signs?

**A child who has
any danger sign
is classified as having *Very Severe Disease*.**

Danger signs for the child age 2 months up to 5 years of age are: not able to drink, convulsions, abnormally sleepy or difficult to wake, stridor when calm, or severe malnutrition. The possible causes of these signs are many. However, the health worker is not required to diagnose their specific cause. He must only recognize the danger signs and know that the child may be at high risk of dying.

NOT ABLE TO DRINK

A child who is not able to drink could have severe pneumonia or bronchiolitis, sepsis (a bacterial infection of the bloodstream, also called septicaemia), an infection of the brain (meningitis or cerebral malaria), a throat abscess, or another problem. Antibiotics, oxygen, and other medicines are lifesaving in some of these children.

CONVULSIONS, ABNORMALLY SLEEPY OR DIFFICULT TO WAKE

A child with these signs may have severe pneumonia resulting in the child taking in too little oxygen (hypoxia), sepsis, cerebral malaria (in an area with falciparum malaria) or meningitis. Meningitis can develop as a complication of pneumonia, or it can occur on its own.

STRIDOR IN CALM CHILD

If a calm child has stridor, the child may be in danger of a life-threatening airway obstruction from swelling of the larynx, trachea, or epiglottis.

SEVERE MALNUTRITION

A severely malnourished child has an increased risk of developing and dying from pneumonia. In addition, the child may not show typical signs of illness.

TREATMENT

A child who is classified as having Very Severe Disease is VERY ill, and should be referred URGENTLY to a hospital

- * Before the child leaves the health centre, the health worker should provide any treatment needed, write a note to the referral hospital, and make sure that the mother is willing and is able to take the child to the hospital immediately (Annex A has a more detailed description of how to refer a child to a hospital)
- * Give the first dose of antibiotic before the child leaves the health centre You should also treat fever and wheezing, if present
- * In a falciparum malarious area, if cerebral malaria is suspected (history of fever with convulsions, abnormally sleepy or difficult to wake, not able to drink), the child also should receive an antimalarial Cerebral malaria can be rapidly fatal See your national malaria programme's recommendations for its treatment
- * If referral is not feasible, follow the recommendations in Annex A

Management of a child age 2 months up to 5 years who is classified as having Very Severe Disease is summarized on the chart below

SIGNS	<ul style="list-style-type: none"> • Not able to drink Convulsions, Abnormally sleepy or difficult to wake, Stridor in calm child, or Severe malnutrition
CLASSIFY AS	VERY SEVERE DISEASE
TREATMENT	<ul style="list-style-type: none"> Refer URGENTLY to hospital Give first dose of an antibiotic • Treat fever, if present Treat wheezing, if present If cerebral malaria is possible, give an antimalarial

Locate this section on the full-sized chart

2.3 Decide if the child has pneumonia

If you identified a danger sign in the preceding step, you have already classified the child's illness, and you know to refer the child urgently. Do not try to also determine if the child has pneumonia. **Each child should be put in a single classification.** However, if you did not identify a danger sign, the next step is to use the clinical information from the assessment to decide

Does the child have pneumonia?

Ask this question only about children who do not have danger signs. The child without danger signs is classified as having either

**Severe Pneumonia,
Pneumonia (not severe), or
No Pneumonia Cough or Cold**

On the following pages is a description of each of these classifications. Read this information carefully so that you know what signs to look for. The most important signs to consider when deciding if the child has pneumonia are

- * the child's **breathing rate**, and
- * whether or not there is **chest indrawing**

By first deciding if the child should be classified as having Very Severe Disease, and then deciding if he has pneumonia, you will be less likely to overlook an important sign and incorrectly treat a very sick child.

SEVERE PNEUMONIA

**A child with
chest indrawing
is classified as having *Severe Pneumonia*.**

A child with chest indrawing usually has severe pneumonia. Chest indrawing occurs when the lungs become stiff and the effort required to breathe in is much greater than normal.

A child with chest indrawing may not have fast breathing. If the child becomes tired, and if the effort needed to expand the stiff lungs is too great, then the child's breathing slows down. Therefore, chest indrawing may be the only sign that the child has severe pneumonia. A child with chest indrawing is at higher risk of death from pneumonia than the child with fast breathing without chest indrawing.

A child classified as having Severe Pneumonia might also have other signs

Nasal flaring, when the nose widens as the child breathes in

Grunting, the short sounds made with the voice when the child has difficulty breathing

Cyanosis, a blue skin colour, caused by hypoxia A child with a cyanosed tongue needs oxygen

A child with any of these other signs will also have chest indrawing or danger signs of very severe disease Thus, it is not necessary to teach these other possible signs to health workers However, if health workers already recognize them, the signs help support a classification of Severe Pneumonia

Some children with chest indrawing also have wheezing Children who have chest indrawing and *a first episode* of wheezing may have severe pneumonia However, children with chest indrawing and *recurrent* wheezing most often do NOT have severe pneumonia Chest indrawing in these children is caused by the recurrent wheezing (asthma), rather than severe pneumonia Therefore, they must be managed somewhat differently They must be further assessed before you can decide what kind of treatment is needed The instructions for doing the further assessment are described in Step 4, and are summarized in the "Treat Wheezing" box on the chart

TREATMENT

Treat a child who is classified as having Severe Pneumonia by referring him urgently to a hospital

- * The child should receive a first dose of antibiotic
- * Fever and wheezing, if present, should be treated

Management of the child classified as having Severe Pneumonia is summarized on the chart below

SIGNS	<ul style="list-style-type: none"> • Chest indrawing <p>(If also recurrent wheezing, go directly to <i>Treat Wheezing</i>)</p>
CLASSIFY AS	SEVERE PNEUMONIA
TREATMENT	<p>Refer URGENTLY to hospital Give first dose of an antibiotic</p> <ul style="list-style-type: none"> • Treat fever, if present Treat wheezing, if present <p>(If referral is not feasible, treat with an antibiotic and follow closely)</p>

PNEUMONIA (not severe)

A child who has

No chest indrawing
and has
Fast breathing
(50 per minute or more if 2 months up to 12 months
or 40 per minute or more if 12 months up to 5 years)

is classified as having *Pneumonia (not severe)*

A child with fast breathing and no chest indrawing is classified as having Pneumonia (which is not severe) Most children with pneumonia are not classified as having Severe Pneumonia, especially if they are brought early for treatment

TREATMENT

The child classified as having Pneumonia (not severe) should be treated at home with an antibiotic

- * Infections of the respiratory tract are caused by viruses or bacteria
- * Bacteria are killed by an antibiotic In developing countries, pneumonia is often caused by bacteria Antibiotic treatment can thus prevent many deaths from pneumonia if given early enough in the infection

Antibiotics do not kill viruses Although pneumonia also can be caused by a virus, there is no reliable way to distinguish viral from bacterial pneumonia For this reason, it is necessary to give the child an antibiotic whenever the child has signs of pneumonia

- * The mother must receive instructions on home care, including when to return if the child is getting worse and how to give the antibiotic
- * She should also be advised to return with the child in 2 days (48 hours later) for reassessment, or earlier if the child's breathing becomes more difficult or faster, he is not able to drink, or he seems sicker
- * Reassessment of the child on antibiotic therapy is very important because a few children will not respond to the antibiotic

Appendix A - WHO Protocol for Standard ARI Case Management

Management of the child who is classified as having Pneumonia is summarized on the chart below

SIGNS	<ul style="list-style-type: none"> • No Chest indrawing and • Fast breathing (50 per minute or more if child 2 months up to 12 months, 40 per minute or more if child 12 months up to 5 years)
CLASSIFY AS	PNEUMONIA
TREATMENT	<ul style="list-style-type: none"> • Advise mother to give home care • Give an antibiotic • Treat fever, if present • Treat wheezing, if present • Advise mother to return with child in 2 days for reassessment, or earlier if the child is getting worse

Reassess in 2 days a child who is taking an antibiotic for pneumonia			
SIGNS	WORSE	THE SAME	IMPROVING
TREATMENT	<ul style="list-style-type: none"> • Not able to drink • Has chest indrawing • Has other danger signs 	<ul style="list-style-type: none"> • Change antibiotic or Refer 	<ul style="list-style-type: none"> • Breathing slower • Less Fever • Eating Better
	<ul style="list-style-type: none"> • Refer URGENTLY to hospital 		<ul style="list-style-type: none"> • Finish 5 days of antibiotic

NO PNEUMONIA COUGH OR COLD

A child who has

No chest indrawing
and
No fast breathing
(Less than 50 per minute if 2 months up to 12 months
or less than 40 per minute if 12 months up to 5 years)

is classified as having *No Pneumonia Cough or Cold*.

Most children with cough or difficult breathing do not have any danger signs or signs of pneumonia (chest indrawing or fast breathing) These children have a simple cough or cold They are classified as having No Pneumonia Cough or Cold

TREATMENT

Treat the child who is classified as having No Pneumonia Cough or Cold by advising the mother to give home care

- * **DO NOT GIVE AN ANTIBIOTIC** to a child with a cough or cold who has no signs of pneumonia *It will not relieve the symptoms or prevent the cold from developing into pneumonia.*
- * Although the child with a cough or cold does not need an antibiotic, the mother has brought the child to clinic for an illness which concerns her These concerns need to be addressed and advice given on good home care It is very important that she watch for signs of pneumonia and return if these develop Good care for the child with a simple cough or cold will help assure that the mother will return for further treatment if the child does develop pneumonia

However, some children with a cough or cold have additional problems you must consider

- * Normally a child with a cold will get better in one to two weeks However, a child with a chronic cough (coughing more than 30 days) may have tuberculosis, asthma, whooping cough or another problem Refer the child with a chronic cough to a hospital for further assessment
- * If the child has an ear problem (ear pain or pus draining from the ear) or, sore throat, you should assess the child further
- * Assess and treat other problems such as diarrhea, malnutrition or skin problems Check the child's immunization status and immunize if needed

Appendix A - WHO Protocol for Standard ARI Case Management

Management of the child who is classified as having No Pneumonia Cough or Cold is summarized on the chart below

SIGNS	<ul style="list-style-type: none"> » No chest indrawing, and » No fast breathing <p>(Less than 50 per minute if child 2 months up to 12 months, Less than 40 per minute if child 12 months up to 5 years)</p>
CLASSIFY AS	<p>NO PNEUMONIA COUGH OR COLD</p>
TREATMENT	<ul style="list-style-type: none"> » if coughing more than 30 days, refer for assessment » Assess and treat ear problem or sore throat, if present (see chart) » Assess and treat other problems » Advise mother to give home care » Treat fever, if present » Treat wheezing, if present

SUMMARY REVIEW
Classify the Illness of
The Child Age 2 Months up to 5 Years

* **VERY SEVERE DISEASE**

A child with any **danger sign** is classified as having **Very Severe Disease** The danger signs are

Not able to drink
Convulsions
abnormally sleepy or difficult to wake
Stridor in calm child or

Severe malnutrition

A child who is classified as having Very Severe Disease should be referred urgently to the hospital

* **SEVERE PNEUMONIA**

A child with **chest indrawing** is classified as having **Severe Pneumonia** The child should be referred urgently to the hospital

However, children with both chest indrawing and recurrent wheezing may have asthma, rather than severe pneumonia These children are managed differently

* **PNEUMONIA (not severe)**

The cutoffs for fast breathing are

60 times per minute or more if the young infant is age less than 2 months,
50 times per minute or more if the child is age 2 months up to 12 months,
40 times per minute or more if the child is age 12 months up to 5 years

A child with **fast breathing** and no chest indrawing is classified as having **Pneumonia (not severe)**

Children classified as having Pneumonia should be given antibiotics and home care Mothers of these children should be told to bring the child back after two days for reassessment, or earlier if the child worsens

* **NO PNEUMONIA COUGH OR COLD**

A child who does not have chest indrawing, and who does not have fast breathing is classified as having **No Pneumonia Cough or Cold**

He should be given home care He should NOT be given antibiotics

SECTION 3 CLASSIFY THE ILLNESS OF THE YOUNG INFANT (AGE LESS THAN TWO MONTHS)

In this section you will use the signs from the assessment to classify the illness of the young infant with cough or difficult breathing, and identify the appropriate treatment plan. The process is similar to the one you learned in Section 2 for the child age 2 months up to 5 years.

However, young infants have special characteristics that must be considered when classifying their illness. They can become sick and die very quickly from serious bacterial infections, are much less likely to cough with pneumonia, and frequently have only non-specific signs such as poor feeding, fever, or low body temperature. Further, mild chest indrawing is normal in young infants because their chest wall is soft.

The presence of these characteristics means that you will assess, classify and treat the young infant somewhat differently than an older child. The differences between the two age groups are described in detail in this chapter, but a summary of the most important differences are:

- * Some of the danger signs are different. In a young infant, danger signs include "stopped feeding well", "fever or low body temperature", and "wheezing". The sign "severe malnutrition" is not used as a danger sign in young infants, although it is used as a danger sign in the older child.
- * A young infant must have *severe* chest indrawing to be classified as having Severe Pneumonia. A child age 2 months up to 5 years is classified as having Severe Pneumonia if there is *any* chest indrawing that is clearly visible.
- * The cutoff for fast breathing is different. In the young infant age less than two months, the child has fast breathing when he is breathing 60 times per minute or more. In the child age 2 months up to 12 months, the child has fast breathing when he is breathing 50 times per minute or more. In the child age 12 months up to 5 years, the child has fast breathing when he is breathing 40 times per minute or more.
- * Any pneumonia in young infants is considered to be "severe", cannot be treated at home, and should be referred immediately to a hospital. Older children can be classified as having "Pneumonia" (which can be treated at home with an antibiotic), or "Severe Pneumonia" (which is referred urgently to a hospital).

3 1 Identify the boxes on the chart that describe how to classify the illness of the young infant

Look at the case management chart on the wall and find the boxes under the heading, "Classify the Illness " Then find the subheading

**THE YOUNG INFANT
(AGE LESS THAN TWO MONTHS)**

Use the boxes below this subheading to classify the illness of a young infant

3 2 Decide if the young infant has VERY SEVERE DISEASE

As stated earlier, there are three classifications of illness for a young infant with a cough or difficult breathing Very Severe Disease, Severe Pneumonia, and No Pneumonia Cough or Cold To classify the young infant's illness, you must follow the steps as they are presented in this chapter The first step is to decide if the young infant should be classified as having Very Severe Disease

You can decide if a young infant should be classified as having Very Severe Disease by using the clinical information from the assessment to decide if the young infant has a "danger sign " **Ask this question about EVERY young infant with a cough or difficult breathing**

Does the child have danger signs?

**A young infant with
any danger sign
is classified as having *Very Severe Disease***

A young infant with a danger sign may have Very Severe Disease, and be at high risk of dying It is difficult to distinguish between infections such as pneumonia, sepsis and meningitis in such an infant However, it is not necessary to make this distinction You must only recognize the danger signs and know that the young infant has Very Severe Disease

Some of the danger signs in children age 2 months up to 5 years are also danger signs in young infants

**CONVULSIONS,
ABNORMALLY SLEEPY OR
DIFFICULT TO WAKE**

A young infant with these signs may have hypoxia, sepsis or meningitis (Malaria infection is unusual in children this age, so antimalarial treatment for possible cerebral malaria is not advised)

STRIDOR IN CALM CHILD

Infections causing stridor are rare in young infants A young infant who has stridor when calm should be classified as having very severe disease

Appendix A - WHO Protocol for Standard ARI Case Management

However, some signs are danger signs in a young infant, but not in an older child

STOPPED FEEDING WELL If a young infant stops feeding well (that is, takes less than half of the usual amount of milk), this is a danger sign [Older children often stop feeding well with respiratory infections, but this is not a danger sign for them. The danger sign in the older child is "not able to drink"]

WHEEZING Wheezing is uncommon in young infants, and is often associated with hypoxia

FEVER, OR LOW BODY TEMPERATURE Fever (38°C or more) is uncommon in the first two months of life and more often means a serious bacterial infection than in older children. In addition, fever may be the only sign of a serious bacterial infection. Young infants can also respond to infection by dropping their temperature below 35.5°C (hypothermia)

TREATMENT

The treatment for a young infant who is classified as having Very Severe Disease is URGENT referral to a hospital

- * Write a note to the referral hospital, and make sure that the mother is willing and is able to take the young infant to the hospital immediately
- * Give the first dose of antibiotic
- * Keeping a sick young infant warm is very important. Low temperature alone can kill young infants. Wrapping the young infant next to the mother is a good way to keep him warm while en route to the hospital

Management of the young infant who is classified as having Very Severe Disease is summarized on the chart below

SIGNS	<ul style="list-style-type: none"> • Stopped feeding well, • Convulsions, • Abnormally sleepy or difficult to wake, • Stridor in calm child, • Wheezing, or • Fever or low body temperature
CLASSIFY AS	VERY SEVERE DISEASE
TREATMENT	<ul style="list-style-type: none"> • Refer URGENTLY to hospital • Keep young infant warm • Give first dose of an antibiotic.

Locate this section on the full-sized chart now

48

3 3 Decide if the young infant has pneumonia

If you identified a danger sign in the preceding step, you have already classified the young infant's illness, and you know to refer the young infant urgently to a hospital. Do not try to also determine if the young infant has pneumonia. **Each young infant should be put in a single classification.**

However, if you did **not** identify a danger sign, the next step is to use the clinical information from the assessment to decide

Does the child have pneumonia?

Ask this question only about young infants who do not have danger signs. The young infant without danger signs has either

Severe Pneumonia
or
No Pneumonia Cough or Cold

Note that the classification Pneumonia (not severe) is not included as it was for older children. Young infants can become sick and die **very quickly** from serious bacterial infections such as pneumonia, sepsis and meningitis. Therefore, any young infant who has a sign of pneumonia is classified as having Severe Pneumonia.

On the following pages is a description of the two classifications that apply to young infants. Read this information carefully so that you know what signs to look for. The most important signs to consider when deciding if the young infant has pneumonia are

- * the **breathing rate**, and
- * whether or not there is **severe chest indrawing**

Look at the chart to find the one box that matches the young infant's signs. By first deciding if the young infant should be classified as having Very Severe Disease, and then deciding if he has pneumonia, you will be less likely to overlook an important sign and incorrectly treat a very sick young infant.

Locate the signs of pneumonia and the classifications of Severe Pneumonia and No Pneumonia Cough or Cold in the boxes below. Then find these boxes on the full-sized chart.

SIGNS	<ul style="list-style-type: none"> • Severe chest indrawing, or • Fast breathing (60 per minute or MORE) 	<ul style="list-style-type: none"> • No severe chest indrawing, and • No fast breathing (LESS than 60 per minute)
CLASSIFY AS	SEVERE PNEUMONIA	NO PNEUMONIA COUGH OR COLD
TREATMENT	<ul style="list-style-type: none"> • Refer URGENTLY to hospital • keep young infant warm • Give first dose of an antibiotic <p>(If referral is not feasible treat with an antibiotic and follow closely)</p>	<ul style="list-style-type: none"> • Advise mother to give the following home care <p>Keep young infant warm Breast-feed frequently Clear nose if it interferes with feeding Return quickly if Breathing becomes difficult Breathing becomes fast Feeding becomes a problem The young infant becomes sicker</p>

SEVERE PNEUMONIA

A young infant who has

Fast breathing
(60 times per minute or more),
or
Severe chest indrawing

is classified as having *Severe Pneumonia*

Young infants usually breathe faster than older children. The breathing rate of a healthy young infant is commonly more than 50 breaths per minute. Therefore, a rate of 60 breaths per minute is used to identify fast breathing in a young infant.

REMEMBER

Fast breathing in a young infant is
60 per minute or more

Mild chest indrawing is normal in young infants because their chest wall is soft. However, severe chest indrawing (very deep and easy to see) is a sign of pneumonia.

Since pneumonia in a young infant can progress very rapidly to death, all pneumonia is considered severe in this age group.

TREATMENT

Treat the young infant with severe pneumonia by referring him URGENTLY to a hospital. He needs antibiotics by injection. Home care with antibiotics is much less effective and is not recommended.

- * Write a note to the referral hospital, and make sure that the mother is willing and is able to take the young infant to the hospital immediately.
- * Give the first dose of antibiotic.
- * Keeping a sick young infant warm is very important. Low temperature alone can kill young infants. Wrapping the young infant next to the mother is a good way to keep him warm while en route to the hospital.

Follow the recommendations in Annex A if referral is not feasible.

NO PNEUMONIA COUGH OR COLD

A young infant who has
No Fast breathing
(less than 60 times per minute),
and has
No chest indrawing or danger signs
is classified as having *No Pneumonia Cough or Cold*

Young infants who have neither fast breathing nor chest indrawing, and have no other signs of very severe disease, do not have pneumonia. They have a simple cough or cold.

TREATMENT

The young infant who does not have signs of pneumonia (or danger signs) can be treated at home without antibiotics. Give the mother advice on how to care for the young infant at home.

- * Emphasize that it is important she
 - Keep the young infant warm,
 - Continue to breast-feed,
 - Clear the nose if it interferes with feeding.
- * A young infant can become very sick very quickly. Treat the young infant by telling the mother to return immediately if

Breathing becomes difficult, Breathing becomes fast, Feeding becomes a problem, or The young infant becomes sicker.

SUMMARY REVIEW
Classify the Illness of The Young Infant

* **VERY SEVERE DISEASE**

A young infant with **any danger sign** is classified as having **Very Severe Disease**. The danger signs are

Stopped feeding well
Convulsions
Abnormally sleepy or difficult to wake
Stridor or wheezing
Fever or low body temperature

The young infant classified as having Very Severe Disease should be referred **URGENTLY** to a hospital

* **SEVERE PNEUMONIA**

A young infant who breathes 60 times per minute or more has fast breathing

A young infant who has **fast breathing** or **severe chest indrawing** is classified as having **Severe Pneumonia**

The young infant classified as having Severe Pneumonia should be referred **URGENTLY** to a hospital

* **NO PNEUMONIA COUGH OR COLD**

A young infant who is **breathing less than 60 times per minute**, and has **no severe chest indrawing or danger signs**, is classified as having **No Pneumonia Cough or Cold**

Mothers of young infants classified as having No Pneumonia Cough or Cold should be told to give home care, and to return immediately if the young infant's illness worsens, breathing becomes difficult or fast, or feeding becomes a problem

Young infants classified as having No Pneumonia Cough or cold should not be given antibiotics

SECTION 4 TREATMENT INSTRUCTIONS

In sections 2 and 3 you classified the illness of a child with cough or difficult breathing and identified the appropriate treatment for each classification. In this section you will learn how to provide each of these treatments.

The treatments include

- Give an antibiotic,
- Advise mothers to give home care,
- Treat fever, and
- Treat wheezing

Look at the full-sized chart and find the heading, "Treatment Instructions." Then look at the boxes underneath this heading, and find the box that matches each of the four treatments listed above. Use these boxes when treating a child with a respiratory infection.

4.1 GIVE AN ANTIBIOTIC

WHO recommends treating pneumonia by giving one of the following antibiotics for five days:

Cotrimoxazole,
Amoxicillin, or (in tablet or syrup form)
Ampicillin
or
Procaine penicillin¹⁰
(by daily intramuscular injection)

You and your health workers need to learn how to give only the antibiotic or antibiotics used in your health centre. Instructions are presented here for giving an oral antibiotic.

NOTE: If the child cannot take an oral antibiotic (for example, if he is unable to drink or will not wake up), you will need to give a parenteral antibiotic. If you cannot give parenteral antibiotics, refer the child as quickly as possible without giving the first dose.

Cautions About Giving an Antibiotic

- * *Do not give cotrimoxazole to a jaundiced baby, or to a premature baby less than one month old.*
- * *Do not give amoxicillin, ampicillin, procaine penicillin, or benzathine penicillin if the child has a history of breathing trouble or anaphylaxis (allergic reaction) after a penicillin treatment.*

¹⁰ WHO does not recommend using benzathine penicillin or oral penicillin V for treatment of pneumonia.

4.2 GIVE THE FIRST DOSE OF THE ANTIBIOTIC

The child needs to receive the first dose of the antibiotic in the health centre, whether the child will be referred to a hospital or continued on treatment at home (If the referral time is less than an hour, such as in an urban area, it may not be necessary to give the first dose at the health centre) If the child is to be treated at home by the mother, the health worker should use this opportunity to demonstrate how to give the antibiotic

Following are the steps in giving an antibiotic in tablet (or syrup) form

1. Decide the right dose of antibiotic to give
 - a. Check the milligrams per tablet (or per 5 ml of syrup) written on the package
 - b. Weigh the child. If a scale is not available, use the child's age to determine the dose
 - c. Use the dosing table on the bottom of the case management chart (reproduced on the next page) to determine the dose, based on the tablet (or syrup) and the age or weight of the child

EXAMPLE. To treat an 11-month-old child with pediatric cotrimoxazole tablets

Check to make sure the tablet is a 20 mg tablet (the pediatric dosage)

Use the table to determine a single dose for an 11-month-old child: two 20 mg tablets. The total daily dose is four 20 mg tablets (i.e., two 20 mg tablets given twice each day). Give this amount each day for five days.

Use the table below to determine the correct dose for each child and young infant in need of antibiotic treatment

<i>Antibiotics</i>	Cotrimoxazole			Amoxicillin		Ampicillin		Procaine penicillin (intramuscular)
	Adult tabs	Pediatric tabs	Oral susp	Tablets 250mg	Oral susp	Tablets 250mg	Oral sus	
Times per day	2	2	2	3	3	4	4	1
Days	5	5	5	5	5	5	5	5
A < 2 mo	¼	1*	2.5ml*	¼	2.5 ml	½	2.5 ml	200,000 units
G 2-11 mo	½	2	5 ml	½	5 ml	1	5 ml	400,000 units
E 1 up to 5yr	1	3	7.5ml	1	10 ml	1	5 ml	800,000 units
Return in	2 days			2 days		2 days		2 days

* If the child is less than 1 month old, give ½ pediatric tablet or 1.25 ml syrup twice daily. Avoid cotrimoxazole in infants less than 1 month who are premature or jaundiced.

- 2 Crush the antibiotic tablet and mix it with a small amount of food to make it easier for the child to swallow. Ask the mother what she has at home to mix the powder with, such as porridge. If the child is only breast-feeding, tell her she should mix expressed breast milk with the powder in a clean bowl.
- 3 Ask the mother to give the antibiotic to the child. The child may accept the antibiotic more easily from the mother. This also gives the mother a chance to try giving the antibiotic once before leaving the health centre. If the child spits out the antibiotic or vomits within a half hour, repeat the dose.

4.3 TEACH THE MOTHER TO GIVE THE ANTIBIOTIC AT HOME

- 1 Explain carefully to the mother how much of the antibiotic to give, how many times daily, and when to give it. Write it down for her. If she cannot read, draw a simple picture.
- 2 Give the mother enough antibiotic for 5 days. Explain to the mother that she must
 - Give the child the antibiotic for 5 days, and
 - Finish the five-day treatment, even if the child seems better.
- 3 Make sure that the mother understands all the instructions and will be able to carry them out. There are several ways to do this
 - Ask the mother to repeat the instructions (e.g., the dosage). Then, correct any misinformation.
 - Ask the mother to demonstrate what she has heard. Then, if necessary, show her again how to do the step correctly.
 - Help the mother plan how she will give the antibiotic on the dosing schedule.
 - Ask her what problems she might have giving the child the antibiotic. Then, help her to overcome any problems. For example
 - * If she is working away from home and will have difficulty giving all doses, help her identify someone who could care for the child and give the child the antibiotic when she is away.
- 4 Advise the mother on how to give home care (described later in this section).
- 5 Ask the mother to bring the child back to be reassessed in 2 days, or sooner if the child worsens. You need to reassess the child to see whether the child is improving with the antibiotic.

Treatment instructions should always end with the mother knowing what to do at home and how to do it

4 4 REASSESS IN 2 DAYS A CHILD WHO IS TAKING ANTIBIOTICS FOR PNEUMONIA

The mother of any child receiving an antibiotic for pneumonia should bring the child back in two days, or sooner if the child worsens. During reassessment, follow the same procedures for assessing a child with cough or difficult breathing for the first time (See Section 1)

Use the information about the child's signs to decide whether the child is

Worse
The same
Improving

The child has **worsened** if the child has more difficult breathing, is not able to drink, has chest indrawing, or has other danger signs. This child needs urgent referral to a hospital.

A child that is **improving** is breathing slower. He may also have other signs of improvement, such as less fever (the fever is lower or has gone completely), or eating better. The cough may still be present. Tell **the mother** to finish the 5 days of antibiotic.

If the child is the same as at the last assessment, ask the **mother whether the** child received the antibiotic. There may have been problems so that the child did not receive any of the antibiotic, or received too low or too infrequent a dose. (For example, the child may have refused it, or **it may have gotten** ruined or lost.) If so, this child can be tried again on the same antibiotic.

If the child received the antibiotic, change the antibiotic (if you have another appropriate antibiotic available for childhood pneumonia). Give the other antibiotic for 5 days in the correct dosage.

- If the child was taking cotrimoxazole, switch to ampicillin, amoxicillin or procaine penicillin,
- If the child was taking ampicillin, amoxicillin or procaine penicillin, switch to cotrimoxazole.

If you do not have another appropriate antibiotic available, refer the child to a hospital.

4 5 ADVISE MOTHER TO GIVE HOME CARE

Home care is very important for the child with an acute respiratory infection, and most children you manage will be treated with it. Good home care means the mother will

- * Feed the child to avoid weight loss. Weight loss can contribute to malnutrition.
- * Increase fluids to avoid dehydration. Dehydration can weaken the child and make the child even sicker.
- * Relieve the child's sore throat and cough.
- * Most important! Watch for signs that the child is getting sicker so she knows when to bring the child back to the health worker.

It is your responsibility to teach the mother how to provide home care, and to make sure she understands why it is important. If the child has a simple cough or cold, explain why the child will not get an antibiotic. Thank the mother for bringing the child to the health centre, so she is more likely to return if the child seems worse.

Home care advice for mothers of children age 2 months up to 5 years is summarized on the chart below, and described in the pages that follow.

Advise Mother to Give Home Care (for the child age 2 months up to 5 years)*

Feed the child

Feed the child during illness
Increase feeding after illness
Clear the nose if it interferes with feeding

Increase fluids

Offer the child extra to drink
Increase breast-feeding

Soothe the throat and relieve the cough with a safe remedy

Most Important In the child classified as having No Pneumonia Cough or Cold, watch for the following signs and return quickly if they occur

Breathing becomes difficult
Breathing becomes fast
Child is not able to drink
Child becomes sicker

* See section on young infant for home care instructions for that age group

Feed the child

• *Feed the child during illness*

Give the child older than 4-6 months of age foods with the highest amount of nutrients and calories relative to bulk. Depending on the child's age, these should be mixes of cereal and locally available beans, or mixes of cereal and meat or fish. Add oil to these foods to make them more energy-rich¹¹. Dairy products and eggs are also suitable. Encourage the child to eat as much as the child wants. If the child is less than four months old or has not started taking weaning foods, encourage the mother to breast-feed frequently.

• *Increase feeding after illness*

A child often eats less while sick. Therefore, after the respiratory infection is over, give one extra meal each day for a week, or until the child has regained normal weight. This will help the child regain normal health and prevent malnutrition. Malnutrition increases the chance that the next time the child gets a respiratory infection or diarrhoea, he will become more seriously ill.

• *Clear the nose if it interferes with feeding*

Use a soft cloth if a blocked nose is interfering with the child's feeding. If the nose is blocked due to dry or thick, sticky mucus, salted water can be put in the nose using a moistened wick to help soften the mucus.

11

This is the same energy-rich food recommended for weaning, for a child with malnutrition or for feeding during and after diarrhoea. Health workers should be familiar with local recipes which are energy- and nutrient-rich, composed of readily available ingredients and compatible with existing practices and beliefs regarding feeding of children during health and illness.

SPECIAL FEEDING ADVICE

- * *Continue to feed a child who cannot suck well due to stomatitis* Severe stomatitis (inflammation of the mouth) can prevent effective sucking. If this happens, teach the child's mother to express her breast milk or to prepare safe milk feeds, and show her how to feed the child with a cup and spoon. Stomatitis often occurs in children with measles.
- * *Feed a child with whooping cough, even if he vomits frequently* Pay special attention to children with whooping cough, who may vomit frequently. This child may become malnourished. The mother should offer food frequently during and after the illness.
- * *Bring the child with measles or whooping cough back to the health centre if he is not able to eat and is losing weight*

Increase fluids.

- *Offer the child extra to drink*
A child with a respiratory infection can lose more fluids than usual, especially when he has a fever. Tell the mother to give additional fluids: more breast milk, clean water, milk, clear liquids, or juice.
- *Increase breast-feeding*
If the child is only breast-feeding, advise the mother to breast-feed more frequently than usual.

Soothe the throat and relieve the cough with a safe remedy

The mother can soothe the child's throat and relieve the cough by giving the child tea with sugar or honey or a safe, home-made cough syrup or soothing remedy¹². She can also use a commercial remedy which does not contain any harmful ingredients¹³. However, these medicines are often expensive and usually work no better than home remedies.

Most important! Watch for signs of pneumonia

Instruct the mother of a child classified as having No Pneumonia Cough or Cold to watch for the following signs, and to bring the child back quickly to the health worker if she sees that

- Breathing becomes difficult
- Breathing becomes fast
- Child is not able to drink
- Child becomes sicker

Explain to her that if the child has any of these signs, he may have a serious illness called pneumonia.

¹² Some health centres will provide an effective soothing remedy. Follow the policy of your national programme.

¹³ The health worker should review the common commercial cough and cold remedies, so he can tell the mothers which ones contain potentially harmful ingredients such as atropine, codeine, alcohol, or high doses of antihistamines and which ones are not harmful and may be symptomatically helpful (such as a safe cough syrup).

4 6 TREAT FEVER

Fever is common in acute respiratory infections. The method of treating fever in a child age 2 months up to 5 years will depend on whether the fever is high or low.

IF the fever is **high** (39°C or more, 102.2°F or more)

A child with a high fever will feel and eat better if the fever is lowered with paracetamol. It is harder for a child with pneumonia to breathe when he has a high fever.

Tell the mother to give the child paracetamol every six hours in the appropriate dosage until the high fever stops. Give the mother enough paracetamol for two days.

PARACETAMOL doses	--> every six hours	
	100 mg Tablet	500 mg tablet
Age or weight		
2 months up to 12 months, 6-9 kg	1	1/4
12 months up to 3 years, 10-14kg	1	1/4
3 years up to 5 years, 15-19 kg	1 ½	½

IF the fever is **low** (38° up to 39°C, 100.4°F up to 102.2°F)

Advise the mother to give more fluids. Paracetamol is not needed.

Tell the mother to keep the child with any fever (38°C or more) lightly clothed. She should not overwrap the child or overdress him. It is uncomfortable and may make the fever worse.

Children age 2 months up to 5 years should NOT be given antibiotics if they have fever alone. However, fever is a danger sign in young infants, so a young infant with fever should be given a first dose of antibiotic and referred to a hospital. He should not be given paracetamol for fever.

ADDITIONAL COMMENTS ABOUT FEVER

In areas with falciparum malaria

A child who comes to a health centre with cough or difficult breathing and a fever of 38°C or more (or history of fever) may have a malaria infection which can quickly become serious. Therefore, an antimalarial is usually given to treat possible falciparum malaria. In some cases this means that you will give the child with pneumonia and a fever of 38°C or more (or a history of fever) an antibiotic for pneumonia and an antimalarial for malaria.

If the child has fever for more than 5 days

If the child continues to have a fever 38°C or more for more than five days, refer the child to a hospital for further assessment.

4.7 TREAT WHEEZING

This section describes how to treat a child age 2 months up to 5 years with a first episode of wheezing, and how to assess a child who has recurrent wheezing

The Child with a First Episode of Wheezing

Use a bronchodilator to treat a child with a first episode of wheezing. A bronchodilator¹⁴ is a drug that helps some children breathe easier by opening the air passages of the lungs and relaxing the bronchospasm.

Before giving the bronchodilator, look to see if the child is in "respiratory distress." A child in respiratory distress is uncomfortable, and is obviously not getting enough air into the lungs. The child may have trouble feeding or talking because he cannot get enough air. This condition can usually be recognized by simple observation. However, most children who wheeze are not in respiratory distress. They are alert and are getting enough air into their lungs.

- * *If the child is in respiratory distress, give a rapid-acting bronchodilator and refer the child to a hospital.*

The bronchodilator should be given in rapid-acting form so that the child begins to breathe easier before he is referred.

If your health centre is not able to administer rapid-acting bronchodilators, give the first dose of an oral bronchodilator (described below), and refer the child immediately to a hospital.

- * *If the child is NOT in respiratory distress, give an oral bronchodilator (preferably salbutamol) in the appropriate dosage, and show the mother how to give it.*

If the child will be referred for other reasons (if the child has danger signs or chest indrawing), give a single dose of salbutamol. If there is no other reason for referral, treat the child based on other signs you see (such as fast breathing or fever) and give the mother enough salbutamol for 5 days of treatment. Tell her to give it 3 times a day.

¹⁴

Salbutamol and epinephrine are two of the most common and effective bronchodilators. Salbutamol is safer than epinephrine because there is much less danger of an overdose. Therefore, if available, use salbutamol to treat children who are wheezing.

The Child with Recurrent Wheeze (Asthma)

Use a bronchodilator to further assess a child with recurrent wheeze (asthma) This assessment will help avoid sending many children to a hospital because you think they have pneumonia, when in fact they have asthma, which may not need to be referred

- * Give the bronchodilator in rapid-acting form to all children with recurrent wheezing ^{1 5}
- * Assess the child 30 minutes after giving the rapid-acting bronchodilator

IF THE CHILD HAS	THEN
Respiratory distress or any danger sign	Follow the treatment plan for Severe Pneumonia or Very Severe Disease
No respiratory distress and	
Fast breathing	Follow the treatment plan for Pneumonia Give oral salbutamol in the dosages described in the tables on the next page
No fast breathing	Follow the treatment plan for No Pneumonia Cough or Cold Give oral salbutamol in the dosages described in the tables on the next page

If a child with recurrent wheezing also has a danger sign, you should remember that this child needs URGENT referral to a hospital Since the assessment process for recurrent wheezing requires additional time, it may cause an unacceptable delay in referral You will learn with clinical experience which children with recurrent wheezing and a danger sign should be further assessed with a rapid-acting bronchodilator, and which should be referred without the further assessment

Most children with recurrent wheezing have asthma They may come often to the health centre with wheezing You will come to recognize these children and treat them promptly with a bronchodilator

¹⁵ If you do not have a rapid-acting bronchodilator, you can try giving the child an oral bronchodilator (such as salbutamol) instead

ANNEX A REFERRING A CHILD TO A HOSPITAL

RATIONALE FOR REFERRAL

A referral should only be made if you expect the child will actually receive better care at another facility. In some cases, giving the child the best care you have available is better than sending the child on a long trip to a referral hospital that may not have the supplies or the expertise to care for the child.

REFERRING THE CHILD

The following are recommended steps in referring a child to a hospital:

- 1 Explain to the mother that her child needs treatment in a hospital. Get her agreement to take the child. If she says that she does not want to take the child, identify her reasons. Help calm her fears and solve other difficulties she may have.
- 2 Discuss with the mother how she can travel to the hospital.
- 3 Administer the first dose of an antibiotic (and any other treatment, such as paracetamol, an antimalarial, and salbutamol, if indicated). Do not delay referral if these medicines cannot be given promptly.
 - * If you only have an oral antibiotic, give the antibiotic only if the child is able to drink and can safely swallow the antibiotic.
 - * If there is a long referral time, give additional doses of antibiotic for the mother to give en route (at the appropriate dosing schedule).
 - * If referral is uncertain, give the mother the full 5-day course of the antibiotic.
- 4 Make sure the mother keeps the young infant warm during transport.
- 5 Give any other treatment that may be needed, such as treating fever, wheezing or suspected cerebral malaria.
- 6 Write a referral note for the mother to take with her to the hospital. Tell her to give it to the health worker who sees her child. Write:
 - The signs you have seen
 - How you classified the illness
 - The treatment that you have given
 - Any other information that the health worker at the referral facility needs to know in order to care for the child, such as earlier treatment of the illness

WHEN REFERRAL IS NOT FEASIBLE

The best possible treatment for a child with a very serious illness is at a hospital, if the hospital is able to provide adequate assessment and treatment

Sometimes referral is not feasible. Distances to a hospital might be too far, the hospital may not have the equipment or staff to care for the child, or adequate transportation might not be available. Occasionally parents refuse to take a child to a hospital, in spite of the efforts of the health worker to explain the need for referral.

If referral is not feasible, then the health worker should do whatever he can to help the family care for the child. This may mean having the child stay near the health centre to be seen several times a day, or arranging for visits at home. Health workers can provide the following essential care:

1 *Treat the child With an effective antibiotic (if an antibiotic is indicated by the treatment plan)*

The Child Age 2 Months up to 5 Years:

Intramuscular chloramphenicol is the best choice of a single antibiotic for a child with a severe infection. It treats both children who have severe pneumonia and children with danger signs who may have meningitis. It can be given to a child who is not able to drink. Treat for at least five days. Continue the treatment for three days after the child is well.

If parenteral chloramphenicol is not available, then the next best is oral chloramphenicol by mouth or by nasogastric tube. Give oral-chloramphenicol in the same dosage as parenteral chloramphenicol.

If chloramphenicol is not available in any form, then give the child benzylpenicillin intramuscular, or the oral pneumonia antibiotic that you are using in your health centre by mouth or nasogastric tube. Give the oral antibiotic for five days in the amounts and with the frequency specified on the "Give an Antibiotic" box on the chart. If the child vomits, repeat the dose.

The Young Infant

Give intramuscular benzylpenicillin and gentamicin for five days in the amounts and frequency specified in the dosage box on the next page. Treat for at least five days. Continue the treatment for 3 days after the child is well.

If intramuscular benzylpenicillin and gentamicin are not available, then give the young infant the oral pneumonia antibiotic that you are using in your health centre by mouth or nasogastric tube. Give it for five days in the amounts and with the frequency specified in the "Give an Antibiotic" box on the chart. If the young infant vomits, repeat the dose.

2 *Keep the young infant warm*

Small and ill infants lose heat rapidly, especially when wet. Feel the young infant's hands and feet. They should be warm. Keeping the young infant warm is especially important.

To maintain the body temperature, keep the sick young infant dry and well wrapped. If possible, have the mother keep her young infant next to her body, ideally between the breasts. A hat or bonnet will help prevent heat loss from the head. Keep the room warm, if possible.

3 *Clear secretions*

When the nose is blocked, use a plastic syringe to gently suck any secretions from the nose. A blocked nose can interfere with feeding (See section 4 for instructions on clearing the nose)

4 *Treat fever, if present*

Fever increases consumption of oxygen. In the child age 2 months up to 5 years, control the fever by giving paracetamol every six hours. In a falciparum malarious area, also give an antimalarial according to your malaria programme guidelines.

5 *Manage the child's fluids carefully*

Children with pneumonia or very severe disease can become overloaded with fluids easily. They should not be given too much fluid.

On the other hand, children with pneumonia or very severe disease often lose fluids during a respiratory infection, especially if there is fever. They can go into shock if they do not receive adequate fluid. Therefore, you should give fluids, cautiously.

- Encourage the mother to continue breast-feeding, if the child is not in respiratory distress. If the child is too ill to breast-feed the mother can express milk into a cup and feed the child with a spoon, slowly.
- If the child is not able to drink and you know how to insert a nasogastric tube, do so. Avoid using a nasogastric tube if the child is in respiratory distress. Give the following until the child can drink.

Give milk or formula by nasogastric tube

Age less than 12 months 5ml/kg/hour (total of 120ml/kg in 24 hours)

Age 12 months up to 5 years 3-4 ml/kg/hour (total of 72-96ml/kg in 24 hours)

or frequent breast-feeding

- Avoid giving fluids intravenously unless the child is in shock.

For more detailed information on dosage and duration of treatment, see *Acute Respiratory Infections in Children Case Management in Small Hospitals in Developing Countries - A Manual for Doctors and Other Senior Health Workers*. Although the manual is not written for health centres, it describes how to treat children with severe pneumonia and very severe disease. The manual might be useful in a health centre when there is no hospital for referral (Request a copy from your national programme)

ANNEX B TECHNICAL BASES FOR STANDARDIZED CASE MANAGEMENT OF ACUTE RESPIRATORY INFECTIONS¹

Importance of bacterial pneumonia

Present evidence indicates that in the developing countries bacteria play a far greater role as causes of pneumonia in children than they do in developed countries. Two kinds of data lend support to this evidence: etiological studies of pneumonia and information on the prevalence of nasopharyngeal carriers of pathogenic bacteria. These studies also have consistently demonstrated that *Streptococcus pneumoniae* and *Haemophilus influenzae* are the most frequently isolated bacteria. These two bacteria accounted for more than two thirds of all bacterial isolates, 73.9% of lung aspirate isolates, and 69.1% of blood isolates.

Pneumonia is often caused by multiple microbial agents. Concurrent bacterial infection is quite frequent in children who have an acute viral infection. Viral infections may alter the host defense factors and reduce the efficiency of the antibacterial activities of the lungs, creating suitable conditions for invasion by the pathogenic bacteria that are commonly present in the upper respiratory tract. In about 20% of confirmed cases of viral acute lower respiratory infection (pneumonia or wheeze) a bacterial superinfection was also demonstrated by culture of blood or lung aspirates. In view of the number of false-negative results that are expected with these isolation techniques, the true positivity should be higher. Mixed bacterial and viral infections in children are also being recognized more frequently in developed countries. Therefore, the presence of a viral infection does not exclude concomitant bacterial infection.

Effectiveness of the standard case management intervention

On the assumption that early treatment with antimicrobials that are effective against *S pneumoniae* and *H influenzae* can prevent deaths from pneumonia in children, WHO has sponsored seven studies in recent years to determine the impact of a standard case management strategy implemented through the primary health care system, including community health workers. The studies were conducted in Haryana, India, Kediri, Indonesia, Jumla and Kathmandu Valley, Nepal, Abbottabad, Pakistan, Bohol Island, Philippines, and Bagamoyo, United Republic of Tanzania, two other similar studies were carried out in Matlab, Bangladesh, and Gadchiroli, India. Taken together, the results provided epidemiological and clinical evidence that the case management strategy was effective. A substantial impact on pneumonia-specific mortality rates in children was found, which was also reflected in a reduction in overall childhood mortality. This effect was also detectable in high-risk groups such as low-birth-weight infants (in Haryana, India), in cases with high prevalence of malnutrition (in Gadchiroli, India), in areas with high infant mortality (most studies), and in settings in which case management relied almost entirely on community health workers and home treatment because referral was very difficult (most studies).

¹ The information in this annex is an excerpt of the document, *Technical bases for the WHO recommendations on the management of pneumonia in children at first-level health facilities*, WHO Programme for the Control of Acute Respiratory Infections, Geneva, 1991

Very probably, the pneumonia episodes detected and treated in the intervention areas represented a fraction of the total incidence, in all studies, since many children might have had pneumonia which passed unnoticed by the parents. In fact, many deaths attributed to pneumonia occurred in untreated children. It is difficult to estimate the actual proportion of pneumonia episodes that were detected and treated because of the uncertainties in establishing the incidence of pneumonia on the basis of mothers' reports and recollection, and no study included the systematic radiological and medical examination of children with respiratory symptoms. It is, however, important to note that, even if coverage was incomplete, a substantial reduction in mortality from pneumonia was achieved in most studies. The studies further showed that it is feasible to transmit to community health workers the knowledge and skills required to assess and manage cases of acute respiratory infection, particularly pneumonia in children, even in underprivileged and poorly served areas.

TABLE 1 REDUCTIONS IN MORTALITY SPECIFIC FOR ACUTE LOWER RESPIRATORY INFECTIONS (ALRI) AND IN OVERALL MORTALITY IN CHILDREN UNDER 5 YEARS OF AGE IN INTERVENTION STUDIES

Place	Reduction in ALRI-specific mortality %	Reduction in overall mortality %
Bangladesh Matlab	51	30
India Gadchiroli	54	30
Haryana*	42	24
Indonesia Kediri	67	41
Nepal Jumla	-	28
Kathmandu Valley	62	40
Pakistan Abbottabad	56	55
Philippines Bohol	25	13
United Republic of Tanzania Bagamoyo	30	27

*in low-birth weight infants

Lack of antibiotic treatment is an important reason for the high mortality rates from pneumonia in developing countries. In the intervention study in the United Republic of Tanzania, 68% of children who died from pneumonia in the control area and 46% in the intervention area had not received any antibiotic treatment before death, 50% of the deaths occurred within three days of the onset of symptoms. The average duration of illness, from the appearance of signs of pneumonia to death, was found to be 3.5 days in the Jumla, Nepal, project. Therefore, rapid access to correct case management is essential to prevent mortality from pneumonia in children.

Rationale for Empirical Treatment of Pneumonia

Since pneumonia can be caused by a variety of organisms, the ideal approach to its management would be to identify rapidly the causative agent(s) in each individual case so that an appropriate antimicrobial (if the cause is a bacterium or a chlamydia) can be prescribed. However, the spectrum of etiological agents is wider in paediatric than in adult pneumonia, and only in a minority of cases do distinctive clinical features suggest a particular pathogen.

The only available methods of establishing the bacterial etiology of pneumonia in young children are lung aspiration or blood culture, the latter being much less sensitive. Clinical and radiological criteria do not accurately reflect the etiology of childhood pneumonias. Clinical data, such as auscultatory findings and the level or evolution of fever, are imprecise in defining the bacterial or viral etiology of pneumonia in children. Segmental or lobar consolidation on chest X-ray, which are considered typical of bacterial pneumonia, may frequently be caused by viruses. Conversely, diffuse or disseminated infiltrates which suggest a viral infection are often caused by bacteria, or both viruses and bacteria may be present. Laboratory data indicating the white-cell count and differential, erythrocyte sedimentation rate, and the C-reactive protein estimation do not discriminate sufficiently between bacterial and viral etiologies to be a useful guide for antimicrobial treatment. As a result, an etiological agent can be established in less than one-quarter of children hospitalized with pneumonia in developed countries with full diagnostic facilities, and in an even smaller proportion of ambulatory cases.

Because of these diagnostic problems, empirical antimicrobial therapy for pneumonia is the commonly accepted practice worldwide. Even in developed countries, where only 5-15% of radiologically diagnosed pneumonia is likely to be caused by bacteria, many pediatricians treat all children with pneumonia with antimicrobials because it is impossible to exclude the presence of bacterial infection.

In developing countries, and especially in those with high infant mortality rates, as many as half of the pneumonia cases in children attending the health services are of bacterial origin. Almost all of these cases can be detected by simple clinical signs, without radiography or laboratory data. Because of the higher probability of bacterial pneumonia, there is an even stronger justification for the empirical use of antimicrobials than in developed countries.

It is important that all recommended antibiotics have good activity against *S. pneumoniae* and *H. influenzae* in children older than 2 months, and against a wide range of gram-positive and gram-negative bacteria in infants less than 2 months old. National recommendations should not be based only on the local drug sensitivity patterns of the most common bacterial agents. Other factors to be considered in issuing recommendations are the cost of the different antimicrobials, and their clinical spectrum, adverse effects, and pharmacokinetics.

Classification of Acute Respiratory Infections

The procedures for case management and the use of antimicrobials now recommended by the WHO Programme for the Control of Acute Respiratory Infections (ARI) are in general appropriate for developing countries having limited resources and an infant mortality rate of over 40 per 1000 live births. The guidelines are based on the assumption that there is a substantial prevalence of bacterial pneumonia among children visiting first-level health facilities, and that risk factors for pneumonia, such as malnutrition and low birth weight, are relatively common, resulting in high rates of pneumonia-specific mortality.

There are different ways of classifying ARI, which is a complex group of clinical conditions of different etiology and severity. From the point of view of a public health programme, it is pertinent to adopt a classification related to management categories (rather than etiological, anatomical, or diagnostic groups), based on clearly defined signs that are relevant to the two management decisions: whether or not to prescribe antimicrobials, and whether to treat at home or to refer to a higher-level health facility. Thus, among children with ARI, there are three main groups to be identified: those with severe pneumonia or other very severe disease who require antimicrobial treatment and immediate referral for inpatient care, those who have pneumonia (non-severe) and require antimicrobial treatment at home, and those who do not have pneumonia. In the non-pneumonia group four categories can be distinguished: wheezing disorders, bacterial upper respiratory infection (acute otitis media, suspected streptococcal pharyngitis), chronic cough, and simple coughs and colds.

Standard Plan for Case Management

The core of the WHO protocol for case management of ARI for use in first-level health facilities is distinguishing cases of pneumonia from other cases of acute respiratory infection and providing appropriate treatment. For simplicity and ease of training, the smallest number of criteria that is adequate to diagnose and classify cases is used.

The WHO protocol comprises three essential steps:

- identify the children who should be examined for possible pneumonia (case-finding or assessment on the basis of "entry criteria"),
- identify the cases of pneumonia (case classification),
- institute the appropriate treatment (home treatment or referral)

Identification of pneumonia cases

Children 2 months - 4 years old The traditional method of making a clinical diagnosis of pneumonia has been by the recognition of auscultatory signs, in particular crepitations, in a child with a cough. However, auscultatory signs are not very reliable in children, even when they are examined by a pediatrician. In a study in Philadelphia in which 29 different presenting signs in children were compared with subsequent radiological findings, **fast breathing** was found to be a better predictor of pneumonia than auscultatory findings.

Table 2 shows data from five studies on the sensitivity and specificity of two differential respiratory rate thresholds 50 breaths per minute or greater, and 40 breaths per minute or greater. In all the studies the sensitivity of fast breathing increases if the cut-off criterion is lowered from 50 to 40 the increases observed were from 59-89% to 84-100% in infants 2-11 months old, and from 19-64% to 38-87% in children 1-4 years old. The same change in the cut-off criterion produces a decrease in the specificity for both age groups. The analysis of these data led to the conclusion that the best combination of sensitivity and specificity is achieved by the following definitions of fast breathing

- (1) in infants aged 2-11 months a respiratory rate of 50 per minute or above

This cut-off has both high sensitivity and high specificity, a cut-off of 40 has very low specificity, less than 30% in some places, with the result that many infants without pneumonia would be treated for pneumonia (more than 70% of cases classified as pneumonia would be false-positives in some places)

- (2) in children aged 1-4 years a respiratory rate of 40 per minute or above

This cut-off has almost the same sensitivity (with the exception of Lesotho) and specificity as a cut-off of 50 for infants 2-11 months old, a cut-off of 50 has rather low sensitivity for children 1-4 years old, leading to a significant proportion (36-81%) of pneumonia cases being classified as no pneumonia, and hence receiving no antimicrobial treatment

TABLE 2 EFFECTS OF AGE ON THE SENSITIVITY AND SPECIFICITY OF THE RESPIRATORY RATE AS A SIGN OF PNEUMONIA IN CHILDREN (FROM FIVE STUDIES)

Study	2-11 months		1-4 years		
	RR≥50 %	RR≥40 %	RR≥50 %	RR≥40 %	
A Sensitivity					
Gambia	85	100	64	87	
India	89	96	57	71	
Lesotho	Pediatricians	79	100	19	54
	Nurses	59	84	35	38
Papua New Guinea	80	-	57	74	
Philippines	77	90	52	78	
B Specificity					
Gambia	98	55	98	82	
India	93	62	96	87	
Lesotho	Pediatricians	59	25	91	69
	Nurses	72	44	94	77
Papua New Guinea	81	59	90	72	
Philippines	90	51	85	75	

RR Respiratory Rate

As pneumonia progresses and becomes more severe lung elasticity is gradually reduced and **chest indrawing** develops (the lower chest wall draws in when the child breathes in) The presence of lower chest indrawing means that the child has severe pneumonia A child with chest indrawing may not have fast breathing because the respiratory rate can fall when pneumonia becomes severe or the child is exhausted A child with chest indrawing is at higher risk of death from pneumonia than a child with fast breathing without chest indrawing It is important to point out that the definition of chest indrawing does not include intercostal or supraclavicular retractions If these were included in the definition, too many children for whom hospitalization is not warranted would be referred, therefore, when the soft tissue between the ribs or above the clavicle goes in when the child breathes in, this is not considered to be chest indrawing nor a sign of severe pneumonia

Infants less than 2 months of age For young infants (under 2 months of age), fast breathing and chest indrawing are defined differently than for older children Since neonates normally breathe about 50 times per minute and may have slight chest indrawing (because of the softness of the thoracic bones), pneumonia is identified when the respiratory rate is 60 per minute or above (confirmed by a second reading), or when there is marked chest indrawing Young infants can become sick and die very quickly from pneumonia Therefore, any young infant who has a sign of pneumonia is classified as having severe pneumonia Fast breathing and marked chest indrawing are not sensitive enough, however, to detect most pneumonias in young infants, and it is necessary to look for certain non-specific signs that indicate that the young infant may have pneumonia, sepsis, or meningitis (which often cannot be distinguished clinically) The signs are the infant stops feeding well, is abnormally sleepy or difficult to wake, has fever or hypothermia (body temperature $< 35.5^{\circ}\text{C}$), or has convulsions

It is of key importance that special guidelines be observed for the detection of pneumonia in young infants, because it is a frequent cause of death during this period In fact, from 20 to 30% of all deaths from ARI in children under 5 years in many developing countries occur during the first two months of life

Treatment

In **children older than 2 months**, chest indrawing indicates severe pneumonia and a need for referral to hospital The standard antimicrobial for the treatment of severe pneumonia is intramuscular benzyl-penicillin, but if the child has very severe pneumonia (shows central cyanosis or is unable to drink) injectable chloramphenicol and oxygen should be given Chloramphenicol is indicated for these cases because it is effective against a wide spectrum of organisms, including *Staphylococcus aureus* and gram-negative bacteria It may cause some serious side-effects (aplastic anaemia or haemopoietic toxicity) but these are rare toxic events and are an acceptable risk if the drug is used only in these very severe cases Oxygen is indicated because in children with very severe pneumonia the lungs are unable to transfer enough oxygen from the air into the bloodstream and, as a result, the level of oxygen in the blood falls to dangerously low levels Infants are particularly sensitive to hypoxaemia, and are likely to develop irregular breathing and apnoea Hypoxaemia may also impair the flow of blood through the lungs, particularly in the first three months of life All these effects further reduce the amount of oxygen that reaches the blood In other words, when an infant is already ill, the effects of lack of oxygen make the situation worse, and may lead to death

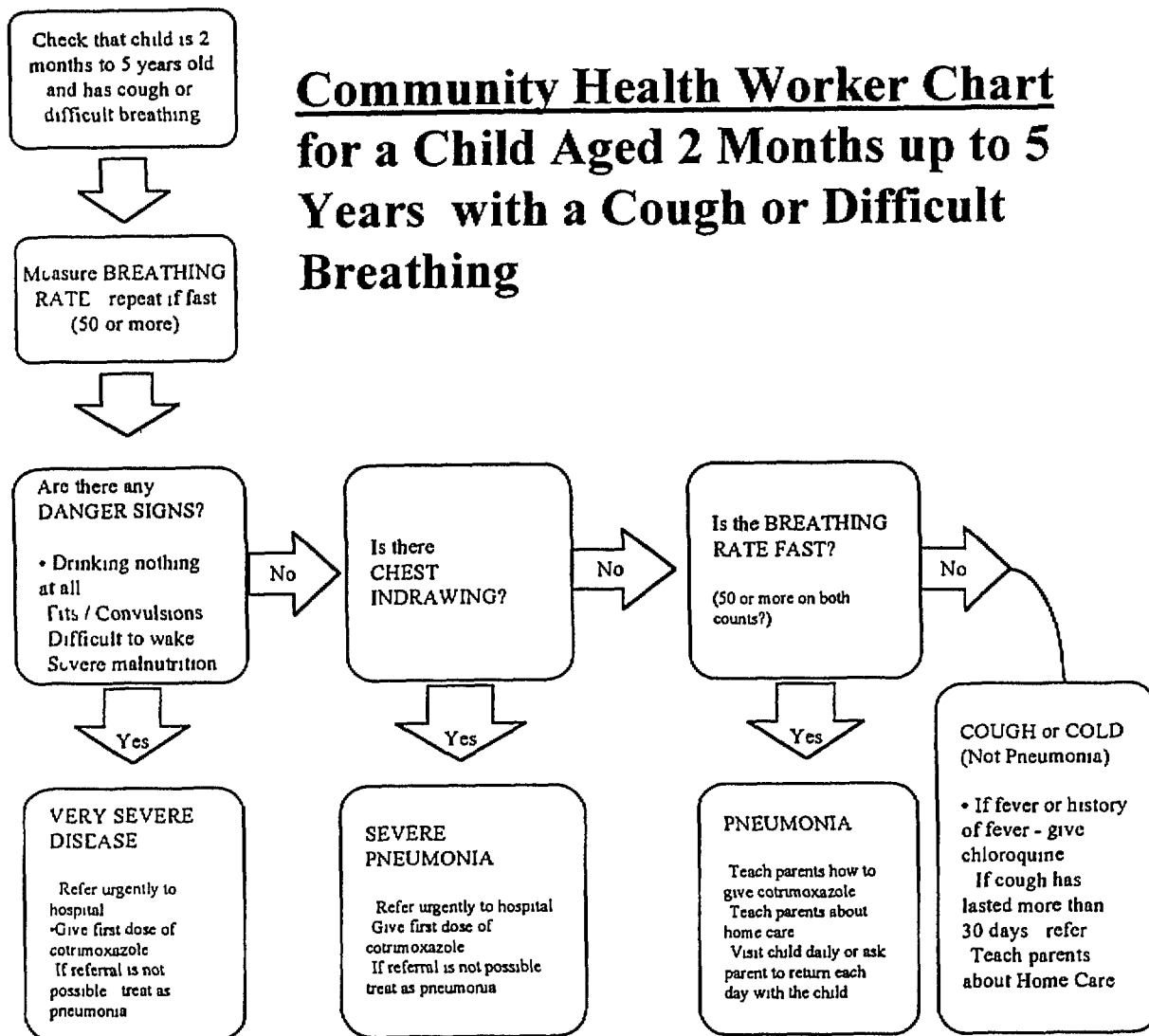
Children older than 2 months who present with fast breathing without chest indrawing are classified as pneumonia (non-severe) and treated at home. The standard antimicrobial for outpatient treatment should be effective against the two most common agents of pneumonia, *S pneumoniae* and *H influenzae*. The choice includes injectable procaine penicillin and two oral antimicrobials, cotrimoxazole and amoxicillin. Amoxicillin is preferred to ampicillin because it is better absorbed, is given three times a day instead of four, and has fewer gastrointestinal side effects. Because of its broad-spectrum efficacy, low cost, ease of administration, and relatively low rate of adverse side-effects, cotrimoxazole is the preferred drug in most settings. Oral phenoxymethylpenicillin and benzathine penicillin should *not* be used to treat pneumonia in children because they do not reach high enough levels in the serum to be effective against *H influenzae* or strains of *S pneumoniae* with reduced sensitivity to penicillin, which are becoming increasingly common in some countries (e.g., Papua New Guinea, the Philippines). Erythromycin is not recommended because it is insufficiently active against *H influenzae*.

All young infants under 2 months of age with any sign of pneumonia or other sepsis should be referred to a hospital for treatment with benzylpenicillin plus gentamicin, in order to cover both gram-positive and gram-negative organisms. Chloramphenicol, which is recommended for older children, may be used in young infants in a dosage of 25 mg per kg every 12 hours (instead of every 6 hours), but it should not be used in premature or low-birth-weight neonates. High doses of chloramphenicol (greater than 100 mg/kg/day) have been associated in young infants with acute circulatory collapse, often fatal (grey syndrome). Antimicrobials are only part of the management of pneumonia in the newborn infant. Supportive measures are also of the utmost importance: oxygen if the child has central cyanosis, is not able to drink, has severe chest indrawing, is grunting, or is restless (if oxygen improves this condition), frequent breast feeding, and control of temperature, especially protection from chilling.

Even in tropical climates, hypothermia (less than 35.5°C) is a major cause of sickness and death in young infants. It is a common reason for failure to gain enough weight. Even when hypothermia is not severe, there is evidence that it can increase the risk of acquiring a bacterial infection, in particular pneumonia. Mothers and health workers need to be taught the importance of keeping young infants warm at all times. Young infants admitted to a health centre or hospital with hypothermia are in great danger unless their body temperature can be raised to a normal level.

ANNEX C ARI CASE MANAGEMENT CHARTS FOR COMMUNITY HEALTH WORKERS

Community Health Worker Chart for a Child Aged 2 Months up to 5 Years with a Cough or Difficult Breathing



USE OF COTRIMOXAZOLE

Dose

Age 2 months up to 1 year
2 paediatric tablets ⊕ ⊕

Age 1 year up to 5 years
3 paediatric tablets ⊕ ⊕ ⊕

Give 2 times every day for 5 days

Crush the tablets and mix with a small amount of food or expressed breast milk

Repeat the dose if the child vomits within a half hour

AT EACH VISIT

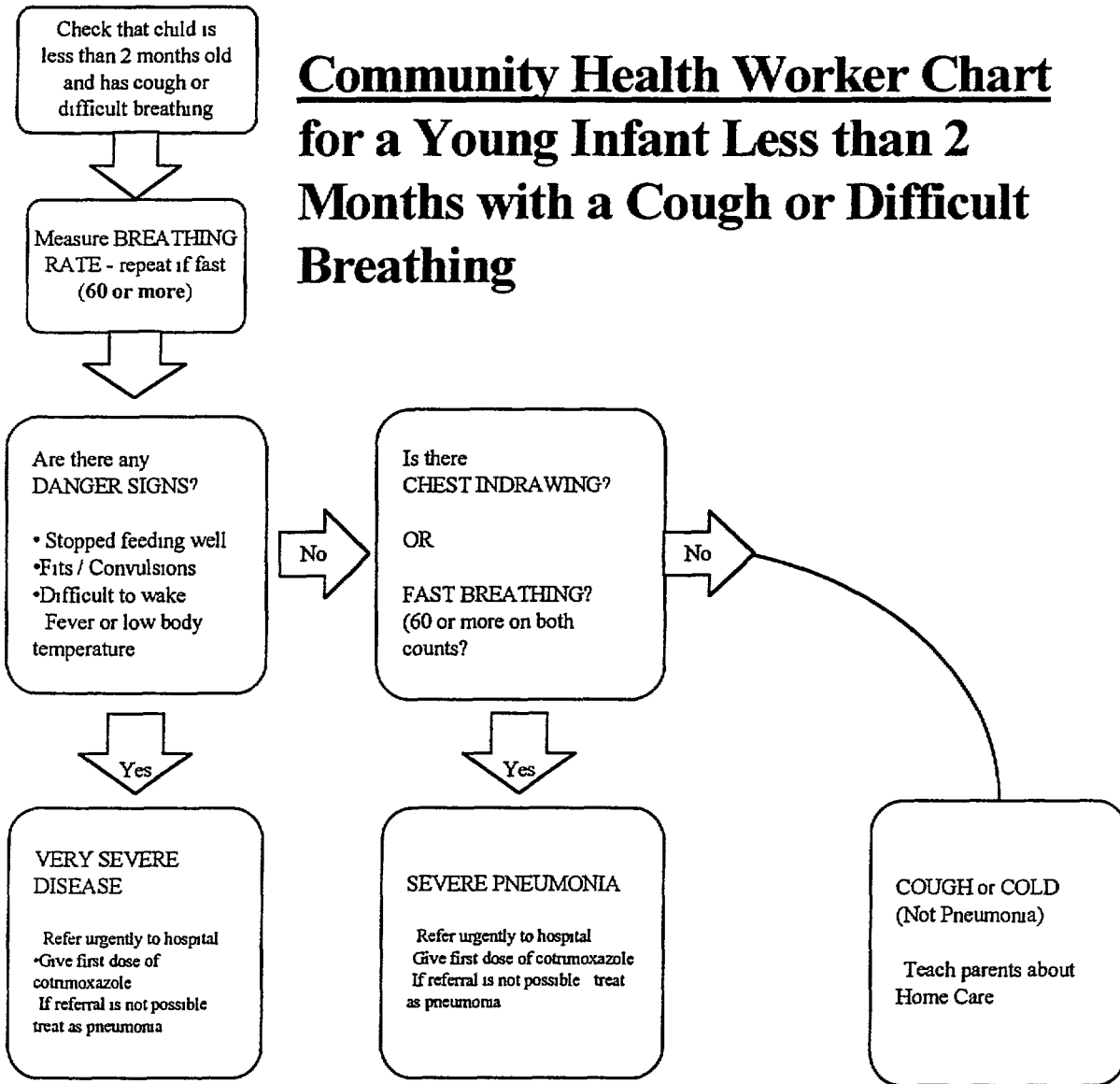
Check that the parent is giving cotrimoxazole

Check for danger signs, chest indrawing and fast breathing

Try to refer urgently if
any danger sign is present OR
chest indrawing occurs OR
breathing is faster OR
the child becomes sicker

Try to refer if no improvement after 2 days

Community Health Worker Chart for a Young Infant Less than 2 Months with a Cough or Difficult Breathing



IF REFERRAL IS NOT POSSIBLE

Teach parents how to give cotrimoxazole
Teach parents about home care
Visit young infant daily or ask parents to return every day with the young infant
If the young infant does not improve after 2 days, try to refer urgently

USE OF COTRIMOXAZOLE

Dose

Age up to 1 month	half a paediatric tablet ☺
Age 1 month up to 2 months	1 paediatric tablet ⊕

Give first dose before referral
If referral is not possible give 2 times every day for 5 days
Crush the tablets and mix with a small amount of food or expressed breast milk
Repeat the dose if the child vomits within a half hour

APPENDIX B

USAID/BHR/PVC GUIDELINES FOR PREPARATION OF THE PNEUMONIA CASE MANAGEMENT SECTION OF DETAILED IMPLEMENTATION PLANS FOR PVO CHILD SURVIVAL PROGRAMS STARTING IN 1997 (CS-XIII)

TABLE OF CONTENTS

I	Guidance for Design of a Pneumonia Case Management Intervention	1
	Quality Case Management	1
	Adequate Access	3
	Essential Household Actions	3
	Reference Materials	4
II	Detailed Guidelines for Pneumonia Case Management Interventions	5
	Quality Case Management	5
	Adequate Access	7
	Essential Household Actions	7

APPENDIX B

USAID/BHR/PVC GUIDELINES FOR PREPARATION OF THE PNEUMONIA CASE MANAGEMENT SECTION OF DETAILED IMPLEMENTATION PLANS FOR PVO CHILD SURVIVAL PROGRAMS STARTING IN 1997 (CS-XIII)

I Guidance for Design of a Pneumonia Case Management Intervention

The vast majority of all deaths in children under five years of age associated with Acute Respiratory Infections (ARI) are due to pneumonia. However, interventions aimed specifically at reducing the incidence of pneumonia are not yet available in most developing countries. The *Hemophilus influenzae* type b (Hib) vaccine remains too expensive for most child survival program settings. There is no convincing evidence that home care for children with upper respiratory infections prevents pneumonia. No studies have documented the efficacy of indoor smoke reduction in decreasing childhood pneumonia incidence or mortality. More general child survival interventions which may reduce the incidence of childhood pneumonia, such as measles and pertussis immunization, breastfeeding promotion, and nutrition interventions, are all recommended interventions in their own right, and should thus be described separately in the DIP, if planned.

Thus, the only ARI-specific intervention supported by the PVO Child Survival Grants Program is Pneumonia Case Management (PCM). The goal of the PCM intervention is to reduce mortality in children under five years of age by providing Standard Case Management (SCM) early in the illness for a large proportion of all episodes of pneumonia. This is achieved by promptly providing appropriate antibiotics to children with signs of pneumonia, and by refraining from using antibiotics or other inappropriate drugs for most other Acute Respiratory Infections. PVOs should implement a Pneumonia Case Management intervention only if all three of the following essential components can be adequately addressed over the course of the program

- Quality Case Management Health providers effectively trained and supervised in SCM, and supplied with adequate quantities of appropriate antibiotics,
- Adequate Access Adequate access of households to SCM, and
- Essential Household Actions Prompt recognition of pneumonia signs, prompt care seeking from appropriate health providers, and compliance with SCM

Quality Case Management

Many health workers who have not been trained in SCM, or who fail to receive continuing adequate supervision following their training, provide treatment for pneumonia based on auscultation with a stethoscope or on the presence of fever, provide antibiotics to children who are unlikely to benefit from them, provide inappropriate drugs to children with ARI, and fail to provide effective counselling about the use of oral antibiotics.

Quality Pneumonia Case Management means that health workers follow WHO or MOH guidelines for Standard Case Management of childhood Acute Respiratory Infections,

Appendix B DIP Guidelines for PCM Interventions

or WHO/MOH guidelines for Integrated Management of Childhood Illness. These guidelines include an algorithm for assessing a child with cough or difficult breathing, classification based on a few clinical signs (including fast breathing and chest in-drawing), provision of appropriate antibiotics or referral based on the classification, and counselling of the caretaker. Good materials have been developed for assessing case management practices, and for training health facility clinicians and community health workers in standard case management (see Highly Recommended Reference Materials)

All case management training courses should include substantial hands-on practice in assessing and treating children and counselling caretakers, conducted with mothers, ill children, and small groups of trainees. A video to demonstrate chest indrawing is also important because of the difficulty of finding cases of chest indrawing at most training sites.

All health workers who assess infants and children for pneumonia require an appropriate timing device to assess for fast breathing. Beeping timers may be available from UNICEF, WHO, or the MOH. Watches with second hands are also fine because a health worker does NOT have to look at both the child and the watch at once to assess for fast breathing.²

Studies conducted in several settings in Africa indicate that almost all children meeting a pneumonia case definition also have fever or a history of fever, and that a substantial proportion of children with fever will also meet the pneumonia case definition. Consequently, in areas with falciparum malaria transmission, treatments for pneumonia alone in children who also have malaria, may result in death from malaria. Thus, in program areas with falciparum malaria transmission, treatment for malaria should be incorporated in the pneumonia case management protocols.³ Including malaria in pneumonia protocols is less important in areas where there is only non-falciparum malaria transmission, because, although non-falciparum malaria (and other infections causing high fever, and severe anemia) can also mimic mild pneumonia, mis-diagnosis is less likely to result in the death of the child. (This issue is addressed in WHO references 2 through 7, cited below.)

Mortality impact through this intervention is achieved by providing quality case management early in the illness for a large proportion of all episodes of pneumonia. Differences in case management practices between health providers, and inconsistency between care seeking messages and case management practices, will lead to caretaker confusion and reduce potential program impact. Thus, it is important for the program to work with as many of the health providers as possible who currently treat childhood pneumonia in the program site, by first learning about their current case management practices, and then improving practices through effective training, supervision, and/or supply of antibiotics. If most childhood pneumonia cases in the area will continue to be treated by providers who follow poor case management practices, then PCM may not be a good choice.

² Instead of counting the number of breaths in one minute, the worker can determine whether it takes more or less than a minute to reach the cut off point for fast breathing (60, 50, or 40 depending on the age of the child). To do this, the worker looks at only the child while counting the number of breaths to the cut off, and looks back at the watch only after reaching the cut off, to see whether more or less than a minute has passed.

³ Conversely, treatments for malaria alone in children who also have pneumonia may result in death from pneumonia, in any part of the world. Thus, case management for pneumonia should also be incorporated in the malaria protocols at the community drug retailer, and health facility levels in all areas where children are treated for malaria.

for an intervention to be supported through the child survival program

Adequate Access

If care seeking involves substantial costs in time or money, then child caretakers are unlikely to promptly seek care from appropriate health providers after recognizing signs of pneumonia. Caretakers may delay care seeking from trained health workers, initially using home remedies or near-by untrained providers, and seek care from appropriate providers only after initial treatment has failed or more severe signs are recognized. These delays in starting effective treatment for pneumonia will increase the risk of death. Although "adequate access" is essential for reducing mortality in all areas, what "adequate access" means should be defined by each child survival program based on a good understanding of local conditions and care seeking practices.

If much of the program site population does not have adequate access, then the child survival program should consider alternative strategies for increasing access, such as increasing the availability or reducing the cost of antibiotics, or increasing the number of health workers who provide standard case management services. Antibiotic treatment through community health workers may be an appropriate way of increasing access, if this approach is sustainable and approved by the MOH. Several studies involving CHWs in pneumonia treatment and education of caretakers have documented substantial reductions in under-five mortality in sites with poor access to referral level care, and even in sites without access to case management services at first level health facilities. However, sustaining quality case management services through large numbers of CHWs is expensive and difficult. Thus, child survival programs should train only the minimum number of additional workers required to provide adequate access.

Essential Household Actions

Pneumonia-associated deaths may occur within three to four days of the onset of lower respiratory signs. Although most children with signs of pneumonia will recover without treatment, delays in recognition or care seeking from appropriate health providers are important causes of high pneumonia-associated under five mortality in many areas. Thus, education of household members to recognize the signs of pneumonia and to promptly seek care from specifically identified appropriate health workers is an essential component of the PCM intervention.

Because over 30% of pneumonia-associated deaths in children under five occur within the first two months of life, and because the progression of illness in fatal episodes is likely to be particularly rapid in young infants, it is important for programs to design effective strategies and messages about recognition and care seeking for young infants. Caretakers must be reached before, or within a few days after, the birth of the infant. Because the signs of pneumonia in a young infant are different than those in an older infant or child, messages about recognition should be designed specifically for this age group. "Stopped feeding well" may be an important sign to teach mothers to seek care for in a young infant, in addition to difficult breathing and fast breathing.

Community-wide educational activities regarding recognition and care seeking are appropriate only after (or in areas where) the population has adequate access to SCM. Education of caretakers should follow qualitative (ethnographic) investigations of local beliefs, practices, and vocabulary related to pneumonia recognition, care seeking, and

Appendix B - DIP Guidelines for PCM Interventions

compliance with SCM, with regard to both young infants and older infants/children CHWs may be a good initial source of this kind of information

Failure to feed a correct dose of antibiotics, or complete a course of treatment in children with pneumonia, will increase the risk of treatment failure and the development of antibiotic resistance. Thus, it is important for health workers to provide effective counselling to caretakers of children with pneumonia about the use of antibiotics. Counselling about when to return to the health worker, continuing to breastfeed, feed fluids and food, and keep the young infant warm, is an important part of case management for all children with ARI, but need not be a focus of community-wide educational activities (unless specific harmful practices in the community need to be addressed)

Highly Recommended Reference Materials

1 Pneumonia Care Assessment Methods Toolbox The Johns Hopkins University PVO Child Survival Support Program, 1997 (draft) These materials were designed for PVO CS programs to assess the quality of pneumonia case management services and local pneumonia related beliefs, practices, and vocabulary The health facility/worker assessment methods and qualitative/ethnographic approaches described in the toolbox were adapted for use at the program site level from the WHO ARI Programme Health Facility Survey and Focussed Ethnographic Survey

2 The Management of Acute Respiratory Infections in Children Practical Guidelines for Outpatient Care WHO, 1995 Case management guidelines for staff managing children with ARI in first-level health facilities and their supervisors

3 Outpatient Management of Young Children with ARI A Four Day Clinical Course WHO, 1992 A package for training physicians, nurses, nurses' assistants, and other health center staff

4 Management of Childhood Illness, WHO and UNICEF, 1995 The IMCI charts and manuals for health facility clinicians include the same basic algorithm for pneumonia in older infants and children as the WHO ARI documents for outpatient facilities (references 2 and 3 above) However, the IMCI materials include a more complex algorithm for "possible serious bacterial infection" in young infants instead of the simpler more pneumonia-specific algorithm in the ARI documents The IMCI materials also address the overlap in the clinical presentation and treatment of malaria and pneumonia in more detail, and exclude the management of wheezing

5 Treating Children with a Cough or Difficult Breathing A Course for Community Health Workers WHO, 1992 This package includes An ARI Programme Manager's Guide, A Course Director's Guide, A Teacher's Guide, Learner's Materials, and a video of pneumonia signs The simplified algorithm in these documents is more appropriate for CHWs than the complex ARI or IMCI algorithms for clinicians

6 Acute Respiratory Infections in Children Case Management in Small Hospitals in Developing Countries A Manual for Doctors and Other Senior Health Workers WHO, 1990 (WHO/ARI/90 5)

7 The Overlap in the Clinical Presentation and Treatment of Malaria and Pneumonia in Children Report of a Meeting WHO, 1992 (WHO/ARI/92 23) Available on the worldwide web at <http://cdrwww.who.ch>

8 Technical Bases for the WHO Recommendations on the Management of Pneumonia in Children at First-Level Health Facilities WHO, 1991 (WHO/ARI/91 20)

Other Recommended Reference Materials

9 PVO Child Survival Technical Report, Volume 5, Number 1 The Johns Hopkins University PVO Child Survival Support Program, April 1997 This issue is devoted to ARI/PCM

10 Sazawal S, Black RE Meta-Analysis of Intervention Trials on Case-Management of Pneumonia in Community Settings Lancet 1992, 340 528-33 Focusses on the mortality impact of PCM trials, mostly using CHWs Includes references for the original papers concerning nine different studies in developing countries

11 Case Management of Acute Respiratory Infections in Children Intervention Studies Report of a Meeting WHO, 1988 (WHO/ARI/88 2) Similar to the above document, includes more discussion of programmatic issues, but excludes recent trials

Reference Materials Which Are Not Recommended

"Facts for Life" is NOT recommended as a source of messages for parents on pneumonia, for PVO child survival programs

Internet Reference/Ordering Documents from WHO

The website of the WHO Division of Child Health and Development (<http://cdrwww.who.ch>) contains an extensive reference list of WHO ARI documents, many of which are available from The Director, Division of Child Health and Development, World Health Organization, CH-1211 Geneva 27, Switzerland (fax +41 (22) 791-4853 or 791-0746, e-mail WESSELL@who.ch or JosephP@who.ch) Some of these WHO documents may have been adapted for use in your country by the MOH

II Detailed Guidelines for Pneumonia Case Management Interventions

Programs implementing a pneumonia intervention should address all of the following issues in their DIP, or explain why an issue is not relevant to the program If the program has not yet obtained sufficient information to answer a question, then please indicate when and how you plan to obtain this information

Quality Case Management

1 MOH case management policies, programs, and protocols

Which types of people (such as doctors, nurses, other paid health workers, volunteers, drug sellers, traditional healers, etc) are allowed to give antibiotics? What ARI (or IMCI) training programs and materials are available for these types of health workers?

Are the MOH protocols for ARI case management consistent with the WHO protocols? If not, what are the differences and the reasons for these differences?

2 Utilization and quality of current case management services in the program area

What types of health providers (such as MOH and to other facilities, private practitioners, CHWs, drug sellers, traditional healers, etc) currently treat children with pneumonia from your area? Estimate the number of each type of these providers currently treating children with pneumonia from your area Estimate the relative utilization of each type of provider (percent of all childhood pneumonia-related visits to each type of provider)

Appendix B - DIP Guidelines for PCM Interventions

Which of these types of health providers will the child survival program work with to monitor and/or improve pneumonia case management services?

Estimate the percentage of each type of provider trained in standard case management of ARI (or in IMCI). Describe the supply of appropriate antibiotics available to these providers. How often are these providers supervised regarding their case management practices? Describe your findings regarding the pneumonia case management practices of current providers in the program area.

3 Program plans for involving workers who do not currently treat pneumonia

Will the program provide pneumonia-related training to any types of workers (such as community health workers) who do not currently treat childhood pneumonia? If so, briefly describe the responsibilities these workers will have regarding pneumonia.

Will these workers provide antibiotics for children with pneumonia? If so, is this approach approved by the MOH? How many of these additional workers will be trained to treat pneumonia? Will they provide treatment from their homes, or from other places?

4 Program protocols for pneumonia and malaria case management

Describe or attach the program's protocols for the assessment, classification, and treatment of ARI, for each type of health provider associated with the program. (Include the signs that will lead to antibiotic treatment for infants under two months of age, for older infants, and for 12 to 59 month old children, and the signs which will result in referral to a higher level of care. Include cut-offs for fast breathing for each of the three age groups. List the antibiotics which each type of health worker will use for pneumonia.)

How will children be assessed for fast breathing? How will workers be trained to recognize chest indrawing?

Estimate the extent of falciparum malaria transmission in your program area. If applicable, describe how each type of health provider will address the overlap in the signs of malaria and pneumonia. Which drugs will be used for children with pneumonia who also have a fever, and for children without pneumonia who have a fever?

5 Counselling for antibiotic use, home care, and referral

Who will do counselling regarding antibiotic use and home care for children with pneumonia, and when will this counselling be done?

How will health workers determine whether caretakers of children requiring referral will promptly seek care at a referral facility? (In other words, how will workers decide whether referral is feasible for a family?) What will be done when referral is not feasible for a family?

6 Follow-up of children treated for pneumonia

Briefly describe or attach the program's protocol for follow-up of cases under treatment. How will you check whether caretakers are giving correct antibiotic doses, how will you define compliance failure, and what will be done in cases of compliance failure? How will you determine whether treatment was successful, define a treatment failure, and how will you manage cases of treatment failure?

7 Monitoring, improving, and sustaining the quality of case management

Describe in detail your plans for monitoring and improving the case management practices of each type of health provider associated with the program

How will the program insure good continuing assessment, classification, and treatment practices? How will the program monitor and improve the quality of counselling? How will the program insure that providers have an adequate supply of antibiotics?

Will antibiotics be sold to parents or provided free of cost? How will antibiotic supplies be maintained following the end of USAID funding for the program?

Adequate Access

8 Current access

Estimate how much time and money it currently costs people from different areas of the program site to reach and use the services of their nearest providers of antibiotic treatment for pneumonia (Include two-way travelling costs in time and money, waiting time at providers, and purchase of antibiotics and other fees) Describe other important problems in your area related to access

9 Definition of adequate access

Define the level of access (in terms of time and money) that the program considers "adequate" to allow caretakers in your area to promptly seek and use case management services

10 Increasing Access

Estimate the percentage of the target population which currently has adequate access to treatment, or identify those areas/groups which do not have adequate access

Describe what (if anything) the program will do to increase the level of access

Estimate the percentage of the target population which will have an adequate level of access to treatment following actions to increase access

Essential Household Actions

11 Beliefs, practices, and vocabulary

Briefly discuss what you have found regarding the following issues, and/or your plans for investigating these issues in the near future

Have you identified local words for fast breathing, difficult breathing, chest indrawing, and stopped feeding well in a young infant? Are these signs recognized by caretakers and considered serious?

Which pneumonia related signs lead caretakers to seek help outside of the household, how promptly is care sought, and from whom is help obtained?

Who makes decisions in the household about when and from whom to seek outside care?

What are the barriers in your area to prompt recognition, to prompt care seeking, and to compliance with treatment?

Appendix B DIP Guidelines for PCM Interventions

12 Communications for recognition and care seeking

Describe how information regarding local beliefs, practices, and vocabulary related to pneumonia recognition and care seeking will be used by the program. What are the objectives of your communications effort regarding pneumonia recognition and care seeking, and which groups will be targeted?

Which key messages will the program emphasize regarding recognition and care seeking for older infants/children, and for young infants?

How will this information be communicated, who will do this communication, when will it be done, and how often will it be done?

How will the program develop and test messages and materials, and monitor the quality of this communications effort and its impact on caretaker knowledge and practices?

APPENDIX C

BACKGROUND ON THE PNEUMONIA CARE ASSESSMENT TOOLBOX

TABLE OF CONTENTS

Purpose	1
Use of the Tools	1
Tools to Assess Quality of Care	1
Tools to Assess Access to Care	2
Tools to Assess Caretaker Practices for Childhood Pneumonia	2
Table 1 Uses of the Pneumonia Care Assessment Toolbox	3
Origin and Rationale of the Pneumonia Care Assessment Toolbox	4
The problems of quality	4
Methodology key-informant interviews	5
Methodology selection criteria and instructions	6
Pre-testing the Toolbox	8
Status	9
Overheads on Pneumonia Care Assessment Tools	
Community Terms and Beliefs	10
Community Group Discussions	11
Pneumonia Case Narratives	12
Rapid Survey of Health Facility Capacity	13
Rapid ARI Case Management Survey	14
Health Services Utilization	15
Geographic Access to Health Services	16
Rapid Knowledge, Practice & Coverage (KPC) Survey	17

APPENDIX C

BACKGROUND ON THE PNEUMONIA CARE ASSESSMENT TOOLBOX

Purpose

The Pneumonia Care Assessment Toolbox is useful for assessing quality of care provided by health workers, community access to health workers, and caretaker practices for a child with suspected pneumonia. The toolbox also helps users identify local terms for signs and symptoms of acute lower respiratory infections. By using the Toolbox, a PVO project manager and MOH counterpart can identify priority areas for improving pneumonia care in the project area and thereby improve plans and the design of the project's pneumonia case management (PCM) intervention. Information from the Toolbox will help the project manager and counterparts establish measurable and realistic objectives for the PCM intervention and assess achievement of those objectives.

Use of the Tools

The current edition of the PCA Toolbox (Edition 2) is dated September 1997. This edition contains the following nine assessment tools which address either quality of care, access or household practices in care of a child with pneumonia.

Tools to Assess Quality of Care

1 Rapid Survey of Health Facility Capacity This tool is used when a PVO and MOH partners need to assess the capacity of health facilities serving the project's beneficiary population to provide standard ARI case management (SCM). The tool includes a questionnaire to record information about the SCM training of all providers, a questionnaire to assess SCM knowledge of all providers, and a form for documenting information about the availability of recommended antibiotics.

2 Rapid ARI Case Management Survey This tool is used when a PVO and MOH partner wish to assess the quality of ARI case management given at a particular facility. The tool includes forms and instructions for observing and recording the ARI case management practices of providers at health facilities serving the project's beneficiary population. The tool also includes instructions and a form for reviewing health records to assess ARI case management practices prior to the survey.

3 Community Group Discussions - Satisfaction with Health Services This tool is used to when a PVO wishes to learn how satisfied mothers and caretakers are with outside-of-the-home providers and the recommended treatments for pneumonia. It can be used in combination with the *Community Group Discussions - Caretaker Practices* tool. The tool consists of a guide for conducting and summarizing the results of a group discussion about caretaker perceptions of the quality of health services.

Tools to Assess Access to Care

4 *Geographic Access to Health Services* This tool is used to help a PVO identify which communities in the project's beneficiary population have geographic access to health facilities or to trained health providers who are authorized to treat childhood pneumonia with antibiotics. The tool consists of instructions for completing a map exercise. The map exercise consists of (1) identifying on a map which communities "do" and "do not" have geographic access to at least one health worker who is authorized to treat childhood pneumonia with antibiotics, and, (2) using this information, and population data, to estimate the percent of the beneficiary population "with" and "without" geographic access to health services for childhood pneumonia.

5 *Health Services Utilization* This tool is used by a PVO to document existing patterns of use of local clinics and/or hospitals for care of childhood pneumonia by the project's beneficiary population, which can be helpful in planning services. The tool consists of tables in which PVOs can record the following information about children who visit or are admitted to facilities with a diagnosis of pneumonia during the last year: age group (0-2 months, 2-11 months, 12-59 months), gender, and month of the visit/admission. Unusual patterns of utilization can suggest problems in access to health services for certain age groups or gender of children, or for a certain season of the year.

Tools to Assess Caretaker Practices for Childhood Pneumonia

6 *Community Terms and Beliefs about Pneumonia Care* This tool is used when a PVO wishes to identify local terms for pneumonia and related signs and symptoms, and community beliefs about how to care for a child with pneumonia. The tool consists of a questionnaire to record information obtained during interviews with community members about local terms for pneumonia, fast and difficult breathing and beliefs about appropriate care for a child with these signs.

7 *Community Group Discussions - Caretaker Practices* This tool is used when a PVO wishes to identify what mothers and other caretakers believe about cause(s) of pneumonia, usual home treatments and usual ways of seeking care for a sick child. The tool consists of a guide for conducting and summarizing the results of a group discussion about caretaker practices for a child with pneumonia. This tool is usually combined with the tool *Community Group Discussions - Satisfaction with Health Services*.

8 *Pneumonia Case Narratives* This tool is used when a PVO wishes to collect information about factors that affected the care of children in the service area who recently had pneumonia. The tool consists of a guide for conducting open-ended interviews to elicit a narrative of events from caretakers whose children recently suffered from a suspected case of pneumonia.

TABLE 1 USES OF THE PNEUMONIA CARE ASSESSMENT TOOLBOX

TOOL	QUALITY STANDARD BEING ASSESSED		
	QUALITY OF CARE	ACCESS TO CARE	CARETAKER PRACTICES
1 Rapid Survey of Health Facility Capacity	Provides data regarding training of providers and adequacy of antibiotic supplies	Provides data on travel time to facilities, hours of operation, and access to referral care	Data may document a barrier to care seeking for pneumonia (e.g. reliability of antibiotic supplies)
2 Rapid ARI Case Management Survey	Provides data regarding provider ARI case management practices in assessment, classification, treatment and counseling	Provides no direct data on access to health services	Data may document a barrier to care seeking for pneumonia (e.g. perceived technical competence of providers)
3 Community Group Discussions on satisfaction with pneumonia care	Provides information on mothers' assessment of the quality of care for pneumonia (including the facility environment, technical competence of providers, and client-provider relations) and opportunities for improving services	Mothers may describe shortfalls in the quality of services that represent a barrier to access (e.g., waiting time, convenience of clinic hours, language gaps, fees)	Mothers may describe flaws in the quality of services that represent a barrier to care seeking (e.g., comfort and cleanliness of facility, courtesy and competence of providers), used to assess changes that may be needed to strengthen health facilities
4 Geographic Access to Health Services	Provides no direct data on quality of care of health services	Estimates which communities have access to health services and which communities do not	Communities identified as not having access may be communities in which care for pneumonia is poorest
5 Health Services Utilization	Unexpected patterns of utilization may suggest community dissatisfaction with service quality	Unexpected patterns of utilization may suggest that access is limited for some children	Unexpected patterns of utilization may suggest that mothers are not seeking care for some children
6 Community terms and beliefs about pneumonia care	Used to refine provider counseling messages to caretakers to improve home-care for childhood ARI and follow-up	Provides information that may identify barriers to access to care as perceived by mothers	Used to refine health education messages to improve care seeking practices for childhood pneumonia
7 Community Group Discussions on care-seeking behavior	Mothers' care-seeking behavior may suggest that perceived quality of facility services for childhood pneumonia is low	Mothers may describe barriers (e.g., distance, language, transportation) that limit access to care for pneumonia	Used to refine health education messages to improve care-seeking practices for childhood pneumonia and to ensure that messages use local terms for signs of pneumonia
8 Pneumonia Case Narratives	Depending on the selection of cases, may provide information regarding mothers' assessment of the quality of pneumonia care at the facility and community levels	Depending on the selection of cases, mothers may mention barriers (e.g., distance, transportation, limited clinic hours, cost, waiting time, language) that limit access to care for pneumonia	Depending on the selection of cases, mothers may describe barriers to care-seeking and compliance (e.g., recognition of signs of possible pneumonia, local beliefs, household decision-making processes, flaws in quality of service)
9 ALRI Module for Household KPC Survey	Provider preferences of mothers who seek treatment for a child with suspected pneumonia may suggest perceived quality of facility services is low	Mothers' care-seeking behavior may suggest access is limited for some groups	Provides information on whether caretakers appropriately seek care for a child with suspected pneumonia (fast and difficult breathing)

Appendix C - Background on the PCA Toolbox

9 *ALRI Module from the Rapid Knowledge, Practice & Coverage (KPC) Survey* The KPC survey questionnaire includes questions that asks mothers if and from whom a mother seeks treatment for a child reported to have rapid and difficult breathing in the two weeks prior to the survey. These questions are useful for estimating the proportion of caretakers in the project area who seek treatment from a medically-trained provider for children with a suspected lower respiratory infection. These questions can be included with questions for other Child Survival interventions during a baseline survey of a sample of project communities.

Table 1 above shows how each tool contributes to assessing the three dimensions of a community pneumonia case management intervention. Note that while a tool has a primary purpose (as described above), it can also contribute to information about other quality standards.

Origin and Rationale of the Pneumonia Care Assessment Toolbox

Over the last ten years, U S -based private voluntary organizations (PVOs) have made substantial progress in improving interventions to reduce childhood deaths from diarrhea and vaccine-preventable diseases. Project activities to reduce childhood deaths from pneumonia have been less numerous, but are increasing. Of the 27 PVO Child Survival projects that began in 1985, five included pneumonia case management (PCM) interventions whereas 13 of the 21 projects beginning in 1995 included a PCM intervention. A greater percent of effort is now being devoted to PCM (mean project effort of 11% in 1985 versus 18% in 1995).

The problems of quality

The increasing emphasis on PCM interventions by PVOs led USAID to assess the effectiveness of PCM interventions in projects. In 1993, USAID asked PVOs to submit for review the curricula used to train health workers in pneumonia case management and the action messages directed to families about pneumonia. External curricula reviewers found that only half of the projects were teaching the latest WHO standard treatment protocols for acute respiratory infections (ARI). The other projects used either outdated protocols or defined their own criteria for treatment, an indication that up-to-date information may not have been reaching the projects. In addition, few curricula included training practicum, with supervision in the field. Curricula reviewers recommended that PVOs follow the latest WHO protocols, and include practical, supervised field experience in their training.

The review also found quality problems with messages to mothers. Many messages to mothers were not clear, lacked advice on key pneumonia actions and put too much emphasis on home management of respiratory illnesses that are not life-threatening, such as common colds. Curricula reviewers recommended that PVOs improve action messages to mothers by using specific PCM messages and by adapting these messages to local situations, beliefs and practices.

Following the review of training curricula and action messages, The Johns Hopkins University organized an ARI Task Force of PVOs and technical consultants. The Task Force panel was comprised of the following: the director of the WHO Program for Control of Acute Respiratory Infections, technical experts from the US Centers for Disease Control (CDC) and universities, and technical staff of PVOs familiar with Child Survival projects. The Task Force reviewed pneumonia case management objectives and activities of PVO Child Survival projects as described in proposals and detailed implementation plans (DIPs), and technical summaries of DIP reviewers. The ARI Task Force found the same weaknesses in the design of PVO Child Survival project pneumonia case management interventions that the ARI Curricula Reviewers had found in the PVO curricula. Health workers in project areas were not using WHO ARI protocols and pneumonia action messages to mothers were not specific or appropriate.

Representatives of the ARI Task Force presented the Task Force findings to PVO technical staff attending the 1994 PVO Headquarters Workshop. PVO technical staff discussed the findings and recommended follow-up actions for PVOs, USAID and the PVO Child Survival Support Program (CSSP) to improve the quality of PVO Child Survival project pneumonia case management interventions. A key recommendation of workshop participants was that CSSP should "provide technical expertise to assist PVO projects in the design and assessment of ARI interventions."

The recommendations of 1994 PVO Headquarters Workshop, the ARI Curricula Review and the ARI Task Force all pointed in the same direction -- the need to improve the quality of the intervention in PVO projects. CSSP received approval from USAID for a work plan that included design of an instrument that would help PVOs assess the quality of their pneumonia care programs. Thus began a two year effort to develop/adapt methods that would help PVOs assess the following: (1) whether health workers in a project area were following standard WHO ARI case management protocols and, if not, why not, (2) whether caretakers in a project area have access to a health worker following standard ARI case management protocols and, if not, why not, and, (3) whether caretakers in a project area take appropriate action for a child with pneumonia and, if not, why not. Fortunately, with much hard work and input from technical experts and PVO staff, the PVO Child Survival community now has an important set of assessment methods (tools) that allows a PVO to understand how families and medical providers in the project area care for children with pneumonia, and the reasons for the types of care a child receives. This set of tools is called the Pneumonia Care Assessment (PCA) Toolbox. This Toolbox will help a PVO identify priority activities for a pneumonia case management intervention, establish measurable and realistic objectives, and measure achievement of those objectives.

Methodology. key-informant interviews

As a first step in developing the PCA Toolbox, CSSP interviewed technical experts who were knowledgeable about either the scientific basis for the WHO

Appendix C - Background on the PCA Toolbox

ARI protocols, community-based pneumonia case management programs, and/or methods for assessing health worker practices or community terms, beliefs and practices. During these interviews, interviewers asked that the technical experts identify the key questions a project manager needed to answer to design an effective pneumonia case management intervention. The technical experts also were asked what methods existed to answer the key questions.

Following the interviews, CSSP developed a preliminary list of key questions that would provide the general structure for assessing pneumonia care in project areas. In general, answers to these questions would help a project manager understand the key issues of pneumonia care for the project area: quality of care, access to care, and caretaker practices. An example of a key question to help understand quality of care is, "Are the recommended antibiotics for pneumonia available at all times in health facilities treating sick children?" or "Have the health workers who treat sick children received practical training in standard ARI case management using WHO or national protocols?"

Pneumonia Care Assessment Methods Task Force

In May 1995, CSSP organized a second Task Force called the Pneumonia Care Assessment Methods Task Force, which also included technical experts in ARI, USAID representatives and PVO Child Survival technical staff. Prior to the meeting, Task Force participants received the preliminary set of key questions and rated each question according to three criteria: (1) the importance of answering the question when designing an effective pneumonia case management intervention, (2) availability of a rapid, low-cost assessment method to answer the question, and, (3) ease of tabulating and analyzing the answers to the question without a computer. CSSP summarized the ratings of each question by Task Force participants prior to the meeting. At the Task Force meeting, participants reviewed the summary of ratings and recommended a refined list of questions that met the three criteria above. Participants also suggested the appropriate methods for answering each question on this list. Developing the instructions to answer each question on this refined list then became the next step for CSSP.

Methodology, selection criteria and instructions

To answer the different key pneumonia care questions, it is necessary to use different methods. Some questions can be answered by observation, others by in-depth interviews, group discussions and health record reviews. The criteria for selection of a particular method for use by PVO project staff were: (1) the methods must be easy to learn, use and analyze and (2) must not require a lot of time or money. For several of the key pneumonia care questions, there were methods and instructions available that met the selection criteria above. For these methods, PVO staff would be able to collect and analyze the information with only a day or less of instruction. For example, Task Force participants identified a "community group discussion" as a method to answer key questions concerning community beliefs about pneumonia. There are many good publications about conducting focus group discussions with instructions useful

for carrying out a community group discussion. These instructions can be taught to PVO staff in a short time. And, project staff can carry out group discussions in project communities and analyze the findings in one to two days. Only minimal effort was required for CSSP to adapt available methods and instructions of these tools for use by PVO project staff.

For other key questions, however, more effort was required to adapt available methods. This is because the methods, as designed originally, were not easy to learn, use or analyze or required a lot of time. These methods may have been originally designed to answer many more questions than PVO project staff need to answer. Some were designed for national level not community level studies. Others were designed for research, rather than for project management. For example, the WHO ARI Facility Survey is designed for a national level study. Although the survey answers several key pneumonia care questions, the instructions require sample sizes that would be very expensive for PVOs to conduct and would take many person days of effort. And, the survey includes instructions and forms to answer additional questions that are not essential for designing effective community-based pneumonia case management interventions. Another example is the WHO Focused Ethnographic Study for ARI, which can also be used to answer several key pneumonia care questions. However, it is designed for use by a medical anthropologist and can take up to six months to conduct the study. Most PVO Child Survival projects do not have a medical anthropologist on staff and because the projects are funded to provide services rather than conduct research, projects usually cannot afford six months to conduct such a study. To make these methods more useful for PVOs, CSSP limited the instructions and forms to answer only key questions and adapted the scope of the methodology to yield information useful for project management rather than research.

Between May 1995 and March 1996, CSSP developed five documents useful for PVO staff to answer key pneumonia care questions. Each document provided instructions for carrying out an assessment method and identified the key questions that were best answered with that method. For example, one document provided instructions and a close-ended questionnaire for interviewing health workers - the method identified as most appropriate to determine levels of health worker knowledge of WHO ARI protocols. Another document included instructions and a list of topics for carrying out an open-ended interview with a caretaker of a child who recently had a case of suspected pneumonia - the method identified as most appropriate for eliciting a narrative of events surrounding a suspected case of pneumonia. During this period, CSSP showed drafts of these documents to knowledgeable experts and incorporated their comments.

Pre-testing the Toolbox

CSSP technical staff have worked with PVOs to pre-test the PCA Toolbox in two different places Malawi in March 1996 and Ecuador in April 1996 In Malawi, staff and MOH counterparts from ten PVO Child Survival projects came to the *Training in Pneumonia Care Assessment Methods* hosted by the Save the Children (SC) Child Survival project During the training, participants practiced using and analyzing the Toolbox assessment methods Where possible, the participants carried out the assessment methods in or near the SC/Malawi Child Survival project area At the end of the training, participants from projects with pneumonia case management interventions developed action plans for improving pneumonia care in their own programs Each action plan included the use of the PCA Toolbox to identify priority activities for a pneumonia case management intervention In addition, participants and technical resource persons provided useful suggestions for making the Toolbox easier to learn and use

In Ecuador, CSSP technical staff worked with staff and MOH counterparts of the PLAN/Ecuador Child Survival project to assess pneumonia care in Cañar Province This pre-test of the PCA Toolbox focused on training staff and counterparts of a single project PLAN/Ecuador staff and counterparts identified both strengths and weaknesses in quality of ARI case management, access to health services, and caretaker practices for a child with pneumonia Again, as in Malawi, PLAN staff and counterparts stated that the PCA Toolbox was helpful in managing health services by identifying priority areas for improvement Participants suggested that the Toolbox was also appropriate for district MOH evaluation teams to assess pneumonia care at a district level And, participants provided useful suggestions for improving the materials, such as developing an additional assessment method for identifying communities without sufficient access to health services

In May 1996, CSSP organized a follow-up meeting for available PVO and USAID members of the 1995 Pneumonia Care Assessment Methods Task Force Participants reviewed a draft of the Toolbox and a summary of the pre-tests in Malawi and Ecuador The results of the two pre-tests were very encouraging Meeting participants approved the recommendations coming from the two pre-tests and provided additional guidance One recommendation was to present the PCA Toolbox at the September 1996 PVO Headquarters Workshop Between May and September 1996, CSSP technical staff updated the Toolbox based on the pretest experiences and Task Force suggestions

In October 1996, CSSP carried out a six-month follow-up evaluation of the Malawi training found that those projects that had used the tools reported that they were very useful However, not all participating projects has used the tools as scheduled Several projects reported that they had pushed back their schedule for using the tools Reasons for not using the tools included delays in the project, time requirements of evaluations and that it was not the right time in the project lifeline to use the tools For example, one project was experiencing delays in arranging training of health workers in standard case management

This is something that should be done before it would be appropriate to use the tool to assess case management practices or use tools to design health messages to families. Another project was busy with its midterm evaluation during this period and had decided to implement the training action plan in the winter of 1996/97.

An effect of the training in assessment methods was that project staff had a better understanding of the critical elements in a pneumonia case management intervention (those things that the toolbox assesses) than they would have had otherwise. This increased awareness led most projects to arrange for training of health workers in standard ARI case management, training that project staff knew that health workers in most project sites had never received. Training of health workers in standard case management is the first step in the first requirement of a quality pneumonia case management intervention (Quality of Services). This effect was also reported by Dr. Eric Starbuck, USAID/BHR/PVC, during field visits to projects represented at the Malawi training in February 1997.

Status

Future editions of the PCA Toolbox will incorporate suggestions of PVOs as PVOs use the materials. Also, CSSP will include in future editions additional guidance on analysis, sampling and when best to use the Toolbox in a Child Survival project life cycle.

??

Pneumonia Care Assessment Tool: Community Terms and Beliefs

Interview mothers in a public area such as a market

- Ask about illnesses that children in her community get
- Ask about signs of each illness
- Identify if mother mentions an illness with signs of rapid or difficult breathing and/or chest indrawing
- If yes, clarify terms for the illness and signs
- Ask what she believes a mother should do if her child gets this illness

Information Gained

- Local terms for pneumonia and pneumonia signs/symptoms
- Beliefs about pneumonia care for children

Uses of Information

- Identify problems in care-seeking
- Identify problems in current health messages
- Adapt communication strategy based on local terms and beliefs about pneumonia care

Pneumonia Care Assessment Tool: Community Group Discussions

Six to ten mothers, facilitator and recorder per group

- Conduct at least two group discussions per group of interest (near v far from facilities, ethnic/language groups; urban v rural)
- Use group dynamics to identify beliefs shared in common within each group of interest
- Compare and contrast commonly held beliefs between groups

Information gained

- mothers' pneumonia care practices (terms, causes, home treatments, providers used)
- mothers' satisfaction with health services (facility environment, waiting times, relationship with health workers, competence of health workers, fees for services)

Uses of Information

- Identify problems with care taker practices, access and quality of health services
- Improve quality of health services from mothers' perspective
- Increase access to specific groups of interest
- Adapt communication strategy based on local terms and pneumonia care practices

Pneumonia Care Assessment Tool: Pneumonia Case Narratives

Elicit stories or case studies (narratives)

- Identify mothers who have children with a recent episode of suspected pneumonia (KPC Survey, vital statistics, health facility records, key informants)
- Ask mothers to recount events (narrative) surrounding the child's illness

Information gained

- Illness terms
- Explanation of illness
- Illness chronology
- Home treatments
- Care-seeking behavior (triggers, constraints, providers)
- Treatment by providers
- Satisfaction with providers

Uses of information

- Identify problems with quality of services, access and care-seeking
- Improve quality of health services from mothers' perspective
- Increase access to specific groups of mothers
- Adapt communication strategy based on local terms and pneumonia care practices

Pneumonia Care Assessment Tool: Rapid Survey of Health Facility Capacity

Visit facilities serving project beneficiaries

- District hospital outpatient unit included in survey
- Interview facility manager
- Interview health workers who treat sick children
- Review drug stock lists

Information gained

- Percent of trained health workers
- Availability of essential antibiotics for pneumonia
- Health worker knowledge of standard ARI case management
- Access to referral sites and from communities served

Uses of information

- Identify problems with health worker training and knowledge, drug supply and access to referral sites and from communities
- Provide formal training, in-service training or strengthen supervision of health workers
- Improve drug supply
- Strengthen referral system or upgrade capacity of existing facilities
- Obtain authorization, training/supervision and antibiotics for community health workers in distant communities to provide standard ARI case management

Pneumonia Care Assessment Tool: Rapid ARI Case Management Survey

If a standard ARI Case Management training course is in place

- Visit facilities serving project beneficiaries
- Observe case management
- Review facility records

Information gained

- Consistency of case management practices with national or WHO protocols
- Usefulness of health facility records to identify case management practices

Uses of information

- Identify specific case management tasks that are not consistent with national or WHO protocols
- Identify problems with health facility information system
- Strengthen training and/or supervision of health workers
- Strengthen facility health information system

Pneumonia Care Assessment Tool: Health Services Utilization

Visit facilities serving project beneficiaries

- Review facility records for the last year
- Under five years of age
- Total number of under five visits
- Number of under five visits with diagnosis of pneumonia (by age group and gender)

Information gained

- Proportion of inpatient admissions for pneumonia
- Proportion of outpatient visits for pneumonia
- Relative use of services by
 - age
 - gender
 - season

Uses of information

- Shows minimum importance of pneumonia (not reflective of the community)
- Shows relative use/patterns (for those who come)
- Helps identify who is not coming that should

Pneumonia Care Assessment Tool: Geographic Access to Health Services

Obtain map(s) of the project area

- Identify the location of health facilities and workers with authority to treat with antibiotics that serve the project's beneficiary population
- Identify communities that have "access" to those facilities
- Identify communities that do not have access

Information gained

- Proportion of beneficiary population with access to health services
- List of communities "with access" to health services
- List of communities "without access" to health services

Uses of information

- Determine if enough communities have access to health facilities to justify the intervention
- Once quality of services is assured, the project knows in which communities it can deliver health messages about pneumonia care (those communities "with access" to those quality services)
- Project knows which communities need improved access before the project delivers health messages about pneumonia care (communities "without access" to health services)

Pneumonia Care Assessment Tool: Rapid Knowledge, Practice & Coverage (KPC) Survey

30-Cluster household survey of 300 mothers of children < 2 years

- Ask if child had rapid & difficult breathing in the last 2 weeks
- If yes, ask mother if she sought treatment
- If yes, ask from whom she sought treatment
- Ask mother what danger signs would cause her to seek treatment for a child with a respiratory illness

Information Gained

- Do mothers seek treatment for children with rapid & difficult breathing
- Local providers for childhood pneumonia

Uses of Information

- Identify problems in care-seeking
- Identify local providers that the project should work with
- Adapt communication strategy based on local pneumonia care practices

APPENDIX D

SUGGESTIONS FOR TRAINING AND IMPLEMENTATION, BY PCA TOOL

TABLE OF CONTENTS

I	Community Terms and Beliefs about Pneumonia Care	1
II	Community Group Discussions	2
III	Pneumonia Case Narratives	4
IV	Health Services Utilization	5
V	Geographic Access to Health Services	6
VI	Rapid Survey of Health Facility Capacity	7
VII	Rapid ARI Case Management Survey	9

APPENDIX D
SUGGESTIONS FOR TRAINING AND IMPLEMENTATION, BY PCA TOOL

I Community Terms and Beliefs about Pneumonia Care

I A Training Suggestions

Design the training so that training participants (the persons who will carry out this tool) will have the following *experiences* during training

- 1 *Read* individually the instructions and forms (30 minutes)
- 2 *Discuss* with the group or another participant, the purpose and rationale Why is it important to know the terms a community uses? What are some different ways to learn this vocabulary? (5 - 10 minutes)
- 3 *Listen* to a lecturette from the trainer about the objectives of the tool and the outline/sequence of the tool and *ask* questions, if any, about topics covered to date (5 minutes)
- 4 *Listen* to a lecturette on Form A and *observe* a mock interview with Form A *Ask* questions, if any, about how to interview using Form A (20 minutes)
- 5 *Discuss* with the training group the following issues about interviewing (see Page 3 of the tool) (about 5-10 minutes)
 - role of the interviewer
 - how to ask each interview question
 - importance of probing and techniques for probing
 - how to record responses
- 6 *Listen* to a lecturette about how the information gained from the interview with Form A will be used [Participants should see how a copy of Form B and C will be completed using the information from a set of forms A] (10 minutes)
- 7 *Role play* an interview using Form A in groups of three (role play triad) interviewer, respondent, observer/feedback Each person in the group will have an opportunity to *play* each of the three roles *Ask* questions to the trainer or group, if any, about how to deal with problems encountered during the role plays (30 minutes)

The above training experiences, if well-organized ahead of time, can be completed in about 1-2 hours (for example, the morning of the day devoted to carrying out this tool)

I B Implementation Suggestions

The following are suggestions for implementation

- 1 Carry out the tool in a public place, frequented primarily or exclusively by persons from the project's beneficiary population (For example, a community's market place)
- 2 Each person on the interview team should enter the public place from separate locations Interviewers should "intercept" the first mother (or woman of reproductive age) they encounter and ask to interview her [Use Form A]
- 3 Following each interview, the interviewer should intercept the first mother they encounter for an interview Continue this process until the required number of interviews has been completed
- 4 Each interviewer should independently complete a "Form B - Summary of Individual Interview" immediately after all interviews are completed (For example, prior to leaving the interview site) Each interviewer should complete one Form B for each interview completed
- 5 "Form C - Summary of Interviews" should be completed in a group session, attended by a facilitator and all interviewers with completed Form Bs The group should complete a copy of Form C printed on several pages of newsprint
- 6 Use a group process to draw conclusions from the information on the completed Form C (See page 6 of the tool) Record conclusions on newsprint for use during analysis of the findings across all the tools

II Community Group Discussions

II A Training Suggestions

Design the training so that training participants (the persons who will carry out this tool) will have the following *experiences* during training

- 1 *Read* individually the instructions and forms (About 30 minutes)
- 2 *Listen* to a lecturette on the purpose/objectives of the tool (2-3 minutes)
- 3 Participate in a *brainstorming* session Why would we want to know home care practices, providers sought, opinions about health center services? Why use another qualitative method (in addition to other qualitative tools in the PCA Toolbox)? "Triangulate"? (5-10 minutes)

- 4 *Listen* to a lecturette on the Community Group-Discussion process, (20 minutes)
- 5 *Role play* small group discussions with facilitators and recorders playing assigned roles and other project staff playing group members (About 2 hours)
 - Use two role play groups, one for topic #1 and one for topic #2 Each role play group should have a trainer/observer, facilitator, recorder and group discussion members
 - Trainer and group members *provide feedback* to facilitators regarding interviewing and probing techniques used with special attention to the way facilitators ask questions
 - Trainers and group *listen* to the discussion between the facilitator and the recorder as the two review the notes taken earlier during the role play discussion (Fishbowl technique)
 - Trainers and group *react* to conclusions of the facilitator and recorder

II B Implementation Suggestions

The following are suggestions for implementation

- 1 Be careful and purposeful in selecting the group of interest to talk with Mothers who participate in each community group discussion should share something in common that is of interest to the project Things of "interest" to the project will be those things that project staff believes influence how mothers care for their children who have pneumonia (e g the distance from the home to health facilities, the mothers' ethnic/cultural group, language)
- 2 Mothers who participate should be of the same approximate age, educational level and socioeconomic status
- 3 Group discussion leaders should discuss protocols for visiting and interacting in the communities where the group discussions will occur
- 4 Select a location where mothers will feel comfortable However, avoid holding discussions in health facilities mothers may not feel comfortable talking about use of traditional health services in a health facility
- 5 For each topic and group of interest, hold at least two community group discussions Continue to conduct additional community group discussions for each topic and group of interest until project staff detect a common pattern of beliefs and practices

III Pneumonia Case Narratives

III A Training Suggestions

Design the training so that training participants (the persons who will carry out this tool) will have the following *experiences* during training

- 1 *Read* individually the instructions and forms (30 minutes)
- 2 *Discuss* with the group or another participant, the purpose and rationale Why is it useful to record the story surrounding the care a mother gave a child who recently had a suspected case of pneumonia? (5 - 10 minutes)
- 3 *Listen* to a lecturette from the trainer about the objectives of the tool and the outline/sequence of the tool and *ask* questions, if any, about topics covered to date (5 minutes)
- 4 *Discuss* the matrix on page 3 of the Pneumonia Case Narratives tool, *Sources/criteria for identifying children with presumptive pneumonia*
- 5 *Listen* to a lecturette on the Interview Form (appendix A) and the List of Topics (appendix B) and *observe* a mock interview *Ask* questions, if any, about how to interview (20 minutes)
- 6 *Discuss* with the training group the following issues about interviewing (about 5-10 minutes)
 - role of the interviewer
 - how to ask each interview question
 - importance of probing and techniques for probing
 - how to record responses
- 7 *Listen* to a lecturette about how the information gained from the interview will be used (20 minutes)
 - Participants should *see* how a copy of Individual Recording Form (Appendix C) will be completed using interview notes,
 - Participants should also *see* how the Summary Form (Appendix D) will be completed using the information from a set of Individual Recording Forms,
 - Use newsprint or overheads to demonstrate the process of completing forms
- 8 *Role play* an interview in groups of three (role play triad) interviewer, mother, observer/feedback (60 minutes)
 - Each person in the group will have an opportunity to *play* each of the three roles
 - *Ask* questions to the trainer or group, if any, about how to deal with problems encountered during the role plays

The above training experiences, if well-organized ahead of time, can be completed in about 2 ½ hours (for example, the morning of the day devoted to carrying out this tool)

III B Implementation Suggestions

The following are suggestions for implementation

- 1 Key to using this tool is identifying mothers with a child who recently had a suspected case of pneumonia
- 2 Do not interview only mothers who brought a child with pneumonia to a health facility
The practices of these mothers may not be representative of all mothers in the project area. A useful technique would be to interview a group of mothers who brought their child to a health facility and then interview a different group of mothers who did not bring their child to a health facility. This will help project staff determine the reasons why some children with pneumonia are not given medical treatment
- 3 Do not conduct interviews in health facilities or offices of the project or ministry of health. This may inhibit mothers from discussing traditional practices that they actually use
- 4 Interviewers need to have skills in open-ended interviewing and probing techniques or develop these skills prior to conducting the case narrative interviews

IV Health Services Utilization

IV A Training Suggestions

Design the training so that training participants (the persons who will carry out this tool) will have the following *experiences* during training

- 1 *Read* individually the instructions and forms (30 minutes)
- 2 *Discuss* with the group or another participant, the purpose and rationale. Why is it useful to identify patterns of utilization of health services? (5 - 10 minutes)
 - Shows relative use/patterns
 - Helps justify pneumonia case management intervention
- 3 *Discuss* with the group or another participant, the limitations of health services data (5-10 minutes)
 - Shows only minimum importance of pneumonia,
 - Not reflective of community (not all people come to health facilities)
 - Not reflective of project area (reflects catchment area of facilities)
 - Data quality is often poor (missing age or gender, incorrect classification or diagnosis, age misclassification)

Appendix D Suggestions for Training and Implementation

- 3 *Listen* to a lecturette from the trainer about the objectives of the tool and the outline/sequence of the tool and *ask* questions, if any, about topics covered to date (5 minutes)
- 4 *Practice* completing Table 1 and Table 2 using information from a health facility logbook (or copy) for a one month period of entries Use logbook from one of the facilities serving project beneficiaries (45 minutes)
- 5 Given (a) an example of a completed Table 1 and (b) information about the number of children under five years of age, by age group and gender, *practice* completing Table 3 and Table 4 (15 minutes)
- 6 *Discuss* the conclusions of the "practice" findings (practice Tables 1 - 4) (30 minutes)

IV B Implementation Suggestions

- 1 Gather together of group of persons who are knowledgeable about the geography of the area and, as a group, come to consensus as to a definition of "geographic access " For example, a specified distance or walking time or transportation cost (time and money)
- 2 If possible, use or develop a map of the project area that indicates each community and health worker with the authority to treat children with pneumonia
- 3 Later, during project visits to communities identify if community perceptions of access or no access agree with the findings of this tool
- 4 For each community identified as not having access to health workers, identify other persons who could provide standard pneumonia case management for example, "unauthorized" persons who are currently treating pneumonia (quacks, shopkeepers, traditional healers), community development or health workers, traditional birth attendants, school teachers

V Geographic Access to Health Services

V A Training Suggestions

Design the training so that training participants (the persons who will carry out this tool) will have the following *experiences* during training

- 1 *Read* individually the instructions and forms (30 minutes)
- 2 *Discuss* with the group or another participant, the purpose and rationale Why is it useful to identify communities without access to health services and the reasons for lack of access? (5 - 10 minutes)

- 3 *Listen* to a lecturette from the trainer about the objectives of the tool and the outline/sequence of the tool and *ask* questions, if any, about topics covered to date (5 minutes)

V B Implementation Suggestions

The following are suggestions for implementation

- 1 Use a separate copy of Table 1 for each facility project staff visit to complete the health services utilization tool
- 2 Sum the findings of each facility's Table 1 onto another copy of Table 1
- 3 Complete a separate copy of Table 3 and 4 for each facility that project staff visit. The population figures in column (a) of Table 3 and 4 should reflect the estimated population of children under five in the catchment area of the health facility. Note that the catchment area of a health facility may include communities that are not designated as potential beneficiaries of the project
- 4 Sum the findings of each facility's Table 3 and 4 onto another copy of Table 3 and 4
- 5 Modify Tables 1, 2, 3 and 4 to include the information available at health facilities
 - For example, if gender is not recorded in a logbook and gender is not easily distinguished from the name of child, remove gender columns from Table 1 and Table 2. Project staff will not be able to complete Table 4
 - If age is recorded only in years, combine into one the following two columns in Table 1 and 2 and the following two rows in Table 3: 2-11 months and 0-1 months

VI Rapid Survey of Health Facility Capacity

VI A Training Suggestions

Design the training so that training participants (the persons who will carry out this tool) will have the following *experiences* during training

- 1 *Read* individually the instructions and forms (60 minutes, assign ahead of time) *Read* the national protocol for standard case management (60 minutes reading of time or view WHO video ahead of time)
- 2 *Discuss* with the group or another participant, the purpose and rationale. Why is it useful to determine number of persons trained in standard case management, their level of knowledge and the availability of essential drugs? (5 - 10 minutes)
- 3 *Listen* to a lecturette from the trainer about the objectives of the tool and the outline/sequence of the tool and *ask* questions, if any, about topics covered to date (5 minutes)

Appendix D Suggestions for Training and Implementation

- 4 *Role play* the Health Workers Knowledge Survey interview (using the form in Appendix B) in groups of three (role play triad) interviewer, respondent, observer/feedback Each person in the group will have an opportunity to *play* each of the three roles Ask questions to the trainer or group, if any, about how to deal with problems encountered during the role plays (60 minutes)
- 5 *Review* Appendix C, section by section The training group should specifically *discuss* how survey teams will identify if the correct drugs are available, the quantity, and if the drugs were out of stock in the last three months (30 minutes)
- 6 Given a copy of a logbook with at least 20 entries for children with ARI, participants *practice* completing the form in Appendix D, *Review of facility records* (about 60 minutes)
 - Complete line 1 and line 2 as a group
 - After participants have finished completing the form individually, have participants meet in groups of 3-4 and compare findings
 - Allow time for general discussion and agreement as to how to complete each line in the example
- 7 *Listen* to a lecturette about how the information gained from the survey will be tabulated and used (15 minutes)

The above training experiences, if well-organized ahead of time, can be completed in about 3 hours (for example, the morning of the day devoted to carrying out this tool) This assumes that participants will do step 1 prior to the training session

VI B Implementation Suggestions

The following are suggestions for implementation

- 1 If the project will carry out the tool *Rapid ARI Case Management Survey* on the same day, this tool should be carried out after It will then take approximately one day to complete both surveys in a facility
- 2 The survey team at each facility should include a representative of the organization that operates the facility (MOH, Religious or other non-governmental organization)
- 3 The survey team should include someone familiar with the operation of health facilities in the project area
- 4 The survey team should include someone working for the project
- 5 Ensure that members of the survey team are familiar with the national protocol for standard ARI case management Prior to the survey, show the survey team the WHO video on ARI case management, if possible It may also be helpful if survey team members review the technical basis for the protocol (See Appendix A)

- 6 Survey teams should have in hand, letters of authorization for carrying out this tool in the health facility they will visit
- 7 Feedback to facility staff must not be critical or blaming Feedback should be constructive and focused on next steps to improve capacity

VII Rapid ARI Case Management Survey

VII A Training Suggestions

Design the training so that training participants (the persons who will carry out this tool) will have the following *experiences* during training

- 1 *Read* individually the instructions and forms (60 minutes, assign ahead of time) *Read* the national protocol for standard case management (60 minutes reading of time or view WHO video ahead of time)
- 2 *Discuss* with the group or another participant, the purpose and rationale Why is it useful to observe health workers manage cases of ARI and review facility records? (5 - 10 minutes)
- 3 *Listen* to a lecturette from the trainer about the objectives of the tool and the outline/sequence of the tool and *ask* questions, if any, about topics covered to date (5 minutes)
- 4 **Complete ARI Enrollment Card** (15 minutes)
 - *Watch* a demonstration of how a member of the survey team (a) approaches a group of mothers waiting at a health facility, (b) determines which mothers have brought a child with ARI (cough or difficult breathing in addition to any other signs), and (c) completes the ARI Enrollment Card
 - *Ask* questions for clarification of the process

5 Observe ARI Case Management (about 4 ½ hours)

- *Listen* to a lecturette on the steps the survey team carries out when observing case management, the lecturette should include a visual of the process such as the flow chart in Appendix E of the *Rapid ARI Case Management Survey* (10 minutes including time for questions)
- *Listen* to a lecturette on how to complete the title section of the ARI Case Management Observation form (Appendix B) (5 minutes)

- Assessment (about 2 ½ hours)
 - *Listen* to a lecturette on the rules for deciding whether to check “Yes” or “No” for each line of section I A and I B of the observation form (15 minutes)
 - *Observe* a mock demonstration of a health worker assessing a child with ARI and *record* observations on a copy of the ARI Case Management Observation Form *Share* and *discuss* observations with other participants in a small group of 2-4 persons *Rejoin* into a large training group and *discuss/clarify* issues and questions raised during small group discussion (About 45 minutes)
 - *Repeat* the above experience at least two more times, each time observing a different scenario that participants are likely to encounter during the survey (About 90 minutes)

- Classification, Treatment, Counseling (about 90 minutes)
 - *Listen* to a lecturette on the rules for deciding whether to check “Yes” or “No” for each line of section II and III A-C of the observation form (15 minutes)
 - Given the findings of a health worker’s assessment, *observe* a mock demonstration of a health worker classifying, treating and counseling a child with ARI and his/her caretaker *Record* observations on a copy of the ARI Case Management Observation Form *Share* and *discuss* observations with other participants in a small group of 2-4 persons *Rejoin* into a large training group and *discuss/clarify* issues and questions raised during small group discussion (About 45 minutes)
 - *Participate* in a question & answer period where the trainer verbally presents 2-3 different scenarios of a health worker classifying, treating and counseling a child with ARI and caretaker and asks, “How should sections II and III A-C of the observation form be checked?” (30 minutes)

- Summary Section IV. (45 minutes)
 - *Listen* to a lecturette on the rules for deciding whether to check “Yes” or “No” for each line of section IV of the observation form (15 minutes)
 - Given (a) an observation form with sections I - III completed and (b) a summary instruction form (page 2 of Appendix B), *complete* section IV of the observation form *Share* and *discuss* observations with other participants in a small group of 2-4 persons *Rejoin* into a large training group and *discuss/clarify* issues and questions raised during small group discussion (About 30 minutes)

- 6 **Review of Facility Records** Given a copy of a logbook with at least 20 entries for children with ARI, participants *practice* completing the form in Appendix D, *Review of facility records* (about 60 minutes)
 - Complete line 1 and line 2 as a group
 - After participants have finished completing the form individually, have participants meet in groups of 3-4 and compare findings
 - Allow time for general discussion and agreement as to how to complete each line in the example
- 7 *Listen* to a lecturette about how the information gained from the survey will be tabulated and used (15 minutes)

The above training experiences, if well-organized ahead of time, can be completed in about 6 ½ hours. This assumes that participants will do step 1 prior to the training session. This also assumes that participants have not received training on Review of Facility Records which is also part of the training of the other facility assessment tool, *Rapid Survey of Health Facility Capacity*.

Note that time required to complete the training of both facility assessments (*Rapid Survey of Health Facility Capacity* and the *Rapid ARI Case Management Survey*) is about 8 hours. The training on **Review of Facility Records** only needs to be done once. Therefore, projects planning on carrying out both facility assessments should consider completed the training for both at the same time in one day.

VII B Implementation Suggestions

The following are suggestions for implementation

- 1 If the project will carry out the tool *Rapid Survey of Health Facility Capacity* on the same day, this tool should be carried out before. It will then take approximately one day to complete both surveys in a facility.
- 2 The survey team at each facility should include a representative of the organization that operates the facility (MOH, Religious or other non-governmental organization)
- 3 The survey team should include someone familiar with the operation of health facilities in the project area
- 4 The survey team should include someone working for the project
- 5 Ensure that members of the survey team are familiar with the national protocol for standard ARI case management. Prior to the survey, show the survey team the WHO video on ARI case management, if possible. It may also be helpful if survey team members review the technical basis for the protocol (See Appendix A)

Appendix D - Suggestions for Training and Implementation

- 6 Survey teams should have in hand, letters of authorization for carrying out this tool in the health facility they will visit
- 7 Survey teams should have in hand, copies of the national ARI case management protocol, including the list of recommended drugs for pneumonia. If possible bring extra copies of the protocol to leave with facility staff
- 8 Feedback to facility staff must not be critical or blaming. Feedback should be constructive and focused on next steps to improve capacity
- 9 Each team should have a plan for what to do if the survey teams encounter a child who may be harmed because the health workers treatment, non-treatment or non-referral is contraindicated. For example, what will the team do if a health worker does not refer a child with chest indrawing to the hospital? Will the survey team report the incident to the facility manager? Will the survey team offer to transport the child to the hospital?

APPENDIX E

SCHEDULING THE PNEUMONIA CARE ASSESSMENT TOOLBOX

TABLE OF CONTENTS

SCHEDULING THE PCA TOOLBOX DURING

THE PROJECT LIFE CYCLE

1

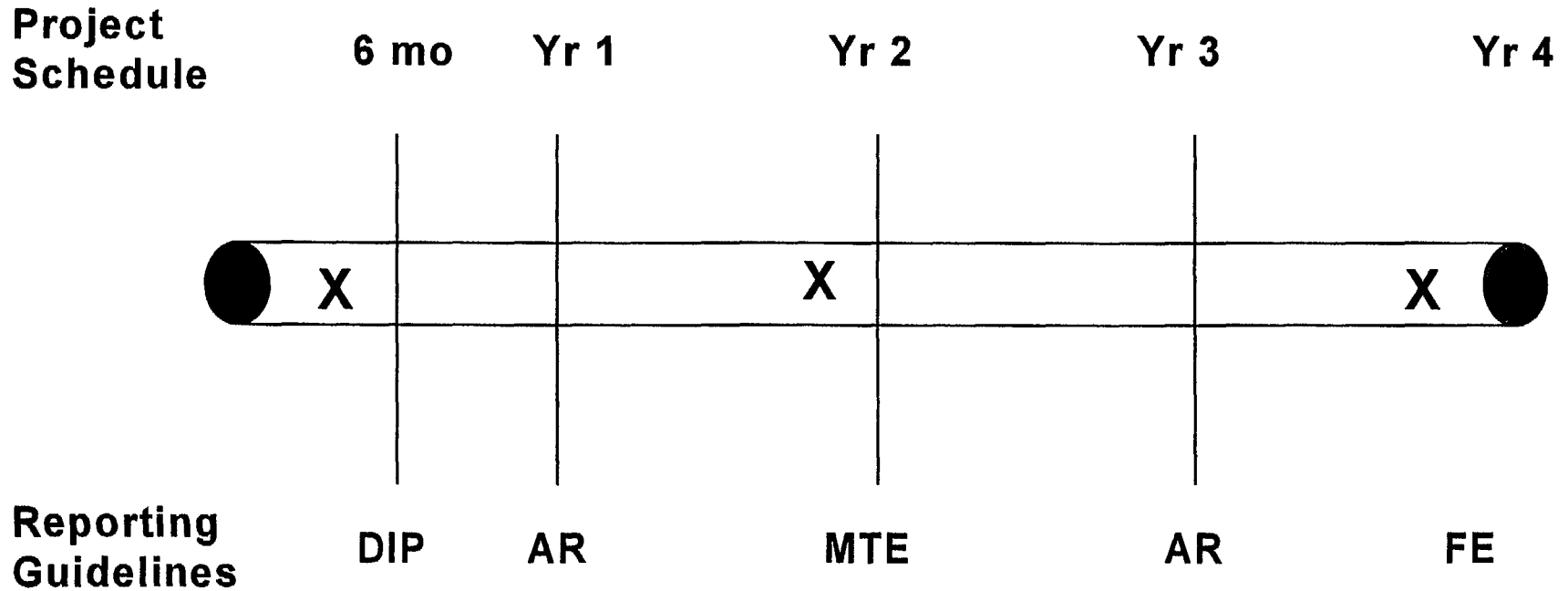
THE FIRST SIX MONTHS OF A PROJECT APPROACH 1

2

THE FIRST SIX MONTHS OF A PROJECT APPROACH 2

3

SCHEDULING THE PCA TOOLBOX DURING THE PROJECT LIFECYCLE

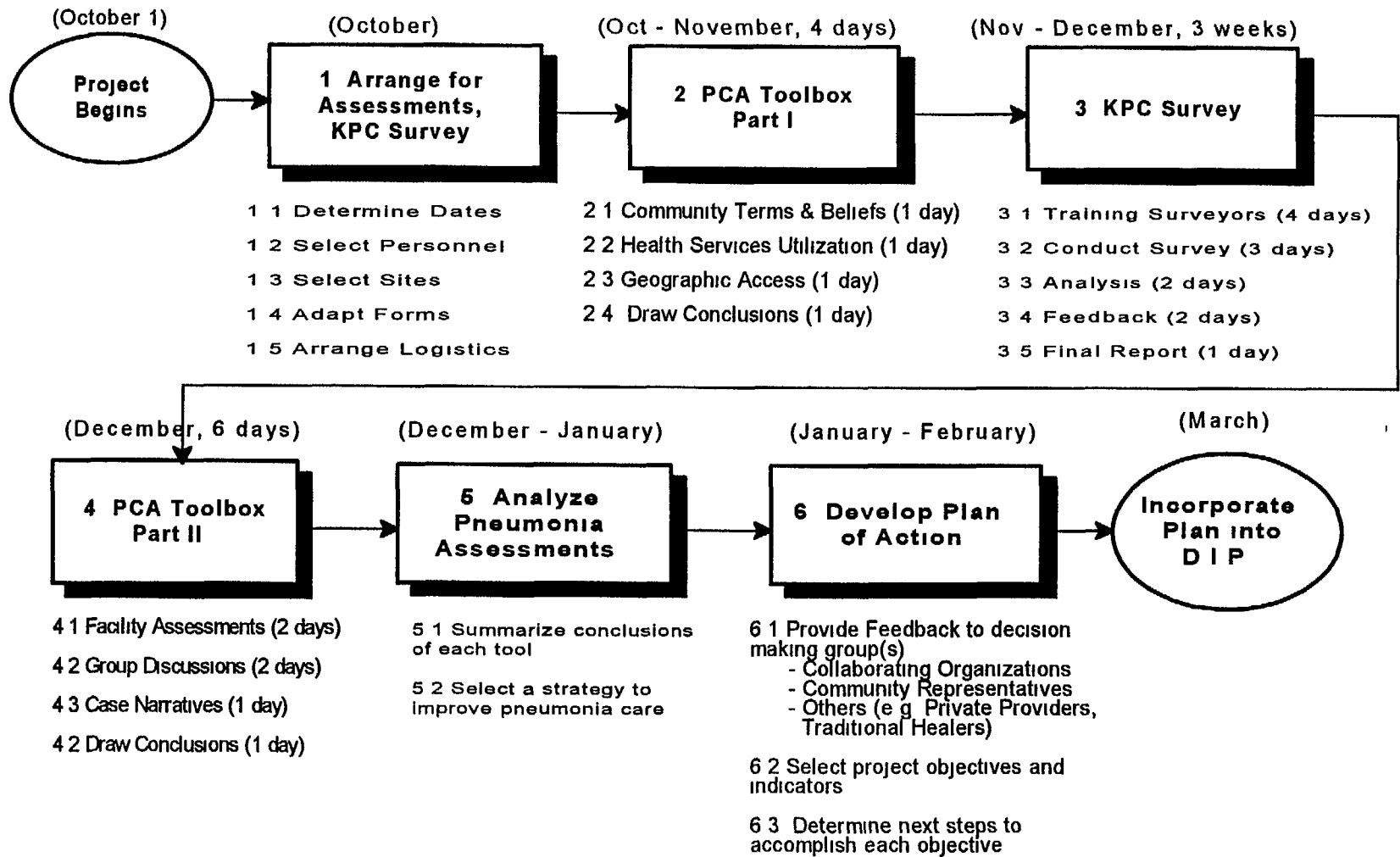


● Project Begins ● Project Ends

X Suggested times to carry out the PCA Toolbox

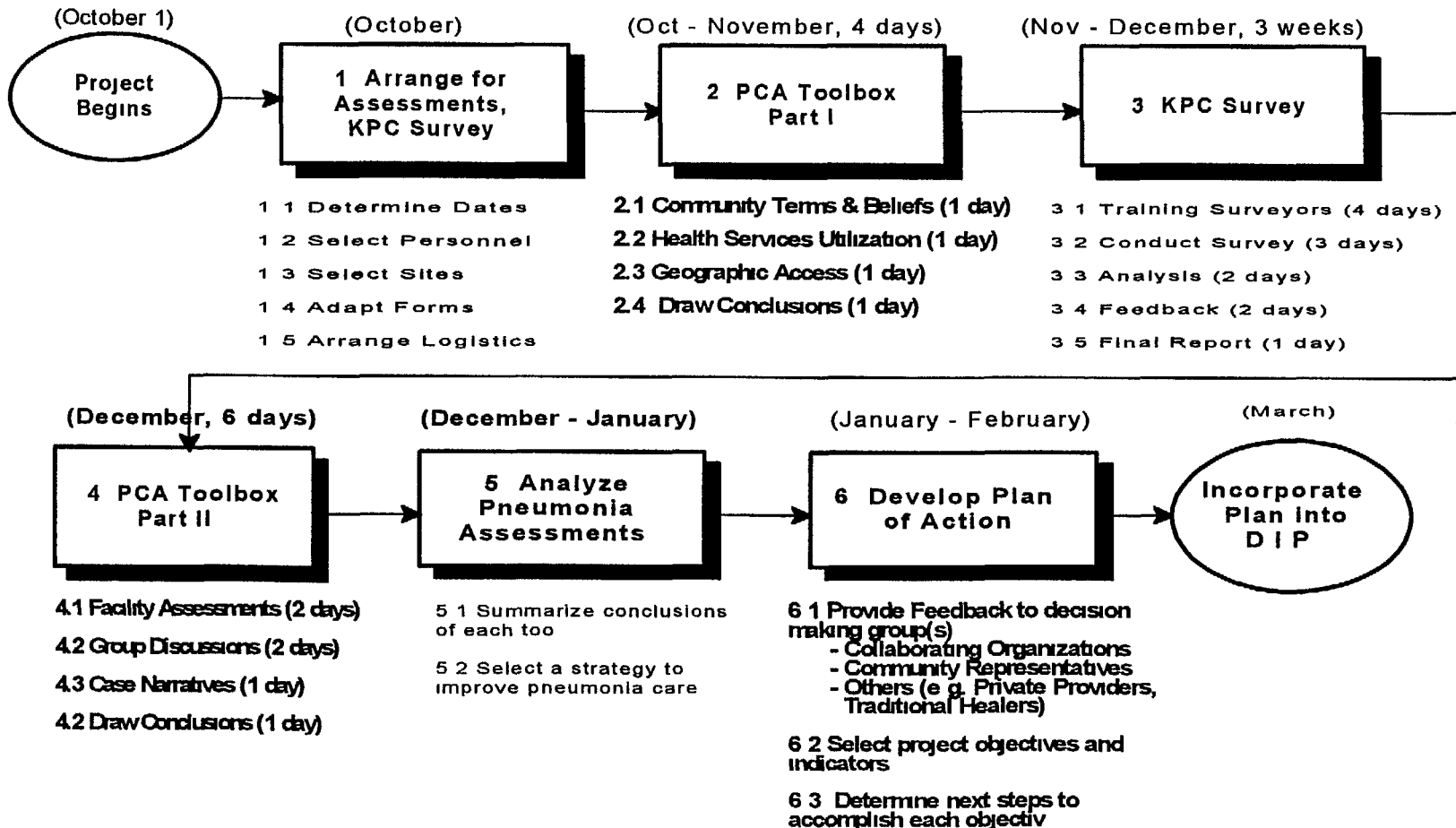
115

SCHEDULING THE PCA TOOLBOX DURING THE FIRST SIX MONTHS OF A PROJECT APPROACH 1

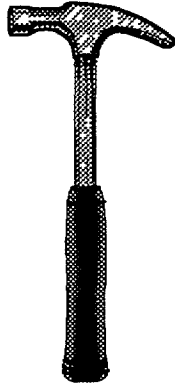


11/19

SCHEDULING THE PCA TOOLBOX DURING THE FIRST SIX MONTHS OF A PROJECT APPROACH 2



117



Pneumonia Care Assessment Tool: Rapid Survey of Health Facility Capacity

Third Edition
April 1998

Notice Persons with questions concerning this assessment tool, or persons needing assistance adapting the enclosed forms and instructions should contact Mr Bill Weiss, Research Associate, Department of International Health, The Johns Hopkins University School of Public Health, 615 N Wolfe Street, Baltimore, Maryland, 21205, Email <bweiss@jhu.edu>

**Pneumonia Care Assessment Method
Rapid Survey of Health Facility Capacity**

<u>Table of Contents</u>	<u>Page No.</u>
Purpose	1
Objectives	1
Rationale	1
Approach	1
List of Capacity Survey Activities	2
Expected Output	2
Materials Needed	2
Description of Capacity Survey Activities	2
1 Arrange for the Survey	2
1 1 Select the sample of facilities to survey	2
1 2 Recruit survey teams	3
1 3 Scheduling and authorization	4
1 4 Train survey teams	4
2 Conduct Capacity Survey	5
2 1 Transport survey teams to facilities	5
2 2 Introduce survey team to facility staff	6
2 3 Assess health worker knowledge	6
2 4 Assess availability of trained providers and essential drugs	6
2 5 Facility Record Review (Optional)	6
3 Supervise the Facility Survey	7
4 Provide Feedback to Facility Staff	7
4 1 Review forms and identify strengths and weaknesses	7
4 2 Provide feedback to facility staff	8
5 Draw Conclusions	9
5 1 Conclusions about health worker knowledge	9
5 2 Conclusions about availability of trained providers and essential drugs	10
5 3 Conclusions from health facility record reviews	11
Appendix A Key Indicators of Rapid Survey of Health Facility Capacity	
Appendix B Rapid Knowledge Survey for ARI Case Management	
Appendix C Assessment of Availability of Trained Providers and Essential Drugs	
Appendix D Review of Facility Records	
Appendix E Health Worker Knowledge Survey - Manual Tabulation Tables	

Pneumonia Care Assessment Tool Rapid Survey of Health Facility Capacity

Purpose

The purpose of the Rapid Survey of Health Facility Capacity is to quickly assess the capacity of health facilities serving the beneficiary population of PVO Child Survival projects to provide standard ARI case management

Objectives

Determine a facility's capacity to manage cases of pneumonia in children by assessing

- 1 Knowledge of providers of pneumonia case management,
- 2 Number of providers trained in pneumonia case management, and,
- 3 Availability of essential drugs for pneumonia case management

Rationale

In recent years, PVO Child Survival projects have increasingly decided to include a "case management of pneumonia" intervention. This represents a current trend of PVOs shifting from primarily community-based interventions (ORT, EPI promotion, breastfeeding promotion and nutrition education) to including some facility-based interventions (management of pneumonia and obstetrical emergencies). This trend has led to renewed interest in improving quality of services in addition to improving coverage of services. USAID is encouraging PVOs to help facility staff provide quality services prior to the PVO increasing demand for those services from communities. Basic capacity to provide standard ARI case management (trained and knowledgeable providers, and available essential drugs and supplies) is the first step toward providing quality of services.

PVO Child Survival project managers have requested help in assessing the quality of services they are supporting. (Most PVOs do not directly provide services but help train and supervise MOH workers and community health workers). The expressed need is for a "management" tool for decision-making rather than a research tool. As is, the current WHO ARI Facility Survey appears too complicated and lengthy to meet the needs of most projects for a tool that allows immediate decision-making at low cost.

Approach:

The Rapid Survey of Health Facility Capacity approach is to assess the capacity of health facilities serving children in the project area to provide standard ARI case management. The Rapid Survey of Health Facility Capacity is an adaptation of the WHO ARI Facility Survey and incorporates the following activities:

- interview facility manager to identify the number of trained providers,
- interview health workers who care for children with ARI, and,
- assess the availability of essential staff and drugs

List of Capacity Survey Activities	<ol style="list-style-type: none">1 Arrange for the Survey2 Conduct Capacity Survey3 Supervise the Conduct of the Capacity Survey4 Provide Feedback to Facility Staff5 Draw Conclusions about Facility Capacity
Expected Output	Estimate of the capacity of the health facilities, that are treating children from the project's beneficiary population, to provide Standard ARI Case Management
Materials Needed	<p>Use the following checklist to organize materials for the capacity survey</p> <ul style="list-style-type: none">• Letters of authorization (if necessary),• Blank survey forms for each age group,• Manual tabulation forms,• Clipboards for each survey team member,• Selected parts of the capacity survey guide,• Pencils, sharpeners, erasers,• File folders for each type of assessment,• WHO or national ARI Case Management charts,• List of nationally recommended drugs for treating pneumonia,• Copies of pages of logbooks and health records at outpatient facilities
Description of Capacity Survey Activities	<p>1 Arrange for the Survey (Much of the following guidance for Step 1 is from the Rational Pharmaceutical Management Project, <i>Rapid Pharmaceutical Management Assessment An Indicator Based Approach</i> a collaboration of Management Sciences for Health, USAID & the United States Pharmacopeia, July 1995 pp 110 120)</p> <p>1.1 Select the sample of facilities to survey Select five facilities that treat sick children from the project's beneficiary population to survey</p> <ul style="list-style-type: none">• One of the five facilities should always be the outpatient unit of the district hospital serving the project's beneficiary population. Select one at random if there is more than one district hospital serving the project's beneficiary population• In project areas where there is only one level of outpatient facilities below the district hospital (for example, a rural health center), select the additional four facilities using the following guidance<ul style="list-style-type: none">◦ If it possible (due to available transportation resources and distances) to visit each facility and complete the survey in one day's time select four facilities <i>at random</i> from all the facilities at the level below the district hospital and that treat sick children from the project's beneficiary population

- If it is too difficult to visit and survey each facility serving the project's beneficiary population (1) select two facilities *at random* from all the facilities below the district hospital level that treat sick children from the project's beneficiary population, and (2) choose two other facilities that are easiest to reach from the two randomly selected facilities so that teams can visit two facilities (one randomly selected and one nearby) on each trip
- In project areas where there are two levels of outpatient facilities below the district hospital (for example, clinics with physicians and health posts with paramedics), select the additional four facilities using the following guidance
 - Select two facilities *at random* from all the facilities that are the first level below the district hospital and that treat sick children from the project's beneficiary population
 - Select two additional facilities that are easiest to reach from the two randomly selected facilities above and that are two levels below the district hospital (for example, health post with a paramedic) This will allow for paired visits of second and third level facilities
- In project areas with a different system of health facilities, select the five facilities *purposively* so that each facility is different from the other facilities in the sample Facilities should be different according to such factors as geographic location (urban/peri-urban/rural, distance from the district hospital or all-season roads, in the mountains or in a valley, etc) or patient load
- If there are five or less facilities that serve the project's beneficiary population, survey each of these facilities

1 2 Recruit survey teams

For example If the project will survey five facilities in one day, then the project needs to recruit five teams of three persons, that is, recruit fifteen persons

- Recruit a team of three persons (one supervisor and two surveyors) for each facility to be surveyed

Note This many persons are needed in each team especially if team will also carry out the other pneumonia care facility assessment tool *Rapid ARI Case Management Survey Observing Management of a Child with Cough or Difficult Breathing* Two persons per team may be sufficient, however if the teams will only do the survey of health facility capacity Further, fewer teams are needed if one or more teams can visit and survey more than one facility in a day (this will not be possible if teams are also observing case management)

Hint Send a five person team to the District Hospital Outpatient Unit if the team will also observe case management of children with cough or difficult breathing. The large patient load of a District Hospital requires more than a three-person team to complete the survey in one day.

- Because the survey will take place in government and/or private health facilities, recruit persons for survey teams who have worked in or with health facilities. Ideally, each team should include at least one physician, nurse or paramedic.
- In project areas where health facilities are run by the government, government support will be needed to improve the quality of services. In these areas, each team should include at least one person from the Ministry of Health.
- Because the project will work with facilities to improve the quality of services, each team should include at least one person from the project staff.

1.3 Scheduling and authorization

- Scheduling the recruitment, training and transport of survey teams to facilities is complicated. Scheduling is affected by things such as the number of teams, number of persons in each team, the number of vehicles and seats per vehicle available, peak work periods for the project and the government, holidays, distances to facilities, and seasons of the year. Therefore, project staff need to make a careful plan that includes alternatives for survey personnel, vehicles, and drivers.
- Each survey team should have with them a “letter of authorization” from the appropriate authority (usually the MOH). This is true especially if government representatives are not part of a survey team. If possible prior to the survey, the project should have the appropriate authority inform each facility about the possibility of survey teams visiting the facility and of the need to cooperate as much as possible.

1.4 Train survey teams

If well organized, the training of survey teams can be completed in one day. Suggested activities on the training day are as follows:

- *Familiarize* the survey teams with the forms and allow opportunities for questions.
- *Determine* as a group the criteria for identifying whether or not a health provider has been “trained” in standard ARI case management.

Hint The following criteria have been used previously to determine if a health worker has been "trained" in standard ARI case management the training took place within the last three years, the training was at least three days, and/or the training included at least one day of practicum at the training hospital outpatient unit

- *Obtain consensus* as a group on the list of drugs that are recommended for treating pneumonia in outpatient facilities in the project area The survey teams will need to determine if at any time during the three months prior to the survey a facility was out of stock of each of these recommended drugs
- *Obtain consensus* as a group on an appropriate process for survey teams to introduce themselves to facility staff and arrange for the conduct of the survey in a facility
- *Familiarize* the survey teams with the layout of drug storage facilities at health centers
- *Familiarize* the survey teams with the format of logbooks and health records at the facilities the teams will visit
- *Familiarize* the survey teams with the principles of good interviewing techniques
- Have the survey teams *practice* completing the survey forms by *providing* demonstrations of interviews, copies of completed logbooks, and by *role playing with feedback*

Hint If possible, have the training group visit a non-survey health facility on the afternoon of the training day and practice interviewing health workers surveying drug storage facilities and reviewing logbooks Persons will usually practice in teams of three or four so that everyone at a minimum has a chance to observe each step in the survey process

2. Conduct Capacity Survey

The capacity survey will take approximately one-half day in each facility to complete the health worker knowledge assessment, assess the availability of essential drugs and trained staff, and review records (optional)

2.1 Transport survey teams to facilities

- *Make* enough transportation resources available to transport survey teams to each facility early in the morning or the evening prior to the survey,
- *Ensure* each team has all survey materials prior to leaving

Note

Each survey team works independently and therefore needs to have all survey materials with them during the survey (See list above) Survey teams also will need per diem or a guarantee of meals and accommodations

2 2 Introduce survey team to facility staff

- Team leader *introduces* team to health worker in charge of the facility,
- *Explain* the purpose of the visit and show letters of permission, if necessary,
- *Make arrangements* with facility staff for the conduct of the survey,
- *Determine* when and where surveyors will interview health workers about their knowledge of standard ARI case management guidelines,
- *Determine* which health worker will assist the survey team leader to assess health worker training and availability of essential drugs, and when this will be done

2 3 Assess health worker knowledge

Surveyors *interview* each health worker who treats sick children using the health worker knowledge survey form

Note

Appendix B contains instructions for interviewing health workers and contains an example of the knowledge survey form Appendix E contains manual tabulation tables for each question on the knowledge survey form

2 4 Assess availability of trained providers and essential drugs

The survey team leader *assesses* the availability of essential drugs for pneumonia case management, the training levels of health workers

Note

Appendix C contains instructions and survey forms for assessing availability of trained providers and essential drugs

2 5 Facility Record Review (Optional)

If feasible, the survey team leader *reviews* health records of last 20 children who came to the facility with acute respiratory infections prior to the day of the survey

Note

Appendix D contains instructions and survey forms for conducting the record review

3 Supervise the Facility Survey

- The survey team leader *observes* the performance of each surveyor at least once each day during the health worker knowledge portion of the survey,
- Team leader *reviews* each survey form completed by a surveyor, and *looks* for missing or incorrect entries and inconsistencies

Hint - Most errors are identified during the survey training and these errors can then be used as a checklist to observe performance in the field. On the survey forms, errors should be marked in red pencil so that they can be easily identified and discussed individually or during team meetings

- The survey team leader *decides* how to resolve all issues in collaboration with the facility manager

4 Provide Feedback to Facility Staff

If the facility staff have time and are willing, provide feedback to them and ask them for suggestions to improve the capacity of the facility to provide standard ARI case management. Survey teams contribute to efforts to improve facility capacity by giving immediate, focused feedback to the facility staff prior to leaving the facility. This will be one of the most valuable parts of the Rapid Survey of Health Facility Capacity.

Note

It is very important to provide feedback in a way that will not result in blame or repercussions taken against one or a few health workers. The focus of the Pneumonia Care Assessment Tools Training in general, and the capacity survey specifically, is to identify areas for improvement and raise the quality of services from whatever level of performance they are at currently. The attitude that CSSP recommends for this activity is as follows: *It is important for staff of any health facility to look for areas of improvement and raise the quality of services on an on-going basis, no matter what level the facility staff is currently performing at. Instead of looking for problems, we look for things we want to improve.*

4.1 Review forms and identify strengths and weaknesses

- *Review* the survey forms of each health worker, and *identify* each health workers' strengths and weakness on the back of the survey forms. *Indicate* strengths and weakness in knowledge of ARI case management guidelines among that facility's providers,

- *Review* the survey form for assessing availability of trained providers and essential drugs and *describe* the availability of each on the back of survey form. *Distinguish* training needs from logistic and support needs
- *Review* the form for reviewing facility records and *describe* on the back of the form the use or misuse of antibiotics in the care of children with acute respiratory infections, and their use for children with pneumonia. Also, *describe* areas for improvement identified in the patient records and reporting systems

Hint Determine the proportion of cases of pneumonia that received an appropriate antibiotic. Also, determine the proportion of coughs or colds that inappropriately received an antibiotic. Also, were children with severe pneumonia or other severe disease referred to the hospital or admitted? Are appropriate antibiotics in stock during the last three months but not being given to the children who need them?

4.2 Provide feedback to facility staff

- *Provide feedback* on individual performance to health workers (either privately or in a group if appropriate)
- *Provide feedback* on the overall level of the facility's capacity to provide standard ARI case management
- Facility staff *identify* the most significant barriers to the facility's capacity to provide standard case management according to guidelines,

Hint - Apply the following criteria to all barriers identified: (a) potential to save lives of children, (b) potential for identifying the root causes of the problem, (c) ability of the facility staff and/or the PVO to address potential root causes of the problem. Rank problems according to these criteria and identify that the highest ranking one or two problems to work on first.

- Facility staff *identify* potential root causes of identified barriers using exercises such as brainstorming, the "5 whys," or fishbone diagrams,
- Facility staff *suggest* a preliminary plan for improving the facility's capacity to provide standard ARI case management. This could include plans for implementing solutions as well as plans for investigating further the potential root causes of barriers
- *Forward* preliminary plan to the Pneumonia Care Assessment coordinator for review and discussion with MOH and PVO staff

5. Draw Conclusions about Facility Capacity

The purpose of this step is to look at the general capacity to provide standard ARI case management across all facilities surveyed and have project staff and counterparts generate ideas for improving the quality of services in all facilities

Divide the sections of the capacity survey among small groups and have the small groups draw conclusions about their assigned section

5.1 Conclusions about health worker knowledge

- Using manual tabulation tables, project staff and counterparts *tabulate* survey forms from the health worker knowledge assessment for all facilities surveyed and *identify* on the tabulation tables the key results from each question

Note

Appendix E contains tabulation tables for each knowledge question and key indicator

- *Estimate* the levels of health worker knowledge about the key ARI case management tasks assessment, classification, treatment and counseling,
- *Identify* what health workers perceive are the barriers to providing standard ARI case management
- *Draw conclusions* about the overall level of knowledge and about the levels of knowledge of the key case management tasks
 - Is the level of knowledge good or poor?
 - If so, are levels of knowledge good enough to expect that children will receive quality services if drugs are available?
 - If not, for what specific tasks are knowledge levels low?
 - Does the level of health worker training appear to be related to levels of knowledge? Are those with less training the ones with lower levels of knowledge?
 - Do health workers identify training as a barrier to providing standard ARI case management?
 - What appears to be the greatest barrier to high levels of knowledge? Lack of formal training courses for health workers or lack of supervision and/or in-service training opportunities?

5 2 Conclusions about availability of trained providers and essential drugs

- *Review* the forms from each facility and *estimate* the proportion of health workers who treat sick children who have received training in standard ARI case management Also, *estimate* the proportion of health facilities that have at least one worker who is trained in standard ARI case management
- *Estimate* the proportion of facilities that have a recommended antibiotic for pneumonia in stock at all times *Determine* which of the recommended antibiotics are out of stock frequently
- *Estimate* the proportion of facilities that have daily access to a referral hospital within one hours travel time & two hours travel time Also, *estimate* the proportion of facilities serving communities that are more than one hours travel time away & two hours travel time away
- *Estimate* the average number of days per week and hours per day that facilities are open to treat sick children
- *Draw conclusions* about the availability of trained providers and essential drugs
 - Does each health facility have a supply of (a) workers trained in standard ARI case management and (b) recommended antibiotics for pneumonia that is sufficient to save the life of a child with pneumonia?
 - Does each health facility have a sufficient referral system (for example, within one to two hour's travel time to a referral hospital either by walking or available transport) to save the life of a child with severe pneumonia?
 - What proportion of health facilities serve communities that are located farther than is reasonable to expect families to travel (in terms of time and money) to bring a sick child for treatment?
 - Is the number of days each week (and the hours each day) that health facilities are open to treat sick children sufficient to consider these facilities "available" to the project's beneficiary population?

5.3 Conclusions from health facility record reviews

- *Review* the Facility Record Review form from each facility and *estimate* the proportion of children less than five years of age with pneumonia and who are taken to a health facility, who receive the proper antibiotic for home treatment (Number of pneumonia cases who receive proper antibiotic / number of pneumonia cases)
- *Estimate* the proportion of children with severe pneumonia and who are taken to a health facility, who are referred/admitted to a hospital (Number of severe pneumonia cases referred/admitted / number of severe pneumonia cases)
- *Estimate* the proportion of children with no pneumonia (cough or cold) and who are taken to a health facility, whose caretakers are given home care advice (no antibiotic) (Number of cases of cough or cold--upper respiratory infection--whose caretakers are given home care advice only / number of cases of cough or cold)
- Based on the number of logbook entries required to identify 20 cases of ARI, *estimate* (a) the proportion of all outpatient visits diagnosed with pneumonia (number of logbook entries diagnosed with pneumonia / the number of logbook entries needed to identify 20 cases of ARI), and, (b) the proportion of outpatient visits for ARI diagnosed with pneumonia (number of logbook entries diagnosed with pneumonia / 20 cases of ARI)
- *Draw conclusions* about treatment of children presenting to facilities with pneumonia and other respiratory infections
 - Do children with pneumonia receive treatment with the appropriate antibiotics?
 - Are children with severe pneumonia appropriately referred to a hospital?
 - Do health workers refrain from giving antibiotics to children a cough or cold (no pneumonia)?
 - Does pneumonia account for a significant proportion of all cases seen in outpatient facilities for children less than five years of age? Is pneumonia a significant proportion of the ARI cases seen in outpatient facilities for children less than five years of age?

Appendix A
Key Indicators and Definitions for the Health Worker Knowledge Survey
(Edition dated November 20, 1997)

1 Assessment Percent of health workers who know how to assess for pneumonia an infant/child with cough or difficult breathing

$$\frac{\text{\# with correct answers to Q 5, Q 6 and Q 8}}{\text{\# of health workers interviewed}} \times 100 = \text{Percent of health workers who know how to assess for pneumonia an infant/child with cough or difficult breathing}$$

2 Classification Percent of health workers who know how to classify an infant/child as having severe disease, severe pneumonia, pneumonia, or no pneumonia

$$\frac{\text{\# with correct answers to Q 9 and Q 10}}{\text{\# of health workers interviewed}} \times 100 = \text{Percent of health workers who know how to classify an infant/child as having severe disease, severe pneumonia, pneumonia, or no pneumonia}$$

3 Treatment Percent of health workers who know how to treat children with severe disease, severe pneumonia, pneumonia, or no pneumonia

$$\frac{\text{\# with correct answers to Q 11 Q 12 and Q 13}}{\text{\# of health workers interviewed}} \times 100 = \text{Percent of health workers who know how to treat an infant/child with severe disease, severe pneumonia, pneumonia, or no pneumonia}$$

4 Counseling Percent of health workers who know how to counsel caretakers of children with severe disease, severe pneumonia, pneumonia, or no pneumonia

$$\frac{\text{\# with correct answers to Q 14 and Q 15}}{\text{\# of health workers interviewed}} \times 100 = \text{Percent of health workers who know how to counsel caretakers of children with severe disease, severe pneumonia, pneumonia, or no pneumonia}$$

Key Indicators of Facility Capacity to Provide Standard ARI Case Management (SCM)
(version dated November 20, 1997)

1 Staff Training

1 a Number of facility staff treating children with ARI who are trained in Standard ARI Case Management (out of total number of staff treating children with ARI in facilities surveyed)

1 b Number of facilities with least one staff member trained in Standard ARI Case Management (out of total number of facilities surveyed)

2 Antibiotic Availability Number of facilities with the antibiotics recommended for the home treatment of pneumonia in stock at the time of the survey, and during the preceding three months (out of total number of facilities surveyed)

Definitions

1 Staff Training

a Number of facility staff treating children with ARI who are trained in Standard ARI Case Management (out of total number of staff treating children with ARI in facilities surveyed)

$$\frac{\text{Sum of \# in I B for all facilities}}{\text{Sum of \# in I A for all facilities}} = \text{Number of facility staff treating children with ARI who are trained in standard ARI Case Management (out of total number of staff treating children with ARI in facilities surveyed)}$$

b Number of facilities with least one staff member trained in Standard ARI Case Management (out of total number of facilities surveyed)

$$\frac{\text{\# of facilities with at least 1" to I B}}{\text{Number of facilities with at least one staff member trained in standard ARI Case Management (out of total number of facilities surveyed)}}$$

2 Antibiotic Availability Number of facilities with the antibiotics recommended for the home treatment of pneumonia in stock at the time of the survey, and during the preceding three months (out of total number of facilities surveyed)

$$\frac{\text{Look at section II A \# of facilities with at least one of the recommended antibiotics 'in stock now and in stock always' during the last 3 months}}{\text{Number of facilities with the antibiotics recommended for the home treatment of pneumonia in stock at the time of the survey, and during the preceding three months (out of total number of facilities surveyed)}}$$

- 6 In a 7 month old child with cough, how many breaths per minute is fast breathing? (Only one answer)
- 1 60 or more []
 2 50 or more [*]
 3 40 or more []
 4 Other []
- 7 What do you usually use when you count the respiratory rate?
- a Sounding timer []
 b Individual watch []
 c Sand timer []
 d Wall clock []
 e No timing device []
 f Other _____ []
- 8 In a 1 year old child, where on the chest and when during the child's breathing would you look for chest in drawing?
- 1 In the lower chest wall, when child breathes IN [*]
 2 Other (specify) _____ []

Classifying ALRI Signs and Symptoms

- 9 How would you classify this 14 month old child? He has been coughing for 3 days with fever He has a breathing rate of 56 per minute, and lower chest in drawing He has no other symptoms or signs (Only one answer)
- 1 Very severe disease []
 2 Severe pneumonia [*]
 3 Pneumonia []
 4 No pneumonia, cough or cold []
 5 Other (specify) _____ []
- 10 How would you classify this 3 week old child? She is coughing but feeding well, without fever or convulsions There is no chest in drawing, and no unusual breathing sounds The respiratory rate is 48 per minute She has no other symptoms or signs (Only one answer)
- 1 Very severe disease []
 2 Severe pneumonia []
 3 Pneumonia []
 4 No pneumonia, cough or cold [*]
 5 Other (specify) _____ []

Managing Children with ALRI

11 How would you manage a 6 week old child with severe pneumonia?

(Multiple answers possible)

- a Refer urgently to hospital [*]
- b Give first dose of antibiotics [*]
- c Keep young infant warm [*]
- d Give antibiotics at home []
- e Give supportive home care []
- f Other []

Correct -----> Answer with both a and b.? Yes [] No []

12 For what sign would you decide to give antibiotics at home to a 2 year old child with cough? (Only one answer)

- 1 Not able to drink []
- 2 Convulsions []
- 3 Abnormally sleepy or difficult to wake []
- 4 Stridor in a calm child []
- 5 Severe malnutrition []
- 6 Chest in drawing []
- 7 Fast breathing [*]
- 8 Other (specify) _____ []

13 A two year old child with pneumonia, treated with an antibiotic at home, is brought back after two days for reassessment She is neither improving nor getting worse What would you do? (Only one answer)

- 1 Refer urgently to hospital []
- 2 Refer to hospital if change of antibiotic is impossible [*]
- 3 Change antibiotic [*]
- 4 Restart antibiotic, if compliance failure [*]
- 5 Finish 5 days of antibiotic []
- 6 Other _____ []

Correct -----> Give at least one correct answer? Yes [] No []

Counseling Caretakers of Children with ALRI

- 14 For what reasons would you advise the mother of a three year old child with a simple cough to return to the health facility without delay? (Multiple answers possible)
- a Breathing becomes difficult [*]
 - b Breathing becomes fast [*]
 - c Child not able to drink [*]
 - d Child becomes sicker [*]
 - e Cough is persisting []
 - f Other _____ []

Correct ----- > 2 or More Correct Answers? Yes [] No []

- 15 What advice on home care would you give to the mother of a 6 week old child with cough or cold, no pneumonia? (Multiple answers possible)
- a Return quickly if breathing becomes difficult [*]
 - b Return quickly if breathing becomes fast [*]
 - c Return quickly if feeding becomes a problem [*]
 - d Return quickly if child becomes sicker [*]
 - e Keep young infant warm [*]
 - f Breastfeed frequently [*]
 - g Clear nose if it interferes with feeding [*]
 - h Other (specify) _____ []

Correct ----- > 4 or More Correct Answers? Yes [] No []

Constraints to Quality Case Management

- 16 What are the main difficulties or constraints that you have when you manage children with cough or difficult breathing? Tick or write clearly (Multiple answers possible)
- a Case load too large []
 - b Too little time to count breaths or do other assessment tasks []
 - c No timing device available []
 - d Mothers demand drugs []
 - e Antibiotics not available []
 - f Need training []
 - g Referral facilities not adequate []
 - h Poor transportation to referral facility, need to treat at home []
 - I Other (specify) _____ []

17 During the last three months, have there been any times when you were not able to give an antibiotic to a child with pneumonia or severe disease? (probe for number of times)

- 1 None []
- 2 One []
- 3 Two or more []

Summary of Key Indicators

Assessment correct answers to Q 5, Q 6 and Q 8? Yes [] No []

Classification: correct answers to Q 9 and Q 10? Yes [] No []

Treatment: correct answers to Q 11, Q 12 and Q 13? Yes [] No []

Counseling correct answers to Q 14 and Q 15? Yes [] No []

RAPID KNOWLEDGE SURVEY FOR ARI CASE MANAGEMENT

Interview with Health Personnel

PROCEDURE

The purpose of this interview is to learn about the training of health workers, and to assess their knowledge of standard case management. Conduct the interviews after the case management survey in that facility is complete, in order to avoid influencing the case management practices of health workers. If you have noticed that the health worker usually refers to the case management chart while seeing children, she or he can do so also during the interview.

To avoid influencing the interviews of other health workers, do not do this interview where others can listen or watch. *Ask the questions as they are written* on the Survey Form, and *do not prompt the health worker for answers*. Repeat the questions in your own words only if the health worker tells you that he or she does not understand. Listen to the health worker's answers to your questions, and record them on the form. To record the answers, tick [✓] an answer provided, or write a brief answer, as appropriate. Hold the form upright, out of the view of the health worker during the interview.

Interview as many health workers as possible who treat regularly children with ARI in the health facility. In addition to interviewing all those who were observed managing cases, try to get examples of different types of health workers. The survey objectives may also require interviews with some trained and untrained workers. As this interview can take up to 20 minutes, five workers are the maximum that can usually be interviewed by each interviewer in one-half day.

At the end of the interview, score the questions as instructed on the form. The correct answer or answers are marked with an asterisk [*]. Tick "Yes" or "No" in the space provided to indicate whether the answer or answers are correct.

IDENTIFICATION

Fill in the identifying information at the top of the form. Identify the facility and the type of the health worker. Assign the health worker a number, starting with 1 for the first person interviewed. Indicate whether the health worker was observed managing a case or cases. If yes, later refer to the case management Survey Forms completed at this facility to identify the children who were managed by this health worker. Write their numbers in the space provided on the top of this Survey Form, and copy the health worker's number on the top of the appropriate case management Survey Forms.

SPECIFIC INSTRUCTIONS

1-4 General information

1-2 Ask the health worker his/her name and how long he or she has been *treating sick children*. Record the time in years and months. This may include time in other health facilities. The time may not correspond to the entire time spent in the facility because the health worker may have been only recently assigned to the management of children.

3-4 Ask if the health worker has received any *training in standard case management of children with ARI*. If the health worker says yes, ask when and where, and for how many days, and if clinical practice was included. To determine the amount and type of clinical experience received, ask how many children did he or she manage during the training.

To answer item 3, you may ask any additional information you need in order to determine whether the requirements for ARI training have been met.

Note This training item attempts to identify who has been appropriately trained in *the tasks surveyed*. Therefore, before the survey begins, surveyors must be clear about when to tick "Yes", indicating that the health worker has been trained in an ARI course approved by the Ministry of Health.

Therefore, a rule must be developed during survey training to determine the criteria for acceptable training. The criteria may include the duration of training (e.g., 3 days on average, 2 days minimum), the ratio of trainees to trainer (e.g., no more than 4-6 trainees for each trainer), and clinical practice (e.g., at least 30% of the time with hands-on practice, or at least one child with pneumonia assessed, classified, and treated by each participant).

For example, many national programmes conduct the survey after health workers have taken the clinical course on the outpatient management of young children with ARI. All who participate in this four-day course have learned the standard case management guidelines and have practiced on cases. Other experiences, such as rotations during medical school, may vary too much in content, methods, and duration to be sure that the health worker has been trained appropriately in the tasks surveyed. In this example, the surveyor would tick "yes" only if the health worker took the clinical course. If the health worker describes a medical school rotation or other training programme, the surveyor would tick "no".

After the interview, copy your decisions for question 3 regarding ARI training onto the top of case management Survey Forms of the child or children managed by this health worker

5-15 Knowledge questions

Ask the knowledge questions, *as written*, one by one following the order on the questionnaire. If the health worker does not understand a question, slowly repeat it. The health worker may write notes while you ask the question in order to help recall the child's age and symptoms.

Do not prompt or suggest the answer. However, you may tell the health worker when the question has only one answer or has more than one answer. When the health worker completes an answer, go on to the next question. Don't prompt, for example, by asking "Are there any more signs?" Tick or write all the answers provided by the health worker. Sometimes it will be necessary to tick an answer that is close, but not exactly like one listed.

Do not indicate verbally or nonverbally whether answers are correct or wrong. Also, wait until the feedback session to correct misinformation, rather than correcting the health worker during the interview.

Regarding specific items

a In question 11, answers 11 a and 11 b are required under most circumstances. A 6 week old child with severe pneumonia can suffer respiratory distress very quickly. For this reason, treatment must begin on the way to the hospital starting the child on antibiotics (and keeping the child warm).

Note In the case that the health worker works at the outpatient department of a hospital, during survey training it should be discussed whether to accept the single response 11 a (refer urgently to hospital) as correct. In some countries it may be possible to assume that referral to the hospital from the outpatient department will not delay the start of treatment. In most countries, however, a rapid response to the case cannot be assumed.

b In question 13, there are three possible answers depending on local conditions and whether an alternative antibiotic is available. Either answer marked with an asterisk could be correct.

16-17 Difficulties or constraints

a On question 16 , Ask the health worker what are the main difficulties or constraints that he or she faces when managing children with cough or difficult breathing Tick the items mentioned and write other answers not listed If you run out of space, write the health worker's additional comments on a separate sheet of paper, and attach it to the form

b For question 17 , ask the health worker if, during the last three months, there have been any times when he or she was not able to give an antibiotic to a child with pneumonia or severe disease Probe for number of times this occurred during the last three months to determine if it happened two or more times, only one time, or no times

The purpose of this question is to determine if, at any time recently, the health worker wanted to give/prescribe an antibiotic but was unable to If this occurs frequently among health workers, then it will be important to explore the reasons why this occurs (see data from survey of facility drug supply)

Appendix C
Assessment of Availability of Trained Providers and Essential Drugs

Facility _____ Name/Position of Informant _____ / _____

Survey Team Leader (Supervisor) _____

I Clinical Staff

- A What is the total number of facility clinical staff who treat children with ARI? _____
- B What is the total number of facility clinical staff who have received training in ARI Case Management? _____
- C Percent trained divide the total number of health workers who have been trained in ARI case management by the number managing children with ARI *100 = _____

II Drugs

A Drug availability

Drugs	In stock now?	Quantity?	During the last 3 months.		
			In stock always	Out of stock 1 time	Out of stock >1 time
Cotrimoxazole	Y [] N []	—	[]	[]	[]
Amoxicillin	Y [] N []	—	[]	[]	[]
Procaine Penicillin	Y [] N []	—	[]	[]	[]
Ampicillin	Y [] N []	—	[]	[]	[]
_____	Y [] N []	—	[]	[]	[]

B What is cost to patient of essential antibiotic for treating pneumonia _____

III Referral

- A Which is the nearest referral facility? _____
- B How long does it usually take to reach it
- When hospital transport is available? _____ hours
- When public transport is available? _____ hours
- When transport is not available (walking)? _____ hours

IV Access

- A Which is the farthest community (in hours travel time) that this facility serves? _____
- B What is the longest possible time it would take someone from that community to reach this facility (in hours)? _____
- C How many days of the week is this facility open to treat children? _____
- D What hours is this facility open on those days to treat children? From _____ to _____

Instructions Assessment of Availability of Trained Providers and Essential Drugs

PROCEDURE

The purpose of this form is to identify conditions in the facility that affect the health worker's ability to provide standard case management. Complete the Survey Form at the beginning of the visit. Work with the facility supervisor in charge and others, as needed, to gather the information, however, do not rely only on them for the information. Observe, inspect, and count supplies.

Complete one form for each health facility visited. To record the answers, tick [✓] or write a brief answer, as appropriate. *Write very clearly in print characters so that others can read the form easily to copy the data and/or tabulate the data.*

IDENTIFICATION

Fill in the identifying information at the top of the form. Also, write the name and position of the person who serves as the informant. If more than one informant is needed (e.g., director and pharmacist), write only the name of the person who is higher in grade.

SPECIFIC INSTRUCTIONS

I Clinical staff

A Ask for the total number of *clinical staff who treat children with ARI* in the outpatient department (for example, medical assistants and midwives). Non-clinical staff, such as dentists, nutritionists, and helpers should not be listed.

B Identify how many have received *training in ARI case management*.

C Divide the total number of health workers who have been trained in ARI case management by the number managing children with ARI. Write the percent of staff trained in ARI in the space provided.

II Drugs

A Ask to visit the pharmacy or drug cupboard. Check whether the drugs listed on the survey form are *available*. Identify the drugs in stock. Count and record the *quantity* of those drugs found in stock.

Note The list of drugs on the form can be modified to include the drugs recommended by the national policies. The same drug may be available in different formulations (e.g., in adult or pediatric tablets). Before the survey, the **local ministry of health official responsible for ARI Case Management in the project area** should decide which drugs and formulations to include on the list. Write the drugs, followed by their various formulations, in the blanks provided *before* the forms are copied.

In the pharmacy, determine whether any drug on the list was out *of stock in the last 3 months* and, if so, how many times. Refer to the stock cards.

when they are available, rather than rely on the memory of staff

To use the cards

- a Find the row corresponding to the last entry or update for each drug listed on the survey form
- b Then, read backwards up the same column, until the row that corresponds to the same day *three months* before
- c As you read backwards, mark all zeros you find with a red pencil Use the marked zeros to count the times that the drug was out of stock in the last three months If there are no zeros, the drug was not out of stock Therefore, tick "In stock all of time" If the drug was out of stock, tick whether " 1 time" or " > 1 (more than 1) time" If the drug was never available, tick " > 1 time"

B Write the cost, in local currency, to the patient for a full treatment of the most common antibiotic prescribed for pneumonia If the antibiotic is free to the patient, write "Free"

On the back of the survey form, describe any problems in the distribution and/or storage of drugs that you have found For example, you might note that the facility receives sufficient cotrimoxazole to cover pneumonia treatment, however, it is diverted for other, non-pediatric uses, resulting in monthly shortages Use the back side of the form, if you need more space

III Referral

If the health facility does not admit children with ARI, identify the nearest referral hospital Ask how long it usually takes to reach it when transport is and is not available Record the time in hours (or fraction of an hour) In many localities, this transport is a bus Do not assume without asking that an ambulance is available to transport children with ARI

IV Access

Ask about the communities that this facility provides services for and ask which of the communities is farthest from the facility Ask what is the longest possible time it would take for someone from the farthest community to reach the facility Record the time in hours (or fraction of an hour)

Ask how many days of the week is the facility open to treat children with ARI Ask what hours during those days is the facility open to treat children

Appendix D
Review of Facility Records

Facility _____ Date ___/___/___ Reviewer _____

Tick or write clearly as appropriate On back of form, note problems found

	Date	Age			Diagnosis	Treatment			Drugs (specify)
		Y	I	C		R	A	H	
1	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
2	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
3	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
4	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
5	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
6	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
7	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
8	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
9	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
10	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
11	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
12	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
13	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
14	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
15	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
16	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
17	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
18	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
19	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
20	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____

How many records or logbook entries of children under five years did you have to go through to identify 20 cases of ARI? _____

AGE

Y = Young Infant less than 2 months
I = Infant 2 - 11 months
C = Older child 1 up to 5 years

TREATMENT

R = Admission or referral to hospital
A = Antibiotic treatment at home
H = Home care without antibiotics

Instructions Review of Facility Records (Optional)

PROCEDURE

The information you gather on the survey form is used to determine what might be done to help improve the case management of children with ARI in this and other health facilities. When records are adequate, the information can also be useful for estimating the amount and direction of bias being **introduced by observing practices** in the health facility during an observation of pneumonia case management survey.

Complete this form at the end of the visit with the assistance of a health worker.

Use this form if

outpatient records (a logbook or individual clinical records) are available,

records report the diagnosis and treatment, and,

the information is needed in order to achieve objectives for the survey. Sometimes, for example, usual prescribing practices are clearer in the records than in the few cases observed in one day at a facility.

Look at the last record entered the day before the survey, and work backwards identifying 20 entries, if possible, of children under five years of age with an ARI diagnosis. The diagnosis may be stated differently from the standard case management guidelines. For example, the records may state rhinitis, sore throat, bronchitis, bronchiolitis, bronchopneumonia, influenza, or URTI.

Complete one form for each health facility. Tick [✓] or write a brief answer, as requested. *Write very clearly in print characters* so that others can read the form easily.

IDENTIFICATION Fill in the identifying information as requested at the top of the form.

SPECIFIC INSTRUCTIONS For each child's entry, complete as much information as is available.

1 Write the date.

2 Tick the age of the child in one of the three categories: Y (young infant less than 2 months), I (infant 2 - 11 months), or C (child 1 up to 5 years).

3 Write the *diagnosis*, using the same words as reported in the records.

4 Tick one *treatment* to indicate whether the child was R (admitted or referred to hospital), A (given a treatment with antibiotics at home), or H

(given home care **without antibiotics**)

5 Write the drugs prescribed and reported in the records. The dosage and duration are not necessary

Note During the survey training, decide on a list of abbreviations that can be used

Finally, write the number of records or logbook entries of children under five you had to go through in order to identify 20 cases of ARI

On the back of the form, note any general recording problems or problems noticed in specific records. Be descriptive enough to illustrate the problems found. The following are examples of useful notes for clarifying problems in case management and/or record keeping

Records 4, 6-7, 10, 13-17, and 20 had no ARI classification

Cotrimoxazole was prescribed in 8 of the 19 records of children with cough with no mention of rapid breathing or chest in drawing

No record of respiration count in any of the 20 records, although other signs are frequently mentioned (e.g., fever, cough, ear ache)

Antibiotics are prescribed for only 3 days

141

Appendix E, Health Worker Knowledge Survey Tabulation Tables

4 How long was your training? (Probe for days)

n = # of health workers interviewed = _____

Possible Answers	Tick Marks	Freq #	Freq %
1 One day or less			
2 Two to Three days			
3 Four or more days*			
Q 4 Skipped No training in ARI Case Management			

Results

Discussion

104

5 In a 1-month old child with cough, for what signs or symptoms would you refer or admit the child to a hospital? (Multiple answers possible)

n = # of workers interviewed = _____

a Stopped Feeding Well*

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

b Convulsions*

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

c Abnormally Sleepy or difficult to wake*

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

bb1

5 In a 1-month old child with cough, for what signs or symptoms would you refer or admit the child to a hospital? (Multiple answers possible)

n = # of workers interviewed = _____

d Stridor in a calm child*

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

e Wheezing*

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

f Fever or low body temperature*

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

59

5 In a 1-month old child with cough, for what signs or symptoms would you refer or admit the child to a hospital? (Multiple answers possible)

n = # of workers interviewed = _____

g Severe chest in drawing*

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

h Fast Breathing*

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

i Severe malnutrition

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

151

5 In a 1-month old child with cough, for what signs or symptoms would you refer or admit the child to a hospital? (Multiple answers possible)

n = # of workers interviewed = _____

j, k, and/or l Difficult Breathing, Not able to drink, or Other

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

Correct: at least four answers correct (four of 5 a - 5 h)

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

Results

Discussion

151

6 In a seven month old with cough, how many breaths per minute is fast breathing?

n = # of workers interviewed = _____

Possible Answers	Tick Marks	Freq #	Freq %
1 60 or more			
2 50 or more*			
3 40 or more			
4 Other			

Results

Discussion

152

7 What do you usually use when you count the respiratory rate? (Multiple answers possible)

n = # of workers interviewed = _____

a Sounding timer

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

b Individual watch

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

c. Sand timer

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

51
A

7 What do you usually use when you count the respiratory rate? (Multiple answers possible)

n = # of workers interviewed = _____

d Wall clock

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

e No timing device

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

f Other

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

Results

Discussion

135

8 In a 1-year old child, where on the chest and when during the child's breathing would you look for chest in drawing?

n = # of workers interviewed = _____

Possible Answers	Tick Marks	Freq #	Freq %
1 Lower chest wall when child breathes IN*			
2 Other			

Results

Discussion

156

9 How would you classify this 14 month old Child?

n = # of workers interviewed = _____

He has been coughing for 3 days with fever He has a breathing rate of 56 per minute,
and lower chest in drawing He has no other symptoms or signs (Only one answer)

Possible Answers	Tick Marks	Freq #	Freq %
1 Very severe disease			
2 Severe Pneumonia*			
3 Pneumonia			
4 No Pneumonia, cough or cold			
5 Other			

Results

Discussion

151

10 How would you classify this 3 week old Child?

n = # of workers interviewed = _____

She is coughing but feeding well, without fever or convulsions There is no chest in drawing, and no unusual breathing sounds She has a breathing rate of 48 per minute She has no other symptoms or signs (Only one answer)

Possible Answers	Tick Marks	Freq #	Freq %
1 Very severe disease			
2 Severe Pneumonia			
3 Pneumonia			
4 No Pneumonia, cough or cold*			
5 Other			

Results

Discussion

26

11 How would you manage a 6 week old child with severe pneumonia? (Multiple answers possible)

n = # of workers interviewed = _____

a Refer urgently to hospital*

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

b Give first dose of antibiotics*

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

c Keep young infant warm*

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

159

11 How would you manage a 6 week old child with severe pneumonia? (Multiple answers possible)

n = # of workers interviewed = _____

d Give antibiotics at home

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

e Give supportive home care

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

f Other

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

10

11 How would you manage a 6 week old child with severe pneumonia? (Multiple answers possible)

n = # of workers interviewed = ____

Correct? Check for both a and b (Refer urgently to hospital and give first dose of antibiotic)?

Check?	Tick Marks	Freq #	Freq %
Yes, check to both a and b			
No, no check to either a or b			

Results

Discussion

12 For what sign would you decide to give antibiotics at home to a 2 year old child with cough?

n = # of workers interviewed = _____

Possible Answers	Tick Marks	Freq #	Freq %
1 Not able to drink			
2 Convulsions			
3 Abnormally sleepy or difficult to wake			
4 Stridor in a calm child			
5 Severe malnutrition			
6 Chest in drawing			
7 Fast breathing*			
8 Other			

Results

Discussion

10/21

13 A 2 year old child with pneumonia, treated with an antibiotic at home, is brought back after two days for reassessment She is neither improving nor getting worse What would you do?

n = # of workers interviewed = _____

Possible Answers	Tick Marks	Freq #	Freq %
1 Refer urgently to hospital			
2 Refer to hospital if change of antibiotic is impossible*			
3 Change antibiotic*			
4 Restart antibiotic, if compliance failure*			
5 Finish antibiotic			
6 Other			

Correct? give at least one correct answer (#2, #3 or #4)?

Yes			
No			

Results

Discussion

162

14 For what reasons would you advise the mother of a 3 year old child with a simple cough to return to the health facility without delay? (Multiple answers possible)

n = # of workers interviewed = _____

a Breathing becomes difficult*

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

b Breathing becomes fast*

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

c Child not able to drink*

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

611

14 For what reasons would you advise the mother of a 3 year old child with a simple cough to return to the health facility without delay? (Multiple answers possible)

n = # of workers interviewed = _____

d Child becomes sicker*

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

e Cough is persisting

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

f Other

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

105

14 For what reasons would you advise the mother of a 3 year old child with a simple cough to return to the health facility without delay? (Multiple answers possible)

n = # of workers interviewed = _____

Correct? Are there at least two correct answers (*)?

Correct?	Tick Marks	Freq #	Freq %
Yes, check to at least 2 correct answers			
No, no check to at least 2 correct answers			

Results

Discussion

15 What advice on home care would you give to the mother of a 6 week old child with cough or cold, no pneumonia? (Multiple answers possible)

n = # of workers interviewed = _____

a Return quickly if breathing becomes difficult*

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

b Return quickly if breathing becomes fast*

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

c Return quickly if feeding becomes a problem*

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

16

15 What advice on home care would you give to the mother of a 6 week old child with cough or cold, no pneumonia? (Multiple answers possible)

n = # of workers interviewed = _____

d Return quickly if child becomes sicker*

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

e Keep young infant warm*

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

f Breastfeed frequently*

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

168

15 What advice on home care would you give to the mother of a 6 week old child with cough or cold, no pneumonia? (Multiple answers possible)

n = # of workers interviewed = _____

g Clear nose if it interferes with feeding*

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

h Other

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

Correct? Are there at least four correct answers (*)?

Correct?	Tick Marks	Freq #	Freq %
Yes, check to at least 4 correct answers			
No, no check to at least 4 correct answers			

Results

Discussion

161

16 What are the main constraints that you have when you manage children with cough or difficult breathing? (Multiple answers possible)

n = # of workers interviewed = _____

a Case load too large

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

b Too little time to count breaths or do other assessment tasks

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

c No timing device available

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

16 What are the main constraints that you have when you manage children with cough or difficult breathing? (Multiple answers possible)

n = # of workers interviewed = _____

d Mothers demand drugs

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

e Antibiotics not available

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

f Need training

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

171

16 What are the main constraints that you have when you manage children with cough or difficult breathing? (Multiple answers possible)

n = # of workers interviewed = _____

g Referral facilities not adequate

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

h Poor transportation to referral facility, need to treat at home

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

i Other

Check?	Tick Marks	Freq #	Freq %
Yes			
No			

Results

Discussion

112

17 During the last 3 months, have there been any times when you were not able to give an antibiotic to a child with pneumonia or severe disease? (Probe for number of times)

n = # of workers interviewed = _____

Possible Answers	Tick Marks	Freq #	Freq %
1 None			
2 One			
3 Two or more			

Results

Discussion

173

Key Knowledge Indicators

n = # of workers interviewed = _____

A. Assessment• Percent of health workers who know how to assess for pneumonia an infant/child with cough or difficult breathing

Are there correct answers to Q 5, Q 6 and Q 8?

Correct?	Tick Marks	Freq #	Freq %
Yes, correct answers to all Q 5,6 & 8			
No, incorrect answer to either Q 5, 6 or 8			

B Classification: Percent of health workers who know how to classify an infant/child as having severe disease, severe pneumonia, pneumonia, or no pneumonia

Are there correct answers to Q 9 and Q 10?

Correct?	Tick Marks	Freq #	Freq %
Yes, correct answers to both Q 9 & 10			
No, incorrect answer to either Q 9 or 10			

C Treatment• Percent of health workers who know how to treat children with severe disease, severe pneumonia, pneumonia, or no pneumonia

Are there correct answers to Q 11, Q 12 and Q 13?

Correct?	Tick Marks	Freq #	Freq %
Yes, correct answers to all Q 11, 12 & 13			
No, incorrect answer to either Q 11, 12 or 13			

17

Key Knowledge Indicators, continued

n = # of workers interviewed = _____

D Counseling Percent of health workers who know how to counsel caretakers of children with severe disease, severe pneumonia, pneumonia, or no pneumonia

Are there correct answers to Q 14 and Q 15?

Correct?	Tick Marks	Freq #	Freq %
Yes, correct answers to both Q 14 & 15			
No, incorrect answer to either Q 14 or 15			

Results

Discussion

175



Pneumonia Care Assessment Tool: **Health Services Utilization**

Third Edition
April 1998

Notice Persons with questions concerning this assessment tool, or persons needing assistance adapting the enclosed forms and instructions should contact Mr Bill Weiss, Research Associate, Department of International Health, The Johns Hopkins University School of Public Health, 615 N Wolfe Street, Baltimore, Maryland, 21205, Email <bweiss@jhu.edu>

PNEUMONIA CARE ASSESSMENT TOOL
Health Services Utilization

Table of Contents

	<u>Page No</u>
Purpose	1
Approach	1
Instructions for Completing Table 1 Outpatient Visits for Pneumonia	2
Table 1 Outpatient Visits for Pneumonia among Children Under Five Years of Age	3
Instructions for Completing Table 2 Hospital Admissions for Pneumonia	4
Table 2 Hospital Admissions for Pneumonia among Children Under Five	5
Instructions for Completing Table 3 Health Services Utilization Rates for Pneumonia by Age Group of Child Under Five Years of Age	6
Table 3 Health Services Utilization Rates for Pneumonia by Age Group of Child Under Five Years of Age	7
Instructions for Completing Table 4 Health Services Utilization Rates for Pneumonia by Gender of Child Under Five Years of Age	8
Table 4 Health Services Utilization Rates for Pneumonia by Gender of Child Under Five Years of Age	9
Draw Conclusions	10

PNEUMONIA CARE ASSESSMENT METHOD

Health Services Utilization

Purpose

PVO project staff and counterparts in the ministry of health and the community can gain a better understanding of the use of local health services for treatment of pneumonia in children by collecting and analyzing simple statistics on outpatient and inpatient visits/admissions

The outputs of the assessment will include

- The proportion of local outpatient visits for children less than five which are for pneumonia,
- The proportion of local inpatient admissions for children less than five which are for pneumonia, and,
- An assessment of differentials in use of health services for childhood pneumonia, by season of year, age of child or gender of child,

The treatment of pneumonia in inpatient and outpatient facilities serving a project area does not provide information about the actual *incidence* of pneumonia in the community. In fact, information about clinic visits and hospital admissions can underestimate the actual public health importance of pneumonia. This is particularly true in areas with poor access to health services or with poor use of health services. However, the frequency of children's outpatient visits and admissions to the hospital for pneumonia will give some idea of the importance of childhood pneumonia on the disease burden seen in local health facilities.

Approach

Users of this tool will do the following: (a) review a sample of records in each inpatient and outpatient facility that serves children less than five years of age in the project area, (b) complete tables 1 and 2 with the information found during the record review, (c) complete tables 3 and 4 using the information from tables 1 and 2 and population data for the catchment areas of the surveyed facilities, and (d) draw conclusions about health service utilization for pneumonia. Project staff can use the instructions and tables provided in this guide. There are detailed instructions for collecting and entering information for each table.

Instructions for Completing Table 1 Outpatient Visits for Pneumonia

The purposes of this table are (1) to determine the number and proportion of outpatient visits by children less than five years of age who present with "suspected pneumonia", and (2) to determine if there are differences in the frequency of these visits by season, age of child or gender of child

a) Review the records (usually a log book) for the previous 12 months in all outpatient facilities serving children less than five years of age in the project area

Note whether the records include information about age of child, gender, month of visit and "visit diagnosis" Log books will probably provide the most commonly available access to information about outpatient visits for pneumonia Project staff can collect these data by gender, by age group, and by month (to determine seasonal patterns) It may be useful to sum the information from each of the outpatient facilities in the project area and enter the figures into a separate copy of Table 1

b) Count the total number of outpatient visits for each month for all diagnoses among children under five Enter the numbers for each month in the column of Table 1 entitled "total visits all cause"

c) Count the number of visits to the outpatient facility each month by children less than five years of age with a diagnosis of pneumonia Enter on Table 1 the number of visits for each month Categorize the visits first by whether the child was male or female and next by age group of child (0-1 month, 2-11 months, 12-23 months, 24-59 months)

d) Add the total numbers of pneumonia visits for each month (Jan, Feb, March, April, etc) Enter the totals for each month in the column of Table 1 entitled "total visits for pneumonia"

e) For each month, divide the number of "total visits for pneumonia" by the number of "total visits all causes" Multiply this number by 100 and enter the percentage in the column of Table 1 entitled "proportion of visits for children under 5 for pneumonia"

f) Identify your Child Survival project by completing the "PVO" and "Country" spaces above Table 1

Table 1 Outpatient Visits for Pneumonia among Children Under Five Years of Age

For Child Survival Project PVO _____ Country _____

MONTH	0-1 months		2-11 months		12-23 months		24-59 months		TOTAL VISITS		PROPORTION OF VISITS BY CHILDREN UNDER 5 FOR PNEUMONIA
	M	F	M	F	M	F	M	F	FOR PNEUMONIA	ALL CAUSE	
JAN											
FEB											
MAR											
APRIL											
MAY											
JUNE											
JULY											
AUG											
SEP											
OCT											
NOV											
DEC											
TOTAL											

180

Instructions for Completing Table 2 Hospital Admissions for Pneumonia

The purposes of this table are (1) to determine the number and proportion of hospital admissions by children less than five years of age who are admitted with a diagnosis of pneumonia, and (2) to determine if there are differences in children's admissions for pneumonia by season, age of child or gender of child

a) Review the records (usually a log book) for the previous 12 months in all hospitals which serve as referral facilities for children in the project area who have suspected pneumonia

Note whether the records include information about age of child, gender, month of admission, and "admitting diagnosis" The log book for hospital admissions will probably include information about age, gender, month of admission and "admitting diagnosis" Some hospitals will also enter a discharge diagnosis in the same log book, which may be more accurate than "admitting diagnosis" However "admitting diagnosis" is more likely to be recorded and therefore is used more widely

b) Count the total number of admissions for each month for all diagnoses among children under five years of age Enter the numbers for each month in the column of Table 2 entitled "total admissions all causes"

c) Count the number of hospital admissions each month by children less than five years of age with a diagnosis of pneumonia Enter on Table 2 the number of admissions for each month Categorize the visits first by whether the child was male or female and next by age group of child (0-1 month, 2-11 months, 12-23 months, 24-59 months)

d) Add the total numbers of pneumonia admissions for each month (Jan, Feb, March, April, etc) Enter the totals for each month in the column of Table 2 entitled "total admissions for pneumonia"

e) For each month, divide the number of "total admissions for pneumonia" by the number of "total admissions all causes" Multiply this number by 100 and enter the percentage in the column of Table 2 entitled "proportion of admissions by children under 5 for pneumonia"

f) Identify your Child Survival project by completing the "PVO" and "Country" spaces above Table 2

Table 2 Hospital Admissions for Pneumonia among Children Under Five Years of Age

For Child Survival Project PVO _____ Country _____

MONTH	0-1 months		2-11 months		12-23 months		24-59 months		TOTAL ADMISSIONS		PROPORTION OF ADMISSIONS BY CHILDREN UNDER 5 FOR PNEUMONIA
	M	F	M	F	M	F	M	F	FOR PNEUMONIA	ALL CAUSES	
JAN											
FEB											
MAR											
APRIL											
MAY											
JUNE											
JULY											
AUG											
SEP											
OCT											
NOV											
DEC											
TOTAL											

182

Instructions for Completing Table 3
Health Services Utilization Rates for Pneumonia
by Age Group of Child Under Five Years of Age

The purposes of this table are to determine if there are differences between the health services utilization rates for pneumonia by age group of children less than five years of age

- a) Obtain population data by age group (0-1 month, 2-11 months, 12-23 months, 24-59 months) for the total number of children less than five years of age living in the catchment areas served by the facilities used to complete Table 1. Enter the population numbers for each age group (0-1 month, 2-11 months, 12-23 months, 24-59 months) in the column (a) of Table 3 entitled "Total Under 5 Population". Enter the total number of children less than five years of age in the bottom row of the column (a) of Table 3 entitled "Total Under 5 Population".

Note The catchment areas of the surveyed health facilities may include more communities than in the project's beneficiary population. However, the number of children less than five years of age living in the catchment areas of the health facilities surveyed is needed. This number is used to estimate the differences in health service utilization rates for pneumonia between age groups of children less than five years.

If population data is available only for other age groups (for example, 0-11 months and 12-59 months), modify Table 3 to include these age groups and calculate utilization rates between these age groups for which population data is available.

- b) Enter the numbers of outpatient visits for pneumonia by age group from Table 1 into the column (b) of Table 3 entitled, "Observed Utilization of Health Services for Pneumonia in Under 5s". Use the same age groups that were used in step "a)" above (for which there is population data available). Enter into the bottom row of the column (b) in Table 3 entitled, "Observed Utilization of Health Services for Pneumonia in Under 5s" the numbers of total outpatient visits for pneumonia from Table 1.
- c) For each row in Table 3, divide the number in column (b) by the number in column (a) and multiply by 100. Enter this calculation in each row of the column (c) in Table 3 entitled, "Utilization Rate". This column (c) shows the differences in health services utilization by age group.

**Table 3 Health Services Utilization Rates for Pneumonia
by Age Group of Child Under Five Years of Age**

(a) Total Under 5 Population	(b) Observed Utilization of Health Services for Pneumonia in Under 5s (from Table 1.)	(c) Utilization Rate (b/a)*100
Age 0-1 Month _____	Age 0-1 Month _____	Age 0-1 Month ____
Age 2-11 Months _____	Age 2-11 Months _____	Age 2-11 Months ____
Age 12-23 Months _____	Age 12-23 Months _____	Age 12-23 Months ____
Age 24-59 Months _____	Age 24-59 Months _____	Age 24-59 Months ____
Total, 0-59 Months _____	Total, 0-59 Months _____	Total, 0-59 Months ____

184

Instructions for Completing Table 4
Health Services Utilization Rates for Pneumonia
by Gender of Child Under Five Years of Age

The purposes of this table are to determine if there are differences between the health services utilization rates for pneumonia by gender among children less than five years of age

- a) Obtain population data by gender for the total number of children less than five years of age living in the catchment areas served by the facilities used to complete Table 1. Enter the population numbers for males and females in the column of Table 4 entitled "Total Under 5 Population." Enter the total number of children less than five years of age in the bottom row of the column of Table 4 entitled "Total Under 5 Population."

Note The catchment areas of the surveyed health facilities may include more communities than in the project's beneficiary population. However, the number of children less than five years of age living in the catchment areas of the health facilities surveyed is needed. This number is used to estimate the differences in health service utilization rates for pneumonia between males and females among children less than five years.

- b) Enter the numbers of outpatient visits for pneumonia by gender from Table 1 into the column of Table 4 entitled, "Observed Utilization of Health Services for Pneumonia in Under 5s." Enter into the bottom row of the column in Table 4 entitled, "Observed Utilization of Health Services for Pneumonia in Under 5s" the numbers of total outpatient visits for pneumonia from Table 1.

- c) For each row in Table 4, divide the number of outpatient visits in column (b) by the total number of children of that gender in column (a) and multiply by 100. Enter this calculation in each row of the column (c) in Table 3 entitled, "Utilization Rate." This column (c) shows the differences in health services utilization rates by gender of child.

**Table 4 Utilization Rates of Health Services for Pneumonia
by Gender of Child Under Five Years of Age**

(a) Total Under 5 Population	(b) Observed Utilization of Health Services for Pneumonia in Under 5s (from Table 1.)	(c) Utilization Rate (b/a)*100
Male _____	Male _____	Male _____
Female _____	Female _____	Female _____
Total, 0-59 Months _____	Total, 0-59 Months _____	Total, 0-59 Months _____

186

Draw Conclusions

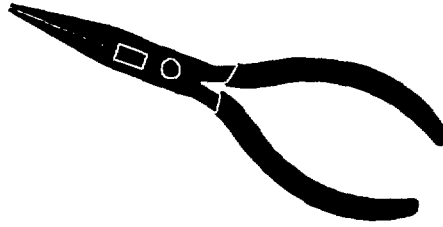
- *Review* Table 1 and *estimate* the proportion of all outpatient visits among children under five years of age for pneumonia *Estimate*, for each age group, the proportion of outpatients visits for pneumonia by males and by females *Estimate* the proportion of outpatient visits for pneumonia for each age group (0-1, 2-11, 12-23, 24-59)
- *Review* Table 2 and *estimate* the proportion of all hospital admissions among children under five years of age for pneumonia *Estimate*, for each age group, the proportion of hospital admissions for pneumonia by males and by females *Estimate* the proportion of hospital admissions for pneumonia for each age group (0-1, 2-11, 12-23, 24-59)
- *Review* Table 3 and *determine* the differences in health services utilization rates for pneumonia between age groups among children less than five years of age
- *Review* Table 4 and *determine* the differences in health services utilization rates for pneumonia between males and females among children less than five years of age
- *Draw conclusions* about health services utilization for pneumonia among children less than five years of age
 - Is the proportion of outpatient visits for pneumonia among children under five years significant? How many courses of recommended antibiotics for outpatients are needed each year to meet the current demand for pneumonia treatment? Are the seasonal variations in utilization large enough to require special planning for maintaining drug stocks?
 - Is the proportion of hospital admissions for pneumonia among children under five years significant? How many courses of recommended antibiotics for inpatients are needed each year to meet the current demand for pneumonia treatment? Are the seasonal variations in hospital admissions large enough to require special planning for maintaining drug stocks?
 - Are there lower health service utilization rates for certain ages or gender of child than one would expect? If so, what ages or gender appear to under utilize health services?

Note Incidence rates for pneumonia are usually higher for infants than for children ¹ Therefore one would expect that utilization rates for pneumonia among infants would be higher than utilization rates for pneumonia among children Therefore, utilization rates for infants that are lower than those rates for children suggest under utilization of health services for infants This finding needs to be followed up during *community group discussions*

“The incidence rates of both ARI and LRI are higher in boys in the community, although not notably higher”² One would expect that males range from 55% to 60% of inpatient or outpatient pneumonia cases Therefore, if males represent a much larger proportion of inpatient or outpatient pneumonia cases then this suggests that caretakers underutilize health services for females This finding needs to be followed up during *community group discussions*

¹ Selwyn BJ on behalf of BOSTID The epidemiology of acute respiratory tract infections in young children comparison of findings from several developing countries *Reviews of Infect Diseases* 1990 12(8) S870-S888

² Ibid pp S876



Pneumonia Care Assessment Tool:
Community Group Discussions: Pneumonia Care
Practices & Satisfaction with Health Services

Third Edition
April 1998

Notice Persons with questions concerning this assessment tool, or persons needing assistance adapting the enclosed forms and instructions should contact Mr Bill Weiss, Research Associate, Department of International Health, The Johns Hopkins University School of Public Health, 615 N Wolfe Street, Baltimore, Maryland, 21205, Email <bweiss@jhu.edu>

Pneumonia Care Assessment Tool
Community Group Discussions for Pneumonia Care Practices & Satisfaction with Health Services

Table of Contents

Purpose	1
1 Purpose of Group Discussion I Pneumonia Care Practices	1
2 Purpose of Group Discussion II Satisfaction with Health Services	1
Approach	1
Preparation Process	2
1 Identify the groups of interest to study	2
2 Identify the number of group discussions to conduct for the assessment	2
3 Invite mothers to participate in the group discussions	3
4 Select an appropriate time and location for each group discussion	3
5 Complete the Group Identification Form	3
6 Prepare a Seating Diagram	4
7 Supervise the group discussions	4
8 Select the facilitator and recorder	4
9 Training the facilitator and recorder	5
Role of the facilitator	5
Role of the recorder	6
10 Method(s) of data collection	6
Community Group Discussion Process	7
1 Prepare the discussion	7
2 Conduct the group discussion	7
3 Closing the discussion	9
4 Expand discussion notes	9
Draw Conclusions	9
1 Organize groups to review group discussion findings	9
2 Draw conclusions about Pneumonia Care Practices	10
3 Draw conclusions about Satisfaction with Health Services	10
References	11
<u>Appendices</u>	
A Group #1 Discussion Guide, Pneumonia Care Practices (Regular and Detailed)	
B Group #2 Discussion Guide, Satisfaction with Health Services (Regular and Detailed)	
C Group Identification Form	
D Seating Diagram (with example)	

Pneumonia Care Assessment Tool

Community Group Discussions for Pneumonia Care Practices & Satisfaction with Health Services

Purpose

Group discussions are an efficient method for interviewing many people at the same time. The dynamics of interviewing a group (rather than an individual) tend to bring out commonly held attitudes, opinions and perceptions about a single issue.¹ This group dynamic makes it possible for project staff to assess which attitudes/perceptions are shared in common by the group discussion participants. "The hallmark of focus groups is the explicit use of the group interaction to produce data and insights that would be less accessible without the group interaction" (Morgan)

1 Purpose of Group Discussion I Pneumonia Care Practices

The purpose of "Community Group Discussion I Pneumonia Care Practices" is to explore mothers' practices and attitudes regarding care for childhood pneumonia. Project staff can also use this information to compare with mothers' responses to other assessment methods such as "Community Terms and Beliefs about Pneumonia Care"

2 Purpose of Group Discussion II Satisfaction with Health Services

The purpose of "Community Group Discussion II Satisfaction with Health Services" is to explore mothers' perceptions of the care provided by the health facilities that serve children in the project area.

Approach

Project staff will use the same approach for "Group Discussion I" and "Group Discussion II". The group discussion approach is to have one person lead a group of six to ten persons in discussing a specific topic while another person takes notes.

The following persons comprise a group discussion session: facilitator, observer/recorder, and six to ten persons from the "group of interest" (for this assessment, mothers of young children and infants). The facilitator leads the group by introducing the discussion topics, asking appropriate questions and keeping the group focused on the topic under discussion. The facilitator uses a "discussion guide" as a memory tool to remind her of the topics she wants the group to discuss (See Appendix A and B for suggested discussion guides of group discussions I and II). The order in which the group discusses topics on the "discussion guide" is flexible. The facilitator can allow participants to discuss topics as they arise spontaneously in the group. The recorder is responsible for taking notes about what participants say as well as non verbal communications, such as facial expressions, that provide clues to emotions and attitudes.

The project should select 6-10 persons to participate in each group discussion session. These persons should represent the group whose practices and attitudes the project wants to know more about (in this case, mothers of young children and infants living in the project area). During the group discussion, each participant has the opportunity to share her ideas, respond to what other

¹ Group members will usually confirm or deny if a participant's attitude or perception is similar to the attitudes/perceptions of the majority of group members. Group discussions are generally not used to discuss sensitive or controversial issues. This is because a participant will be less likely to talk openly about her opinions, practices or attitudes if her views are different from others in the group.

participants say and ask questions of the other participants. The discussion usually lasts about one hour to ninety minutes and takes place in a location where participants will feel comfortable talking candidly.

Preparation Process

1 Identify the groups of interest to study

Project staff should identify factors in their project area that are likely to influence a mother's care-seeking practices for pneumonia and/or satisfaction with health services. For example, care-seeking behavior may differ between mothers living in communities with access to a health facility from those without access to a health facility. Or, care-seeking behavior may differ between mothers with different languages/cultures/ethnicity. Mothers' satisfaction with health services might also be influenced by these factors.

CSSP recommends that if the project area is composed of primarily one language/culture group, the project should conduct group discussions with mothers living in communities that the project believes has access to a health facility and with mothers living in communities without access to a health facility. (The Pneumonia Care Assessment Tool Geographic Access to Health Services is useful for estimating which communities have access to health facilities and those that do not.)

If, however, there are several language/culture groups in the project area, then this should be the first group of interest. Project staff should conduct group discussions with mothers from each of the major language/cultural groups in the project area.

2 Identify the number of group discussions to conduct for the assessment

Experts recommend that projects carry out at least two group discussion sessions (for each group discussion topic) with each of group of interest.² For example, if there are two cultural/language groups in the project area, projects should carry out at least four group discussions about *Pneumonia Care Practices*, two sessions per language group. The project should also carry out at least four group discussions about *Satisfaction with Health Services*, two sessions per language group.

If there is only one language/culture group in the project area, select two groups of mothers (for each group discussion topic) living in communities "with access" to a health facility and select two groups of mothers (for each group discussion topic) living in communities "without access."

More than two group discussion sessions for each group of interest are needed if the findings from the first two group discussion sessions do not show any similarity. The rule is to continue carrying out group discussion sessions with each group of interest until the findings begin to show similarities.

² It is necessary to conduct at least two discussions with the 'group of interest' to establish a pattern. It may be necessary to carry out additional discussions with persons from the "group of interest" if (a) the first two groups produce very different information or if (b) it is difficult to identify a pattern of ideas, beliefs, and practices from the information the first two groups produce.

3 Invite mothers to participate in the group discussions

Identify six to 10 mothers for each group discussion session. Invite mothers about one week to several days prior to the group discussion meeting. Each mother attending a group discussion session should be similar to the other mothers participating in that same group discussion session. For example, each mother the project selects for a specific group discussion should (a) be of the same language/cultural group, and (b) be of approximately the same socioeconomic status and educational level. We assume that a person who is similar (in terms of background and life experiences) to other participants in a group discussion, is more likely share her attitudes and opinions with the group. In addition, persons of higher socioeconomic status may intimidate participants of a lower socioeconomic status and inhibit them from speaking freely.

Note

In some cultures it is best if the participants in a specific group discussion do not know each other well. In these cultures anonymity helps reduce a participant's inhibitions about speaking freely. In other cultures however it may be inappropriate to share one's thoughts with strangers. Therefore depending on the project's cultural context project staff must decide if group discussion participants should be known to each other or not.

Projects should not include a person who is an "expert" on the discussion topic as a participant in a group discussion if other group participants are not "experts". For example do not select a mother who is also a community health worker to participate in a group discussion discussion about health practices if the other mothers in the group are not community health workers. The community health worker may dominate the discussion or intimidate other group participants.

Inform the mother about the meeting's general topic (for example, community health concerns), the date, time, location and length of the meeting, and invite her to participate. Do not, however, inform the mother about the specific topics the group will discuss at the group discussion session. If the mother agrees to participate, confirm the date, time and location of the group discussion session. If the mother does not agree to participate, thank her for her time and leave.

4 Select an appropriate time and location for each group discussion

Select a location where participants will be comfortable, such as the local school, town hall, church/mosque or under a shady tree. Avoid locations that provide health care services. A mother may not feel comfortable talking openly about her health beliefs and practices in a health facility or post.³

Select a time for the discussion that will be convenient for mothers of young children in the project area.

5 Complete the Group Identification Form

Project staff should complete the Group Identification Form at the same time that they invite a mother to participate in a group discussion. (See Appendix C for an example of the Group

³ For example a mother may not wish to talk about her health practices and knowledge in the presence of a community health worker who is responsible for educating families in her community. The mother may be reluctant to admit lack of knowledge or that she disagrees with the health worker.

Identification Form) This form includes spaces for the name, address and participant's language/cultural group

6 Prepare a Seating Diagram

The facilitator for each group discussion session should develop a seating diagram using the information on the Group Identification Form (See Appendix D for an example of a Seating Diagram) Because the facilitator develops the Seating Diagram prior to the meeting, the facilitator will have time to familiarize herself with the names of the group discussion participants prior to the meeting This will allow the facilitator to call on a participant by name during the group discussion session, using memory or by referring to the Seating Diagram

The recorder can use a copy of the Seating Diagram to assign a number to each participant During the meeting, the recorder can use these assigned numbers to quickly identify in his or her written notes which participant made a comment

7 Supervise the group discussions

Identify a process to supervise the quality of the group discussions CSSP recommends that one person from the PVO should be the responsible person for the assessment, acting as the Assessment Method Coordinator The assessment coordinator will designate either PVO staff or counterparts to be the group discussion facilitators and recorders

The Assessment Coordinator should observe the facilitators and recorders during a practice group discussion and during one group discussion session with mothers in the community

8 Select the facilitator and recorder⁴

Good facilitation is an important element of a group discussion Facilitation helps to ensure that all mothers feel comfortable expressing their opinions and have the opportunity to do so For the facilitator, therefore, it is preferable to select someone with experience working with or facilitating groups Good facilitation skills come with practice A strong candidate is a person with experience speaking in public and who listens well and respects others

For the recorder, select someone who can write clearly and quickly

In addition to the above requirements, each facilitator and recorder should be (a) literate, (b) fluent in the local language that the mothers speak, and, (c) experienced in community health or development Experience with community surveys, especially qualitative methods is preferred Clinical training is not required

⁴ Scrimshaw S and Hurtado E 1987 Rapid Assessment Procedures for Nutrition and Primary Health Care United Nations University (Tokyo Japan) and the UCLA Latin America Center Publications (Los Angeles USA)

9 Training the facilitator and recorder

The assessment coordinator should review the forms and instructions with each facilitator and recorder and, as a group, adapt the forms to meet local needs. Next, the assessment coordinator together with each facilitator and recorder review the Discussion Guide and adapt the guide as necessary (See Appendix A for an example). Give each facilitator an opportunity to lead a practice group discussion (use other facilitators, recorders and project staff as practice group participants). Provide each facilitator with a practice experience wherein the facilitator leads a group with different types of people (for example, people who talk a lot, people who talk very little, and people who are judgmental).

During the practice group discussions, give each recorder an opportunity to take notes. Have each recorder practice writing notes about what participants say and about non verbal expressions. For example, recorders should write a participant's answer to a question and a description of other participants' verbal and non verbal reactions to what a participant has said.

The assessment coordinator should observe each practice group discussion, review notes taken and provide feedback to the facilitator and recorder.

The following is a list of topics to cover during the training:

Role of the facilitator ⁵

- The facilitator initiates discussion among participants with an open-ended question and then guides the flow of discussion.
- The facilitator guides the flow discussion by asking appropriate questions, keeping the group focused on the topic under discussion and reacting to group dynamics in a neutral manner.
- The facilitator needs to listen carefully and observe participants to know when to lead the group to the next topic, to control the flow of the meeting and the time allotted to each topic.
- The facilitator should give each participant an opportunity to speak on each topic under discussion and probe among participants for ideas that agree and disagree. The facilitator should express her interest in the views of all of the participants to encourage participation.
- The facilitator should not act as an interviewer who asks question after question. The facilitator should not share her views on a topic under discussion or present herself as an "expert" on the topic. These behaviors will inhibit mothers from discussing their opinions freely.
- The facilitator should take minimal notes to help her summarize the discussion during the closing part of the discussion.

⁵ Ibid. See Note 3

Role of the recorder ⁶

- The recorder should take written notes on what mothers and the facilitator say during the group discussion
- The recorder should also take written notes about non verbal expressions such as smiles, frowns, and body posture. Non verbal expressions can provide clues about whether a mother agrees or disagrees with what another mother has said
- The recorder should also take notes on the following: the date and time of the meeting, the setting of meeting, the number of participants, and a description of the group dynamics
- The recorder should take notes about which opinions are shared in common by mothers and which opinions are not
- The recorder should pay close attention to the terms mothers use to describe illnesses, signs/symptoms of illness, causes of illness, treatments for illness, and providers who care for illness (traditional and formal providers)
- The recorder can support the facilitator with the following actions: (a) ask a mother to restate an opinion that the facilitator did not hear, (b) inform the facilitator about a topic she missed asking about, and, (c) inform the facilitator if the discussion goes off the relevant topic

10 Method(s) of data collection

The assessment team can record the group discussion sessions with written notes, with a tape recorder, or both. Written notes are sufficient. Before the discussion begins, explain to the mothers that the recorder will take notes to record the important information they will provide. Ask the mothers if they agree with this. If a mother decides she does not want the recorder to take notes, thank her for her interest, and allow her to leave.

Note: Tape recorders are useful for capturing many details of the group discussion. However, transcribing the information from tape to written notes requires a lot of time. To record the key content of the group discussion it is simpler and faster to take written notes during the discussion and develop more detailed notes immediately following the session. Note that without a tape recorder much of the information about the process and dynamics of the group discussion will be lost.

⁶ op cit See Note 3

Community Group Discussion Process^{7 8}

1 *Prepare the discussion*

- The facilitator and recorder should arrive early to prepare the seating arrangements (a circular arrangement is preferable) and greet participants as they arrive. Provide mothers (and their children, if present) with refreshments as they arrive. The recorder should use this time to obtain identifying information such as names and number of participants, date of meeting, and a description of the setting, including location and seating arrangements (if different from the Seating Diagram)
- Arrange for someone other than the facilitator and recorder to brief the traditional leaders of the community where the group discussion takes place. This will free the facilitator and recorder to focus on preparing for the discussion
- After participants have sat down, the facilitator introduces herself and the recorder to the group and explains each person's role
- The facilitator then informs the group that the purpose of the group discussion is to learn more about illnesses in the community so that the PVO and the community can better plan health care and health education. Explain that the purpose of the meeting is not to provide education but instead to learn from participants by asking for their ideas and opinions. Also, explain that each participants' ideas about the topic are important and that all participants will be given an opportunity to speak
- The facilitator informs the group about the length of the meeting and states that the recorder will take notes but that the information will remain confidential (only project staff will use the information). Also, the facilitator informs the mothers that they are not obligated to participate and that they may leave at any time or refuse to answer any questions
- The facilitator asks each mother to introduce herself stating her name and something about herself that is culturally appropriate. One example is to ask each mother to say how many children she has and what ages

2 *Conduct the group discussion*

- The facilitator should start the discussion with an open ended question (See appendices A for B for Group Discussion #1 and #2 discussion guides)

⁷ op cit See Note 3

⁸ Timyan J 1991 Guidelines for Gathering Qualitative Data for HAPA PVO Grants Project Evaluation
HAPA Support Project The Johns Hopkins University Draft document not published

Note

Once the facilitator asks the first open-ended question the facilitator limits her role to keeping the group talking about the topic under discussion encouraging participation by all mothers and identifying ideas which the group holds in common with probes such as What do you think? Does anyone feel differently about that? Does anyone do it differently?

- The facilitator uses additional probing questions leading the group to discuss each topic on the discussion guide

Note

Suggested probing questions are included on the Discussion Guide It is important for the facilitator to keep the group focused on the key topics The order that participants discuss topics however is not important For example if a mother begins to discuss a topic earlier than the facilitator planned the facilitator should not stop the mother from speaking Allow the group to discuss the topic and then lead the group back to topics that the group skipped

- The recorder takes written notes on the following what mothers and the facilitator say, interpretations about whether opinions are shared among participants, and interpretations of non verbal communications

Hint

If the group discussion guide only has a few topics then the recorder can prepare one note sheet for each topic At the top of a blank sheet a paper write one of the topics at the title The recorder can take notes on what mothers say about that topic on that sheet of paper For example if the discussion guide includes three topics the recorder prepares three sheets of paper each with a title one for each topic Note, however that this technique is not helpful if there are many topics - the techniques would require the recorder to handle a cumbersome amount of paper More than three to four sheets of paper becomes difficult to handle

Hint

The recorder can use a copy of the Seating Diagram to assign a number to each participant During the meeting the recorder can use these assigned numbers to quickly identify in his or her written notes which participant made a comment For example

Facilitator asks "How do mothers in this community care for a child with _____ (give local term provided by mothers for pneumonia)?"

#4 I give my child tea to help her breath better (notes on what mother assigned the number 4 answers)

Facilitator asks #6 "What do you think? (notes on facilitator s question to mother assigned the Number 6)

#6 I take my children to the health clinic for rapid breathing (notes on what mother assigned number 6 answers)

3 *Closing the discussion*

- The facilitator informs the mothers that the meeting is about to end and asks them if they have any additional comments
- The facilitator reviews for group the discussion about each key topic by (a) summarizing what mothers said, (b) identifying shared opinions, varying opinions and opinions of a strong minority, and (c) asking the group if the summary accurately describes the group's views
- The recorder should continue to take notes during the closing, especially about whether mothers' opinions on a topic are similar or vary
- The facilitator thanks the mothers for participating, states that their opinions have been valuable and serves refreshments to the mothers (and their children, if present)

4 *Expand discussion notes*

Immediately after the group discussion has ended, the facilitator and recorder should meet to review the notes taken during the session. The purpose of the meeting is to "note additional impressions or memories of what occurred during the session and respond to each other's reactions to important points"⁹

Note

The immediate impressions following the group discussion will be lost if not recorded immediately after the discussion ends. It is important to record these impressions because they will be a valuable source of information when answering the Program Manager Questions

Draw Conclusions

1 *Organize groups to review group discussion findings*

Project Staff should draw conclusions about findings for Group Discussion Topic #1 and Group Discussion Topic #2 as soon as possible after the group discussions. Project staff can use the following steps

- Use two groups to draw conclusions for this assessment, one group for each group discussion topic (*Pneumonia Care Practices or Satisfaction with Health Services*). For each topic group, assemble the group discussion facilitators and recorders, and project staff, MOH staff and counterparts who will help make programmatic decisions
- Each group should review the notes of each session and answer the questions below. Record group responses to the questions below on newsprint so that each person in the group can see what is written

⁹ Ibid p 26 See Note 7

2 Draw conclusions about Pneumonia Care Practices

- Do mothers use words for pneumonia, fast breathing or difficult breathing due to a problem in the chest? If so, what are these terms?
- Do these terms differ by group of interests (for example, cultural/language group)?
- How do these terms compare with terms identified during other assessments (for example, the “Community Terms and Beliefs About Pneumonia Care”)?
- What are common home treatments (remedies, antibiotics or other drugs) for pneumonia (fast or difficult breathing)? Why do mothers use these treatments?
- What do mothers believe causes pneumonia? Are any of these beliefs barriers to seeking care from a trained provider for a child with pneumonia?
- Do mothers consider fast or difficult breathing to be an indication to seek medical care? Why?
- From whom do mothers seek treatment for their child with fast or difficult breathing? Why do they seek treatment from these persons?
- Are there different treatments/practices for children of mothers of different groups of interest (for example, those with access from those without access to health facilities)?
- Are there providers identified whom the project or MOH does not work with currently?

3 Draw conclusions about Satisfaction with Health Services

- How do mothers feel about the facility environment? (waiting times, comfort, cleanliness, hours open for service, etc)
- What do mothers think about the skills and knowledge of health facility workers?
- What do mothers feel about how health workers treat them? Do health workers treat mothers with courtesy and respect? Do they allow mothers to ask questions? What language do health workers use with mothers?
- How do mothers feel about the fees the health facility charges for drugs and services?
- What are mothers’ recommendations for improving quality of health facility services?
- What are things mothers suggest should remain as they are?

References

Aga Khan Foundation Primary Health Care Management Advancement Programme Module 6, Assessing the Quality of Service Aga Khan Foundation USA Washington, DC 1993

Gittelsohn, Joel Qualitative Research Methods Class Notes Johns Hopkins University Baltimore 1996 Not published

Morgan, D L Successful Focus Groups Newbury Park, CA Sage, 1988

Scrimshaw, S , Hurtado, E Rapid Assessment Procedures for Nutrition and Primary Health Care United Nations University (Tokyo, Japan) and the UCLA Latin America Center Publications (Los Angeles, USA) 1987

Timyan, J Guidelines for Gathering Qualitative Data for HAPA PVO Grants Project Evaluation HAPA Support Project, The Johns Hopkins University Baltimore 1991 Draft document, not published

**Appendix A Group Discussion #1 Discussion Guide
Pneumonia Care Practices, Attitudes, Beliefs**

Objective To obtain information about mothers' practices, attitudes and beliefs on caring for pneumonia in infants and young children

1 What are local term(s) for pneumonia

2 What do mothers believe causes pneumonia in children

3 What are the home treatments given for childhood pneumonia and WHY

4 Do mothers seek advice/treatment if their child has pneumonia and WHY or WHY NOT

5 From whom do mothers seek advice/treatment if her child has pneumonia and WHY

**Appendix A Detailed Group Discussion #1 Discussion Guide
Pneumonia Care Practices, Attitudes, Beliefs**

Objective To obtain information about mothers' practices, attitudes and beliefs on caring for pneumonia in infants and young children

1 What is the local term(s) for pneumonia

Hint Ask the mothers if they recognize the local term(s) for pneumonia that project staff identified during the earlier assessment, "Community Terms and Beliefs About Pneumonia Care" If mothers recognize the term(s) ask them about signs/symptoms of the illness Determine if one or more of the sign/symptoms is fast breathing difficult breathing (due to a problem in the chest rather than the nose), or chest indrawing For example

Earlier we had the opportunity to talk with some mothers in your community regarding childhood illnesses Many of the mothers spoke to us of _____ (give the local term for pneumonia identified during earlier assessment)

'What happens to a child when he or she gets _____ (give the local term for pneumonia)?

If mothers do not recognize the term, or if mothers do not identify symptoms of pneumonia for an illness term, ask mothers to name all the childhood illnesses that cause difficulty breathing Using these terms, identify which illness mothers believe causes fast breathing difficult breathing and/or chest indrawing

2 What do mothers believe causes pneumonia in children

Begin the Discussion with an Open-Ended Question *"What do each of you think about _____ (give local term for pneumonia)?"*

Then ask *"How does a child get _____ (insert local pneumonia term)?"*
probe *"What are other ways?"*

3 What are the home treatments given for childhood pneumonia and WHY

"How do persons in this community care for or treat a child with _____ (give local term for pneumonia)?"

probe *"What are other ways persons in this community care for a child with _____ (give local term for pneumonia)?"* and for each treatment mentioned, *"How does a person decide when to use _____ (name of treatment mentioned earlier)?"*

4 Do mothers seek advice/treatment if their child has pneumonia and WHY or WHY NOT

"Do persons in this community seek advice or treatment for a child with _____ (give local term for pneumonia)?"

probe *"How does a person decide when to seek advice for treatment for a child with _____ (give local term for pneumonia)?"* or *"What signs/symptoms would cause one to seek advice/treatment?"* *"What other signs/symptoms would cause one to seek advice/treatment?"*

5 From whom do mothers seek advice/treatment if her child has pneumonia and WHY

"From whom do persons in this community seek advice or treatment for a child with _____ (give local term for pneumonia)?"

probe *"From who else do persons in this community seek advice or treatment for a child with _____ (give local term for pneumonia)?"* For each provider mentioned, *"How does a person decide when to seek advice from _____ (name of provider mentioned earlier)?"*

Appendix B Group Discussion #2 Discussion Guide
Satisfaction with Health Services

Objective To obtain information about mothers' perceptions of the care children receive from health facilities serving children in the project area

1 Mothers' perceptions of the facility environment (waiting time, cleanliness, hours open for service)

2 Mothers' perceptions about the technical competence of health facility workers

3 Mothers' perceptions of mother-facility staff interpersonal relations

4 Mothers' perceptions of the fees for services

5 Mothers' recommendations for improving quality of health facility services

6 Mothers' perceptions of health facilities' strengths

Appendix B Detailed Group Discussion #2 Discussion Guide Satisfaction with Health Services

Objective To obtain information about mothers' perceptions of the care children receive from health facilities serving children in the project area

1 Mothers' perceptions of the facility environment

Prepare for discussion with an introduction such as *“Earlier we had the opportunity to talk with some mothers in your community about how families here treat illnesses. The mothers told us that families in this community seek advice or treatment at the _____ (give local name of health facility serving children in the project area) if a child suffers from illnesses such as _____ (give local pneumonia term)”*

Then begin the discussion with an open-ended question *“What do each of you think about seeking advice or treatment at the _____ (give local name of health facility serving children in the project area) if your child is sick?”* or *“How do each of you feel about the care you receive at _____ (give local name of health facility serving children in the project area)?”*

Probe with the following questions *“How do you feel about the time you have to wait at the clinic before the facility worker/doctor sees you and your child?”* *“What do you think about the comfort and cleanliness of the waiting area?”* *“What do you think about the comfort and cleanliness of the examination room/area?”* *“Is the facility open at good times of the day or bad times of the day for you?”*

2 Mothers' perceptions about the technical competence of health facility workers

“What do each of you think about the skills and knowledge of _____ (give name for health workers who care for children at the health facility)? *“When your child is sick, does she or he get better after you bring them to the _____ (give local name for health facility serving children in the project area)?”*

3 Mothers' perceptions of mother-provider interpersonal relations

“How do you feel about the health facility workers? “Do they treat you with courtesy and respect?” Do they allow you to ask questions?” “What language do they use with you?”

4 Mothers' perceptions of the fees for services

“Does the health facility charge fees for drugs or services?” “How do you feel about the fees the health facility charges for drugs and services?”

5 Mothers' recommendations for improving quality of health facility services

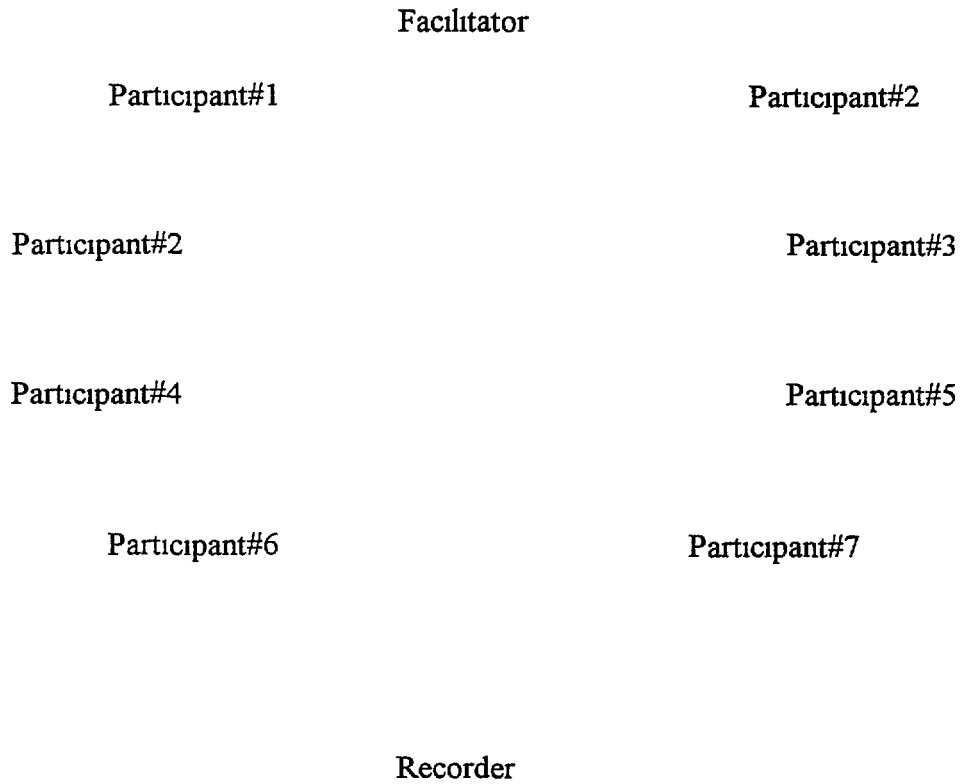
“What do each of you think that health workers can do to improve the quality of the services at the _____ (give local name for health facility serving children)?”

6 Mothers' perceptions of health facilities' strengths

“What services do each of you feel are going particularly well in the health facility?”

Appendix D Seating Diagram

Arrange seating so that all participants can see each other and the facilitator (This can be around a table, on benches, on the floor or ground) The recorder should sit to the side of the discussion group, outside the circle, and have eye-to-eye contact with the facilitator



Appendix D Seating Diagram

EXAMPLE

Facilitator

Fatou#1

Ngaye#2

Ngone#2

Fatima#3

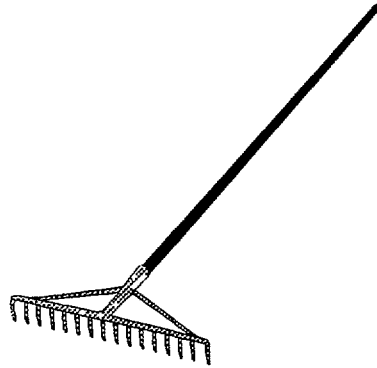
Adama#4

Mariama#5

Elise#6

Malaika#7

Recorder



Pneumonia Care Assessment Tool: Geographic Access to Health Providers

Third Edition
April 1998

Notice Persons with questions concerning this assessment tool, or persons needing assistance adapting the enclosed forms and instructions should contact Mr Bill Weiss, Research Associate, Department of International Health, The Johns Hopkins University School of Public Health, 615 N Wolfe Street, Baltimore, Maryland, 21205, Email <bweiss@jhu.edu>

PNEUMONIA CARE ASSESSMENT TOOL
Geographic Access to Health Providers

Table of Contents

I Purpose	1
II Definitions	1
III Rationale	2
IV Approach	3
V Adapting the Tool to Local Circumstances	3
VI Exercise Steps	3
VII References	7
<u>Tables</u>	
Table 1 Percent of Population with Geographic Access to Health Providers - PLAN/Bolivia	8
<u>Appendices</u>	
A Example Map Identifying Communities with Geographic Access to Health Providers - PLAN Bolivia	

PNEUMONIA CARE ASSESSMENT TOOL

Geographic Access to Health Providers

I Purpose The purpose of this tool is rapidly estimate whether communities in a project area currently have “geographic access” to health providers with the authority to treat pneumonia in children ¹

II Definitions

1 Geographic access Geographic access of a community to health provider is usually assessed by the physical distance between the community and the health provider. Geographic access, however, should be assessed by the “functional distance” to a health provider (Ayeni, et al 1987)

The functional distance to a facility may be much greater than the physical distance as measured to the closest facility. It is certainly not the case that all villages in the study region have direct road connections with their closest facility. Differences in physical terrain, availability of public or private transport, patient access to alternate forms of transport—motor vehicles, bicycle, and foot—affect this functional distance. (p 1086)

Other factors that affect functional distance include two-way travel costs and travel time, and the seasons of the year that community members can travel to the facility (Stock, 1983). How much time and money, for example, is it reasonable to expect families to spend traveling to and from a health provider? How much money will they lose by not working that day? Are rivers impassible or roads unusable during the rainy season? These are issues generally beyond the scope of an individual health provider to improve upon, but are things a PVO can help improve or overcome in collaboration with communities and the government.

2 Authority to Treat Pneumonia A health provider has the authority to treat pneumonia if national or local government policy authorizes the provider to dispense or prescribe antibiotics for treatment of pneumonia. Usually, this is a government or private physician. In many countries, national or local government policy authorizes nurses, auxiliary health workers, and medical assistants to dispense or prescribe antibiotics. In a few countries, government policy authorizes community health workers, drug sellers and/or traditional healers to dispense or prescribe antibiotics.

Note that the health providers described above are different from a health provider who is currently treating pneumonia but does not have the authority from the government to do so. This category of health provider usually is not eligible to receive training in standard pneumonia case management and will not be eligible until authorized to treat pneumonia.

¹ In the literature, concepts in addition to “geographic access” are used to determine access to health providers such as affordability of drugs and services, availability of drugs and trained personnel, language used by health providers, provider-patient interpersonal relations, hours of operation, and days of the week a provider works. Projects can assess these additional concepts of access with other tools in the *Pneumonia Care Assessment Methods Toolbox*. For example, a caretaker’s perception of waiting time for care upon reaching the provider, the way a health provider communicates and attends to the caretaker, and the convenience of the hours during the day and/or days during the week that a health provider treats children can be assessed with the tool, *Community Group Discussions about Satisfaction with Health Services*.

III Rationale To save the lives of infants and children with pneumonia, there are three key requirements of a pneumonia case management intervention (1) sufficient numbers of health providers who consistently provide standard pneumonia case management, (2) the beneficiary population of a project must have access to these providers, and, (3) caretakers in the project's beneficiary population whose children have signs and symptoms of pneumonia must recognize those signs and symptoms and seek immediate treatment from these health providers Geographic access is a significant factor in whether or not a caretaker will utilize a health provider to treat her child with signs of pneumonia² in a timely manner³ Therefore, geographic access to health providers with the authority to treat pneumonia is a key requirement of a project's pneumonia case management intervention Unless health providers have the authority from the government to treat children with pneumonia they will usually not be eligible for training (knowledge and skills) and receipt of equipment/supplies to provide standard pneumonia case management

Because geographic access is very important, a project planning to include a pneumonia case management intervention needs to assess who in the project's beneficiary population has geographic access to health providers with the authority to treat pneumonia in children This will help the project staff to decide (1) if there is sufficient geographic access to health providers with the authority to treat pneumonia to justify a pneumonia case management intervention, (2) is it necessary and possible to increase geographic access, and (3) which communities or neighborhoods, if any, need increased geographic access For example, projects can help make health providers more geographically accessible to a community with the following activities

- Make additional sources of transportation available for emergencies,
- Decrease the two-way travel time/costs for members of that community to an existing health provider,
- Increase the number of trained providers at an existing health facility,
- Help provide, in or near that community, a new category of health worker with the authority and training to treat childhood pneumonia (for example, drug sellers, community volunteers, and traditional healers)

² Several studies have found that utilization rates of health providers declines significantly with distance In Uganda outpatient utilization of hospitals and dispensaries declined by 50% every 3 km and *per capita* utilization of aid posts declined by 50% every 1.5 km (King 1966) In Ghana 70% of those utilizing a health center lived within 5 km of the health center representing 26% of the health center's catchment population (Danfa 1979) In Nigeria outpatient *per capita* utilization of hospitals and rural health centers declined at a rate 20% per km (Stock, 1983) In Bangladesh, utilization of formal modern health providers by sick persons was more than 40% lower for persons living more than 2 miles from a health center than for sick persons living one mile or less from a health center (Amin et al 1989) And, in Ethiopia a study of health services utilization found a rapid decrease in rates with distance away from facilities" (Kloos et al, 1990)

³ Studies have found that there is a relationship between distance from a facility and delays in seeking treatment In Nigeria 60% of fever cases for persons living within 2 km of a health facility were treated within 2 days of onset of fever whereas 24% of fever cases for persons living 4-10 km from a health facility were treated within 2 days of onset (Stock 1983)

IV Approach The approach of this tool is to estimate the functional distance from health providers to communities in the project area. Project managers can then use this estimate of functional distance to (1) estimate whether or not communities in the project area have geographic access to a health provider with the authority to treat pneumonia and (2) to make conclusions about which communities need increased access to health providers.

In order to estimate functional distance between health providers and communities, this tool suggests carrying out a map exercise. First, a project manager obtains maps of the project area (PVOs include the same types of maps in proposals and detailed implementation plans). With the map, the project manager identifies beneficiary communities with geographic access by considering physical distance, availability of transportation, and affordability of travel (time and money) to reach a health facility or provider. Second, after completing the map exercise, the project manager estimates the percentage of the beneficiary population that has geographic access to a health provider, this is done by summing the population of each community “with access” and dividing that number by the total beneficiary population of the project area. Last, the project manager reviews the findings of the exercise and makes conclusions about whether

- there is sufficient geographic access to health providers with the authority to treat pneumonia to justify a pneumonia case management intervention,
- it is necessary to increase geographic access, and,
- which communities or neighborhoods, if any, need increased geographic access

V Adapting the Tool to Local Circumstances The authors encourage projects, however, to adapt this tool as necessary for local circumstances to best estimate whether communities have geographic access to health providers. The suggested exercise steps described below are just that, suggested. The exercise is based on having an up-to-date map which may not be available to all projects. Projects without maps should still attempt to estimate the functional distance, however. For example, Ayem et al (1987) suggests that if maps are not available to suggest the routes a community member would take to the nearest facility, projects can use straight-line distance (along with two-way travel costs and time) to estimate functional distance. This is because functional distance is usually an increasing function of straight-line distance.

VI Exercise Steps

1 Obtain a map (or maps) that includes (a) each of the beneficiary communities/neighborhoods that the project is serving, and (b) the location of each health facility that serves the project’s beneficiary population (See example, Appendix A)

2 Identify the providers who have the authority to treat pneumonia among children in the project’s beneficiary population

2 a On the map, locate and indicate the location of each health facility that serves the project’s beneficiary communities and that treats children with pneumonia (See example, Appendix A)

2 b On the map, locate and indicate each community/neighborhood, if any, with a community health worker who is authorized to treat children with pneumonia

2 c On the map, locate and indicate each community/neighborhood, if any, with a private provider who is authorized to treat children with pneumonia ⁴

3 Identify which communities/neighborhoods have “geographic access” to a health providers⁵

3 a Identify which project beneficiary communities/neighborhoods on the map are within five kilometers from at least one of the health facilities/workers/private providers located on the map in Step 2 above

It is best if this distance is estimated along routes of travel instead of the straight line distance. However, straight line distance can be used in the absence of detailed maps.

Note: This tool suggests a radius of ≤ 5 km from a health provider as one of the general criteria for geographic access. WHO uses 3-5 km as a measure of geographic access to a health facility. As described in footnote 2, studies have shown that utilization of health services decreases significantly with distance. This is a general criteria, however, and projects should adapt this criteria, if needed, to one that is more appropriate for the project area ⁶

3 b Identify any additional beneficiary communities/neighborhoods whose members can reach one of the authorized health providers within one hour (or a time period the project considers reasonable)

For example, members of communities more than 5 km from a health provider may have access to transportation that will allow them to reach the health provider within one hour (or a time period the project considers reasonable). Transportation sources may be the following: ambulance, public bus, bicycle, horse, or private vehicle. Note that this transportation should also be available throughout each day of the week.

⁴ For example, a private physician. In some countries this also may include nurses or pharmacists if they have the ‘authority’ to dispense antibiotics without a prescription from a physician.

⁵ For the purposes of this tool “geographic access to health providers” concerns the distance, time and costs required to travel to and from a health provider who is authorized to treat pneumonia. Additional measures of access such as language/attitudes of health providers and waiting time for care upon reaching a health provider, should be assessed with other tools in the Pneumonia Care Assessment Methods Toolbox, such as *Community Group Discussions about Satisfaction with Health Services*.

⁶ Stock (1983) suggests that radii of 16 km or 8 km, which are used as catchment areas for rural health centers in many countries, are much too large for general health care delivery in rural Nigeria. He found that actual utilization of health services by persons living 5 km from a health center was less than one-third the amount of utilization by persons living less than 1 km from the health center.

3 c Identify those communities in which most members can afford the two-way travel costs to the facility/provider serving that community For each community identified in step 3 b above, determine if most members of that community can afford the two-way travel costs from home to the facility/provider serving that community

3 d Identify those communities in which members can reach the facility/provider serving that community throughout the year For each community identified in step 3 c above, determine if members of that community can reach the facility/provider serving that community during each month of the year (for example, persons can travel to that facility during the rainy season, or during winter months, in a reasonable amount of time)

3 e For the purposes of this Tool, the communities identified in step 3 e can be considered as having “geographic access” to a health provider with authority to treat childhood pneumonia ⁷

4 Map the communities with geographic access to health providers

4 a On the map, draw a circle around each facility Include within the circle those communities/neighborhoods identified as having “geographic access” to that health facility (See example, Appendix A)

4 b On the map, draw a circle around each community that has a community health worker or private provider who is authorized to treat pneumonia with antibiotics

5 Complete a “Percent of Population with Access to Health Providers Form” (See example, Table 1)

5 a In column (a), list each community/neighborhood within the project area, listing first those communities “with geographic access” to a health facility and second those communities “without geographic access” to a health facility

5 b In column (b), place a “Y” for yes if the adjacent community in column (a) “has geographic access” to a health facility Place a “N” for no if the adjacent community in column (a) “does not have geographic access” to a health facility

5 c In column (c), write the total population number of the adjacent community in column (a)

5 d In column (d), write the cumulative population number summing the total population of the adjacent community in column (a) and the total population of the communities listed above the adjacent community in column (a)

⁷ Project staff can use other tools in the Toolbox to validate and/or modify the list of communities that this tool identifies as having access to health providers for childhood pneumonia For example the project can conduct the *community group discussions tool* and/or the *pneumonia case narratives tool* in communities “with access” and in communities without access These assessments will provide information on mothers’ beliefs about access to health providers - these beliefs will either agree or disagree with the findings of this *access to health providers tool*

5 e In column (e), comment on the reason why a community “without geographic access” has been designated “without geographic access” Possible reasons are travel time, travel costs, and seasonal accessibility

5 f Below the chart, write the number for the population “with geographic access” to a health facility This is the same number as the number in column (d) adjacent to the last community listed in column (a) “with geographic access” to a health facility, that is, the last community in column (a) that has a “Y” in the adjacent column (b)

5 g Below the chart, write the number for the total population of the project area This is the same number as the number in column (d) adjacent to the last community listed in column (a)

5 h Divide the number for the population “with geographic access” to a health facility by the number for the total population of the project area Multiply the divided number by 100 This is the estimated percent of the population with geographic access to a health facility

6 Draw Conclusions

6 a Does a large enough proportion of the beneficiary population have geographic access to health providers to justify the project carrying out a pneumonia case management intervention?

6 b If so, does the project need to help increase geographic access?

6 c If so, does a large enough proportion of the beneficiary population have geographic access to health providers to justify providing health education to families about management of pneumonia (once quality of services is ensured)?

- If so, in which communities should the project provide health education about pneumonia (once the quality of health services serving that community is ensured)?
- If not, in which communities should the project make health providers accessible prior to conducting an education effort about pneumonia in the project area?

For example projects may be able to help with the following

- Make additional sources of transportation available for emergencies,
- Decrease the two-way travel time/costs for members of that community to an existing health provider
- Increase the number of trained providers at an existing health facility,
- Help provide in or near that community, a new category of health worker with the authority and training to treat childhood pneumonia (for example drug sellers, community volunteers, and traditional healers)

6 d What are the most frequent reasons why communities do not have geographic access to health providers?

6 e In what ways are the communities with geographic access to health providers different from the communities without geographic access (ethnicity, language, socioeconomic status)?

6 f Does the map suggest different types of communities or health providers in which the project should carry out the other Pneumonia Care Assessment Tools?

For example, the project should carry out the tool, *Community Group Discussions about Care-seeking Behavior and Satisfaction with Health Services*, in communities "with geographic access" and in those "without geographic access" One might expect that care-seeking behavior and perceptions of health services would differ between communities "with geographic access" and those "without geographic access" Using the *group discussion* tool in these communities will also help validate whether or not the *Access to health providers* tool agrees with community perceptions

The project can also carry out the tool, *Health Services Utilization*, in facilities serving one ethnic/language group among the beneficiary population and in facilities serving a different ethnic/language group One might expect that utilization patterns would differ between facilities serving one ethnic/language group and facilities serving a different ethnic/language group One might also expect that care-seeking behavior and perceptions of health providers would differ between one ethnic/language group and a different ethnic/language group

VII References

Amin R *et al* Community health services and health care utilization in rural Bangladesh *Soc Sci Med.* **29**, 1343-1349, 1989

Ayeni B *et al* Improving the geographical accessibility of health care in rural areas a Nigerian case study *Soc Sci Med.* **15D**, 1083-1094, 1987

King M (Ed) *Medical Care in Developing Countries* Oxford University Press, New York, 1966

Kloos H Utilization of selected hospitals, health centres and health stations in central, southern, and western Ethiopia *Soc Sci Med* **31**, 101-114, 1990

Stock R Distance and the utilization of health facilities in rural Nigeria *Soc Sci Med* **17**, 563-570, 1983

**Table 1 Percent of Population with Geographic Access to Health Providers
PLAN/Bolivia Altiplano**

Province Manco Karac
Section First
Cantons Locka and Zampaya

(a) <u>Community</u>	(b) <u>Access*</u>	(c) <u>Total Population</u>	(d) <u>Cumulative Population</u>	(e) <u>Reason for No Access</u>
Tilicachi	Y	870	870	
Siripaca	Y	3560	4430	
H. Sucupa	Y	990	5420	
Yumani	Y	1350	6770	
Copacati	Y	700	7470	
Santa Ana	Y	632	8102	
Beleni	Y	1060	9162	
Copacabana	Y	5800	14962	
Challa	Y	780	15742	
Yampuputa	N	467	16209	Travel time
Huecko	N	350	16559	Travel time
Chani	N	480	17039	Travel time
Kassani	N	270	17309	Travel time
Sampaya	N	1590	18899	Travel costs
Sicuani	N	1100	19999	Travel costs
Coati	N	967	20966	lake often impassable in rainy season, travel time
Huacuya	N	135	21101	Travel time/costs,
Cusijata	N	240	21341	Travel time/costs
Challapata	N	180	21521	Travel time/costs,
Tocopa	N	690	22211	Travel time
Sopocachi	N	632	22843	Travel time/costs
V. Ajanani	N	240	23083	Travel time
Chamacuni	N	210	23293	Travel time
Jiskacola	N	650	23943	Travel costs
Kollasuyo	N	447	24390	Travel costs
Sahuina	N	350	24740	Travel costs
Locka	N	490	25230	Travel costs
Viluyo	N	418	25648	Travel time
Chachapoya	N	765	26413	Travel time
Marka Kosco	N	200	26613	Travel time
Challapampa	N	550	27163	Travel time
Population with geographic access			15,742	
Total population			27,163	
% of pop with geographic access			58%	

Appendix A:

MAP OF COMMUNITIES
WITH ACCESS

APPENDIX A

BICACION GEOGRAFICA DEL AREA

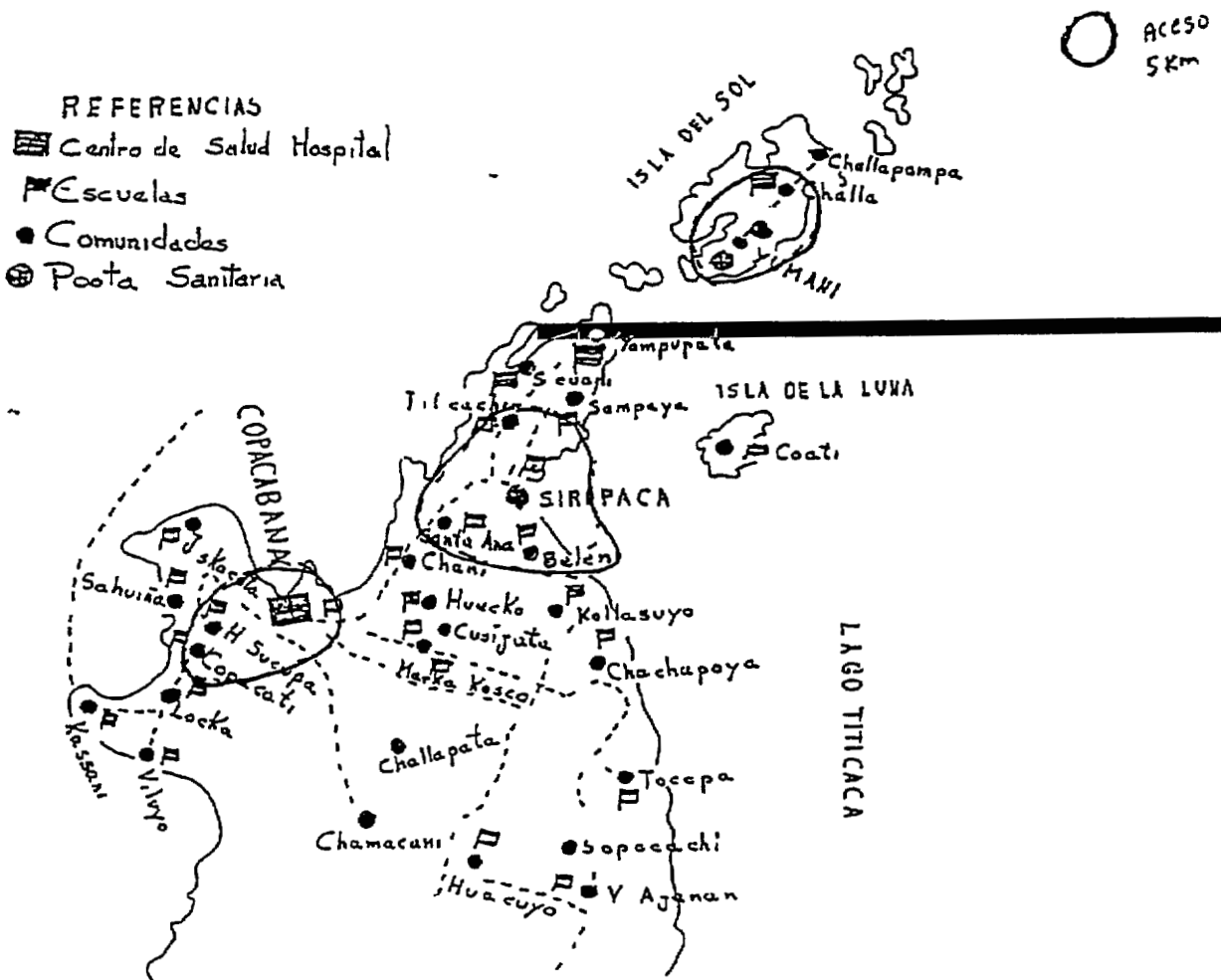
EXTENSION (Km.) _____

TES	Norte	Lago mayor (Titicaca)
	Sur	Perú
	Este	Lago mayor (Titicaca) , y Area Tiquina.
	Oeste	Lago mayor (Titicaca)

VINCIOS, ZONAS, CANTONES A LAS QUE CORRESPONDE

Provincia Manco Kapac, Primera sección, Cantones Locka y Zampaya

ROQUIS DEL AREA:





Pneumonia Care Assessment Tool: Pneumonia Case Narratives

Third Edition
April 1998

Notice Persons with questions concerning this assessment tool, or persons needing assistance adapting the enclosed forms and instructions should contact Mr Bill Weiss, Research Associate, Department of International Health, The Johns Hopkins University School of Public Health, 615 N Wolfe Street, Baltimore, Maryland, 21205, Email <bweiss@jhu.edu>

PNEUMONIA CARE ASSESSMENT TOOL
Pneumonia Case Narratives

Table of Contents

	<u>Page No</u>
Purpose	1
Definitions	1
Approach	1
Preparation Process	2
1 Identify Mothers to Interview	2
Matrix sources/criteria for identifying children with presumptive pneumonia	3
2 Interviewer Selection, Training and Supervision	4
3 Adapt Interview Form	4
Interview Process	4
1 Interview Location	4
2 Informed Consent	4
3 Complete the Identification and Illness Term Block	5
4 Ask the Initial Question and Take Notes	5
5 Identify Missing Information	5
6 Ask Additional Probing Questions	6
7 Ask about Fast or Difficult Breathing	6
8 Transfer Information from Interview Notes to the Individual Recording Form	6
Draw Conclusions	7
1 Complete Pneumonia Narratives Summaries	7
2 Draw Conclusions	7
References	8
Appendix A, Interview Form Narrative of a Pneumonia Case	9
Appendix B, List of Topics for Eliciting Narrative of Pneumonia Case	10
Appendix C, Recording Form Individual Pneumonia Case	11
Appendix D, Summary Pneumonia Case Narratives	13

PNEUMONIA CARE ASSESSMENT TOOL

Pneumonia Case Narratives

Purpose

The purpose of investigating pneumonia cases is to obtain information about the local importance of particular signs and symptoms, home management practices, timeliness of care-seeking outside the home, preferred health care providers outside the home, treatments given by providers, level of satisfaction with providers, and constraints to care seeking

Definitions

One way of classifying acute respiratory infections (ARI), is by location of the infection. Upper respiratory infections (AURI) include infections of the nose, throat, and middle ear. Lower respiratory infections (ALRI) include infections of the epiglottis, larynx, trachea, bronchi, bronchioles and lung. The focus of this tool is pneumonia. Pneumonia is an acute lower respiratory infection of the lung.

According to the WHO protocol for the case management of ARI, the following signs or symptoms indicate pneumonia:

- Fast breathing,
- Chest indrawing

Approach

The approach of this assessment method is to ask mothers about what happened when her infant or child had a "suspected" case of pneumonia. This is called a narrative of events. Narratives provided by several mothers will help PVO Child Survival project staff and counterparts (MOH and/or NGO) learn about many aspects of household behavior with respect to pneumonia. While narratives will differ from mother to mother, they can provide insight into many important beliefs, attitudes and behaviors.¹

Project staff and counterparts obtain a narrative of events by interviewing mothers whose infants recently had a "suspected" case of pneumonia² (This also is called a presumptive case of pneumonia). Project staff interview several mothers in each of the major ethnic/social groups within the project area.

The interview style is open-ended. Unlike surveys, the interviewer does not ask a fixed sequence of questions presented in identical wording to each mother. (For example, the interviewer must be very consistent in asking questions during the the Rapid Knowledge, Practice and Coverage Survey). The goal of the case narratives method is to obtain as much information in-depth as

¹ Narratives are case studies. Case studies, unlike surveys, provide rich detail for a small number of episodes. These studies are rarely representative of the entire beneficiary population's practices and attitudes in statistical terms. However, they can provide important clues for designing effective community health activities.

² Only rarely will the interviewer meet with a mother whose child died from pneumonia. In such a situation the interviewer interviews the mother with sensitivity and pursues questioning only as far as appropriate.

possible about each item listed in the “List of Topics” (See Appendix B for the List of Topics)

Keep in mind that a narrative is a mother’s memory of an event that occurred in the past. Therefore, the narrative may not be completely accurate about what actually happened. The ability of a mother to remember what actually happened will depend on how long ago her child had pneumonia. Some experts suggest that the recall period be no more than 9-12 months, with the ideal recall period four months or less ³

Preparation Process

1 Identify Mothers to Interview

First, identify children in the project area with a suspected case pneumonia within the last six months. This will include children who had rapid breathing or difficult breathing (due to a problem in the chest). Select the most recent cases for interviews to improve mothers’ ability to recall the events surrounding the illness. Ideally, most interviews will be about children who had pneumonia within the last three months.

On the next page is a matrix of suggested sources of information to help you identify children with a suspected case of pneumonia. The matrix gives the criteria for selecting each source, and lists the advantages and disadvantages of each source.

Select a sample of mothers to interview from *groups of interest*

- If you are identifying mothers of children with “suspected” pneumonia from a recent KPC Survey, purposively select a sample of mothers who report seeking medical treatment for their child with suspected pneumonia and select a sample of mothers who report that they did not seek medical treatment for their child. These will be the two most useful groups of mothers to compare beliefs and practices.
- If you are identifying mothers from sources other than the KPC survey, purposively select a sample of mothers of children from each of the major cultural/language groups in the project area (groups that represent at least 20% of the beneficiary population of the project) to interview. Since most childhood pneumonia deaths occur in infants, try to identify mothers whose child was an infant when ill. Use the following guidance: For each culture/language group, identify seven to eight mothers whose infant was 2-11 months of age when ill and identify two to three mothers whose infant was less than two months of age when ill. This will provide insight about whether pneumonia management practices differ by cultural/language group.
- If there is only one predominant cultural/language group, purposively select a sample of two groups of mothers to compare according to other factors that one would expect to influence pneumonia care practices such as high or low access to health facilities (usually a function of distance) or urban versus rural mothers.

³ Gray RH, Smith G, Barss P. The Use of Verbal Autopsy Methods to Determine Selected Causes of Death in Children (Occasional Paper No. 10). Baltimore: Institute for International Programs, The Johns Hopkins University, 1990a.

Matrix sources/criteria for identifying children with presumptive pneumonia

Source	Criteria for Use	Advantages	Disadvantages
Rapid KPC Survey, ALRI section children with <i>fast and difficult breathing</i> in the two weeks prior to the survey	Use the KPC survey if it was carried out within the last three months and included the standard ALRI questions	Population based, cross sectional source of information, KPC data already available to most projects	Can not be sure that the children, identified in the survey as having <i>fast and difficult breathing</i> , actually had pneumonia
Vital events registry Listing of children who died from pneumonia	Use if a vital events registry process is functioning, and it includes verbal autopsy for identifying pneumonia deaths	Pneumonia deaths are the most important targets for change in the health system	May fail to detect the most common patterns (norms) of pneumonia care because many children with pneumonia do not die
Health facility records or logbook Children diagnosed as having pneumonia	Use if the health facility has persons trained in pneumonia case management, and has functioning health information system that records diagnosis of children treated at the facility	Children identified with presumptive cases of pneumonia are more likely to have had pneumonia than children identified with the KPC survey or by key informants	Not a population-based source of information - may fail to detect patterns of pneumonia care of mothers who do not come to facilities
Key informants (community health workers, village health committee members) children with recent episodes of fast breathing <i>or</i> difficult breathing due to a problem in the chest rather than because of a blocked nose	Use if none of the above sources are available	Can be used by any project	May fail to detect true cases of pneumonia or fast and difficult breathing, informants may identify children with non-ARI illnesses

2 Interviewer Selection, Training and Supervision

Interviewers should have the following qualifications (a) literate, (b) familiar with local language, customs and beliefs, (c) able to relate well with people and acceptable to the community, and, (d) experienced in community health or development. Experience with community surveys, especially with qualitative methods also is preferred. Clinical training is not required. Female interviewers also are preferred because they will be asking mothers sensitive questions and should interview mothers in private. In many cultures, family members are less likely to resist a private interview if the interviewer is a female.

Training of interviewers should be highly participatory after a brief orientation. Interviewers should be involved in adapting the interview forms because they have knowledge of local language, customs and beliefs. Interviewers should practice interviewing with each other and receive feedback from a supervisor. Next, interviewers practice interviewing with mothers in the project area and receive additional feedback from a supervisor. These "practice interview" mothers should not be the same as any of those mothers who will be interviewed for pneumonia case narratives.

Supervisors should be project staff or counterparts who are familiar with the interview process and involved in adapting the interview forms. Supervisors should observe interviewers during practice interviews and during at least one interview each day of interviewing.

3 Adapt Interview Form

If it will help the interviewers, translate the interview forms into the local language. Back translate to the original language of the form (English usually) as a quality check of the translation. (See Appendix A for an example of the Interview Form.)

Interview Process

1 Interview Location

Select an appropriate time and location for the interview. Ask the mother where she feels comfortable doing the interview. Ask if conducting the interview at her house is appropriate.

Usually, the interviewer carries out the interview at the home of the mother. The interviewer should interview the person who cared for the child most during the illness, this person will most often be the mother. Participation of other family members may inhibit the mother's response. Therefore, the interviewer should ask to speak with the mother in private, if possible. The mother can consult with family members if she needs to clarify any issues.

2 Informed Consent

The interviewer first provides his or her name and organization. Then, he or she informs the mother about the purpose of the interview. The purpose is to learn more about childhood illnesses in the project area so that the PVO can help mothers to prevent illnesses and, especially, help the community improve the care that children receive when ill. The interviewer should also inform the mother about the length of the interview and that she may refuse to answer questions anytime. Additionally, the interviewer should assure the mother that no bad consequences will result if the mother decides not to participate (for example, no health services will be withheld if she refuses).

3 Complete the Identification and Illness Term Block

Refer to the identification block of the interview form

- Ask the mother her name and her child's name, sex and age
- Indicate the what group the mother represents such as a mother who sought or did not seek medical treatment, her language/cultural group, whether she lives near or far from a health facility, or whether she lives in an urban or rural area
- Ask the mother how long ago the child was ill (probe for the number of months before the interview)
- Ask the mother the name of the illness the child had and what she believes is the cause of the illness Record the mothers' responses in the identification block of the interview form (Use the mother's term for the illness name and its cause)

4 Ask the Initial Question and Take Notes

After completing the identifying information in step 3 above, the interviewer begins with the initial open-ended question

"As I explained before, I am trying to learn more about the illnesses of babies and young children here in _____ (give the name of mother's community), especially about serious illnesses like _____ (give the illness term provided by the mother in step 3 above) "

"What happened to your daughter (son) when ill?"

The interviewer takes notes on the interview form as the mother talks

5 Identify Missing Information⁴

After the mother finishes answering the initial question, the interviewer reviews the List of Topics to identify important information that the mother did not mention when answering the initial question Also, the interviewer identifies items that the mother did not discuss in sufficient detail (See Appendix B for the List of Topics)

⁴ The interview process for eliciting a narrative of an ARI illness is open-ended and exploratory The interviewer has a clear goal in mind as to information he or she wants to collect, the goal is to elicit information on each item listed in the List of Topics (Appendix B) However the way the interviewer obtains the information is flexible and requires a good deal of probing This means following what the mother has said with more specific questions to get more detail about what happened

6 Ask Additional Probing Questions⁵

The interviewer asks the mother questions about missing information by asking for more examples and more detailed descriptions of what happened or what the mother did. These questions are called “probing questions.” For example, the interviewer should ask whether the child experienced any other signs and symptoms besides the ones the mother described. “*Did your daughter show any other signs or symptoms when she was ill with _____ (give the mother’s name for the illness)?*”

When taking notes, the interviewer should be careful to write down words and phrases that give insight into the mother’s perceptions and ideas. Probe further by asking for definitions or examples of what the mothers says. For example, ask, “What do you mean by _____?” or “You said _____, can you give some examples?”

Note that open-ended interviews should be conversational in tone, friendly and two-way rather than authoritarian. Ideally, the mother being interviewed will talk most of the time with the interviewer talking only enough to ask clear, concise probing questions.

The interviewer should avoid moving onto new topics before obtaining detailed descriptions of previous topics. This is a key principle of open-ended interviewing. Also, the interviewer should avoid statements or expressions that are judgemental of a mother’s beliefs or practices. For example, do not tell a mother that she is wrong. And, do not teach or correct a mother’s misunderstanding as this “judges” a mother’s current belief. The interviewer’s role is simply to collect information.

7 Ask about Fast or Difficult Breathing

It is very important to decide whether the child had fast and/or difficult breathing when ill. Also, identifying the sequence of care-seeking after the child shows fast and/or difficult breathing is important. The interviewers should probe about the following:

- whether or not these signs occurred, and if yes,
- the exact day of illness when the signs appeared,

8 Transfer Information from Interview Notes to the Individual Recording Form

Immediately after the interview, the interviewer refers to notes taken during the interview and completes the “Individual Pneumonia Case Recording Form” (see Appendix C)⁶. The interviewer needs to calculate the “day of onset of fast or difficult breathing” and the “day of care-seeking”

⁵ Note for the additional ‘probing’ questions the interviewer can take notes on the original interview form or in the spaces provided on the List of Topics

⁶ Note Appendix C is a guide. Project staff can increase the size (number of rows) of the recording form if needed.

from a trained provider ” From this calculation, the interviewer will calculate the “days to care-seeking (DCS) ”⁷

Draw Conclusions

1 Complete Pneumonia Narratives Summaries

When interviewers have completed all the individual pneumonia case recording forms, project staff should complete a “Pneumonia Narratives Summary” form for each Mothers’ Group studied (see Appendix D)⁸

For example, if the project interviewed two groups of mothers, those who sought medical treatment and those who did not seek medical treatment, the project staff should complete two Pneumonia Narratives Summaries. However, if the project interviewed a sample of mothers from three language/cultural groups then project staff should complete three summary forms. The information on each summary form is based on the information on the individual pneumonia case recording forms from a single group of mothers.

2 Draw Conclusions

Project staff refer to the “Pneumonia Narratives Summary” forms to draw the following conclusions

- Do mothers have a word for fast or difficult breathing due to a problem in the chest? If so, is

⁷ Note: When counting the number of days from the first appearance of fast or difficult breathing to the day care was sought from a trained health worker, be consistent in the method of counting days. To count days, include the day on which symptoms are first noticed. For example, for those cases where care was never sought from a trained health provider, write “never” in the blank. If fast breathing was first noticed on day four of the illness and care was sought on day six, then this means that care was sought on the third day of fast breathing. That is, there were three days from the onset of fast breathing to care-seeking from a trained provider. Example:

<u>Illness Day</u>	<u>Child Symptom</u>	<u>Caretaker’s Action</u>
1	Child began coughing	Give herbal tea
2	Child coughing	Give herbal tea
3	Child coughing	Give herbal tea
4*	Breathing difficult	Rub oil on chest
5	Breathing difficult	Take child to traditional healer
6**	Breathing difficult	Take child to trained health worker
	* Onset of Fast and/or Difficult Breathing	Day 4 of the illness
	** Care seeking from a trained provider	Day 6 of the illness
→ Days to care-seeking (DCS) = Day 4 + Day 5 + Day 6 = 3 days		

⁸ Note: Appendix D is a guide. Project staff can increase the size (number of rows) of the Pneumonia Narratives Summary form, if needed.

this word different from the word mothers use to describe difficulty breathing due to a blocked nose? If so, what are these terms? Do these terms differ by mothers' group?

- What are common home treatments (remedies, antibiotics or other drugs) for pneumonia (fast or difficult breathing)?
- What do mothers believe causes pneumonia?
- Do mothers consider fast or difficult breathing to be an indication to seek medical care? What other signs do mothers consider seriously and seek care for?
- From whom do mothers seek treatment for their child with fast or difficult breathing?
- Who decides when sick children need treatment outside the home?
- Are there different treatments/practices for children of different language/cultural groups?
- Are there different treatments/practices for males and females?
- Do mothers seek care promptly for fast and difficult breathing (on the same day as onset)?
- Who are the first persons mothers seek advice/treatment from outside the home for a child with pneumonia?
- Which providers are mothers satisfied with? Which providers are mothers not satisfied with?
- For those children prescribed antibiotics, do mothers comply with treatment instructions (finish giving all the medicine)?
- What are families paying for care for their child's pneumonia?

References

Brown, L Identifying Causes of Death in the Community. The "Verbal Autopsy" Approach. *PVO Child Survival Technical Report* Baltimore, 1989, 1 (1) 3-6

Gray, RH et al The Use of Verbal Autopsy Methods to Determine Selected Causes of Death in Children (Occasional Paper No 10) Baltimore Institute for International Programs, The Johns Hopkins University, 1990a

World Health Organization Focused Ethnographic Study of Acute Respiratory Infections Programme for the Control of Acute Respiratory Infections Geneva, Draft of March 1993

Appendix A
Interview Form Narrative of a Pneumonia Case

Mother's Name _____	Mother's Group _____
Child's Name _____	Child's Sex _____
How long ago was the suspected pneumonia (months) ____	Child's Age (months) ____
Name given by the mother for suspected pneumonia illness _____	
Cause given by the mother for suspected pneumonia illness _____	

Begin the interview with this initial open-ended question

“As I explained before, I’m trying to understand more about the illness of babies and young children here in (community), especially about serious illnesses like _____ (give the illness term provided by the mother)

“What happened to your daughter (son) when ill?”

Take notes below and on the back of this page (use other pages as needed) as the mother talks for narrative of mother

Appendix B
List of Topics for Eliciting Narrative of Pneumonia Case

- 1 Mother's term for the suspected pneumonia illness
- 2 Mother's explanation for the cause of the suspected pneumonia illness
- 3 Mother's term for each sign/symptom the child had during the suspected pneumonia illness

(Remember to determine if the child had either fast breathing or difficult breathing
If a mother says her child had a breathing problem, determine whether the problem
was due to a blocked nose or a problem in the child's chest)
- 4 For each sign/symptom that the mother mentions, determine
 - (a) the exact day of illness that the sign/symptom appeared
 - (b) home care for the sign/symptom, including use of antibiotics and home remedies
- 5 If the family sought advice/care for the child outside the home
 - (a) What were the signs/symptoms that caused the family to seek advice/treatment outside the home?
 - (b) Who made the decision to see the first health care provider?
- 6 For all providers outside the home who provided care for the child
 - (a) Who was the first provider seen? The second? The third? The fourth? etc
 - (b) What was the exact day of illness that advice/care was sought from each provider?
 - (c) What treatments did each provider give the child?
 - (d) What was the level of satisfaction with care of each provider?
- 7 If antibiotic/medicine was prescribed for the child, did the mother finish giving all the medicine to her child? (*"Is there any of this medicine left? Can I see the container?"*)
- 8 Did the family have to pay any money for care of their child (transport costs, fee for service or drugs)?
- 9 Were there any other constraints to care-seeking?

Appendix C
Recording Form Individual Pneumonia Case

Following each interview with a mother, transcribe the notes taken in the interview to this form

Mother's Name _____	Mother's Group _____
Child's Name _____	Child's Sex _____
How long ago was the suspected pneumonia illness (months) ____	Child's Age (months) ____
Name given by the mother for suspected pneumonia illness _____	
Cause given by the mother for suspected pneumonia illness _____	

1 Sequence of events by symptom

List each symptom the mother mentioned in the order that she noticed the symptom in her child. For each symptom, identify the day of illness that the symptom appeared, what actions the mother took and/or treatments the child was given

Sign/Symptom	Day	Caretaker Actions and Treatments given

2 Decisions to seek care.

If the family sought care outside the home, write the symptoms that caused the family to seek advice/treatment and who in the family made the decision to seek care outside the home

Symptoms that caused family to seek care _____

Who made decision to seek care _____

232

Appendix C
Recording Form Individual Pnuemonia Case - Page 2

3 Provider information.

List each of the providers the family went to for advice/treatment List the providers in the order that the family followed in seeking care and specify the day of illness on which the family saw each provider List the advice or treatments that each provider gave the child and the mother's level of satisfaction with care her child received from each provider

Providers in order of care-seeking	Day of Illness	Advice or Treatments Given	Satisfaction with Provider
1st			
2nd			
3rd			
4th			

For children with rapid and/or difficult breathing, what were the number of days from onset of rapid and/or difficult breathing to care-seeking from a **trained** provider _____

Was an antibiotic prescribed for the child? Yes [] No []

If so, did the mother/caretaker finish giving all the medicine? Yes [] No []

Comments _____

Any money needed for care? _____

Other constraints to care-seeking _____

Appendix D
Summary Pneumonia Case Narratives - Page 2

For Mother Group _____

Summary of Responses	No of mothers reporting	Comments	
Signs/symptoms causing family to seek advice/care			
Persons deciding to seek care			
Providers		Number of these mothers who are satisfied with the provider	
Days to seek care from trained provider after onset of fast or difficult breathing		Number that are Male	Number that are Female
1			
2			
3			
4+			
Never			

235

Appendix D
Summary Pneumonia Case Narratives - Page 3

For Mother Group _____

Summary of Responses	No. of mothers reporting	Comments
Treatments		
Antibiotic Given/Finished		
Yes, gave and finished it		
Yes, gave but did not finish it		
No, did not give antibiotic		
Money needed for care		
Yes		
No		
Constraints to care seeking		

236



Pneumonia Care Assessment Tool: Community Terms and Beliefs about Pneumonia Care

Third Edition
April 1998

Notice: Persons with questions concerning this assessment tool, or persons needing assistance adapting the enclosed forms and instructions should contact Mr Bill Weiss, Research Associate, Department of International Health, The Johns Hopkins University School of Public Health, 615 N Wolfe Street, Baltimore, Maryland, 21205, Email <bweiss@jhu.edu>

Pneumonia Care Assessment Tool
Community Terms and Beliefs about Pneumonia Care

Table of Contents

	<u>Page No.</u>
Purpose	1
Definitions	1
Approach	1
Preparation Process	2
1 Identify Mothers to Interview	2
2 Management and Supervision	2
3 Interviewer Selection	2
4 Training of Supervisors and Interviewers	2
Interview Process	4
1 Informed consent	4
2 Identifying information	4
3 Ask Question 1	4
4 Ask Question 2	5
5 Decide Whether to Ask Question 3	5
6 Ask Question 3	6
7 Transfer Information from Interview Form to Individual Interview Summary Sheet	6
Draw Conclusions	6
1 Summarize the findings of the Individual Interview Summary sheets	6
2 Draw Conclusions	6
References	7
 <u>Appendices</u>	
A Interview Form	
Blank form Interview form Questions 1 and 2	9
Blank form Interview form Question 3	10
Example Interview form Questions 1 and 2	11
Example Interview form Question 3	12
B Summary of Individual Interview	
Blank form	13
Example	14
C Summary of Interviews for One Cultural/Language Group	
Blank form Summary of Interviews Illness/Signs and Symptoms	15
Blank form Summary of Interviews Treatments and Providers	16
Example Summary of Interviews Illness/Signs and Symptoms	17
Example Summary of Interviews Treatments and Providers	18
D Use of Video to Identify Terms and Beliefs An Alternative Developed by WHO	19

Pneumonia Care Assessment Tool

Community Terms and Beliefs about Pneumonia Care

Purpose

There are three purposes for this assessment tool. The primary purpose of this tool is to identify the terms used by mothers in the project area to describe childhood pneumonia and its signs and symptoms. The second is to identify what mothers believe are the appropriate home treatments for care of a child with suspected pneumonia. The third is to identify the health providers that mothers believe can provide advice/treatment for a child with suspected pneumonia, when home treatments do not take care of the problem.

The findings of this assessment tool will provide Child Survival project staff and their partners in the ministry of health (MOH) and the community with information useful for managing pneumonia care interventions. For example, knowing the terms that mothers in the project area use to describe pneumonia signs and symptoms will help project staff develop pneumonia care messages that mothers can easily understand.

Definitions

One way of classifying acute respiratory infections (ARI), is by location of the infection. Upper respiratory infections (AURI) include infections of the nose, throat, and middle ear. Lower respiratory infections (ALRI) include infections of the epiglottis, larynx, trachea, bronchi, bronchioles and lung. The focus of this tool is pneumonia. Pneumonia is an acute lower respiratory infection of the lung.

According to the WHO protocol for the case management of ARI, the following signs or symptoms indicate pneumonia:

- Fast breathing,
- Chest indrawing (subcostal)

Approach

The approach of this assessment tool is to interview mothers in the project area with children less than two years of age¹. The interview style is semi-structured. The interviewer will have an interview form with a list of questions that need to be answered. (See Appendix A) However, the order in which the interviewer chooses to ask these questions can vary from interview to interview. Also, the interviewer can choose to follow leads and new topics that arise during an interview. For example, the interviewer chooses the appropriate time to probe the mother about the specific word(s) she uses to describe pneumonia.

Note It is important for interviewers to remember that the focus of questioning and probing during the interview is on pneumonia, in an attempt to identify the specific terms and beliefs of the mother regarding pneumonia and pneumonia care.

¹ Projects with access to video may want to consider using or adapting the WHO manual, *Procedures for local adaptation of ARI home care advice*. This document suggests ways to use video to help identify mothers' terms and beliefs about pneumonia care. See Appendix D for more information.

Preparation Process

1 Identify Mothers to Interview

To make a complete assessment, experts recommend that projects interview ten mothers from each of the language\cultural groups in the project area. For example, if there are three language groups in a project area, experts recommend that a project interview at least 30 mothers, ten from each group.

Select an appropriate time and location for the interviews. Often, interviewers can locate mothers in a public area, such as a market, who are willing to participate in a short interview.

2 Management and Supervision

Identify a process to supervise the quality of the interviews. CSSP recommends that one person from the PVO should be the responsible person for the assessment, acting as the Assessment Coordinator. Designate either PVO staff or counterparts to be interviewers. Also, identify either PVO staff or counterparts to act as supervisors.

Assign supervisors to observe interviewers during practice interviews and during at least one interview each day during the period when actual interviews are being done.

3 Interviewer Selection

Interviews should be (a) literate, (b) fluent in the local language that mothers being interviewed speak, and, (c) experienced in community health or development. Experience with community surveys, especially qualitative methods is preferred. Clinical training is not required.

4 Training of Supervisors and Interviewers

The assessment coordinator should review forms and instructions first with supervisors and adapt forms to meet local needs as necessary. Next, the assessment coordinator and supervisors should review the Interview Form with the interviewers. (See Appendix A for an example of the interview form). Provide each interviewer an opportunity to practice interviewing with other interviewers and with mothers in the project area. Each supervisor should observe several practice interviews, review completed interview forms and provide feedback to the interviewers.

240

The following is a list of topics to be covered during the training of interviewers

(a) Role of the Interviewer The role of the interviewer to collect information ask questions, probe for more information when necessary, and record responses An interview is not the time to explain health information or make judgements on respondents' answers

(b) Method of Asking Questions The purpose of asking questions is to identify the following (1) the local terms for pneumonia, fast breathing, difficult breathing and/or chest indrawing, (2) the local beliefs about what treatments a child with "suspected pneumonia" should receive, and (3) the local beliefs about who mothers should seek advice or treatment from when their child has "suspected pneumonia" The method an interviewer uses to identify this information is to first ask a mother a general, open-ended question and take notes as the mother responds (See Question 1 on the interview form, Appendix A) Then, the interviewer asks probing questions to understand the mother's responses in more detail and to ask about things the mother did not mention earlier

(c) The importance of probing The interviewer should ask about topics a mother did not mention when answering the initial question For example, if the mother did not mention any respiratory illness, the interviewer should ask whether the child experienced any other illnesses besides the ones the mother described earlier *"Do children here suffer from any other illnesses?"* Also, the interviewer may need to probe for more detail on topics the mother has already mentioned

To probe, the interviewer asks for more examples and more detailed descriptions of what happened or what the mother did Probe further by asking for definitions or examples of what a mother says For example, ask, *"You said _____, what do you mean by that?"* or *"You said _____, can you give some examples?"* *"Is there anyone else a mother should see?"* or *"Is there anything else a mother should do?"*

(d) Recording Responses When taking notes, an interviewer should be careful to write down words and phrases that give insight into a mother's perceptions and ideas An interviewer can record a mother's responses on the interview forms, in a notebook or both Decide ahead of time how each interviewer will record a mother's responses Give each interviewer a notebook and clipboard, if necessary

Note

At the beginning of an interview, the interviewer should tell the mother that he or she will take notes to record the important information that the mother will provide Ask the mother if she feels comfortable with this If the mother is not comfortable with note taking, the interviewer should not interview the mother and project staff should not count this mother as one of the ten interviews needed

Interview Process

1 *Informed consent*

The interviewer gives the mother his or her name and organization. He or she informs the mother that the purpose of the interview is to learn more about childhood illnesses in the project area. Learning more about illness will enable the PVO to help mothers to prevent illnesses and improve the care children receive when they are ill. The interviewer should also inform the mother about the length of the interview and tell her that she may refuse or stop the interview anytime.

2 *Identifying information*

Refer to the identification block of the Interview Form (Appendix A). Ask the mother her name and her language/cultural group. Write the name of the mother's community on the form.

3 *Ask Question 1*

The purpose of Question 1 is to identify what mothers believe are the common illnesses in her community. The interviewer begins with this initial open-ended question:

"As I explained before I am trying to understand more about the illnesses of babies and young children in the community. Can you tell me the names of all the different illnesses that babies and children in your community suffer from?"

When the mother finishes answering the initial question, the interviewer asks the following probing question:

"Do children here suffer from any other illnesses?"

The interviewer writes the mother's responses in Column One (Question 1) of the interview form (see Appendix A, page one). The interviewer also records the mother's responses to the probing question on the interview form.

4 *Ask Question 2*

The purpose of the second question is identifying the signs and symptoms of each illness the mother mentioned in response to the first question. The goal of this question is for interviewers to identify any local terms for pneumonia, fast breathing, difficult breathing and/or chest indrawing.

The interviewer asks Question 2 (below) after the mother has finished answering the probing question following Question 1. For each illness the mother mentioned in response to Question 1, the interviewer asks:

"What happens when a child has _____ (give the local term provided by the mother for each illness term)?"

At this point in the interview, the interviewer should attempt to find terms for fast breathing, difficult breathing, and chest indrawing²

The interviewer should probe for more information by *asking the mother to describe or act out a sign or symptom* she mentions in response to Question 2 using the following types of questions

“You said _____, what do you mean by this?” or “You said _____ can you show me what this means?”

The interviewer should write the mother’s responses in Column Two (Question 2) of the interview form (See Appendix A, page one)

5 Decide Whether to Ask Question 3

The purpose of Question 3 is to identify local beliefs about (a) what treatments a child with “suspected pneumonia” should receive and (b) who mothers should seek advice or treatment from when their child has “suspected pneumonia ”

The interviewer will decide whether to ask Question 3 after the mother has described the signs and symptoms of each illness she believes children in her community suffer from The interviewer will ask the mother Question 3 if the mother responded to Questions 1 and 2 with an illness that is “suspected pneumonia ” “Suspected pneumonia” means an illness with one or more of the following three symptoms fast breathing, difficult breathing, or chest indrawing

The interviewer should use the following process to make the decision

- (1) Look over the responses to questions 1 and 2 that the interviewer wrote on page one of the interview form (see Appendix A),
- (2) Review the signs or symptoms of each illness the mother mentioned earlier and place a check mark next to any illness that the mother said had fast breathing, difficult breathing due to a problem in the chest, or chest indrawing as sign or symptom,
- (3) Ask the mother Question 3 for any illness with fast breathing, difficult breathing or chest indrawing as sign/symptom of that illness,
- (4) If, however, the mother did not mention fast or difficult breathing or chest indrawing as sign/symptom of an illness, thank the mother for her cooperation and end the interview,

² Often, the term a mother uses to describe an illness is the term that describes a sign or symptom of the illness For example a mother might respond with ‘ a runny nose ’ when an interviewer asks her about common childhood illnesses in the community Also, “diarrhea” might be a term for an illness and a symptom of a different illness Therefore, an interviewer should ask a mother about the signs or symptoms of every illness the mother identified earlier An interviewer should do this even if the mother’s term for an illness is a term for the sign or symptom of that illness

6 Ask Question 3

For each illness the interviewer determines in step 5 above to be “suspected pneumonia,” he or she asks the following question

“What should a mother do when her child has _____ (give the local term provided by the mother for each pneumonia related illness)?”

Probe *“Is there anyone else a mother should see?” or “Is there anything else a mother should do?” or “You said _____, what do you mean by this?”*

The interviewer should write the mother’s responses to Question 3 and probing questions on the second page of the interview form (see Appendix A)

7 Transfer Information from Interview Form to Individual Interview Summary Sheet

Immediately after the interview, the interviewer refers to notes taken during the interview and completes the “Summary Individual Interview” form with information about each illness that is “suspected pneumonia” (See Appendix B for an example of the Individual Interview summary form)

Draw Conclusions

1 Summarize the findings of the Individual Interview Summary sheets

After the interviews have been completed, the PVO staff members who conducted the interviews should meet with the Assessment Coordinator to tabulate the interview findings. Complete the form, “Summary Community Terms and Beliefs about Pneumonia Care,” by referring to the Individual Interview summary forms (See appendices B and C)

2 Draw Conclusions

Use the summary sheets and recording forms to answer the questions below

Did the interview teams identify local terms for “suspect pneumonia”?

If so, what are the local terms used by each language/cultural group to describe pneumonia?

What are the local terms, if any, for fast breathing, difficult breathing (due to a problem in the chest rather than a blocked nose) and chest indrawing?

What do mothers of each language/cultural group believe are proper home treatments for pneumonia in children?

Who do mothers of each language/cultural group believe are appropriate providers to treat pneumonia in children?

References

Gittlesohn, Sillah, Sanneh Ethnographic Study of Acute Respiratory Infections in the Gambia
Department of International Health, Johns Hopkins School of Public Health in Cooperation with
the United Nations Children's Fund and the Acute Respiratory Infections Control Programs of
Bolivia, Thailand, and The Gambia 1991

World Health Organization, Division of Child Health and Division (WHO/CHD) Focused
Ethnographic Study of Acute Respiratory Infections Programme for the Control of Acute
Respiratory Infections Geneva, Draft of March 1993

World Health Organization, Division of Child Health and Division (WHO/CHD) Procedures for
Local Adaptation of ARI Home Care Advice (LAP) Geneva, 1996

Appendix A
Interview Form Community Terms and Beliefs about Pneumonia Care Question 3

Mother's Name Mother's Address Mother's Language/Culture
--

LOCAL ILLNESS TERM	WHAT SHOULD BE DONE HOME TREATMENTS AND PROVIDERS Ask Question Three and take notes below <i>“What should a mother do when her child has _____ (give the local term provided by the mother for each suspected pneumonia illness)?”</i>

247

Appendix A EXAMPLE

Interview Form Community Terms and Beliefs about Pneumonia Care Questions 1 and 2

Mother's Name Fatima Sene
 Mother's Address Village Mbour
 Mother's Language/Culture Pular

<p>LOCAL ILLNESS TERM</p> <p>Ask Question One and take notes below <i>"As I explained before I am trying to understand more about the illnesses of babies and young children in the community, could you tell me the names of all the different illness that babies and children become ill with in your community?"</i></p>	<p>LOCAL SIGNS AND SYMPTOMS TERMS</p> <p>Ask Question Two and take notes below <i>"What happens when a child has _____ (give the local term provided by the mother for each illness term)?"</i></p>	<p>Chest ndraw?</p>	<p>Fast Breath?</p>	<p>Difficult Breathing due to a problem in the chest?</p>
Kono Bayo	banduwula, tuta, meyambola			
Kiri kiro	puteh			
Toto ba	dojugol, bernesesh suka, fofugol yawah	x	x	
Rap	bubol, lamı dano, wahha			
Sisi domingo	dojugol, beche musa, fofugol yula, tuta dilla beche	x		

21

Appendix A EXAMPLE
Interview Form Community Terms and Beliefs about Pneumonia Care Question 3

Mother's Name Fatima Sene
 Mother's Address Village Mbour
 Mother's Language/Culture Pular

LOCAL ILLNESS TERM	WHAT SHOULD BE DONE HOME TREATMENTS AND PROVIDERS Ask Question Three and take notes below <i>"What should one do when a child has _____ (give the local term provided by the mother for each suspected pneumonia illness)?"</i>
Toto ba	<p>One can give the child some mint tea to calm his breathing, better right before bed</p> <p>If he has a lot of chest pain then you can also give him hot cloths on chest, not too hot to burn him, but to make him breath more slowly</p> <p>The vapor with gola herb is very strong so we never give this unless the healer recommends it and if the medicine from the local doctor has not worked</p>
Sisi domingo	<p>The best way to cure Sisi domingo is with a pinch of rum before bed</p> <p>People give mint tea often, but it is not very strong</p> <p>Hot cloths on chest are always given if the child has trouble breathing to let the bad spirits out of the chest</p>

249

Appendix B

Summary of Individual Interview Community Terms and Beliefs about Pneumonia Care

Language/Culture		Name of mother					
Local Illness Term	Approximate Biomedical Translation	Local Signs/Symptoms Terms	Approximate Biomedical Translation	Local Treatment Practices	Approximate Translation	Local Providers Sought	Approximate Translation

250

Appendix B EXAMPLE
Summary of Individual Interview Community Terms and Beliefs about Pneumonia Care

Language/Culture Pular Name of interviewee

Local Illness Term	Approximate Biomedical Translation	Local Signs/Symptoms Terms	Approximate Biomedical Translation	Local Treatment Practices	Approximate Translation	Local Providers Sought	Approximate Translation
Toto ba	Pneumonia	dojugol bernedesh suka fofugol yawah	cough, blocked chest fast breathing	fora tuti yapo chu sur suka reche wayti gola	mint tea hot clothes on chest vapor with gola herb	Dr Salamar Physician Health Center Isakka Diallo Malaygo	Dr Salamar, Physician at Health Center Isakka Diallo Traditional Healer
Sisi domingo	Bronchitis	dojugol beche musa fofugol yula tuta dilla beche	cough, sore throat, slow breathing in chest, upper back pain	lolo "ron" chika yawa fora tuti yapo chu sur suka	pinch of rum before bed mint tea hot cloth on chest	Mari Ba Foratula	Mari Ba, Herbalist

251

Appendix C

Summary of Interviews Community Terms and Beliefs about Pneumonia Care

For Language/Culture _____

Total Number of Mothers Interviewed for this Language/Culture _____

LOCAL ILLNESS TERM (include English equivalent)	# mothers reporting illness/ total mothers responding	LOCAL SIGNS/SYMPTOMS TERMS (include English equivalent)	# signs/ mothers reporting illness

252

Appendix C
Summary of Interviews Community Terms and Beliefs about Pneumonia Care

For Language/Culture _____

Total Number of Mothers Interviewed for this Language/Culture _____

LOCAL ILLNESS TERM	LOCAL TREATMENT PRACTICES (include English equivalent)	# treatments/ mothers reporting illness	LOCAL PROVIDERS SOUGHT (include English equivalent)	# providers/ mothers reporting illness

253

Appendix C EXAMPLE
Summary of Interviews Community Terms and Beliefs about Pneumonia Care

For Language/Culture Pular

Total Number of Mothers Interviewed for this Language/Culture 10

LOCAL ILLNESS TERM (include English equivalent)	# mothers reporting illness/ total mothers responding	LOCAL SIGNS/SYMPTOMS TERMS (include English equivalent)	# signs/ mothers reporting illness
Toto ba (pneumonia)	8/10	dojugol (cough) bernedesh suka (blocked chest) fofugol yawah (fast breathing)	8/8 4/8 7/8
Sisi domingo (bronchitis)	4/10	dojugol (cough) beche musa (sore throat) fofugol yula (slow breathing in chest) tuta dilla beche (upper back pain)	4/4 3/4 3/4 2/4

254

Appendix C EXAMPLE
Summary of Interviews Community Terms and Beliefs about Pneumonia Care

For Language/Culture Pular

Total Number of Mothers Interviewed for this Language/Culture 10

LOCAL ILLNESS TERM	LOCAL TREATMENT PRACTICES (include English equivalent)	# treatments/ mothers reporting illness	LOCAL PROVIDERS SOUGHT (include English equivalent)	# providers/ mothers reporting illness
Toto ba	mint tea (fora tuti)	7/8	-Dr Salamar Physician at Health Center	7/8
	hot clothes on chest (yapo chu sur suka)	5/8	-Isakka Diallo Traditional Healer	4/8
	vapor of gola herb (reche wayti gola)	3/8	-Mari Ba Herbalist	2/8
Sisi domingo	pinch of rum before bed (lolo "ron" chika yawa)	3/4	Mari Ba, Herbalist	3/4
	mint tea (fora tuti)	3/4	Samu Toure Community Health Worker	2/4
	hot cloth on chest (yapo chu sur suka)	2/4		

255

Appendix D

Use of Video to Identify Terms and Beliefs about Pneumonia Care

1 WHO/CHD Manual, *Procedures for local adaptation of ARI home care advise*

WHO developed this manual to identify the words and illness concepts that families use with reference to pneumonia, and the home care practices they use to treat these problems. The manual is designed for managers of national ARI programs and other staff who are involved in planning program activities. It is also designed for communication and health education specialists who will be involved in implementation of activities.

2 Procedures described in the manual

Phase I Interviewing mothers with the aid of a videotape of children with ARI signs and symptoms, in order to obtain a list of local words and phrases for ARIs and local treatments for ARI.

Note An option if this specific videotape is not available, is to use the video developed for training health workers in *Case management of a child with cough or difficult breathing*, but with the sound/volume turned off. In the training video, there is film of children with different signs and symptoms pneumonia such as chest indrawing. Project staff can ask mothers for 'their' terms for these signs and symptoms and the term for the illness the child has.

Phase II Narrowing the list of terms for use in a focus group discussion.

Note *Phase I and Phase II* of the WHO manual are direct alternatives to this Pneumonia Care Assessment Tool *Community Terms and Beliefs about Pneumonia Care*.

Phase III Involves the use of a focus group to determine which terms are the most appropriate ones to use in the local area.

Note *Phase III* of the WHO manual is direct alternative to this Pneumonia Care Assessment Tool *Community Group Discussion about Pneumonia Care*. The *Group Discussion* tool is a follow-up to the *Community Terms and Beliefs* tool just as *Phase III* is a follow-up to *Phases I and II* of the WHO manual.

Phase IV Adapts the "Advise Mother to Give Home Care" box of the standard ARI case management chart based on local terms and local treatments and home care practices for ARI.

The total process takes about six days to complete.

3 Issues with Using Videotape in the Field

Projects should consider the issues surrounding the use of videotape in the field before deciding to use this alternative for identify community terms and beliefs about pneumonia care (instead of the tool, *Community Terms and Beliefs about Pneumonia Care*, which was designed not to require electricity or equipment)

An excerpt from the WHO manual regarding problems with videotape is provided below

“Problem. Difficult logistics

“Getting videotape running and making arrangements to show it to community respondents can be difficult and time-consuming. Some of the common problems are non-availability of equipment, incompatibility of equipment and videotape format, uncertain power supply, absence of a quiet setting where community respondents can view the videotape without interruption and difficulty in transporting community respondents to a place where the videotape can be viewed

“Possible strategies for dealing with the problems

- Lack of electricity one programme solved this problem by attaching an adaptor to the cigarette lighter in a small mini-van. They plugged the television and the video machine into the adaptor and conducted all the interviews inside the van. This way the video could be taken to the respondents instead of the respondents coming to the video
- Videos are a novelty in communities where videotapes are a novelty, you may need to have another videotape that you show to “the general public” so that people who are not chosen as respondents don’t feel left out
- Logistics anticipate logistic difficulties and take steps to organize the component of the project. Consider putting an assistant in charge

“Problem. Respondent’s attention to non-relevant factors

“In some communities, particularly in isolated rural areas, women will not be familiar with videotapes or with images of people who do not “look like” themselves. In several cultural settings community respondents commented that a dark skinned child must be very ill because the skin was so black, or that a fat baby was desperately sick because it was “all puffed up”

“Possible strategy for dealing with the problem

- The suggestion to tell community respondents to ignore skin colour reflects a reaction that has occurred in several field studies. In the pretest phase you may notice other common reactions, in which case you may want to save time by explaining certain features to community respondents before they watch the tape

“Problem. Viewer Boredom

“After an initial show of interest because the videotape represents a novel experience, some community respondents become bored and begin making comments and non-verbal gestures indicating their desire to terminate the activity

“Possible strategy for dealing with the problem

- If community respondents quickly answer the questions about each child (there are 15), you can fast forward the video to the next child. Another option would be to only show half the clips, or show the first half of the video to one respondent and the second half to another respondent. Remember, however, that this will reduce the number of new terms you get per respondent and you will have to interview more mothers.”

4 How to Order this Manual, Procedures for local adaptation of ARI home care advise

This manual is available from the World Health Organization, Division of Child Health and Development (CHD) (formerly Division of Diarrhoeal and Acute Respiratory Disease Control (CDR)) The web site for WHO/CHD is [http //cdrwww.who ch/default htm](http://cdrwww.who.ch/default.htm)

The web page [http //cdrwww who ch/pub/catalog htm](http://cdrwww.who.ch/pub/catalog.htm) represents the full list of currently available publications and other documents relating to the Integrated Management of Childhood Illness (IMCI), the former Division of Diarrhoeal and Acute Respiratory Disease Control (CDR), the former Programme for the Control of Diarrhoeal Diseases including Cholera (CDD) and the former Programme for the Control of Acute Respiratory Infections (ARI). It is by no means a complete list, and not all of the documents named are available for distribution. Any questions can be directed to CHD (see how to order below).

The web page [http //cdrwww who ch/pub/howto htm](http://cdrwww.who.ch/pub/howto.htm) provides information on how to order documents from CHD. An excerpt from this web page is provided below.

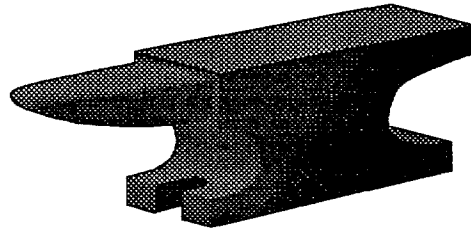
“ To order IMCI - CHD - CDD - ARI documents

Some documents in the list, which appear here for information purposes only, are used exclusively for training courses and are not made available to the general public. Please inquire first before ordering. Please indicate title, language, reference and quantity. Some fees may apply. Please send requests to

Division of Child Health and Development
World Health Organization
CH-1211 Geneva 27, Switzerland

Fax +41 (22) 791-4853
+41 (22) 791-0746

E-mail WESSELL@who.ch



Pneumonia Care Assessment Tool: Rapid ARI Case Management Survey

Third Edition
April 1998

Notice Persons with questions concerning this assessment tool, or persons needing assistance adapting the enclosed forms and instructions should contact Mr Bill Weiss, Research Associate, Department of International Health, The Johns Hopkins University School of Public Health, 615 N Wolfe Street, Baltimore, Maryland, 21205, Email <bweiss@jhu.edu>

**Pneumonia Care Assessment Tool
Rapid ARI Case Management (ARC) Survey**

<u>Table of Contents</u>	<u>Page No.</u>
Purpose	1
Objectives	1
Rationale	1
Approach	1
List of A R C Survey Activities	1
Materials Needed	2
Description of A R C Survey Activities	2
1 Arrange for the Survey	2
1 1 Select the sample of facilities to survey	2
1 2 Recruit survey teams	3
1 3 Scheduling and authorization	4
1 4 Train survey teams	4
2 Conduct A R C Survey	5
2 1 Transport survey teams to facilities	5
2 2 Introduce survey team to facility staff	6
2 3 Identify children with acute respiratory infection	6
2 4 Complete case management assessment	8
2 5 Review facility records	8
3 Supervise the Facility Survey	9
4 Provide Feedback to Facility Staff	9
4 1 Review forms and identify strengths and weaknesses	10
4 2 Provide feedback to facility staff	10
5 Draw Conclusions	11
5 1 Conclusions from observing ARI case management	11
5 2 Conclusions from health facility record reviews	12
 Appendix A Key Indicators and Definitions for the Rapid ARI Case Management Survey	
Appendix B Rapid ARI Case Management Survey Forms Child 2-59 Months of Age	
Appendix C Rapid ARI Case Management Survey Infant Less Than 2 Months of Age	
Appendix D Instructions for Completing Rapid ARI Case Management Survey Forms	
Appendix E Flowchart of Rapid ARI Case Management Survey Process	
Appendix F Review of Facility Records Form and Instructions	
Appendix G Rapid ARI Case Management Survey Tabulation Tables	

Pneumonia Care Assessment Tool Rapid ARI Case Management Survey

- Purpose** The purpose of the Rapid ARI Case Management (ARC) Survey is to quickly assess the quality of ARI case management in health facilities serving the beneficiary population of PVO Child Survival projects carrying out a “pneumonia case management” intervention
- Objectives** Determine the quality of case management that children presenting with cough or difficult breathing receive at health facilities
- Rationale** In recent years, PVO Child Survival projects have increasingly decided to include a “case management of pneumonia” intervention. This represents a current trend of PVOs shifting from primarily community-based interventions (ORT, EPI promotion, breastfeeding promotion and nutrition education) to including some facility-based interventions (management of pneumonia and obstetrical emergencies). This trend has led to renewed interest in improving quality of services in addition to improving coverage. USAID is encouraging PVOs to help facility staff provide quality services prior to the PVO increasing demand for those services from communities.
- PVO Child Survival project managers have requested help in assessing the quality of services they are supporting. (Most PVOs do not directly provide services but help train and supervise MOH workers and community health workers). Specifically, PVOs have requested help in assessing locally the quality of pneumonia case management. The expressed need is for a “management” tool for decision-making rather than a research tool. As is, the current WHO ARI Facility Survey appears too complicated and lengthy to meet the needs of most projects for a tool that allows immediate decision-making at low cost.
- Approach** The Rapid ARI Case Management (ARC) Survey is an adaptation of the WHO ARI Facility Survey and assesses the quality of case management with the following activities
- observing health workers manage cases of ARI, and,
 - reviewing facility records of treatment practices for children with ARI
- List of A R C. Survey Activities.**
- 1 Arrange for the Survey
 - 2 Conduct the A R C Survey
 - 3 Supervise the Conduct of the A R C Survey
 - 4 Provide Feedback to Facility Staff
 - 5 Draw Conclusions about Quality of ARI Case Management

**Materials
Needed**

Use the following checklist to organize materials for the facility survey

- Permission letters (if necessary),
- Blank survey forms for each age group,
- Manual tabulation forms,
- Clipboards for each survey team member,
- Selected parts of the A R C Survey guide,
- Pencils, sharpeners, erasers,
- File folders for each type of assessment,
- WHO and national ARI Case Management charts,
- List of nationally recommended drugs for treating pneumonia,
- Copies of pages of logbooks and health records at outpatient facilities
- (If possible) WHO video of ARI Case Management, video player & monitor

**Description of
A R C. Survey
Activities**

1 Arrange for the Survey

(Much of the following guidance for Step 1 is from the Rational Pharmaceutical Management Project, *Rapid Pharmaceutical Management Assessment An Indicator Based Approach* a collaboration of Management Sciences for Health, USAID & the United States Pharmacopeia, July 1995 pp 110 120)

1.1 Select the sample of facilities to survey

Select five facilities that treat sick children from the project's beneficiary population to survey

- One of the five facilities should always be the outpatient unit of the district hospital serving the project's beneficiary population. Select one at random if there is more than one district hospital serving the project's beneficiary population
- In project areas where there is only one level of outpatient facilities below the district hospital (for example, a rural health center), select the additional four facilities using the following guidance
 - If it possible (due to available transportation resources and distances) to visit each facility and complete the survey in one day's time select four facilities *at random* from all the facilities at the level below the district hospital and that treat sick children from the project's beneficiary population
 - If it is too difficult to visit and survey each facility serving the project's beneficiary population (1) select two facilities *at random* from all the facilities below the district hospital level that treat sick children from the project's beneficiary population, and (2) choose two other facilities that are easiest to reach from the two randomly selected facilities so that teams can visit two facilities (one randomly selected and one nearby) on each trip

- In project areas where there are two levels of outpatient facilities below the district hospital (for example, clinics with physicians and health posts with paramedics), select the additional four facilities using the following guidance
 - Select two facilities *at random* from all the facilities that are the first level below the district hospital and that treat sick children from the project's beneficiary population
 - Select two additional facilities that are easiest to reach from the two randomly selected facilities above and that are two levels below the district hospital (for example, health post with a paramedic) This will allow for paired visits of second and third level facilities
- In project areas with a different system of health facilities, select the five facilities *purposively* so that each facility is different from the other facilities in the sample Facilities should be different according to such factors as geographic location (urban/peri-urban/rural, distance from the district hospital or all-season roads, in the mountains or in a valley, etc) or patient load
- If there are five or less facilities that serve the project's beneficiary population, survey each of these facilities

1 2 Recruit survey teams

- Recruit a team of five persons (one team leader and four surveyors) to survey the District Hospital Outpatient Unit (The large patient load of a District Hospital usually requires more than a three-person team to complete the survey in one day)
- Recruit a team of three persons (one team leader and two surveyors) for each facility below the level of the District Hospital that will be surveyed

For example If the project will survey four 2nd level facilities in one day then the project needs to recruit four teams of three persons that is, recruit twelve persons

Note This many persons are needed in each team especially if team will also carry out the other pneumonia care facility assessment tool, *Rapid Survey of Health Facility Capacity*

- Because the survey will take place in government and/or private health facilities, recruit persons for survey teams who have worked in or with health facilities Ideally, each team should include at least one physician, nurse or paramedic

- In project areas where health facilities are run by the government, government support will be needed to improve the quality of services. In these areas, each team should include at least one person from the Ministry of Health
- Because the project will work with facilities to improve the quality of services, each team should include at least one person from the project staff

1.3 Scheduling and authorization

- Scheduling the recruitment, training and transport of survey teams to facilities is complicated. Scheduling is affected by things such as the number of teams, number of persons in each team, the number of vehicles and seats per vehicle available, peak work periods for the project and the government, holidays, distances to facilities, and seasons of the year. Therefore, project staff need to make a careful plan that includes alternatives for survey personnel, vehicles, and drivers
- Each survey team should have with them a “letter of authorization” from the appropriate authority (usually the MOH). This is true especially if government representatives are not part of a survey team. If possible prior to the survey, the project should have the appropriate authority inform each facility about the possibility of survey teams visiting the facility and of the need to cooperate as much as possible

1.4 Train survey teams

If well organized, the training of survey teams can be completed in one day. Suggested activities on the training day are as follows:

- If possible, *show* the WHO video “ARI Assessment of the Child with Cough or Difficult Breathing” to the survey teams to familiarize the team with the standards for ARI case management
- *Familiarize* the survey teams with the forms and allow opportunities for questions
- *Determine* as a group the criteria for identifying whether or not a health provider has been “trained” in standard ARI case management

Hint The following criteria have been used previously to determine if a health worker has been “trained” in standard ARI case management: the training took place within the last three years, the training was at least three days, and/or the training included at least one day of practicum at the training hospital outpatient unit.

- *Obtain consensus* as a group on the list of drugs that are recommended for treating pneumonia in outpatient facilities in the project area. The survey teams will need to determine if health workers are providing drugs appropriately
- *Obtain consensus* as a group on an appropriate process for survey teams to introduce themselves to facility staff and arrange for the conduct of the survey in a facility
- *Familiarize* the survey teams with the layout of the health centers
- *Familiarize* the survey teams with the format of logbooks and health records at the facilities the teams will visit
- *Familiarize* the survey teams with the principles of good observation practices
- Have the survey teams *practice* completing the survey forms by *providing* demonstrations of case management observations, copies of completed logbooks, and by *role playing observations with feedback*

Hint If possible, have the training group visit a non-survey health facility on the afternoon of the training day and practice observing health workers and reviewing logbooks. Persons will usually practice in teams of three or four so that everyone, at a minimum, has a chance to observe each step in the survey process

2 Conduct A R C Survey

The survey will take more than one-half of day to observe case management of children presenting with an acute respiratory infection (ARI), and review facility records. (It will require a full day for a survey team to conduct both the A R C Survey and the Rapid Survey of Health Facility Capacity at a single facility)

2.1 Transport survey teams to facilities

- *Make* enough transportation resources available to transport survey teams to each facility early in the morning or the evening prior to the survey,

Note The survey teams should arrive at assigned facilities early in the morning, about half an hour or more before the usual beginning of clinic activities. By arriving early, the surveyors can identify all children with acute respiratory infections and be present before health workers begin to see them

Hint - To arrive early it is best for survey teams to spend the night prior to the survey close to the assigned facility. During survey preparations, determine what time facilities open for care and when most caretakers bring their children.

- *Ensure* each team has all survey materials prior to leaving

Note Each survey team works independently and therefore needs to have all survey materials with them during the survey. (See list above) Survey teams also will need per diem or a guarantee of meals and accommodations.

2.2 Introduce survey team to facility staff

- Team leader *introduces* team to health worker in charge of the facility,
- *Explain* the purpose of the visit and show letters of permission, if necessary,
- *Make arrangements* with facility staff for the process of conducting the case management assessment

Note Determine the process for the following

- 1 identifying the health workers who usually treat children with ARI
- 2 identifying the children under five with cough or difficult breathing as they arrive (including those whose main complaint is fever in malaria endemic areas)
- 3 surveyors observing health workers' case management
- 4 team leader or surveyors reviewing health facility records

If the team will also conduct the Rapid Survey of Facility Capacity on the same day, the team should also

- *Determine* when and where surveyors will interview health workers about their knowledge of standard ARI case management guidelines,
- *Determine* which health worker will assist the survey team leader to assess health worker training and availability of essential drugs, and when this will be done

2.3 Identify children with acute respiratory infection

- *Identify* all children less than five years of age presenting the facility on the morning of survey (e.g. between 7:00am and 12:00pm) and who have an acute respiratory infection (cough and/or difficult breathing),

Note Usually, teams can observe sufficient numbers of ARI cases between the time the facility opens in the morning and noon time. It is best if the teams observe the health workers in that facility who treat sick children; each manages three cases of ARI.

If, however, fewer than three children present to the facility with ARI before noon, the teams should continue to identify children with ARI and observe their management. Ideally, teams should continue until they observe each health worker who treats sick children manage three cases of ARI.

Note about malaria

In areas or seasons in which malaria is prevalent, children presenting to a facility with fever may be treated with an antimalarial and sent home without being assessed for pneumonia. However, pneumonia signs and symptoms can be similar to signs and symptoms of malaria and, a child can have both malaria and pneumonia.

Therefore, in order to identify those children who have both fever and ARI, survey teams should ask caretakers whose children have fever about history of cough or difficult breathing (including rapid breathing). The survey team should observe the management of a child with a main complaint of fever but who also has a history of cough or difficult breathing. The management of children with fever and a history of cough or difficult breathing should be observed even if the health worker does not identify that the child also has a cough or difficult breathing.

Note The survey team may identify a child with a history of ARI but who is not identified by the health worker as an ARI case. (For example, the health worker may not ask about history of ARI if the child also has diarrhea or malaria.) The survey team should observe the health worker's management of this child as part of the survey anyway.

- *Explain* to caretakers of children with acute respiratory infection about the facility survey,
- *Give* caretakers of children with acute respiratory infection an ARI Enrollment Card. Record the name and age of child in months and ARI complaint. Assign the child a two-digit number starting with 01 for the first child. (See below example)

ARI Enrollment Card		Facility/Child No. _ / _ / _
Name of child _____	Age in months	__
Complaint	<input type="checkbox"/> cough,	<input type="checkbox"/> difficult or rapid breathing <input type="checkbox"/> fever
Surveyor	<input type="checkbox"/> Health worker case management observed	
_____	_____	
(surveyor's name)	(health worker's name)	

Note Appendix D provides instructions for surveyor s observation of health workers

2 4 Complete case management assessment

- Health worker *manages* children with ARI while surveyor *observes* the health worker's actions,
- While the surveyor *observes* the health worker, the surveyor *fills out* the age-specific survey form for the child being assessed,
- After the health worker has finished seeing the child, the surveyor *reviews* the worker's clinical notes, *asks* the health worker follow-up questions and *completes* the age-specific survey forms for each child,

Note

The surveyor *refers* to summary instruction sheet to complete section IV , Basic Pneumonia Case Management Summary

- Immediately after the surveyor finishes answering all questions on the survey form, the survey team leader *reviews* and *assures* completeness of the survey form,
- Survey team leader *advises* the facility manager about any child who may be harmed by the health worker's treatment (for example, a child identified by the health worker as having pneumonia and who was not treated with an antibiotic)

Note Flowcharts of the case management assessment process are included in Appendix E Age-specific survey forms are included in Appendices B and C

Hint - Managing the flow of observations and review of survey forms in a busy health facility can be difficult For this reason, it is helpful to practice *managing* the case management assessment process during the survey training

2 5 Review facility records

After the case management assessment portion of the facility survey is complete, the survey team leader *reviews* health records of last 20 children who came to the facility with acute respiratory infections prior to the day of the survey

Note Appendix F contains a form and instructions for reviewing facility records

3 Supervise the Facility Survey

- Survey team leader *observes* the performance of each surveyor at least once each day during the case management portion of the survey,

Note During observation, the survey team leader should complete a survey form independently of the surveyor for later comparison to identify any problems. The survey team leader should comment on errors and suggestions for improvement after the observation and privately, rather than during the observation. Only if the team leader sees a major problem should the team leader intervene during an observation or interview.

- Team leader *reviews* each survey form completed by a surveyor, and *looks* for missing or incorrect entries and inconsistencies.

Hint - Most errors are identified during the survey training and these errors can then be used as a checklist to observe performance in the field. On the survey forms, errors should be marked in red pencil so that they can be easily identified and discussed individually or during team meetings.

- The survey team leader *decides* how to resolve all issues in collaboration with the facility manager.

4. Provide Feedback to Facility Staff

If the facility staff have time and are willing, provide feedback to them and ask them for suggestions to improve the capacity of the facility to provide standard ARI case management. Survey teams contribute to efforts to improve case management by giving immediate, focused feedback to the facility staff prior to leaving the facility. This will be one of the most valuable parts of the Rapid ARI Case Management Survey.

Note It is very important to provide feedback in a way that will not result in blame or repercussions taken against one or a few health workers. The focus of the Pneumonia Care Assessment Methods Training in general and the facility survey specifically, is to identify areas for improvement and raise the quality of services from whatever level of performance they are at currently. The attitude that CSSP recommends for this activity is as follows: *It is important for staff of any health facility to look for areas of improvement and raise the quality of services on an on-going basis, no matter what level the facility staff is currently performing at. Instead of looking for problems, we look for things we want to improve.*

4 1 Review forms and identify strengths and weaknesses

- *Review* the survey forms of each health worker, and *identify* each health workers' strengths and weakness on the back of the survey forms *Describe* strengths and problems in case management, particularly overall patterns observed in the assessment, classification, and treatment of children with acute respiratory infections, and counseling of their caretakers

Hint report on (a) the frequency that health workers look for fast breathing and chest indrawing, (b) the frequency that health workers use ARI classifications, (c) consistency between health worker's diagnosis and treatment and, (d) consistency between health worker's treatment decisions and the counseling given to caretakers

- *Review* the form for reviewing facility records and *describe* on the back of the form the use or misuse of antibiotics in the care of children with acute respiratory infections, and their use for children with pneumonia Also, *describe* areas for improvement identified in the patient records and reporting systems

Hint Determine the proportion of cases of pneumonia that received an appropriate antibiotic Also, determine the proportion of coughs or colds that inappropriately received an antibiotic Also, were children with severe pneumonia or other severe disease referred to the hospital or admitted? Are appropriate antibiotics in stock during the last three months but not being given to the children who need them?

4 2 Provide feedback to facility staff

- *Provide feedback* on individual performance to health workers (either privately or in a group if appropriate)
- *Provide feedback* on the overall quality of standard ARI case management
- Facility staff *identify* the most significant barriers to the facility's capacity to provide standard case management according to guidelines,

Hint Apply the following criteria to all barriers identified (a) potential to save lives of children, (b) potential for identifying the root causes of the problem, (c) ability of the facility staff and/or the PVO to address potential root causes of the problem Rank problems according to these criteria and identify that the highest ranking one or two problems to work on first

- Facility staff *identify* potential root causes of identified barriers using exercises such as brainstorming, the “5 whys,” or fishbone diagrams,
- Facility staff *suggest* a preliminary plan for improving the facility’s capacity to provide standard ARI case management. This could include plans for implementing solutions as well as plans for investigating further the potential root causes of barriers
- *Forward* preliminary plan to the Pneumonia Care Assessment coordinator for review and discussion with MOH and PVO staff

5. Draw Conclusions about Quality of ARI Case Management

The purpose of this step is to look at the general quality of ARI case management across all facilities surveyed and have project staff and counterparts generate ideas for improving the quality of services in all facilities

Divide the sections of the capacity survey among small groups and have the small groups draw conclusions about their assigned section

5.1 Conclusions from observing ARI case management

- Using manual tabulation tables, project staff and counterparts *tabulate* survey forms from the case management assessments for all facilities surveyed and *identify* on the tabulation tables the key results from each question

<p>Note Appendix G contains manual tabulation tables for each key question and indicator</p>

- *Estimate* the proportion of children from the beneficiary population who access health facilities and who receive the standard ARI assessment, classification, treatment and counseling (key case management tasks),
- *Identify* what health workers perceive are the barriers to providing standard ARI case management
- *Draw conclusions* about the overall quality of ARI case management in the health facilities that treat sick children from the project’s beneficiary population
 - Is the level of quality good?
 - If so, is the quality good enough to expect that children with pneumonia

will live if they present to health facilities in a timely manner?

- If not, for what specific case management tasks is quality low?

- Does the level of health worker training appear to be related to quality of ARI case management? Are those with less training the ones less likely to provide standard ARI case management?

- Do health workers identify training as a barrier to providing standard ARI case management?

- What appears to be the greatest barrier to high levels of quality? Lack of formal training courses for health workers, lack of supervision and/or in-service training opportunities, or lack of essential drugs or supplies?

5 2 Conclusions from health facility record reviews

- *Review* the Facility Record Review form from each facility and *estimate* the proportion of children less than five years of age with pneumonia and who are taken to a health facility, who receive the proper antibiotic for home treatment (Number of pneumonia cases who receive proper antibiotic / number of pneumonia cases)
- *Estimate* the proportion of children with severe pneumonia and who are taken to a health facility, who are referred/admitted to a hospital (Number of severe pneumonia cases referred/admitted / number of severe pneumonia cases)
- *Estimate* the proportion of children with no pneumonia (cough or cold) and who are taken to a health facility, whose caretakers are given home care advice (no antibiotic) (Number of cases of cough or cold--upper respiratory infection--whose caretakers are given home care advice only / number of cases of cough or cold)
- Based on the number of logbook entries required to identify 20 cases of ARI, *estimate* (a) the proportion of all outpatient visits diagnosed with pneumonia (number of logbook entries diagnosed with pneumonia / the number of logbook entries needed to identify 20 cases of ARI), and, (b) the proportion of outpatient visits for ARI diagnosed with pneumonia (number of logbook entries diagnosed with pneumonia / 20 cases of ARI)

- *Draw conclusions* about treatment of children presenting to facilities with pneumonia and other respiratory infections
 - Do children with pneumonia receive treatment with the appropriate antibiotics?
 - Are children with severe pneumonia appropriately referred to a hospital?
 - Do health workers refrain from giving antibiotics to children with a cough or cold?
 - Does pneumonia account for a significant proportion of all cases seen in outpatient facilities for children less than five years of age? Is pneumonia a significant proportion of the ARI cases seen in outpatient facilities for children less than five years of age?

Appendix A

Key Indicators and Definitions for the Rapid ARI Case Management Survey (Version dated September 1997)

1 ARI Assessment Percent of children presenting to a health facility with cough or difficult breathing who are assessed correctly for pneumonia

$$\frac{\# \text{ Yes to IV.A}}{\# \text{ children presenting to a facility with cough or difficult breathing}} \times 100 = \text{Percent of children presenting to a health facility with cough or difficult breathing who are assessed correctly for pneumonia}$$

2 ARI Treatment Percent of children presenting to a health facility with cough or difficult breathing who receive a treatment that is consistent with the health worker's findings

$$\frac{\# \text{ Yes to IV B}}{\# \text{ children presenting to a facility with cough or difficult breathing}} \times 100 = \text{Percent of children presenting to a health facility with cough or difficult breathing who receive a treatment that is consistent with the health worker's findings}$$

3 ARI Counseling Percent of children presenting to a health facility with cough or difficult breathing whose caretakers receive counseling consistent with the health worker's treatment

$$\frac{\# \text{ Yes to IV C}}{\# \text{ children presenting to a facility with cough or difficult breathing}} \times 100 = \text{Percent of children presenting to a health facility with cough or difficult breathing whose caretakers receive counseling consistent with the health worker's treatment}$$

4 ARI Case Management Percent of children presenting to a health facility with cough or difficult breathing who receive at least the minimum quality of ARI case management or better

$$\frac{\# \text{ Yes to IV D}}{\# \text{ children presenting to a facility with cough or difficult breathing}} \times 100 = \text{Percent of children presenting to a health facility with cough or difficult breathing who receive at least the minimum quality of ARI Case Management}$$

5 Case Management by Trained Providers Percent of children presenting to a health facility with cough or difficult breathing who are managed by a provider who is trained in standard ARI case management (SCM)

$$\frac{\# \text{ observations of ARI case management by a provider who was trained in SCM}}{\# \text{ observations of ARI case management}} \times 100 = \text{Percent of children presenting to a health facility with cough or difficult breathing who are managed by a provider who is trained in standard ARI case management (SCM)}$$

Rapid ARI Case Management Survey Child 2-59 Months of Age <i>(version dated September 1997)</i>		
Child's Name _____	Age (months) _____	Facility/Child's number ____/____
Surveyor Name _____	Health Worker Name _____	SCM Trained Yes [] No []

I Health Worker's Assessment

I A Did the health worker

- I A 1 Ask about history of cough and difficult breathing? Yes [] No []
- I A 2 Count the breathing rate? Yes [] No []
- I A 3 Look for chest indrawing? Yes [] No []

I B Did the health worker FIND

- I B 1 Cough or difficult breathing? Yes [] No []
- I B 2 Fast Breathing? (____/min) Yes [] No []
- I B 3 Chest indrawing? Yes [] No []
- I B 4 Any sign of very severe disease? Yes [] No []
(not able to drink, convulsions, abnormally sleepy, stridor, severe malnutrition)

II Health Worker's Classification

- II A Very Severe Disease []
- II B Severe Pneumonia []
- II C Pneumonia []
- II D No Pneumonia, Cough or Cold []
- II E Other ARI _____ []
- II F Non ARI _____ []

III Health Worker's Treatment and Counseling

- III A Refer/Admit child to hospital?* Yes [] No []
- III A 1 Give child first dose of antibiotic? Yes [] No []
- III A 2 Determine/ask whether caretaker will take child to hospital? Yes [] No []

III B Give/prescribe antibiotic for home treatment? Yes [] No []

- III B 1 Type _____ Recommended? Yes [] No []
- III B 2 Dose _____ Correct? Yes [] No []
- III B 3 Times per day _____ Correct? Yes [] No []
- III B 4 Duration (days) _____ Correct? Yes [] No []
- III B 5 Instruct caretaker how to administer antibiotic for 5 days? Yes [] No []
- III B 6 Instruct caretaker to return with child in 2 days? Yes [] No []
- III B 7 Instruct on danger signs to return immediately? Yes [] No []
- III B 8 Check caretaker's understanding and correct if necessary? Yes [] No []

III C No Antibiotic, home care advice only? Yes [] No []

- III C 1 Instruct caretaker to continue feeding child? Yes [] No []
- III C 2 Instruct caretaker to give child more fluids? Yes [] No []
- III C 3 Instruct on danger signs to return immediately? Yes [] No []

IV Rapid ARI Case Management Survey Summary (Refer to Instruction Sheet)	
IV A Did the health worker assess correctly?	Yes [] No []
IV B Did the health worker's treatment agree with the findings?	Yes [] No []
IV C Did the health worker's counseling agree with the treatment?	Yes [] No []
IV D Did the health worker provide minimum ARI Case Management?	Yes [] No []

275

Instruction Sheet for Summary of Rapid ARI Case Management Survey Child 2-59 Months of Age
(version dated September 1997)

IV A Assessment Summary Instructions

Refer to Section I of the survey form Tick "Yes" in section IV A if "Yes" to I A 2 and I A 3 Tick "No" if either I A 2 or I A 3 is "No "

IV B Treatment Summary Instructions

Refer to Sections I and III of the survey form First, complete Sections III B 1 - III B 4 using Table IV B 1 below for guidance Second, Tick "Yes" in Section IV B if the health workers treatment was consistent with the health worker's findings, using Table IV B 2 below for guidance Otherwise, tick "No "

<u>IV.B.1. Recommended treatment</u>	<u>2-11 Months</u>	<u>12-59 Months</u>	<u>Times per day</u>	<u>Duration</u>
Cotrimoxazole syrup	5ml	7.5ml	2xday	5 days
Cotrimoxazole pediatric tablet	2 tablets	3 tablets	2xday	5 days
Cotrimoxazole adult tablet	½ tablet	1 tablet	2xday	5 days
Amoxicillin 250 mg tablet	½ tablet	1 tablet	3xday	5 days
Amoxicillin syrup	5ml	10ml	3xday	5 days
Ampicillin 250 mg tablet	1 tablet	1 tablet	4xday	5 days
Ampicillin syrup	5ml	5ml	4xday	5 days
Procaine Pen IM Injection	400,000 units	800,000 units	1xday	5 days

<u>IV B 2 Health Worker's Findings</u>	<u>Health Worker's Treatment</u>
Very Severe Disease "Yes" to I B 4 <u>or</u> Severe Pneumonia "Yes" to I B 3	"Yes" to III A <u>and</u> III A 1 (If referral refused or not feasible "Yes" to III B <u>and</u> III B 1-III B 4)
Pneumonia "Yes" to I B 2	"Yes" to III B <u>and</u> III B 1 -III B 4
No Pneumonia, cough or cold "Yes" to I B 1	"Yes" to III C
Other disease "No" to I B 1 - I B 4	"Yes" to III C

IV C Counseling Summary Instructions

Refer to Section III of the survey form Tick "Yes" in Section IV C if the health workers counselling was consistent with the health worker's treatment, using Table IV C 1 below for guidance Otherwise, tick "No "

<u>IV C 1 Health Worker's Treatment</u>	<u>Health Worker's Counseling of Caretaker</u>
Refer/admit to hospital "Yes" to III A	"Yes" to III A 2 []
Antibiotic for home treatment "Yes" to III B	"Yes" to III B 5, III B 6 <u>and</u> III B 7 []
No antibiotic, home care only "Yes" to III C	"Yes" to III C 1, III C 2 <u>and</u> III C 3 []

IV D Rapid ARI Case Management Survey Summary Instructions

Refer to Section IV of the survey form Tick "Yes" in Section IV D if "Yes" to IV A , IV B and IV C Tick "No" if either IV A , IV B or IV C is "No "

276

Appendix C - Page 1

Rapid ARI Case Management Survey Infant Less Than 2 Months of Age <i>(September 1997 version)</i>		
Infant's Name _____	Age (months) _____	Facility/Infant's number ____/____
Surveyor Name _____	Health Worker Name _____	SCM Trained Yes [] No []

I Health Worker's Assessment

I A Did the health worker

- I A 1 Ask about history of cough and difficult breathing? Yes [] No []
- I A 2 Count the breathing rate? Yes [] No []
- I A 3 Look for (severe) chest indrawing? Yes [] No []
- I A 4 Ask if the infant has stopped feeding well? Yes [] No []
- I A 5 See if the infant is abnormally sleepy/difficult to wake? Yes [] No []
- I A 6 Feel (or measure) for fever or low body temperature? Yes [] No []

I B Did the health worker FIND

- I B 1 Cough or difficult breathing? Yes [] No []
 - I B 2 Fast Breathing? (____/min) Yes [] No []
 - I B 3 Severe chest indrawing? Yes [] No []
 - I B 4 Any sign of very severe disease? Yes [] No []
- (stop feeding well, convulsions, abnormally sleepy, stridor, wheezing, fever/low body temperature)

II Health Worker's Classification

- | | |
|------------------------------|--------------------------------------|
| II A Very Severe Disease [] | II D No Pneumonia, Cough or Cold [] |
| II B Severe Pneumonia [] | II E Other ARI _____ [] |
| II C Pneumonia [] | II F Non ARI _____ [] |

III Health Worker's Treatment and Counseling

III A Refer/Admit child to hospital?

- III A 1 Give infant first dose of antibiotic? Yes [] No []
- III A 2 Determine/ask whether caretaker will take infant to hospital? Yes [] No []

III B Give/prescribe antibiotic for home treatment?

- III B 1 Type _____ Recommended? Yes [] No []
- III B 2 Dose _____ Correct? Yes [] No []
- III B 3 Times per day _____ Correct? Yes [] No []
- III B 4 Duration (days) _____ Correct? Yes [] No []
- III B 5 Instruct caretaker how to administer antibiotic for 5 days? Yes [] No []
- III B 6 Instruct caretaker to return with infant in 2 days? Yes [] No []
- III B 7 Instruct on danger signs to return immediately? Yes [] No []
- III B 8 Check caretaker's understanding and correct if necessary? Yes [] No []

III C No Antibiotic, home care advice only?

- III C 1 Instruct caretaker to continue breastfeeding infant? Yes [] No []
- III C 2 Instruct caretaker to keep infant warm? Yes [] No []
- III C 3 Instruct on danger signs to return immediately? Yes [] No []

IV Rapid ARI Case Management Survey Summary (Refer to Instruction Sheet)	
IV A Did the health worker assess correctly?	Yes [] No []
IV B Did the health worker's treatment agree with the findings?	Yes [] No []
IV C Did the health worker's counseling agree with the treatment?	Yes [] No []
IV D Did the health worker provide minimum ARI Case Management?	Yes [] No []

Appendix C - Page 2

Instruction Sheet for Summary of Rapid ARI Case Management Survey Infant < 2 Months of Age
(version dated September 1997)

IV A Assessment Summary Instructions

Refer to Section I of the survey form Tick "Yes" in section IV A if "Yes" or "NA" to all of I A 2 - I A 6 Tick "No" if any of I A 2 - I A 6 is "No "

IV B Treatment Summary Instructions

Refer to Sections I and III of the survey form First, complete Sections III B 1 - III B 4 using Table IV B 1 below for guidance Second, Tick "Yes" in Section IV B if the health workers treatment was consistent with the health worker's findings, using Table IV B 2 below for guidance Otherwise, tick "No "

IV.B.1. Recommended treatment*		<1 Month	1-2 Months	Times per day	Duration
Cotrimoxazole ^o	syrup	1 25ml	2 5ml	2xday	5 days
	pediatric tablet	½ tablet	1 tablet	2xday	5 days
	adult tablet	NA	¼ tablet	2xday	5 days
Amoxicillin	250 mg tablet	¼ tablet	¼ tablet	3xday	5 days
	syrup	2 5ml	2 5ml	3xday	5 days
Ampicillin	250 mg tablet	½ tablet	½ tablet	4xday	5 days
	syrup	2 5ml	2 5ml	4xday	5 days
Procaine Pen	IM Injection	200,000 units	200,000 units	1xday	5 days

* Oral antibiotic for home treatment in infants less than two months is recommended only if referral is not feasible
^o Cotrimoxazole is not recommended in infants less than one month who are premature or jaundiced

IV B 2 Health Worker's Findings	Health Worker's Treatment	
Very Severe Disease "Yes" to I B 4 <u>or</u> Severe Pneumonia "Yes" to I B 2 or I B 3	"Yes" to III A <u>and</u> III A 1 (If referral refused or not feasible "Yes" to III B <u>and</u> III B 1-III B 4)	[]
No Pneumonia, cough or cold "Yes" to I B 1	"Yes" to III C	[]
Other disease "No" to I B 1 - I B 4	"Yes" to III C	[]

IV C Counseling Summary Instructions

Refer to Section III of the survey form Tick "Yes" in Section IV C if the health workers counselling was consistent with the health worker's treatment, using Table IV C 1 below for guidance Otherwise, tick "No "

IV C 1 Health Worker's Treatment	Health Worker's Counseling of Caretaker	
Refer/admit to hospital "Yes" to III A	"Yes" to III A 2	[]
Antibiotic for home treatment "Yes" to III B	"Yes" to III B 5, III B 6 <u>and</u> III B 7	[]
No antibiotic, home care only "Yes" to III C	"Yes" to III C 1, III C 2 <u>and</u> III C 3	[]

IV D Rapid ARI Case Management Survey Summary Instructions

Refer to Section IV of the survey form Tick "Yes" in Section IV D if "Yes" to IV A , IV B and IV C Tick "No" if either IV A , IV B or IV C is "No "

278

Appendix D

INSTRUCTIONS FOR RAPID ARI CASE MANAGEMENT SURVEY FORM Observe Management of a Child with Cough and/or Difficult Breathing

PROCEDURE

Observer completes this survey form

Observe the case management of a child under 5 years of age with cough or difficult breathing. Observe the case only if the child is being seen at the health facility for the first time during the current ARI episode.

Sit close enough to the health worker so that you can see and hear what is said. However, do not sit so close that you interfere with his or her actions in examining of the child.

If possible, do *not allow other health workers to watch*. An audience will likely influence what the health worker does. Also, other health workers to be observed later may change their usual practices based on what they see. In crowded health facilities where several health workers work in the same room encourage others to continue with their normal duties, rather than watching.

Observe as the health worker asks the caretaker about the child's condition, looks and listens for signs and symptoms, classifies the disease, and gives treatment. It is likely that the health worker will not assess the child in the same order as the items listed on the survey form. However, tick the tasks as completed, regardless of the order in which they are done.

Ask the health worker to describe aloud what he or she is looking for and the findings. If necessary, remind the health worker by saying

"Please describe aloud what you are looking for, and your findings "

Do not interfere in any other way with the health worker's case management and decisions. *Do not prompt* the health worker to do a task. For example, if you do not know whether the health worker has looked for chest indrawing, do not ask, "Does the child have chest indrawing?" Also, *do not correct the mistakes you see*.

When the health worker has finished the examination, review the clinical notes if any. If the health worker does not describe the assessment tasks aloud after being reminded, you may be able to get additional information when you review the clinical notes.

More than one health worker might complete the case management tasks listed on the survey form. For example, an auxiliary health worker takes the temperature and counts the breathing rate, a nurse takes the history, and a doctor completes the examination, classifies, and treats the child. Drugs may be dispensed by another health worker who is responsible for instructions on giving an antibiotic and other home care. If so, *stay with the child during the entire process*, even if health workers change. Continue to

collect the information requested, as you observe the case management of the child until it is completed

On the survey form, record your observations (or additional information written in the clinical notes by the health worker) Tick [✓] an answer provided, or write a brief answer, as appropriate *Write very clearly in print characters so that others can read the form easily to check it, copy the data, and/or tabulate the data* Hold the form out of the view of the health worker during the observation

Record only the health worker's actions and findings Do not record your own assessment and classification of the child For example, if you see chest indrawing but it has not been reported aloud or in the clinical notes by the health worker, do not record it

Complete one survey form for each case observed (even if more than one health worker does the various case management tasks) Observe as many cases as possible, according to the sampling rules

IDENTIFICATION Complete the title block of the survey form Verify the name and age of the child and the reason the child is being seen by the health worker, as seen on the ARI Enrollment Card Fill in the name of the health worker and type of health worker After the observation portion of the survey is over, identify on the form if the health worker has been trained in Standard ARI Case Management (SCM)

Note If more than one health worker manages the case, identify the main health worker in the space provided Usually this is the person who classifies the case and selects the treatment to be given As the patient flow differs among countries, decide during survey training whether or not other health workers should be identified on the form, and how *Always stay with the child during the entire case management process*

SPECIFIC INSTRUCTIONS Use the correct form for age of the child Use either the form for a child 2-59 months of age or the form for a young infant less than 2 months of age Observe the health worker while he or she is assessing, classifying, and treating the child If necessary, remind the worker to think aloud Also, after the observation look at the clinical notes on the case Identify which case management tasks have been completed, whether observed or recorded in the clinical notes

I HEALTH WORKER'S ASSESSMENT (ASK, COUNT, LOOK)

In general, for the Child age 2 months up to 5 years and the Young Infant less than 2 months of age indicate whether the health worker looked for and found any of the signs listed The health worker must report the finding either aloud or in the clinical notes for the child Each sign in section I (depending on the child's age) must have one, and only one, tick

In general

I A For each sign, tick "Yes" if the health worker asks/looks/feel for the sign Tick "No" if the health worker does not ask about, or looks or listens for the sign

However, tick "Yes" for a less severe sign if the health worker finds a sign of more severe disease first and then does not look for the less severe sign (For example, it is not necessary for the health worker to count the breathing rate if he/she has already identified chest indrawing)

I B For each sign, tick "Yes" if the health worker finds the sign, this is indicated by the health worker reporting the sign aloud or in the clinical notes Tick "No" if the health worker does not report finding the sign (aloud or in clinical notes)

Regarding specific signs in section I A and I B

Stop feeding well, cough and difficult breathing The health worker must ask the caretaker about these three signs, or the caretaker must volunteer the information If neither, mark "No" in section I A

The caretaker may report either of these signs However, if the health worker considers the sign as negative, with or without further investigation, record the conclusion of the health worker in section I B For example, the caretaker might report that the child stopped feeding well but the health worker considers that, even though the child is having difficulty swallowing breastmilk, the child is feeding well Also, the health worker, concerned about this episode of illness, may not conclude that the child has stopped feeding well if the mother reports this problem occurred previously In these two examples, record "No" in section I B 4

Fever or low body temperature For infants less than two months of age, fever or hypothermia is a sign of severe disease For these infants, record the health workers actions and findings

Tick "Yes" in section I A 6 if the temperature is taken or if, in case the temperature is not taken, the health worker feels the child to identify fever or hypothermia

Tick "Yes" in section I B 4 if the health worker reports that the child has a fever or hypothermia Record the temperature if the health worker uses a thermometer Note the health worker's assessment even if the child's temperature does not indicate the same finding as the health worker [For example, if the temperature is 37° and the health worker states that the child has fever, tick "Yes" for fever, tick "Yes" even the temperature is less than 38°]

Chest indrawing If the chest is not undressed or uncovered, mark "No" in section I A 3 It is clear that the health worker could not, and did not, look for chest indrawing If the chest is uncovered but you do not know what

the health worker was looking for (it was not reported), mark "No" in section I A 3 Tick "Yes" in section I B 3 if the health worker reports finding *chest indrawing*, even if the child was not assessed correctly

Note During survey training, develop rules for whether or not to tick "Yes" to indicate that an infant less than 2 months has *Chest indrawing*, when the health worker does not describe it as "severe"

Fast breathing Tick "Yes" in section I A 2 if the health worker counted the breathing rate with a timing device or if it was counted earlier and reported in the clinical notes Tick "No" in section I A 2 if the health worker does not count the breathing rate during the observation or if it was not counted earlier and reported in the clinical notes

Tick "Yes" in section I B 2 if the health worker reported that the child had fast breathing [Specify the result in writing as the *rate per minute*, regardless of the duration of the health worker's count]

II HEALTH WORKER'S CLASSIFICATION

Tick the classification reported or written down by the health worker Write the classification if it is one that is not listed

Other ARI include, for example, bronchitis, bronchiolitis, bronchopneumonia, or upper respiratory tract infection (URTI)

Other non ARI may include a secondary diagnosis For example, a child classified as having pneumonia may also suffer from diarrhoea or dermatitis If so, record both

Note During survey training, surveyors might develop a rule about when it is appropriate to ask the health worker what his or her conclusion is For example, the health worker might write a treatment order but forget to say the diagnosis or classification of illness aloud Therefore, a rule might be developed to ask what the health worker's conclusion is when the examination is finished

It is better to ask for the *conclusion*, rather than a diagnosis or classification of illness Some health workers do not make an ARI diagnosis but only conclude, for example, "I gave an antibiotic for the child's cough and fever " However, if you ask for a diagnosis, the health worker is likely to feel obligated to give you one, even if this is not the usual practice

III HEALTH WORKER'S TREATMENT AND COUNSELING

Tick "Yes" next to the treatment selected by the health worker. Tick also the tasks done under each treatment.

Tick "No" next to the treatments that the health worker did not give.

Note: Under each treatment is a sub-item or treatment task. These sub-items identify if the health worker treated and counseled correctly. For example, *determine/ask whether caretaker will take infant to hospital* is the minimum counseling to be provided to *refer/admit urgently to hospital*. This designation is used later to decide whether correct counseling was provided, but does not affect the observation of case management.

Regarding specific items:

III A Refer urgently to hospital. If the child is referred or admitted to a hospital, and the admission is not refused, complete the items under III A. (It is not necessary to identify other treatments in III B and III C.)

If *referral or admission is refused*, tick any alternative treatment given by the health worker under items III B and III C (usually an antibiotic at home, item III B). Also, write the words "referral refused" clearly on the form in the space between section III A and section III B.

III A 1 First antibiotic dose. *Give first antibiotic dose* means that a dose has been administered to the child before the child leaves.

III A 2 Determine/ask whether caretaker will take the child/infant to the hospital. "Determine/ask" means that the health worker tried to identify if the caretaker would go to the hospital as instructed by the health worker. Tick "Yes" if the health worker (a) tried to determine if the caretaker would take the child to the hospital, and (b) either gave support to the caretaker or the caretaker did not indicate any obstacles to admission.

Tick "No" if the health worker (a) did not try to determine if the caretaker would *refer/admit* the child to a hospital with very severe disease or with severe pneumonia, or (b) the health worker did not support a caretaker who indicated reluctance to *refer/admit* the child.

III B Prescribe antibiotics at home. Tick "Yes" if the health worker prescribes antibiotics for treatment of the child at home. If "Yes", write the following:

III B 1 The *type*, for example, cotrimoxazole adult or pediatric, and indicate whether it is the type recommended by the national programme.

III B 2 The *dose*, for example, 2 pediatric tabs or 1 tsp, and indicate whether the dosage is correct for the child.

III B 3 The *times per day*, for example, 2x or 3x, and indicate whether correct

III B 4 The *duration*, for example, 5 days or 7 days, and indicate whether the duration for taking the antibiotic is correct according to policy

Refer to table on the summary instruction sheet to identify the recommended antibiotic (Revise the table to include national guidelines and, if necessary, to include different recommended antibiotics)

<i>Antibiotics</i>	Cotrimoxazole			Amoxycillin		Procaine penicillin (intramuscular)
	Adult tabs	Pediatric tabs	Oral susp	Tablets 250mg	Oral susp	
Times per day	2	2	2	3	3	1
Days	5	5	5	5	5	5
A < 2 mo	¼	1	2.5ml	¼	2.5 ml	200,000 units
G 2-11 mo	½	2	5 ml	½	5 ml	400,000 units
E 1 up to 5yr	1	3	7.5ml	1	10 ml	800,000 units
Return in	2 days			2 days		2 days

Also, tick the specific tasks done

III B 5 Instruct Caretaker how means that a health worker has instructed the caretaker on how much antibiotic to give, how often, and for how many days

III B 6 Advise to return in 2 days means that a health worker has told the caretaker that the child has to be seen in two days for an assessment of the effect of the antibiotic

III B 7 Instruct caretaker on danger signs to return immediately means that a health worker has instructed the caretaker to return immediately if the child gets sicker, breathing becomes rapid or difficult or if the child is unable to drink

III B 8 Check caretaker understanding and correct if necessary means that the health worker asked the caretaker to repeat the instructions that the health worker gave her and corrected any misunderstandings

III C. Home care Tick “Yes” if the caretaker is given instructions to care for the child at home without an antibiotic, whether or not the health worker prescribed other drugs

III C 1 - C 3 Home care advice Tick “Yes” for the home care advice the health worker gave the caretaker Adapted survey forms can include the

signs from the national guidelines for standard case management (for example, return quickly if breathing becomes difficult, if breathing becomes fast, if feeding becomes a problem in a young infant or the child is not able to drink, or if the young infant or child becomes sicker) Tick "No" if the health worker provides other or no advice

SUMMARY OF BASIC PNEUMONIA CASE MANAGEMENT

Complete Section IV Rapid ARI Case Management Survey Summary after reviewing the health workers clinical notes and completing sections I - III of the survey questionnaire In general, review the survey form and the summary instruction sheet determine if the health worker correctly *assessed* the child, and if the health worker was consistent in her or his *treatment and counseling*

Regarding specific items

Note Pay close attention to the detailed rules for completing this section

IV A Assessment Summary This section looks at whether health workers correctly carry out the minimum number of ARI Case Management assessment tasks look for chest indrawing and count the breathing rate

Refer to Section I of the survey form

Tick "Yes" if both I A 2 and I A 3 are "Yes"

Tick "No" if either I A 2 or I A 3 is "No "

(Use the same rules for I A 1 - I A 6 for infant less than 2 months)

IV B Treatment Summary This section looks at whether health workers treatment of children with ARI is consistent with the standard case management criteria for making treatment decisions

Refer to Sections I B and III of the survey form

If applicable, complete Sections III B 1 - III B 4 using Table IV B 1 on the summary instruction sheet for guidance

Tick "Yes" in Section IV B if the health workers treatment was consistent with the health worker's findings, using Table IV B 2 on the summary instruction sheet for guidance Otherwise, tick "No "

Tick "Yes" if

- (a) a child with "severe disease" was referred to the hospital and given the correct first antibiotic dose ("Yes" to III A and III A 1),
- (b) a child with "severe pneumonia" was referred to the hospital and given the correct first antibiotic dose ("Yes" to III A and III A 1),
- (c) a child with "pneumonia" was given/prescribed correct antibiotic for home treatment ("Yes" to all III B and III B 1-III B 4), or if,

(d) a child with "no pneumonia" was given home care advice and not referred to hospital nor given antibiotic ("Yes" to III C and "NA" to III A and III B)

IV C. Counseling Summary This section assesses whether health workers' counseling of caretakers is consistent with the treatment they selected for children, according to the standard case management criteria for counseling

Refer to Section III of the survey form

Tick "Yes" in Section IV C if the health workers counseling was consistent with the health worker's treatment, using Table IV C 1 on the summary instruction sheet for guidance Otherwise, tick "No "

Tick "Yes" if

- (a) the caretaker of a child referred to a hospital for treatment was asked whether she would actually go to the hospital ("Yes" to III A 2),
- (b) the caretaker of a child provided with an antibiotic for home treatment was instructed on how to administer the antibiotic at home and when to return to the facility ("Yes" to III B 5, III B 6 and III B 7),
- (c) the caretaker advised on home care (no antibiotic or referral) was given key home care advice ("Yes" to all III C 1 - III C 3)

Tick "No" if any of the above conditions did not occur

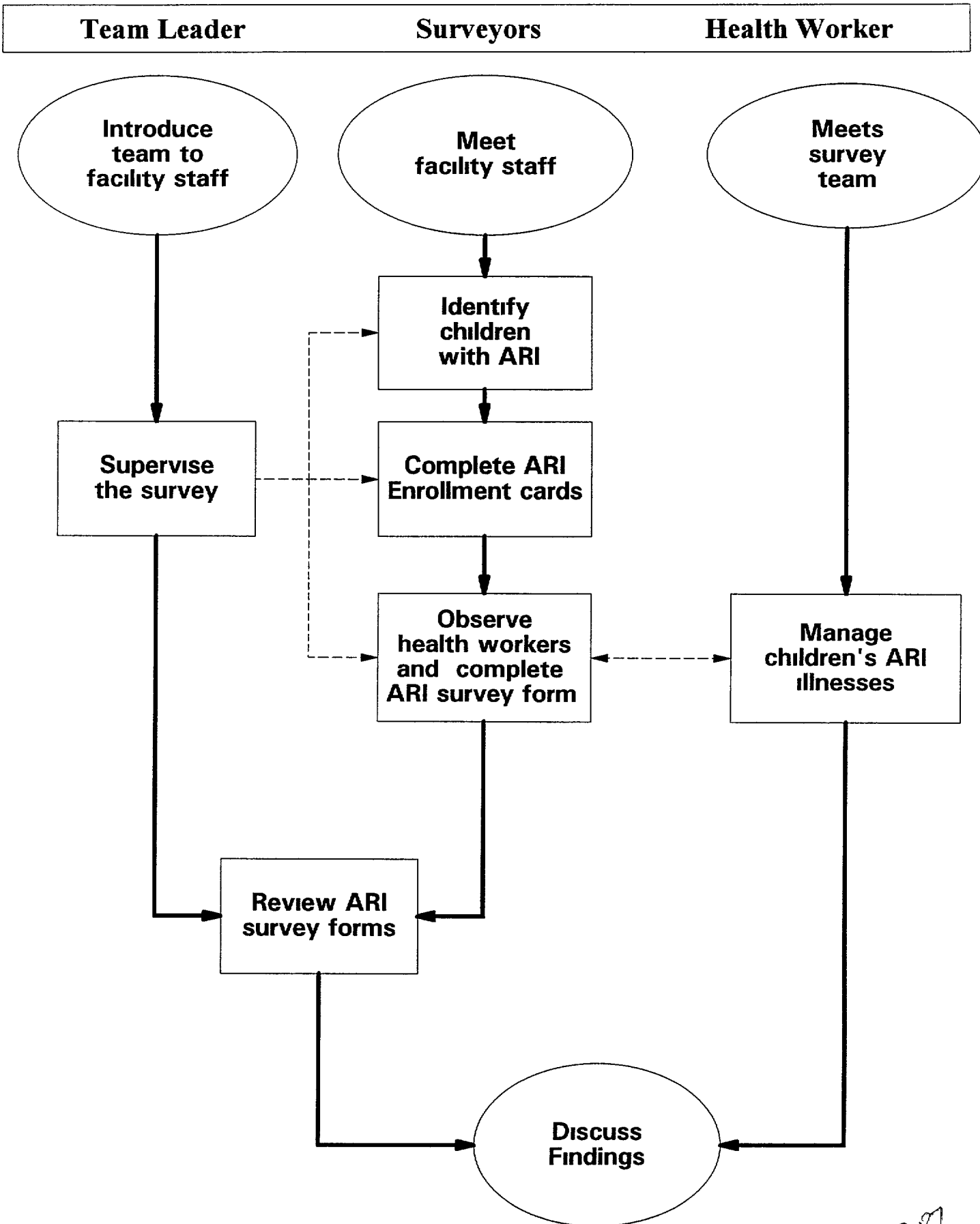
IV D Rapid ARI Case Management Survey Summary This section looks at whether the health worker completed at least a minimum standard for ARI Case Management That is, the health worker completed at least the minimum number of key assessment tasks and then was consistent with treatments and counseling instructions selected for the child

Refer to Section IV of the survey form

Tick "Yes" in Section IV D if the answers to IV A , IV B , and IV C are "Yes"

Tick "No" if either IV A , IV B , or IV C is "No "

Rapid ARI Case Management Survey Process



Appendix F
Review of Facility Records

Facility. _____ Date. ___/___/___ Reviewer _____

Tick or write clearly as appropriate On back of form, note problems found

	Date	Age			Diagnosis	Treatment			Drugs (specify)
		Y	I	C		R	A	H	
1	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
2	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
3	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
4	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
5	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
6	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
7	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
8	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
9	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
10	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
11	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
12	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
13	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
14	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
15	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
16	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
17	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
18	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
19	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____
20	___/___/___	[]	[]	[]	_____	[]	[]	[]	_____

How many records or logbook entries
of children under five years did you have
to go through to identify 20 cases of ARI? _____

AGE
Y = Young Infant less than 2 months
I = Infant 2 - 11 months
C = Older child 1 up to 5 years

TREATMENT
R = Admission or referral to hospital
A = Antibiotic treatment at home
H = Home care without antibiotics

Instructions Review of Facility Records (Optional)

PROCEDURE

The information you gather on the survey form is used to determine what might be done to help improve the case management of children with ARI in this and other health facilities. When records are adequate, the information can also be useful for estimating the amount and direction of bias being **introduced by observing practices** in the health facility during the survey.

Complete this form at the end of the visit with the assistance of a health worker.

Use this form if

outpatient records (a logbook or individual clinical records) are available, records report the diagnosis and treatment, and,

the information is needed in order to achieve objectives for the survey. Sometimes, for example, usual prescribing practices are clearer in the records than in the few cases observed in one day at a facility.

Look at the last record entered the day before the survey, and work backwards identifying 20 entries, if possible, of children under five years of age with an ARI diagnosis. The diagnosis may be stated differently from the standard case management guidelines. For example, the records may state rhinitis, sore throat, bronchitis, bronchiolitis, bronchopneumonia, influenza, or URTI.

Complete one form for each health facility. Tick [✓] or write a brief answer, as requested. *Write very clearly in print characters* so that others can read the form easily.

IDENTIFICATION Fill in the identifying information as requested at the top of the form.

SPECIFIC INSTRUCTIONS

For each child's entry, complete as much information as is available.

- 1 Write the date.
- 2 Tick the age of the child in one of the three categories: Y (young infant less than 2 months), I (infant 2 - 11 months), or C (child 1 up to 5 years).
- 3 Write the *diagnosis*, using the same words as reported in the records.

4 Tick one *treatment* to indicate whether the child was R (admitted or referred to hospital), A (given a treatment with antibiotics at home), or H (given home care **without antibiotics**)

5 Write the drugs prescribed and reported in the records The dosage and duration are not necessary

Note During the survey training, decide on a list of abbreviations that can be used

Finally, write the number of records or logbook entries of children under five you had to go through in order to identify 20 cases of ARI

On the back of the form, note any general recording problems or problems noticed in specific records Be descriptive enough to illustrate the problems found The following are examples of useful notes for clarifying problems in case management and/or record keeping

Records 4, 6-7, 10, 13-17, and 20 had no standard ARI classification

Cotrimoxazole was prescribed in 8 of the 16 records of children with no mention of rapid breathing or chest indrawing

No record of respiration count in any of the 20 records, although other signs are frequently mentioned (e g , fever, cough, ear ache)

Antibiotics are prescribed for only 3 days and national policy is 5 days

It took 72 logbook entries to find 20 ARI cases with 4 of those cases being pneumonia That is, all ARI represents about 28% of cases and pneumonia represents about 6% of cases

Appendix G Rapid ARI Case Management Survey Tabulation Tables

Assessment of Cough and Difficult Breathing

n = number of children in survey (number of observations) = ____

I A 1 Did health worker ASK about cough and difficult breathing?

	Tick Marks	Freq #	Freq %
Yes			
No			

Results

Discussion

Assessment of Breathing Rate

n = number of children in survey (number of observations) = _____

I A 2 Did health worker COUNT the breathing rate?

	Tick Marks	Freq #	Freq %
Yes			
No			

Results

Discussion

Assessment of Chest Indrawing

n = number of children in survey (number of observations) = _____

1 A 3 Did health worker LOOK for chest indrawing?

	Tick Marks	Freq #	Freq %
Yes			
No			

Results

Discussion

293

Assessment of Infant Feeding History

n = number of infants in survey (number of observations) less than 2 months of age = ____

1 A 4 Did health worker ASK if the infant has stopped feeding well?

	Tick Marks	Freq #	Freq %
Yes			
No			

Results

Discussion

254

Assessment of Infant Alertness

n = number of infants in survey (number of observations) less than 2 months of age = _____

1 A 5 Did health worker SEE if the infant is abnormally sleepy or difficult to wake?

	Tick Marks	Freq #	Freq %
Yes			
No			

Results

Discussion

255

Assessment of Infant Fever or Hypothermia

n = number of infants in survey (number of observations) less than 2 months of age = _____

1 A 6 Did health worker FEEL (or MEASURE) if the infant had fever or low body temperature?

	Tick Marks	Freq #	Freq %
Yes			
No			

Results

Discussion

246

Use of Standard Classification

n = number of children in survey (number of observations) = ____

Look at Section I B and Section II of the survey form

1) Did the child have any of the following cough or difficult breathing? Fast breathing? Chest indrawing? or Very Severe Disease?
 ("Yes" to any I B 1 - I B 4)? IF "YES" ---> NEXT QUESTION, IF "NO" ---> Tick "NA"

2) Did the health worker classify the child using a standard classification Very Severe Disease, Severe Pneumonia, Pneumonia or No Pneumonia
 (Check next to II A , II B , II C , or II D)? IF "YES" ---> Tick "YES", IF "NO" ---> Tick "NO"

	Tick Marks	Freq #	Freq %
Yes			
No			

Results

Discussion

257

Classification Consistent with Findings

n = number of children in survey (number of observations) = _____

Refer to Section I B and Section II Was the health worker's classification consistent with the health worker's findings? (First locate appropriate row corresponding to health worker's findings in section I B Then, place a tick mark in the appropriate column "Classification Consistent" or "Classification Not Consistent "

I B Health Worker's Findings (Locate Row)	Section II (Tick if applicable) Classification Consistent with Findings?	Section II (Tick if applicable) Classification <u>Not</u> Consistent with Findings?
All Ages "Yes" to I B 4 "Very Severe Disease"		
2-59mo "Yes" to I B 3 <2mo "Yes" to I B 2 or I B 3 "Severe Pneumonia"		
2-59mo "Yes" to I B 2 "Pneumonia"		
All Ages "Yes" to I B 1 "No Pneumonia, Cough/Cold"		
All Ages "No" to all I B 1 - I B 4 "Other ARI" or "Non ARI"		
Frequency of Tick Marks		
Percent of Tick Marks		

Results

Discussion

8/2

Treatment Correct Antibiotic

n = number of children given antibiotic for home treatment ("Yes" to III B) = ____

Refer to Section III B If the health worker provided an antibiotic, did the health worker prescribe the recommended type, dosage, times/day, and number of days? ("Yes" to all III B 1 - III B 4)

	Tick Marks	Freq #	Freq %
Yes			
No			

Results

Discussion

249

Counseling Checking Understanding

n = number of children given antibiotic for home treatment ("Yes" to III B) = ____

Refer to Section III B If the health worker provided an antibiotic, did the health worker ask the caretaker to repeat the instructions given by the health worker? ("Yes" to III B 8)

	Tick Marks	Freq #	Freq %
Yes			
No			

Results

Discussion

202

IV A Assessment Summary

n = number of children in survey (number of observations) = _____

Refer to Section IV A Did the health workers assess the infant/Child Correctly?

	Tick Marks	Freq #	Freq %
Yes			
No			

Results

Discussion

182

IV B Treatment Summary

n = number of children in survey (number of observations) = ____

Refer to Section IV B Was the health workers treatment consistent with the health worker's findings?

	Tick Marks	Freq #	Freq %
Yes			
No			

Results

Discussion

302

IV C Counseling Summary

n = number of children in survey (number of observations) = ____

Refer to Section IV C Was the health workers counseling consistent with the health worker's treatment?

	Tick Marks	Freq #	Freq %
Yes			
No			

Results

Discussion

303

IV D Rapid ARI Case Management Survey Summary

n = number of children in survey (number of observations) = ____

Refer to Section IV D Did the health worker provide minimum ARI Case Management?

	Tick Marks	Freq #	Freq %
Yes			
No			

Results

Discussion

304

Case Management by Trained Providers Percent of children presenting to a health facility with cough or difficult breathing who are managed by a provider who is trained in standard ARI case management (SCM) n = number of children in survey (number of observations) = _____

Refer to Identification Section of the survey form Is the health worker identified on the form trained in Standard Case Management (SCM)?

	Tick Marks	Freq #	Freq %
Yes			
No			

Results

Discussion

302