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**REPORT ON THE MEETING IN GENEVA, AUGUST 16 - 19, 1994
TO REVIEW THE TRAINING MATERIALS
FOR INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS**

Bob Pond

**BASICS Technical Directive: 000 HT 04 001
USAID Contract Number: HRN-6006-C-00-3031-00**

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ACRONYMS

ARI	Acute Respiratory Infections
BASICS	Basic Support for Institutionalizing Child Survival
CDD	Control of Diarrheal Diseases
CDR	Division of Diarrhoeal and Acute Respiratory Disease Control (WHO)
GPV	Global Programme on Vaccines and Immunization (EPI) (WHO)
HKI	Helen Keller Institute
IEF	International Eye Foundation
JHU	Johns Hopkins University
NUT	Nutrition Division (WHO)
MCH	Division of Maternal and Child Health (WHO)
TDR	Division of Tropical Disease Research (WHO)
TOT	Training of Trainers
UNICEF	United Nations Children's Fund
WHO	World Health Organization

I. INTRODUCTION

The WHO Division of Diarrhoeal and Acute Respiratory Disease Control (WHO-CDR) hosted a meeting in Geneva to review the draft materials prepared for integrated training in management of childhood illness. These draft materials represent the initial training product to emerge from what has often been called the Sick Child Initiative.

Much of the work to develop the training materials has been done by ACT International of Atlanta, Georgia. In addition to several staff from WHO-CDR and ACT International, the review meeting was attended by representatives of various divisions of WHO (GPV, NUT, MCH, TDR), Monica Sharma from UNICEF/CDD/ARI and myself from BASICS.

Eric Simoes of the University of Colorado attended the opening session to present preliminary findings from his evaluation of a "pre-test" trial of the course recently carried out in Gondar, Ethiopia. A summary of the findings from the pre-test is provided in a separate memorandum entitled "Documents from the meeting at WHO-CDR, August 16 - 19, 1994."

II. REVIEW GROUP'S DISCUSSION OF PRE-TEST FINDINGS

Too much reading

The Management of Childhood Illness course is designed for training staff at "first level health facilities." Sandy Gove of WHO-CDR explained that this includes health centers and outpatient departments of district hospitals rather than more basic health facilities such as dispensaries and dressing stations staffed by workers with more limited reading skills and previous training.

A major conclusion of the pre-test was that, although the participants appeared to have learned most of the material, "there was too much reading" and too much material in general to cover in the 11 days allotted for the course¹. Bob Hogan of WHO-CDR commented that "Either we have to say less or we have to find a way to say it more cleverly or the course will have to be lengthened." Throughout the review meeting, the review team looked for passages and sections that could be deleted or covered in less time through alternative training methods.

The reviewers considered whether the section on management of ear infections could be omitted. Jim Tulloch, director of WHO-CDR, ultimately concluded, however, that training in diagnosis and treatment of ear infections was important because serious ear infections and resulting deafness were not uncommon complications of measles.

¹Although WHO-CDR has proposed that the entire course last 11 days, only nine days were allotted for the pre-test course in Gondar because training in management of the young infant was omitted.

The reviewers considered whether attempts to train health workers in nutritional counseling were likely to significantly improve child feeding practices. The reviewers were not convinced that research had documented the effectiveness of clinic-based nutritional counseling, but they were not yet willing to reduce the time devoted to nutritional counseling in the course. Instead the review team recommended an expansion and further development of the sections of the wall chart and of the modules dealing with nutritional counseling. The goal will be to assess, classify and sub-classify feeding problems of all children less than two years old based upon the child's weight-for-age and the mother's answer to various standard questions. In this way the health worker can determine the appropriate advice to offer to the mother.

On the final day the review team examined the wall chart that deals with management of the young infant less than two months old. Although WHO-CDR has proposed that two days be allotted for training on this topic, the modules have yet to be prepared. The review team did not consider the option of omitting this material from the course.

The review team considered whether some of the material covered in the reading could be taught faster and more effectively through demonstrations. There was wide agreement that some sections could be covered faster through demonstrations, but several of the reviewers were concerned that demonstrations, by themselves, would not reliably be effective at teaching the material. The effectiveness of any teaching approach other than reading is dependent upon the skills of the facilitator. Bob Hogan and Jim Tulloch of WHO-CDR and Patricia Whitesell of ACT noted that in their experience as training proceeds down the multi-tiered training cascade of a typical national program there is often a progressive deterioration in the skills and the previous experience of the facilitators. Thus, it would be a mistake to expect too much of the facilitators who would ultimately be responsible for training large numbers of health workers. Alternative approaches to learning, including the clinical practice sessions that take up almost half of the time allotted for the current "sick child" course, are essential to help the student master skills. However, they should be viewed as supplements rather than as substitutes for reading.

During the meeting, the reviewers were unable to agree on omitting any significant portion of the two hundred fifty pages of modules. Nor could the review team agree on any teaching methods for covering the material more rapidly. In particular, experience from the pre-test suggested that most participants were unlikely to do homework during the course. The reviewers did not discuss whether it would be effective to ask the participants to read portions of the modules prior to the course. I was left with the impression that those who are designing the training will have to seriously reconsider whether 11 days is long enough to cover all of the course material.

The health worker's motivation must be internal

Another important conclusion of the pre-test was that the approach to management of childhood illness taught in the course will significantly increase the time that health workers spend with each sick child. Observations of health workers during the three weeks after the course revealed that they were spending an average of 18 minutes per sick child to assess, classify, treat and

advise. Bob Hogan posed the question, "If the process takes the health workers 2 to 3 times as long to perform as they are used to spending on each child, then what will motivate the workers to sustain the process? ...the motivation must be internal."

I read to the review group a related comment written by Mark Rasmuson of BASICS:

The main thing I believe is missing from the course is an explicit awareness that it is calling for dramatic changes in the health worker's behavior.... From the health worker's perspective, what are the benefits of these new behaviors, and what are the costs? These are questions we have become accustomed to asking when we target caretakers, but the same questions apply to this training target group. Learning these new skills may or may not make the health worker's job casier, more pleasant; maybe they will be viewed as mostly making more work,... very difficult to learn and master and thus frustrating. Where are the rewards? Becoming an expert in state of the art case management? Experiencing more satisfying relationships with clients? These are several possibilities and there are surely others. Thinking through these issues and addressing them directly in the modules would be, I feel, a useful addition. Even a single session devoted to sitting down with the training group and talking frankly about the benefits and costs would be helpful.

Sandy Gove noted that the opening session of the course in Gondar had included such a discussion with the participants on the rationale for an integrated approach to management of childhood illness. Jim Tulloch and Bob Hogan emphasized once again, however, that many of the facilitators who would likely be selected for the course would not have the skills needed to lead a discussion that would adequately address such issues. "We shouldn't expect too much of the facilitators."

After raising the issue at the beginning of the meeting, the review team did not again address the question of how to motivate health workers to sustain the new approach to case management. It should be noted, however, that WHO-CDR is working on the development of strategies for monitoring the management of childhood illness. Jennifer Bryce of WHO-CDR notes that "An effective monitoring system should provide the opportunity for health workers to recognize, and be proud of, good performance."²

III. FOLLOW UP TO THE REVIEW MEETING

1. It will take several more months to complete a final draft of the training materials including the section on nutritional counseling, the module on management of the young infant, and the various video presentations.

²CDR/WHO. Monitoring Integrated Case Management in First-Level Facilities: Preliminary Concept Paper and Workplan, 18 August, 1994

2. I suggested that BASICS might be able to assist in the following ways with the further preparation of the training materials:
 - a) BASICS could ask a graphics expert to review the wall charts and the booklet version of the wall charts and suggest ways to make them more legible and useful as job aids.
 - b) I will ask eye care organizations in the U.S. (JHU, HKI, IEF) if they can provide WHO-CDR with photographs that illustrate well
 - i. clouding of the cornea due to xerophthalmia, and
 - ii. purulent discharge from the eye due to conjunctivitis.
3. A field test of the training materials is tentatively scheduled for January, 1995 in Tanzania. The first week of the field test will be devoted to training eight facilitators. WHO-CDR has proposed that an additional eight observers might want to attend this TOT. The remaining time will be devoted to training 24 staff from first level health facilities. WHO-CDR has suggested that I should attend the field test as a facilitator and that a second representative of BASICS may want to attend the TOT as an observer.

APPENDIX

BASICS

BASIC SUPPORT FOR INSTITUTIONALIZING CHILD SURVIVAL

MEMORANDUM

DATE: August 23, 1994
TO: BASICS' task force on training in integrated case management
FROM: Bob Pond
SUBJECT: Documents from the meeting at WHO-CDR, August 16 - 19, to review training materials for Management of Childhood Illness

Attached are two documents presented at the Geneva meeting:

a) Preliminary results presented by Dr. Eric Simoes of the University of Colorado on an assessment of the training pre-test performed in Gondar, Ethiopia, July to August, 1994

For the pre-test, WHO-CDR trained 2 English speaking nurses from each of three different health facilities. Three of the nurses had previously attended a CDD course while 2 of the nurses had previously been to an ARI course. For facilitators for the pre-test, Dr. Sandy Gove of WHO-CDR trained 2 Ethiopian physicians who were leading professors of pediatrics and who had previously attended ARI and CDD training course.

The pre-test course lasted nine days. Material on management of the young infant was not included. Half of the course time was taken up with clinical practice sessions. During clinical sessions each student managed a total of 50 to 70 children. Each of the clinical topics covered in the reading was also dealt with in the clinical sessions with the exception of mastoiditis, measles and stridor.

In the time allotted the students were not able to finish all of the modules. The final module on "Follow Up" was thus omitted from the pre-test course. According to Dr. Gove, a major conclusion of the pre-test was that the course involved "... too much reading.... Some of the students were seen to be mouthing the words as they read or reading with their fingers." After the first couple of days the participants appeared to be tense and lacking in confidence. With practical experience and repetition of the material on assessment of cough and diarrhea, however, the students developed more confidence in these topics. All the same, the amount of new material was beginning to be a lot by the end of the course. By the ninth and final day the facilitators and the students all felt that they needed to review.

It was not possible to "wean the students" from the use of the Assess and Classify form (attached). Throughout the course and even three weeks afterwards the participants continued to complete the form on each child whom they managed. When copies of the form ran short the nurses would complete the form in pencil and erase it to re-use the form. Thus, the form functioned as a job aid rather than as a record.

Eric Simoes conducted his evaluation over the three weeks after the course in Gondar. As summarized on the first page of the document he distributed, he worked with the course facilitators to observe the case management by the nurses, compare the nurses' management with the physicians' recommendations based upon the WHO Sick Child wall charts, and conduct exit interviews with mothers to assess the impact of the advice they had received.

The preliminary results presented in Dr. Simoes' document should be self-explanatory. Management was evaluated for 450 children ages 2 to 59 months. The course had instructed participants how to assess, classify and treat 87% of the children's presenting complaints (i.e. fever, cough, diarrhea and ear problems). The nurses correctly diagnosed pneumonia, dehydration, dysentery, persistent diarrhea, malnutrition, malaria/severe febrile disease and ear infection with sensitivities³ of 86%, 84%, 96%, 87%, 89%, 54%, and 67% respectively and with specificities of 92%, 97%, 98%, 99%, 95%, 99% and 99% respectively. Of concern is the finding that the nurses missed 9 out of 29 cases of severe illness (especially severe pneumonia and severe malnutrition) found by the physicians.

Observation of the nurses while they prescribed cotrimoxazole showed that they demonstrated the correct dose 90% of the time, watched the mother dose the child 50% of the time and provided a good explanation of how often to dose 87% of the time.

Time studies (using a stop watch) showed that the process of assessing, classifying, treating and advising took an average of 15 to 19 minutes per child. For the most qualified of the six nurses the time to assess dropped from 8 minutes during the first week to 5 minutes during the third week after the course. On the other hand, the average time that this nurse spent on advising mother increased from five minutes during the first week after the course to 8 minutes during the third week.

b) Sections from the WHO-CDR Adaptation Guide for the Clinical Modules on Management of Childhood Illness

WHO-CDR provided the attached Table of Contents and Introduction from the Adaptation Guide. Apparently, as currently envisioned by WHO-CDR, the adaptation guide will be limited to comments on how the clinical process taught in the course might vary as a result of national policies and local epidemiology. Apparently the Adaptation Guide will not deal with the preparations for implementation of integrated training and service that involve changes in national political commitment, donor commitment, policy, local professional attitudes, MOH bureaucratic organization, drug supply, clinic organization and the knowledge, attitudes and practices of caretakers. It also appears unlikely that Adaptation Guide will consider the need for major revisions in course content or teaching methodology when local circumstances or limited reading skills or limited availability of electricity/video equipment make the current course impractical.

³Sensitivity is the chance that the nurse will classify a child as having a particular health problem (e.g. pneumonia) when, in fact, he or she does have that health problem. Specificity is the chance that the nurse will classify a child as not having a particular health problem when, in fact, they do not have that health problem. In this case, the judgement of the physician evaluators using the criteria laid down on the Sick Child wall chart was used to determine whether a child had a particular health problem.

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**Partners: Academy for Educational Development (AED), John Snow, Inc. (JSI)
and Management Sciences for Health (MSH)**

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Documents from the meeting at WHO-CDR, August 16 - 19, 1994

MANAGEMENT OF THE SICK CHILD AGE 2 MONTHS UP TO 5 YEARS

Ask - Why have you come today?

Name: _____

Pt. ID No: _____ Age: _____

ASSESS (Circle all signs present)

CLASSIFY

<p>CHECK THE CHILD FOR DANGER SIGNS</p> <p>ASK:</p> <ul style="list-style-type: none"> • Is the child able to drink? • Has the child had convulsions? <p>LOOK:</p> <ul style="list-style-type: none"> • See if the child is unusually sleepy or difficult to wake. 	<p>Danger sign present:</p> <p>Yes ___ No ___</p>																				
<p>DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING?</p> <p>Ask: • For how long? ___ Days</p> <ul style="list-style-type: none"> • Count the breaths in one minute. _____ breaths per minute Fast breathing? • Look for chest indrawing. • Look and listen for stridor. 	<p>Yes ___ No ___</p>																				
<p>DOES THE CHILD HAVE DIARRHOEA?</p> <p>Ask: • For how long? ___ Days</p> <ul style="list-style-type: none"> • Is there blood in the stool? <p>• Look at the child's general condition. Is the child:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;"><i>abnormally sleepy or difficult to wake?</i></td> <td style="width: 33%;"><i>* restless and irritable?</i></td> <td style="width: 33%;"><i>well and alert?</i></td> </tr> </table> <p>• Look at the child's eyes. Are they:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;"><i>very sunken and dry?</i></td> <td style="width: 33%;"><i>sunken?</i></td> <td style="width: 33%;"><i>normal?</i></td> </tr> </table> <p>• Look for tears.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;"><i>absent tears</i></td> <td style="width: 33%;"><i>absent tears</i></td> <td style="width: 33%;"><i>tears present</i></td> </tr> </table> <p>• Look and feel whether the child's mouth is:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;"><i>very dry?</i></td> <td style="width: 33%;"><i>dry?</i></td> <td style="width: 33%;"><i>moist?</i></td> </tr> </table> <p>• Offer fluid or breastmilk. Is the child drinking:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;"><i>poorly or not able to drink?</i></td> <td style="width: 33%;"><i>* eagerly and thirsty?</i></td> <td style="width: 33%;"><i>normally and not thirsty?</i></td> </tr> </table> <p>• Pinch the skin of the abdomen or thigh. Does it go back:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;"><i>* very slowly (longer than 2 seconds?)</i></td> <td style="width: 33%;"><i>* slowly</i></td> <td style="width: 33%;"><i>* quickly?</i></td> </tr> </table>	<i>abnormally sleepy or difficult to wake?</i>	<i>* restless and irritable?</i>	<i>well and alert?</i>	<i>very sunken and dry?</i>	<i>sunken?</i>	<i>normal?</i>	<i>absent tears</i>	<i>absent tears</i>	<i>tears present</i>	<i>very dry?</i>	<i>dry?</i>	<i>moist?</i>	<i>poorly or not able to drink?</i>	<i>* eagerly and thirsty?</i>	<i>normally and not thirsty?</i>	<i>* very slowly (longer than 2 seconds?)</i>	<i>* slowly</i>	<i>* quickly?</i>	<p>Yes ___ No ___</p> <p>for dehydration:</p> <p>for persistent diarrhoea:</p> <p>for dysentery:</p>		
<i>abnormally sleepy or difficult to wake?</i>	<i>* restless and irritable?</i>	<i>well and alert?</i>																			
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<p>HAS THE CHILD HAD FEVER?</p> <p>Ask: • Is the child vomiting repeatedly, that is, not able to keep anything down?</p> <p>Malaria risk: High Low</p> <p>• Measure temperature (or feel the child for fever): ___ °C</p> <p>• Look or feel for neck stiffness.</p> <p>• Look for runny nose.</p> <p>Look for signs suggesting MEASLES:</p> <ul style="list-style-type: none"> • Generalized rash and • One of these: cough, runny nose, or red eyes 	<p>Yes ___ No ___</p>																				
<p>If the child has measles:</p> <ul style="list-style-type: none"> • Look for sore mouth. • Look for pus draining from the eye. • Look for clouding of the cornea. 																					
<p>DOES THE CHILD HAVE AN EAR PROBLEM?</p> <p>Ask: • Is there ear pain?</p> <ul style="list-style-type: none"> • Is there ear discharge? <p>If Yes, for how long? ___ Days</p> <p>• Look for pus draining from the ear.</p> <p>• Feel for tender swelling behind the ear.</p>	<p>Yes ___ No ___</p>																				
<p>THEN CHECK THE CHILD FOR MALNUTRITION AND ANAEMIA:</p> <ul style="list-style-type: none"> • Look for visible severe wasting. • Look for eyelid pallor. If eyelid pallor, look for palmar pallor. • Look for clouding of the cornea. • Look for foamy patches on the white of the eyes. • Look for oedema of both feet. • Weigh the child. Then determine weight-for-age. Child's weight: _____ kg Low ___ Normal ___ 																					
<p>THEN CHECK THE CHILD'S IMMUNIZATION STATUS: (Record date given)</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">BCG _____</td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> <tr> <td>DPT I _____</td> <td>OPV I _____</td> <td>Return for next immunization: _____</td> <td></td> </tr> <tr> <td>DPT II _____</td> <td>OPV II _____</td> <td></td> <td></td> </tr> <tr> <td>DPT III _____</td> <td>OPV III _____</td> <td></td> <td></td> </tr> <tr> <td>Measles _____</td> <td></td> <td></td> <td></td> </tr> </table>	BCG _____				DPT I _____	OPV I _____	Return for next immunization: _____		DPT II _____	OPV II _____			DPT III _____	OPV III _____			Measles _____				<p>Immunization needed today:</p> <p>BCG ___ OPV ___</p> <p>DPT ___ Measles ___</p>
BCG _____																					
DPT I _____	OPV I _____	Return for next immunization: _____																			
DPT II _____	OPV II _____																				
DPT III _____	OPV III _____																				
Measles _____																					

ASSESS OTHER PROBLEMS: _____

from Eric Simoes
University of Colorado

Objectives of the Study

23 July 1994

Primary objective:

After training with the sick child course, how well do first-level facility health workers perform in using the sick child "system" to manage children in their normal clinic setting?

(The primary objective is to evaluate the success of training and whether the process can be used in a real clinic setting.)

- (a) Do the nurses assess, classify, treat and advise according to the sick child charts (comparison: paediatrician or computerized classification and choice of treatments based on the charts).
- (b) How long does it take? Does it get faster over time?
- (c) Are treatments adequately taught to the mother (oral drugs, advice on fluids in children with diarrhoea)?
- (d) Are the nurses able to give effective nutritional counseling according to the adapted FOOD box and Advise the Mother module?
- (e) Do the health workers communicate effectively with the mother?
- (f) Do mothers return to clinic according to the follow up instructions?

Study methods:

Observation (including timing) of case management by the nurses;
Comparison of the nurse's assessment, classification and treatment choices with a gold paediatrician using the charts and/or computerized application of the algorithm and treatment choices based on the clinical signs observed by the paediatrician.
Exit interviews with mothers to assess their recall and understanding of oral drug use, fluids during diarrhoea, when to return, and nutritional advice.

Sample size

It would be useful to be able to perform some nurse-specific analyses.

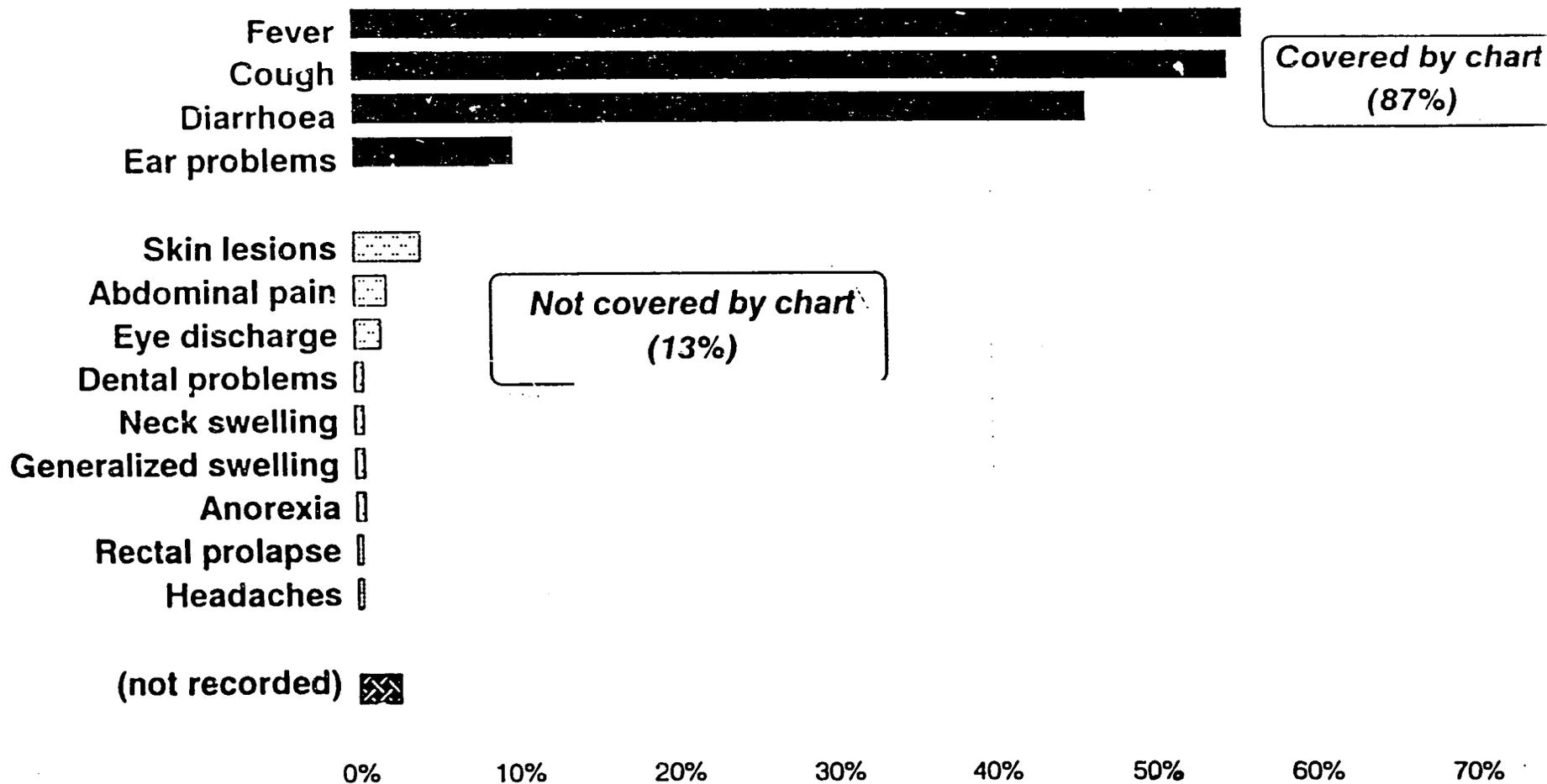
AGE STRATIFICATION

of children seen during the study

	AGE IN MONTHS:						Total
	1-3	4-5	6-11	12-17	18-23	24-59	
POLY CLINIC	12	9	37	46	24	93	224
TEDA	19	15	25	23	14	25	122
KOLADUBA	8	9	20	18	13	27	104
<hr/>							
	39	33	82	87	51	145	450

Presenting complaints

(volunteered)



WHO CLASSIFICATION OF ARI

HEALTH WORKER	PHYSICIAN		
	NO PNEUMONIA	PNEUMONIA	SEVERE PNEUMONIA OR SEVERE DISEASE
NO PNEUMONIA	130	15*	1
PNEUMONIA	12	84	4
SEVERE PNEUMONIA OR SEVERE DISEASE	0	2	10
<hr/>			
TOTAL	142	101	15

5: No cough, no RR by HW, no pneumonia (CLIN)

1: No cough, no RR by HW, pneumonia (CLIN)

3: Discrepant RR, no pneumonia (CLIN)

6: Discrepant RR, pneumonia (CLIN)

WHO CLASSIFICATION OF DIARRHOEA

HEALTH WORKER	PHYSICIAN		
	NO SIGNS OF DEHYDRATION	SOME DEHYDRATION	SEVERE DEHYDRATION
NO SIGNS OF DEHYDRATION	192	3	0
SOME DEHYDRATION	5	12	0
SEVERE DEHYDRATION	0	0	1

CLASSIFICATION OF PERSISTENT DIARRHOEA

HEALTH WORKER	NO PERSISTENT DIARRHOEA	PERSISTENT DIARRHOEA
NO PERSISTENT DIARRHOEA	204	1
PERSISTENT DIARRHOEA	1	7

CLASSIFICATION OF DYSENTERY

HEALTH WORKER	NO DYSENTERY	DYSENTERY
NO DYSENTERY	158	2
DYSENTERY	3	50

WHO CLASSIFICATION OF FEVER

PHYSICIAN

	FEVER MALARIA UNLIKELY	MALARIA	VERY SEVERE FEBRILE DISEASE
HEALTH WORKER			
FEVER MALARIA UNLIKELY	227	12	1*
MALARIA	3	15	0
VERY SEVERE FEBRILE DISEASE	0	0	0

* ? Febrile convulsions only by physician

WHO CLASSIFICATION OF EAR PROBLEM *

PHYSICIAN

*(with otoscope)
but w/ lots of cerumen*

HEALTH WORKER	NO INFECTION	ACUTE EAR INFECTION	CHRONIC EAR INFECTION
NO INFECTION	426	4	3
ACUTE INFECTION	1 **	3	1
CHRONIC INFECTION	2 ***	2	8
		9	12

* No mastoiditis was seen

** 1 child with impetigo and post-auricular lymphnode enlargement

*** 2 children with TB lymphadenitis of the upper deep cervical lymphnodes → mom % pain behind

CLASSIFICATION OF MALNUTRITION OR ANEMIA

PHYSICIAN

	NO MALNUTRITION OR ANEMIA	MALNUTRITION OR ANEMIA	SEVERE MALNUTRITION OR SEVERE ANEMIA
NO MALNUTRITION OR ANEMIA	269*	19**	0
MALNUTRITION OR ANEMIA	15	129	3***
SEVERE MALNUTRITION OR SEVERE ANEMIA	0	3	12

* 5 children not classified by HW

** missed malnutrition : 5
missed malnutrition & anemia : 1
missed anemia : 13

*** 2 edema detected; misclassified because worker felt child wasn't suck enough
1 edema not detected

**AGREEMENT BETWEEN HEALTH WORKERS AND CLINICIANS
PNEUMONIA**

	PRESENT	ABSENT	
PRESENT	100	16	116
ABSENT	12	130	142
TOTAL	112	146	

Sensitivity = $100/110$ = 86%
Specificity = $130/142$ = 92%

**AGREEMENT BETWEEN HEALTH WORKERS AND CLINICIANS
USE OF WHO CLASSIFICATIONS**

	SENSITIVITY
PNEUMONIA/SEVERE PNEUMONIA	.86
DIARRHOEA: Some/Severe Dehydration	.84
+ Persistent Diarrhoea	.87
+ Dysentery	.96
MALARIA/VERY SEVERE FEBRILE DISEASE	.54
EAR INFECTION	.67
SOME/SEVERE MALNUTRITION	.89

WHO CLASSIFICATION OF SEVERE DISEASE

PHYSICIAN

HEALTH WORKER	NO SEVERE DISEASE	SEVERE DISEASE
NO SEVERE DISEASE	411	9
SEVERE DISEASE	10	20
	<hr/>	
	421	29

OF 29 CHILDREN WITH A SEVERE (PINK) CLASSIFICATION FOR URGENT REFERRAL TO HOSPITAL

**PAEDIATRICIAN WOULD REFER -
HW MISSED KEY CLINICAL SIGNS:**

- | | |
|---------------------------|---|
| #2102 SEVERE PNEUMONIA | Chest indrawing missed |
| #1201 SEVERE PNEUMONIA | Bronchiolitis indrawing |
| #2095 SEVERE MALNUTRITION | Kwashiokor
Oedema of feet missed |
| #1041 SEVERE MALNUTRITION | Kwashiokor
Oedema of feet observed -
classified as MALNUTRITION |

NOT REFERRED BY PAEDIATRICIAN

- | | |
|-----------------------------------|---|
| #1058 VERY SEVERE FEBRILE DISEASE | ? Febrile convulsion - paediatrician uncertain |
| #1010 SEVERE PNEUMONIA | Bronchiolitis
Chest indrawing; not very sick |
| #1203 SEVERE PNEUMONIA | Health worker observed chest indrawing but classified as PNEUMONIA |
| #1067 SEVERE PNEUMONIA | Chest indrawing uncertain - paediatrician changed his interpretation |
| #2122 SEVERE MALNUTRITION | Oedema of feet uncertain - paediatrician changed his interpretation; expert diagnosis "undernourished". Health worker observed oedema but classified MALNUTRITION |

COTRIMOXAZOLE TREATMENT

(n=77)

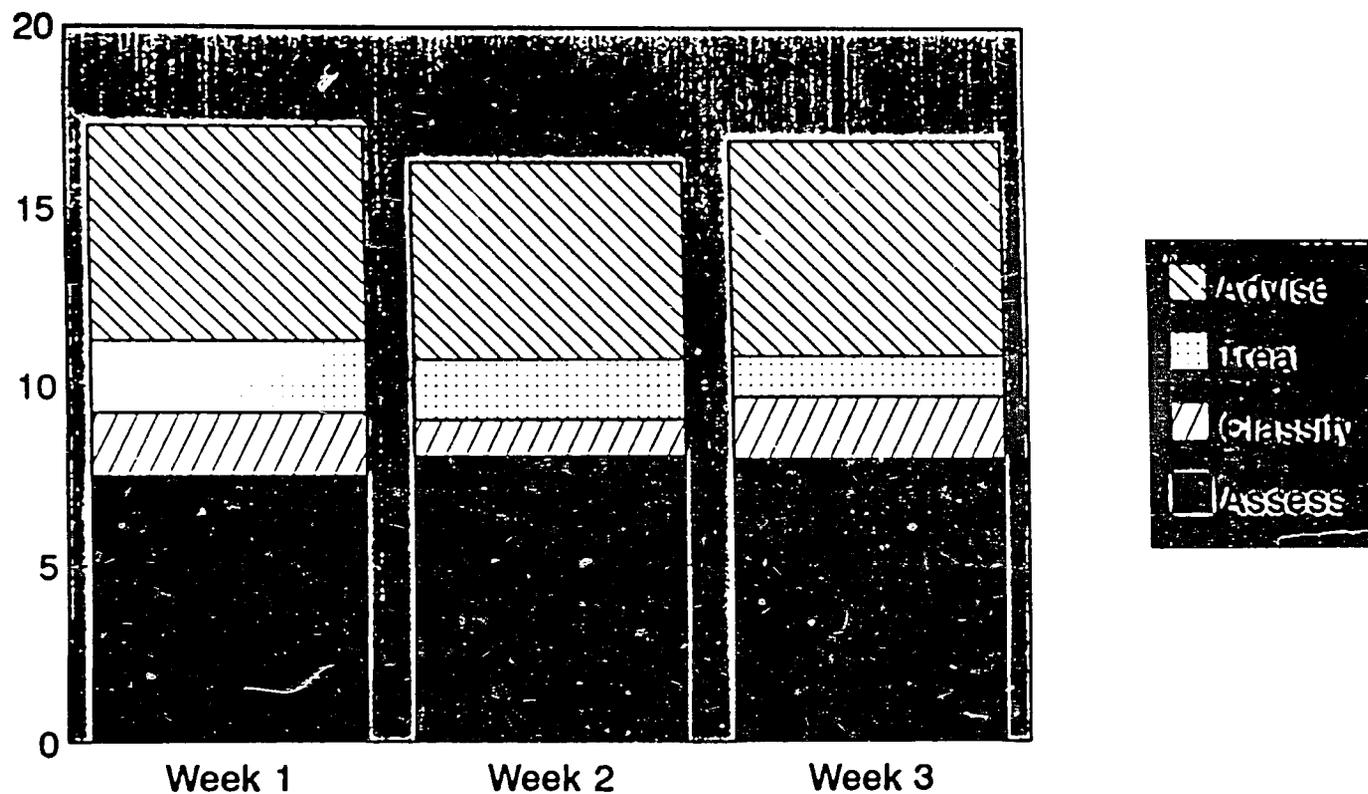
Demonstrate correct dose 90%

Watch mother give dose 50%

Good explanation # times/day 90%

Good explanation # days to give 87%

Time for Sick Child Case Management



all - median

15/8/94

Adaptation Guide

for the Clinical Modules
in the course:

Management of Childhood Illness

DRAFT- not for distribution

Please provide sections/comments to Dr Sandy Gove
WHO/ARI

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INTRODUCTION

The amount of adaptation required for the sick child course will depend on national policies and the epidemiology of common, serious febrile illnesses. This adaptation guide is intended to help relevant national programme staff and their expert advisors understand the technical basis for the "generic" recommendations which appear on the charts and when and how these should be altered to fit with national or regional circumstances.

The guidelines on the "generic" sick child case management charts have been chosen because they are expected to be applicable in the majority of developing countries where infant mortality is higher than 40 per 1000 livebirths and where there is transmission of *P. falciparum* malaria. The generic charts also contain a basic assessment and classification algorithm which has greatly simplified the management of most of the common paediatric illnesses and has deliberately concentrated on the diseases which make the greatest contribution to under 5 mortality in developing countries. This simplified system is based on using the minimum number of clinical signs which can be readily taught to first level facility workers and a classification designed to lead to the correct action, with much less attention to correct diagnosis. The classifications on the charts are often broad but have been tested to be sure they perform adequately in leading the health worker to the correct management decisions for that patient.

By making the "generic" charts as widely applicable as possible, the number of adaptations has been minimized. This has, however, required leaving off the charts certain conditions or treatments which may be very important in certain countries: conditions such as dengue haemorrhagic fever or treatments such as routine supplementation with vitamin A in areas where xerophthalmia is a problem. The charts have also been developed to reflect the lack of any functional diagnostic capability at first level health facilities other than the physical examination of the patient. In areas where a blood smear for malaria or otoscopy are available, how to use these with modified training materials is described in this guide.

Essential adaptations for all countries: Certain adaptations must be done in all countries before the course is used because certain sections of the charts have been left with blank spaces. To **fill in the blanks**, the following information is needed; likely programme sources are listed:

Oral antibiotic treatment for pneumonia, ear infection and very severe disease

First-line antibiotic _____
Second-line antibiotic _____

The national ARI programme should have established policy on the use of oral antibiotics at first-level outpatient health facilities and chosen a first-line antibiotic which is effective against pneumonia; usually this is cotrimoxazole due to its low cost and twice daily dosing. In some locations, a second-line antibiotic, for pneumonia or ear infection which does not respond to the first-line antibiotic, will also have been chosen

and supplied to these facilities. See section; if a single formulation of the antibiotic(s) will be regularly supplied to these facilities, it is also desirable to simplify the antibiotic dosing box to eliminate the antibiotic formulations which the health worker will not be using. Simplified dosing charts are provided in the workbook section

Oral antibiotic treatment for dysentery

First-line antibiotic _____
Second-line antibiotic _____

Oral antibiotic treatment for cholera

First-line antibiotic _____
Second-line antibiotic _____

Oral antimalarial treatment

First-line antimalarial _____
Second-line antimalarial _____

Safe, soothing remedy to soothe the throat, relieve the cough:

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

Children 4-6 months up to 12 months:

Children age 12 months up to 2 years:

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

There are other important adaptations which may be required to fit the guidelines to national or regional circumstances which require chart and module alterations, rather than simply filling in the blank sections of the chart. In general, these changes should reflect current guidelines which are known to be appropriate and, for some adaptations, where health workers are already trained in certain skills (such as otoscopy, use of a blood smear, use of a height board or interpretation of growth faltering from a growth monitoring chart) since the sick child training course will not teach these skills. This guide will explain how to make alterations in the training

materials based on established national policies which, on consideration in the context of sick child training, are considered important enough to warrant the effort of modifying the instructional materials. In general, it is preferable to use the materials without adaptations beyond the essential adaptations or fill-in-the-blanks listed above. The course has been carefully designed to equip health workers to deal with the major causes of child mortality and the major reasons for a clinic visit, using only simple technologies and with a limited number of drugs. Adaptations which complicate the system must be considered critically and only made when these are truly essential.

Adaptations which require alterations to the charts and modules beyond filling in blanks require careful, consistent changes in several locations. These are explained for each adaptation in the accompanying workbook and, in most cases, altered classification and treatment tables are presented. These can be cut and pasted. Adaptation is a demanding process which will often benefit from an experienced consultant.

Feeding advice- insert common local feeding problems into module text, explain the locally adapted recommendations, and modify the exercises.

Use of other or additional anthropometric indices of malnutrition

Routine vitamin A supplementation

- on sick child visits
- with measles immunization or DPT immunization after 6 months.

Clinical criteria for detection of anaemia:

choice of pallor sites (eyelid, palmar, tongue; nailbed)

Counting the breathing rate: 30 versus 60 seconds

Adding management of wheezing

Use of otoscopy in the detection of otitis media

Formulation choices:

- quinine formulation
- mebendazole
- vitamin A
- iron

Aspirin rather than paracetamol

Local terms for improved effectiveness of communication with mothers:

fast breathing
difficult breathing
diarrhoea
convulsions

Immunization schedule