

World Health Organization Integrated Management of Childhood Illness (IMCI)

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Goals for today

- Identify key causes of **childhood mortality**
- Explain the meaning and purpose of **integrated case management**
- Describe the major steps in the **IMCI strategy**
- Introduce use of **IMCI tools** including chart booklet, wall posters and case management sheets

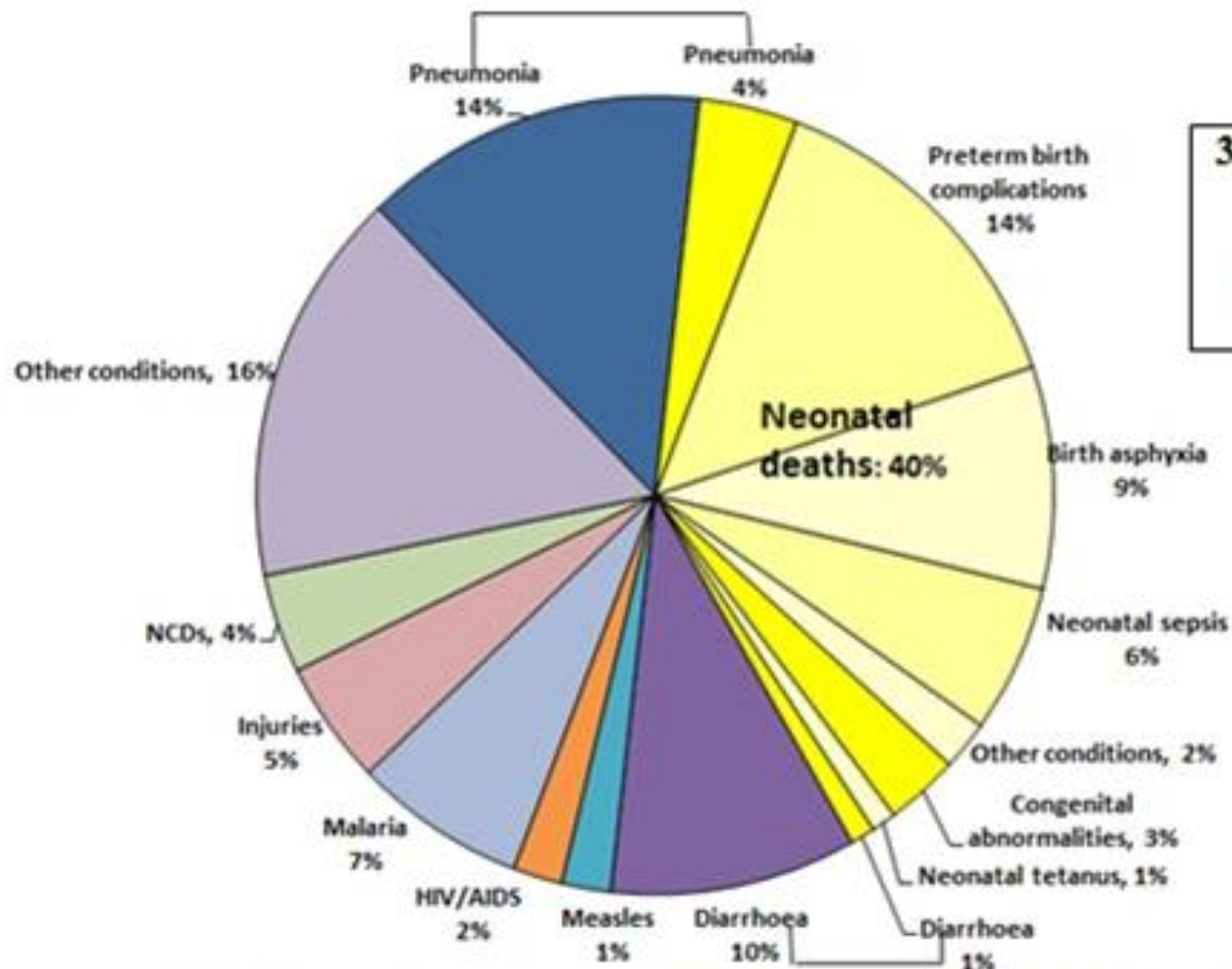
The State of Child Health Today

5.9 million children under age five died in 2015,
nearly 16 000 every day

83% of deaths in children under age five are
caused by infectious, neonatal or nutritional
conditions

**The large majority of these deaths are from
preventable causes!**

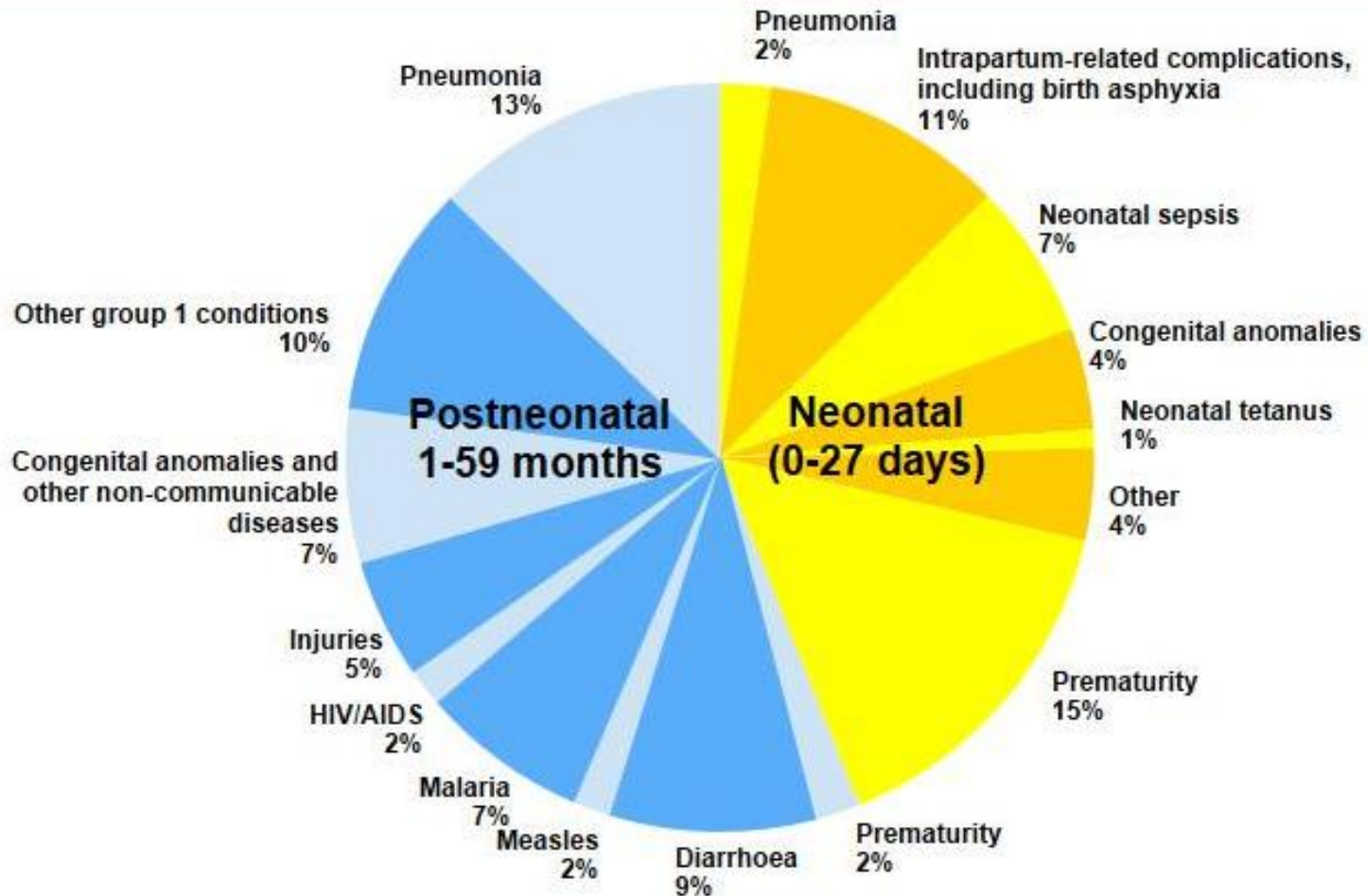
Major causes of death in neonates and children under-five in the world - 2010



35% of global under-five deaths are associated with nutrition-related factors*

- Sources:
- (1) WHO. Global Health Observatory (http://www.who.int/gho/child_health/en/index.html)
 - (2) *For undernutrition: Black et al. Lancet, 2008

Causes of deaths among children under 5 years, 2013



Source: CHERG-WHO methods and data sources for child causes of death 2000-2013 (Global Health Estimates Technical Paper)

Leading causes of death

2014 UNICEF Report

1. Preterm birth complications (17%)
2. Pneumonia (15 %)
3. Labor and delivery complications (11%)
4. Diarrhea (9 %)
5. Malaria (7 %)

Almost **half of under five deaths** are associated with **malnutrition**

Factors associated with mortality:

- Poorest households
- Rural areas
- Low rates of maternal education

Mortality also varies by country depending on the prevalence of **HIV** and **malaria**

Children die from **more than one condition** at once

Geographical distribution

Half of under-five deaths occur in **five countries**:

India (21%)

Nigeria (13%)

Pakistan

Democratic Republic of the Congo

China

Progress Made:

Under-five deaths worldwide have declined:

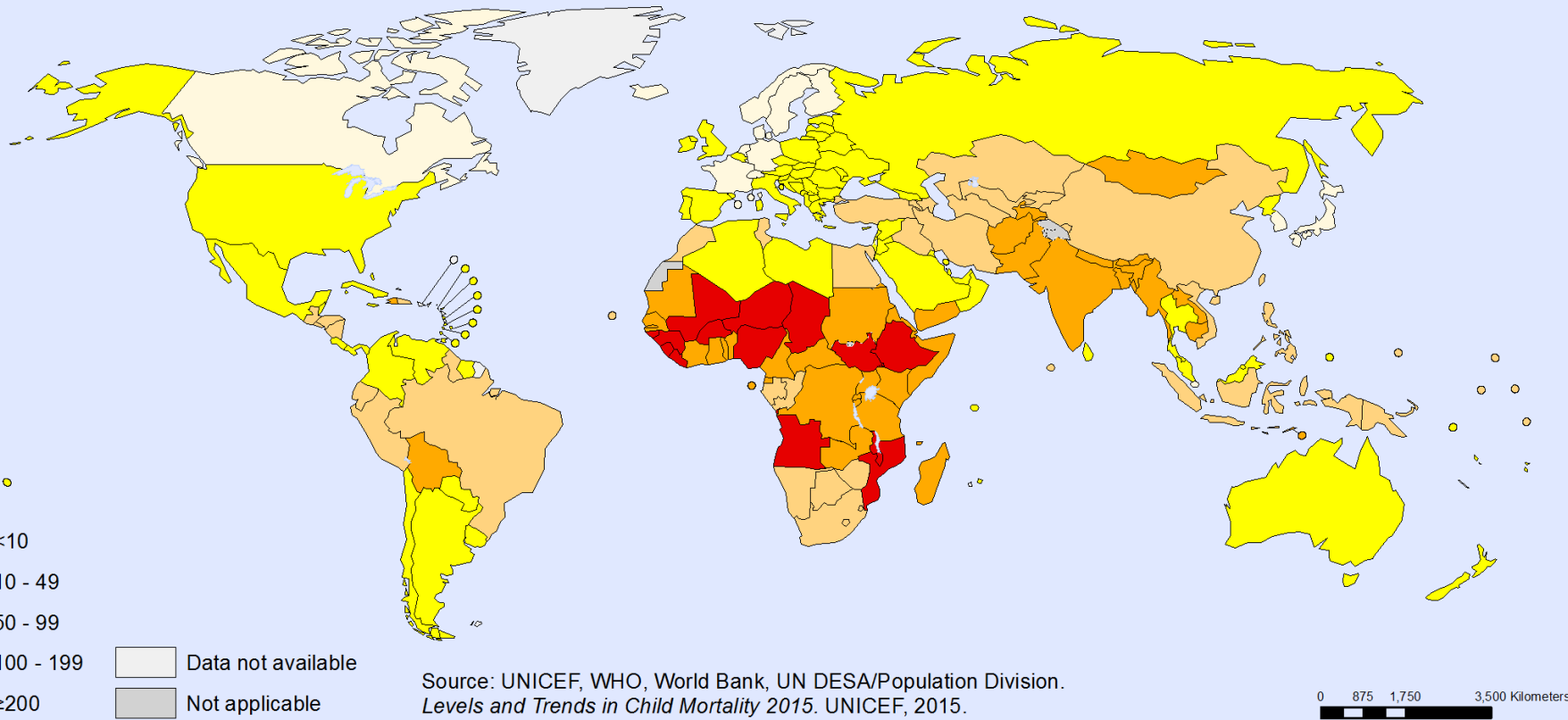
12.7 (12.6, 13.0) million in 1990

5.9 (5.7, 6.4) million in 2015

19,000 fewer children dying every day

48 million children under five saved since 2000

Under-five mortality rate (probability of dying by age 5 per 1000 live births), 1990



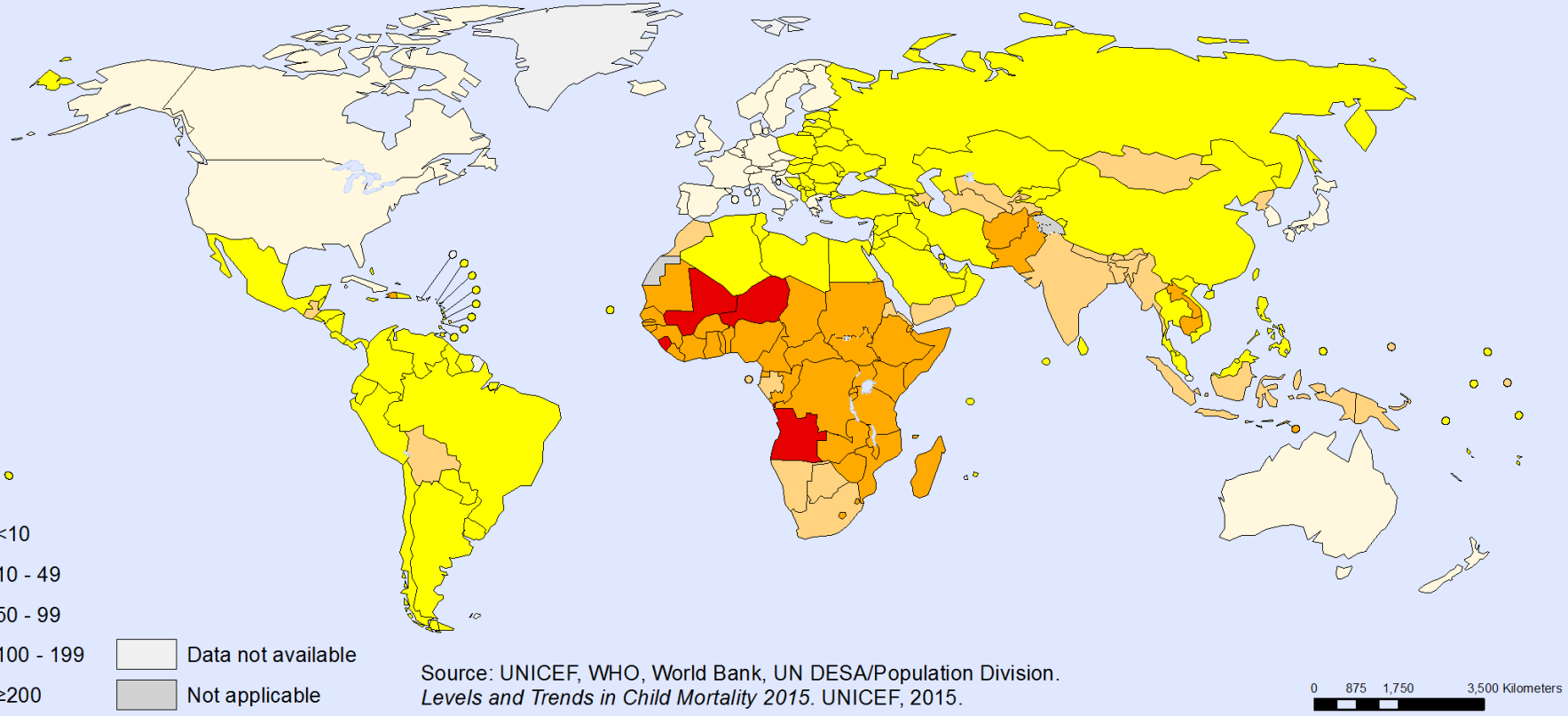
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Data Source: World Health Organization
 Map Production: Health Statistics and Information Systems (HSI)
 World Health Organization



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Under-five mortality rate (probability of dying by age 5 per 1000 live births), 2000



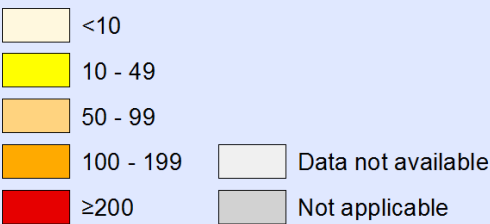
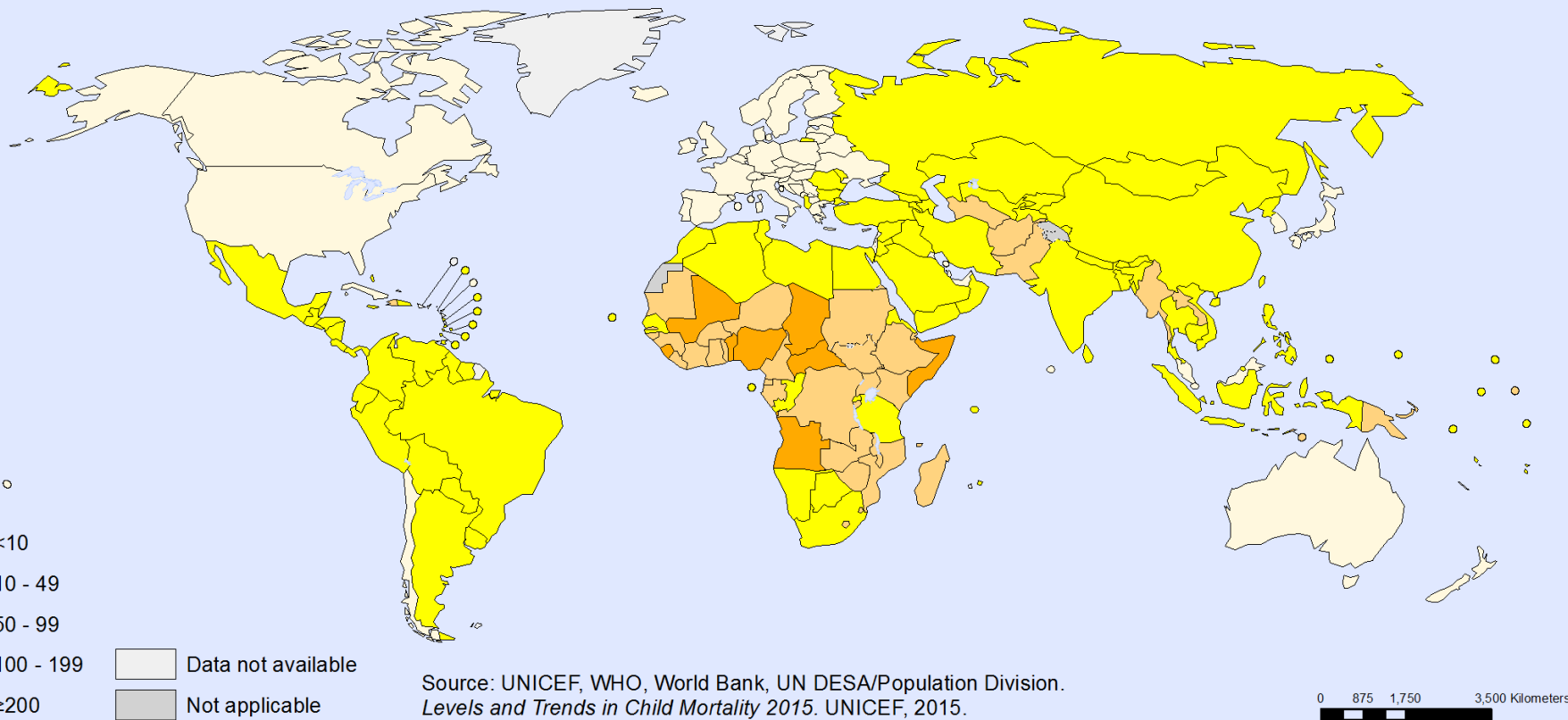
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Under-five mortality rate (probability of dying by age 5 per 1000 live births), 2015



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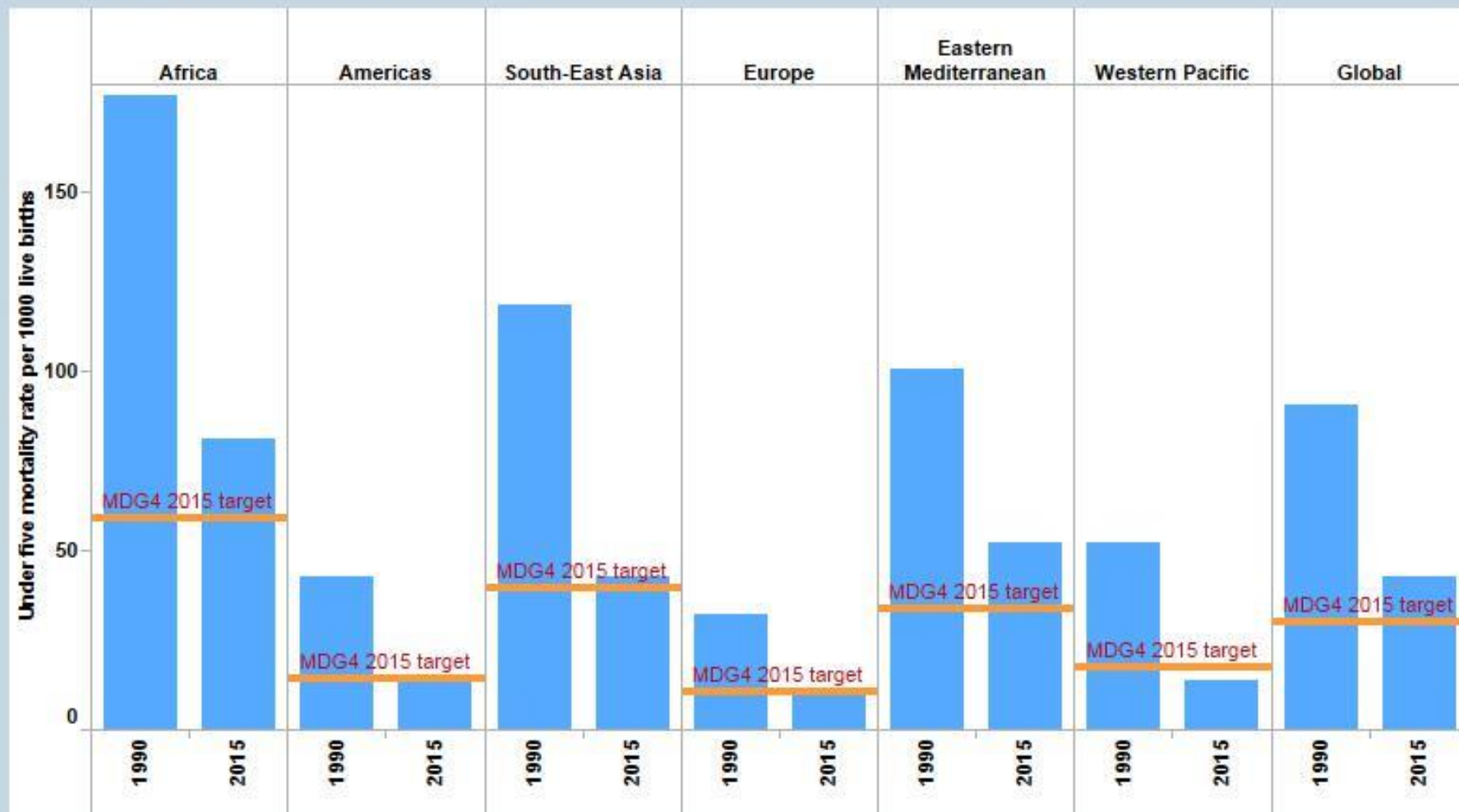


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Global and regional under-five mortality trends, 1990-2015 and gap for achieving the MDG4 target

Update: 08 September 2015

MDG4 target: to reduce by two thirds, between 1990 and 2015, the under-five mortality rate



Why IMCI?

Children present with multiple potentially deadly conditions at once

- Lack of diagnostic tools (labs or radiology)
- Providers rely on patient history, signs, and symptoms for diagnosis
- Need to refer to a higher level of care for serious illnesses

In 1995 WHO and UNICEF developed a strategy known as Integrated Management of Childhood Illness (IMCI). IMCI integrates case management of the most common childhood problems, especially the most important causes of death.

Improve health worker skills

- Case management standards & guidelines
- Training of facility-based public health care providers
- IMCI roles for private providers
- Maintenance of competence among trained health workers

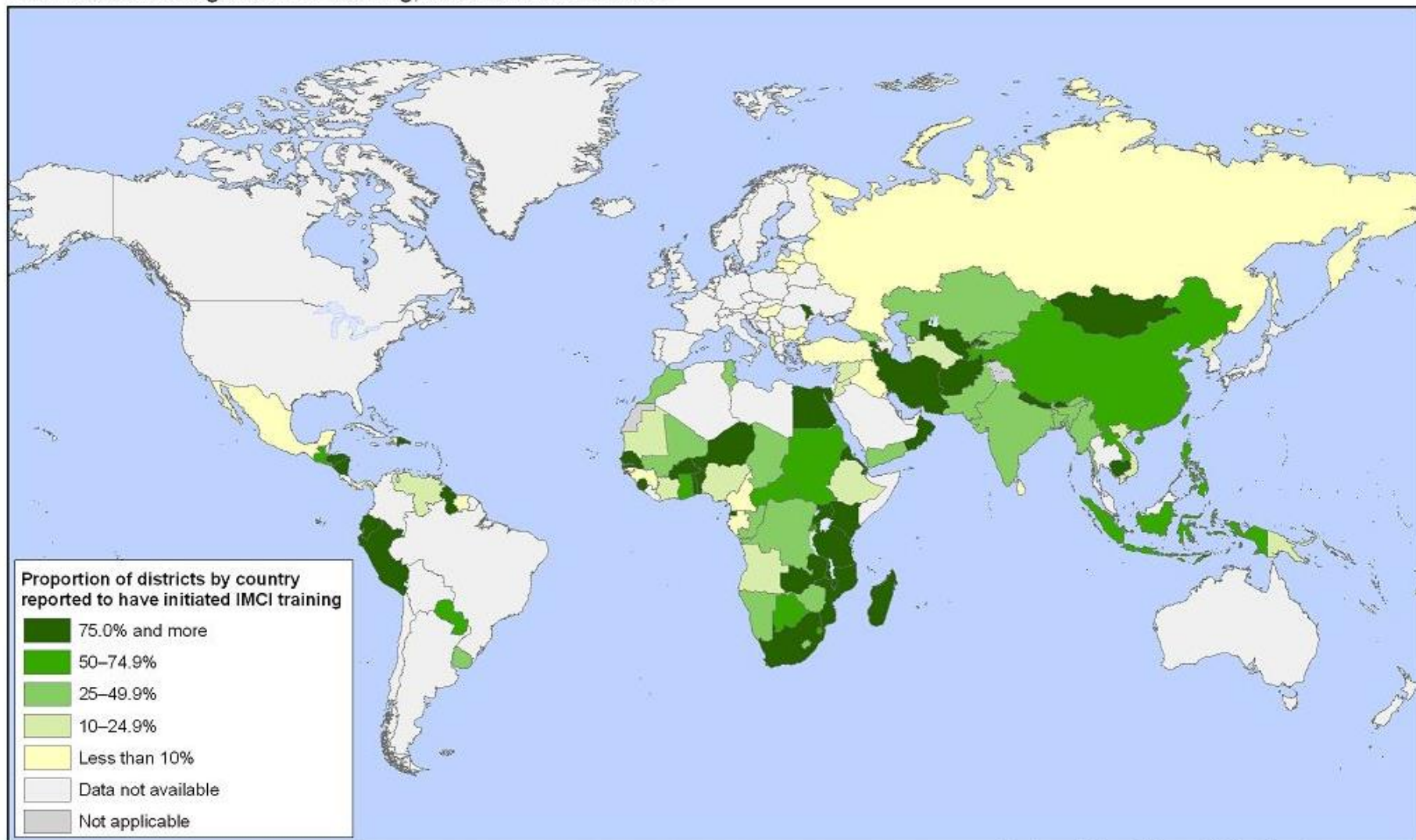
Improve health systems

- District planning and management
- Availability of IMCI drugs
- Quality improvement and supervision at health facilities
- Referral pathways and services
- Health information system

Improve family & community practices

- Appropriate careseeking
- Nutrition
- Home case management & adherence to recommended treatment
- Community involvement in health services planning & monitoring

Estimated coverage of IMCI training, as of December 2009



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Data Source: Child and Adolescent Health and Development
World Health Organization
Map Production: Public Health Mapping and GIS
World Health Organization

The IMCI Process

- List of conditions to check in children and infants
- Assess and treat children for **all** conditions that are present
- **Standardized algorithms** guide management and decision to transfer to higher care

Interventions included in the IMCI guidelines for first-level health workers

Curative interventions	Preventive interventions
<p>Effective case management of the following conditions:</p> <ul style="list-style-type: none"> • acute respiratory infections, including pneumonia • anaemia • diarrhoea (dehydration, persistent diarrhoea, dysentery) • ear infection • HIV/AIDS • local bacterial infections • meningitis, sepsis • malaria • measles • malnutrition • neonatal jaundice • wheeze 	<p>Breastfeeding support Immunization Nutrition counselling Periodic deworming Vitamin A supplementation Zinc supplementation</p>

Each country has a unique set of guidelines tailored for the local environment

Who can use IMCI?

The IMCI process can be used by all **doctors, nurses and other health professionals** who see young infants and children less than five years old.

It is a case management process for a first-level facility, such as a **clinic, health center** or an **outpatient department** of a hospital.

Sample patient

Suku is 3 years old

His mother brings him to the clinic for diarrhea



- The IMCI healthcare worker will **screen for multiple illnesses**, such as malaria, that could be happening at the same time
- IMCI guidelines provide algorithms for **assessing and treating** the diarrhea
- The guidelines help determine **when to transfer** patient to advanced care
- They also provide **counseling** for Suku's mother, such as home care, warning signs and return precautions

STEPS IN INTEGRATED CASE MANAGEMENT

STEP 1. ASSESS

- Good communication with mother of child
- Screen for general danger signs, which would indicate any life-threatening condition
- Specific questions about the most common conditions affecting a child's health (diarrhea, pneumonia, fever, etc)
- If the answers are positive, focused physical exam to identify life-threatening illness
- Evaluation of the child's nutrition and immunization status. The assessment includes checking the child for other health problems.

STEP 2. CLASSIFY

Based on the results of the assessment a health-care provider classifies a child's illnesses using a specially developed colour-coded triage system. Because many children have more than one condition, each condition is classified according to whether it requires:

Urgent pre-referral treatment and referral, or
Specific medical treatment and advice, or
Simple advice on home management

STEP 3. IDENTIFY TREATMENT

After classifying all the conditions present, a health-care provider identifies specific treatments for the sick child or the sick young infant.

- **If a child requires urgent referral (pink classification), essential treatment to be given before referral is identified.**
- **If a child needs specific treatment (yellow classification), a treatment plan is developed, and the drugs to be administered at the clinic are identified. The content of the advice to be given to the mother is decided on.**
- **If no serious conditions have been found (green classification), the mother should be correctly advised on the appropriate actions to be taken for care of the child at home.**

STEP 4. TREAT

After identifying appropriate treatment, a health-care provider carries out the necessary procedures relevant to the child's conditions.

- gives pre-referral treatment for sick children being referred;
- gives the first dose of relevant drugs to the children who are in need of specific treatment, and teaches the mother how to give oral drugs, how to feed and give fluids during illness, and how to treat local infections at home;
- provides advice on the home management of sick children at home;
- if needed, asks the mother or other caregiver to return with the child for follow-up on a specific date.

STEP 5. COUNSEL

If the follow-up care is indicated the health-care provider teaches the mother when to return to the clinic, the health worker also teaches the mother how to recognize signs indicating that the child should be brought back to the clinic immediately.

When indicated, a health-care provider assesses feeding, including breastfeeding practice, and provides counselling to solve any feeding problems found. This also includes counseling the mother about her own health.

STEP 6. FOLLOW-UP

Some children need to be seen more than once for a current episode of illness. The IMCI case management process helps to identify those children who require additional follow-up visits. When such children are brought back to the clinic, a health-care provider gives appropriate follow-up care, as indicated in IMCI guidelines, and if necessary, reassess the child for any new problems.

The IMCI Chartbook

ASSESS AND CLASSIFY CHART

**ASSESS AND CLASSIFY THE SICK CHILD
AGE 2 MONTHS UP TO 5 YEARS**

ASSESS **CLASSIFY** **IDENTIFY TREATMENT**

CHILD'S NAME/AGE

COUGH OR DIFFICULT BREATHING

SCORE	CLASSIFY	TREATMENT

FEVER

SCORE	CLASSIFY	TREATMENT

DIARRHOEA

SCORE	CLASSIFY	TREATMENT

EAR PAIN

SCORE	CLASSIFY	TREATMENT

EAR WICKING

SCORE	CLASSIFY	TREATMENT

WOUND OR BURN

SCORE	CLASSIFY	TREATMENT

WOUND/TETANUS

WOUND/TETANUS

TREAT THE CHILD
CARRY OUT THE TREATMENT STEPS IDENTIFIED ON THE ASSESS AND CLASSIFY CHART

TEACH THE MOTHER TO GIVE ORAL DRUGS AT HOME

Follow the instructions below for every oral drug to be given at home. All of the following instructions must be read with each drug dispensed.

- Determine the appropriate drug and dosage for the child's age or weight.
- Tell the mother the reason for giving the drug to the child.
- Demonstrate how to measure a dose.
- Watch the mother practice measuring a dose by herself.
- Ask the mother to give the dose to her child.
- Explain carefully how to give the drug (then label and package the drug).
- If more than one drug will be given, collect, count and package each drug.
- Explain that all drugs (tablets or syrups) must be used and check understanding.

► Give an Oral Antimalarial

► Give Vitamin A

► Give Paracetamol for High Fever

► Give Iron

► Give an Appropriate Oral Antibiotic

► Give Mebendazole

TEACH THE MOTHER TO TREAT LOCAL INFECTIONS AT HOME

► Dry the Ear by Wicking

GIVE FOLLOW-UP CARE

► Care for the child who returns for follow-up using all boxes that match the child's previous classifications.

► If the child has any new problem, assess, classify and treat the new problem as on the ASSESS AND CLASSIFY chart.

► PNEUMONIA

► PERSISTENT DIARRHOEA

► MALARIA (Low or High Risk)

► EAR INFECTION

► FEEDING PROBLEM

► FEVER - MALARIA UNLIKELY

► PALLOR

COUNSEL THE MOTHER

FOOD

► **Assess the Child's Feeding**

Ask questions about the child's usual feeding and feeding during this illness. Compare the mother's answers to the *Feeding Recommendations* for the child's age in the box below.

ASK

- Do you breastfeed your child?
 - How many times during the day?
 - Do you also breastfeed during the night?
- Does the child take any other food or fluids?
 - What food or fluids?
 - How many times per day?
 - What do you use to feed the child?
 - If very low weight for age: How large are servings? Does the child receive his own serving? Who feeds the child and how?
- During this illness, has the child's feeding changed? If yes, how?

► **Feeding Recommendations During Sickness and Health**

Wall Charts



Case Recording Form

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

Name:

Ask: What are the child's problems?

Age:

Weight (kg):

Initial Visit?

Height/Length (cm):

Follow-up Visit?

Temperature (°C):

ASSESS (Circle all signs present)

CLASSIFY

<p>CHECK FOR GENERAL DANGER SIGN</p> <ul style="list-style-type: none"> • NOT ABLE TO DRINK OR BREASTFEED • VOMITS EVERYTHING • CONVULSIONS • LETHARGIC OR UNCONSCIOUS • CONVULSING NOW 	<p>General danger sign present? Yes ___ No ___ Remember to use Danger sign when selecting classifications</p>
<p>DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING?</p> <ul style="list-style-type: none"> • For how long? ___ Days • Count the breaths in one minute: ___ breaths per minute. Fast breathing? • Look for chest indrawing • Look and listen for stridor • Look and listen for wheezing 	<p>Yes ___ No ___</p>
<p>DOES THE CHILD HAVE DIARRHOEA?</p> <ul style="list-style-type: none"> • For how long? ___ Days • Is there blood in the stool? • Look at the child's general condition. Is the child: <ul style="list-style-type: none"> ◦ Lethargic or unconscious? Restless and irritable? • Look for sunken eyes. • Offer the child fluid. Is the child: <ul style="list-style-type: none"> ◦ Not able to drink or drinking poorly? Drinking eagerly, thirsty? • Pinch the skin of the abdomen. Does it go back: <ul style="list-style-type: none"> ◦ Very slowly (longer than 2 seconds)? Slowly? 	<p>Yes ___ No ___</p>
<p>DOES THE CHILD HAVE FEVER? (by history/feels hot/temperature 37.5°C or above)</p> <p>Decide malaria risk: High ___ Low ___ No ___</p> <ul style="list-style-type: none"> • For how long? ___ Days • If more than 7 days, has fever been present every day? • Has child had measles within the last 3 months? • Look or feel for stiff neck • Look for runny nose • Look for signs of MEASLES: <ul style="list-style-type: none"> ◦ Generalized rash and ◦ One of these: cough, runny nose, or red eyes • Look for any other cause of fever. <p>Do a malaria test, if NO general danger sign in all cases in high malaria risk or NO obvious cause of fever in low malaria risk: Test POSITIVE? P. falciparum P. vivax NEGATIVE?</p>	<p>Yes ___ No ___</p>
<p>If the child has measles now or within the last 3 months:</p> <ul style="list-style-type: none"> • Look for mouth ulcers. If yes, are they deep and extensive? • Look for pus draining from the eye. • Look for clouding of the cornea. 	
<p>DOES THE CHILD HAVE AN EAR PROBLEM?</p> <ul style="list-style-type: none"> • Is there ear pain? • Look for pus draining from the ear 	<p>Yes ___ No ___</p>

SICK CHILD AGE 2 MONTHS UP TO 5 YEARS

ASSESS AND CLASSIFY THE SICK CHILD

ASSESS

CLASSIFY

IDENTIFY TREATMENT

ASK THE MOTHER WHAT THE CHILD'S PROBLEMS ARE

- Determine if this is an initial or follow-up visit for this problem.
 - if follow-up visit, use the follow-up instructions on TREAT THE CHILD chart.
 - if initial visit, assess the child as follows:

USE ALL BOXES THAT MATCH THE CHILD'S SYMPTOMS AND PROBLEMS TO CLASSIFY THE ILLNESS

CHECK FOR GENERAL DANGER SIGNS

Ask:

- Is the child able to drink or breastfeed?
- Does the child vomit everything?
- Has the child had convulsions?

Look:

- See if the child is lethargic or unconscious.
- Is the child convulsing now?

URGENT attention

- Any general danger sign

Pink:

VERY SEVERE DISEASE

- Give diazepam if convulsing now
- Quickly complete the assessment
- Give any pre-referral treatment immediately
- Treat to prevent low blood sugar
- Keep the child warm
- Refer **URGENTLY**.

A child with any general danger sign needs *URGENT* attention; complete the assessment and any pre-referral treatment immediately so referral is not delayed.

General Danger Signs



Source: Shah SS: *Pediatric Practice: Infectious Disease*:
www.accesspediatrics.com
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THEN ASK ABOUT MAIN SYMPTOMS:
Does the child have cough or difficult breathing?

If yes, ask:

- For how long?

Look, listen, feel*:

- Count the breaths in one minute.
- Look for chest indrawing.
- Look and listen for stridor.
- Look and listen for wheezing.

CHILD MUST BE CALM

If wheezing with either fast breathing or chest indrawing:
 Give a trial of rapid acting inhaled bronchodilator for up to three times 15-20 minutes apart. Count the breaths and look for chest indrawing again, and then classify.

If the child is:

2 months up to 12 months	Fast breathing is: 50 breaths per minute or more
12 Months up to 5 years	40 breaths per minute or more

**Classify
 COUGH or
 DIFFICULT
 BREATHING**

<ul style="list-style-type: none"> Any general danger sign or Stridor in calm child. 	Pink: SEVERE PNEUMONIA OR VERY SEVERE DISEASE	<ul style="list-style-type: none"> Give first dose of an appropriate antibiotic Refer URGENTLY to hospital**
<ul style="list-style-type: none"> Chest indrawing or Fast breathing. 	Yellow: PNEUMONIA	<ul style="list-style-type: none"> Give oral Amoxicillin for 5 days*** If wheezing (or disappeared after rapidly acting bronchodilator) give an inhaled bronchodilator for 5 days**** If chest indrawing in HIV exposed/infected child, give first dose of amoxicillin and refer. Soothe the throat and relieve the cough with a safe remedy If coughing for more than 14 days or recurrent wheeze, refer for possible TB or asthma assessment Advise mother when to return immediately Follow-up in 3 days
<ul style="list-style-type: none"> No signs of pneumonia or very severe disease. 	Green: COUGH OR COLD	<ul style="list-style-type: none"> If wheezing (or disappeared after rapidly acting bronchodilator) give an inhaled bronchodilator for 5 days**** Soothe the throat and relieve the cough with a safe remedy If coughing for more than 14 days or recurrent wheezing, refer for possible TB or asthma assessment Advise mother when to return immediately Follow-up in 5 days if not improving

*If pulse oximeter is available, determine oxygen saturation and refer if < 90%.
 ** If referral is not possible, manage the child as described in the pneumonia section of the national referral guidelines or as in WHO Pocket Book for hospital care for children.
 ***Oral Amoxicillin for 3 days could be used in patients with fast breathing but no chest indrawing in low HIV settings.
 **** In settings where inhaled bronchodilator is not available, oral salbutamol may be tried but not recommended for treatment of severe acute wheeze.

Lung Sounds

Stridor

<https://youtu.be/oeoAze-CHng>

Which of the following has been shown to reduce the duration of acute diarrhea in children?

- A. Vitamin C
- B. Zinc
- C. Vitamin B12
- D. Vitamin A

Which of the following has been shown to reduce the duration of acute diarrhea in children?

A. Vitamin C

B. Zinc

C. Vitamin B12

D. Vitamin A

Cochrane 2013: In children >6 months with acute diarrhea, zinc reduces duration of diarrhea by approximately 10 hours. In children with signs of moderate malnutrition the effect appears greater, reducing the duration of diarrhea by 27 hours.

Does the child have diarrhoea?

If yes, ask:

- For how long?
- Is there blood in the stool?

Look and feel:

- Look at the child's general condition. Is the child:
 - Lethargic or unconscious?
 - Restless and irritable?
- Look for sunken eyes.
- Offer the child fluid. Is the child:
 - Not able to drink or drinking poorly?
 - Drinking eagerly, thirsty?
- Pinch the skin of the abdomen. Does it go back:
 - Very slowly (longer than 2 seconds)?
 - Slowly?

Classify DIARRHOEA

for DEHYDRATION

Two of the following signs:

- Lethargic or unconscious
- Sunken eyes
- Not able to drink or drinking poorly
- Skin pinch goes back very slowly.

Pink:
SEVERE DEHYDRATION

- If child has no other severe classification:
 - Give fluid for severe dehydration (Plan C)
OR
- If child also has another severe classification:
 - Refer **URGENTLY** to hospital with mother giving frequent sips of ORS on the way
 - Advise the mother to continue breastfeeding
- If child is 2 years or older and there is cholera in your area, give antibiotic for cholera

Two of the following signs:

- Restless, irritable
- Sunken eyes
- Drinks eagerly, thirsty
- Skin pinch goes back slowly.

Yellow:
SOME DEHYDRATION

- Give fluid, zinc supplements, and food for some dehydration (Plan B)
- If child also has a severe classification:
 - Refer **URGENTLY** to hospital with mother giving frequent sips of ORS on the way
 - Advise the mother to continue breastfeeding
- Advise mother when to return immediately
- Follow-up in 5 days if not improving

Not enough signs to classify as some or severe dehydration.

Green:
NO DEHYDRATION

- Give fluid, zinc supplements, and food to treat diarrhoea at home (Plan A)
- Advise mother when to return immediately
- Follow-up in 5 days if not improving

and if diarrhoea 14 days or more

- Dehydration present.

Pink:
SEVERE PERSISTENT DIARRHOEA

- Treat dehydration before referral unless the child has another severe classification
- Refer to hospital

- No dehydration.

Yellow:
PERSISTENT DIARRHOEA

- Advise the mother on feeding a child who has PERSISTENT DIARRHOEA
- Give multivitamins and minerals (including zinc) for 14 days
- Follow-up in 5 days

and if blood in stool

- Blood in the stool.

Yellow:
DYSENTERY

- Give ciprofloxacin for 3 days
- Follow-up in 3 days

Physical Exam



What condition is this?



Which of the following decreases mortality in children with measles?

- A. Vitamin C
- B. Zinc
- C. Vitamin B12
- D. Vitamin A

Which of the following decreases mortality in children with measles?

- A. Vitamin C
- B. Zinc
- C. Vitamin B12
- D. Vitamin A**

Cochrane Review 2002:

64% reduction in mortality in children with measles given **two doses** of vitamin A

Cochrane Review 2010:

VAS reduced all-cause mortality in children 6 months to 5 years by **24%**

Does the child have fever?

(by history or feels hot or temperature 37.5°C* or above)

If yes:

Decide Malaria Risk: high or low

Then ask:

- For how long?
- If more than 7 days, has fever been present every day?
- Has the child had measles within the last 3 months?

Look and feel:

- Look or feel for stiff neck.
- Look for runny nose.
- Look for any bacterial cause of fever**.
- Look for signs of MEASLES.
 - Generalized rash and
 - One of these: cough, runny nose, or red eyes.

Do a malaria test***: If NO severe classification

- In all fever cases if High malaria risk.
- In Low malaria risk if no obvious cause of fever present.

High or Low Malaria Risk

Classify FEVER

No Malaria Risk and No Travel to Malaria Risk Area

If the child has measles now or within the last 3 months:

- Look for mouth ulcers. Are they deep and extensive?
- Look for pus draining from the eye.
- Look for clouding of the cornea.

If MEASLES now or within last 3 months, Classify

<ul style="list-style-type: none"> • Any general danger sign or • Stiff neck. 	<p>Pink: VERY SEVERE FEBRILE DISEASE</p>	<ul style="list-style-type: none"> ■ Give first dose of artesunate or quinine for severe malaria ■ Give first dose of an appropriate antibiotic ■ Treat the child to prevent low blood sugar ■ Give one dose of paracetamol in clinic for high fever (38.5°C or above) ■ Refer URGENTLY to hospital
<ul style="list-style-type: none"> • Malaria test POSITIVE. 	<p>Yellow: MALARIA</p>	<ul style="list-style-type: none"> ■ Give recommended first line oral antimalarial ■ Give one dose of paracetamol in clinic for high fever (38.5°C or above) ■ Give appropriate antibiotic treatment for an identified bacterial cause of fever ■ Advise mother when to return immediately ■ Follow-up in 3 days if fever persists ■ If fever is present every day for more than 7 days, refer for assessment
<ul style="list-style-type: none"> • Malaria test NEGATIVE • Other cause of fever PRESENT. 	<p>Green: FEVER: NO MALARIA</p>	<ul style="list-style-type: none"> ■ Give one dose of paracetamol in clinic for high fever (38.5°C or above) ■ Give appropriate antibiotic treatment for an identified bacterial cause of fever ■ Advise mother when to return immediately ■ Follow-up in 3 days if fever persists ■ If fever is present every day for more than 7 days, refer for assessment
<ul style="list-style-type: none"> • Any general danger sign • Stiff neck. 	<p>Pink: VERY SEVERE FEBRILE DISEASE</p>	<ul style="list-style-type: none"> ■ Give first dose of an appropriate antibiotic. ■ Treat the child to prevent low blood sugar. ■ Give one dose of paracetamol in clinic for high fever (38.5°C or above). ■ Refer URGENTLY to hospital.
<ul style="list-style-type: none"> • No general danger signs • No stiff neck. 	<p>Green: FEVER</p>	<ul style="list-style-type: none"> ■ Give one dose of paracetamol in clinic for high fever (38.5°C or above) ■ Give appropriate antibiotic treatment for any identified bacterial cause of fever ■ Advise mother when to return immediately ■ Follow-up in 2 days if fever persists ■ If fever is present every day for more than 7 days, refer for assessment
<ul style="list-style-type: none"> • Any general danger sign or • Clouding of cornea or • Deep or extensive mouth ulcers. 	<p>Pink: SEVERE COMPLICATED MEASLES****</p>	<ul style="list-style-type: none"> ■ Give Vitamin A treatment ■ Give first dose of an appropriate antibiotic ■ If clouding of the cornea or pus draining from the eye, apply tetracycline eye ointment ■ Refer URGENTLY to hospital
<ul style="list-style-type: none"> • Pus draining from the eye or • Mouth ulcers. 	<p>Yellow: MEASLES WITH EYE OR MOUTH COMPLICATIONS****</p>	<ul style="list-style-type: none"> ■ Give Vitamin A treatment ■ If pus draining from the eye, treat eye infection with tetracycline eye ointment ■ If mouth ulcers, treat with gentian violet ■ Follow-up in 3 days
<ul style="list-style-type: none"> • Measles now or within the last 3 months. 	<p>Green: MEASLES</p>	<ul style="list-style-type: none"> ■ Give Vitamin A treatment

* These temperatures are based on axillary temperature. Rectal temperature readings are approximately 0.5°C higher.

**Look for local tenderness; oral sores; refusal to use a limb; hot tender swelling; red tender skin or boils; lower abdominal pain or pain on passing urine in older children.

*** If no malaria test available: High malaria risk - classify as MALARIA; Low malaria risk AND NO obvious cause of fever - classify as MALARIA.

**** Other important complications of measles - pneumonia, stridor, diarrhoea, ear infection, and acute malnutrition - are classified in other tables.

Does the child have an ear problem?

If yes, ask:

- Is there ear pain?
- Is there ear discharge?
If yes, for how long?

Look and feel:

- Look for pus draining from the ear.
- Feel for tender swelling behind the ear.

Classify EAR PROBLEM

<ul style="list-style-type: none"> ● Tender swelling behind the ear. 	Pink: MASTOIDITIS	<ul style="list-style-type: none"> ■ Give first dose of an appropriate antibiotic ■ Give first dose of paracetamol for pain ■ Refer URGENTLY to hospital
<ul style="list-style-type: none"> ● Pus is seen draining from the ear and discharge is reported for less than 14 days, or ● Ear pain. 	Yellow: ACUTE EAR INFECTION	<ul style="list-style-type: none"> ■ Give an antibiotic for 5 days ■ Give paracetamol for pain ■ Dry the ear by wicking ■ Follow-up in 5 days
<ul style="list-style-type: none"> ● Pus is seen draining from the ear and discharge is reported for 14 days or more. 	Yellow: CHRONIC EAR INFECTION	<ul style="list-style-type: none"> ■ Dry the ear by wicking ■ Treat with topical quinolone eardrops for 14 days ■ Follow-up in 5 days
<ul style="list-style-type: none"> ● No ear pain and No pus seen draining from the ear. 	Green: NO EAR INFECTION	<ul style="list-style-type: none"> ■ No treatment

THEN CHECK FOR ANAEMIA

Check for anaemia

- Look for palmar pallor. Is it:
 - Severe palmar pallor*?
 - Some palmar pallor?

Classify ANAEMIA Classification arrow

<ul style="list-style-type: none"> ● Severe palmar pallor 	Pink: SEVERE ANAEMIA	<ul style="list-style-type: none"> ■ Refer URGENTLY to hospital
<ul style="list-style-type: none"> ● Some pallor 	Yellow: ANAEMIA	<ul style="list-style-type: none"> ■ Give iron** ■ Give mebendazole if child is 1 year or older and has not had a dose in the previous 6 months ■ Advise mother when to return immediately ■ Follow-up in 14 days
<ul style="list-style-type: none"> ● No palmar pallor 	Green: NO ANAEMIA	<ul style="list-style-type: none"> ■ ● If child is less than 2 years old, assess the child's feeding and counsel the mother according to the feeding recommendations <ul style="list-style-type: none"> ○ If feeding problem, follow-up in 5 days

*Assess for sickle cell anaemia if common in your area.

**If child has severe acute malnutrition and is receiving RUTF, DO NOT give iron because there is already adequate amount of iron in RUTF.

Physical Exam



THEN CHECK FOR ACUTE MALNUTRITION

CHECK FOR ACUTE MALNUTRITION

LOOK AND FEEL:

Look for signs of acute malnutrition

- Look for oedema of both feet.
- Determine WFH/L* ___ z-score.
- Measure MUAC** ___ mm in a child 6 months or older.

If WFH/L less than -3 z-scores or MUAC less than 115 mm, then:

- Check for any medical complication present:
 - Any general danger signs
 - Any severe classification
 - Pneumonia with chest indrawing
- If no medical complications present:
 - Child is 6 months or older, offer RUTF*** to eat. Is the child:
 - Not able to finish RUTF portion?
 - Able to finish RUTF portion?
 - Child is less than 6 months, assess breastfeeding:
 - Does the child have a breastfeeding problem?

Classify
NUTRITIONAL
STATUS

<ul style="list-style-type: none"> • Oedema of both feet OR • WFH/L less than -3 z-scores OR MUAC less than 115 mm AND any one of the following: <ul style="list-style-type: none"> ○ Medical complication present or ○ Not able to finish RUTF or ○ Breastfeeding problem. 	<p><i>Pink:</i> COMPLICATED SEVERE ACUTE MALNUTRITION</p>	<ul style="list-style-type: none"> ■ Give first dose appropriate antibiotic ■ Treat the child to prevent low blood sugar ■ Keep the child warm ■ Refer URGENTLY to hospital
<ul style="list-style-type: none"> • WFH/L less than -3 z-scores OR • MUAC less than 115 mm AND • Able to finish RUTF. 	<p><i>Yellow:</i> UNCOMPLICATED SEVERE ACUTE MALNUTRITION</p>	<ul style="list-style-type: none"> ■ Give oral antibiotics for 5 days ■ Give ready-to-use therapeutic food for a child aged 6 months or more ■ Counsel the mother on how to feed the child. ■ Assess for possible TB infection ■ Advise mother when to return immediately ■ Follow up in 7 days
<ul style="list-style-type: none"> • WFH/L between -3 and -2 z-scores OR • MUAC 115 up to 125 mm. 	<p><i>Yellow:</i> MODERATE ACUTE MALNUTRITION</p>	<ul style="list-style-type: none"> ■ Assess the child's feeding and counsel the mother on the feeding recommendations ■ If feeding problem, follow up in 7 days ■ Assess for possible TB infection. ■ Advise mother when to return immediately ■ Follow-up in 30 days
<ul style="list-style-type: none"> • WFH/L - 2 z-scores or more OR • MUAC 125 mm or more. 	<p><i>Green:</i> NO ACUTE MALNUTRITION</p>	<ul style="list-style-type: none"> ■ If child is less than 2 years old, assess the child's feeding and counsel the mother on feeding according to the feeding recommendations ■ If feeding problem, follow-up in 7 days

*WFH/L is Weight-for-Height or Weight-for-Length determined by using the WHO growth standards charts.

** MUAC is Mid-Upper Arm Circumference measured using MUAC tape in all children 6 months or older.

***RUTF is Ready-to-Use Therapeutic Food for conducting the appetite test and feeding children with severe acute malnutrition.

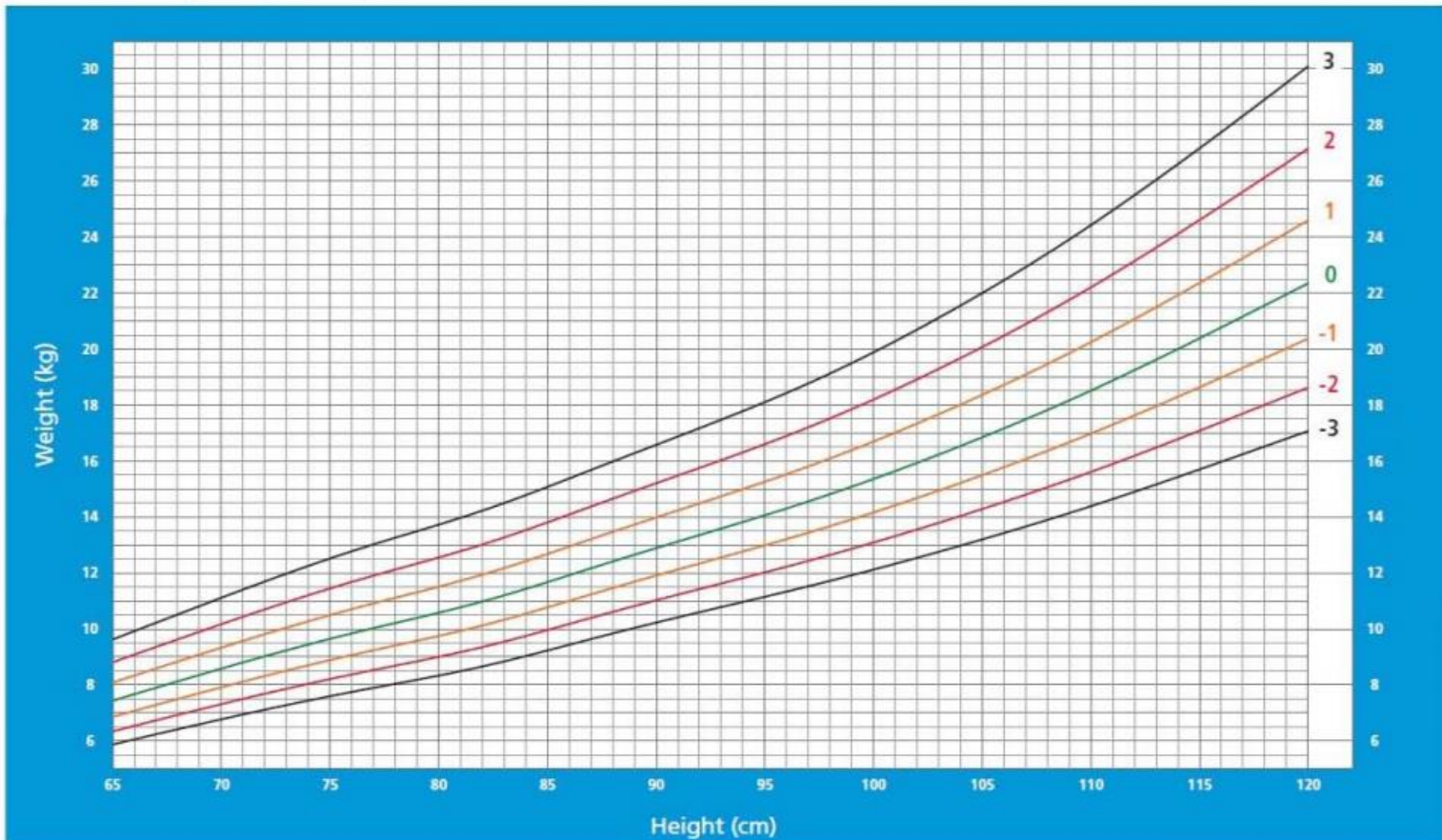
Edema of both feet



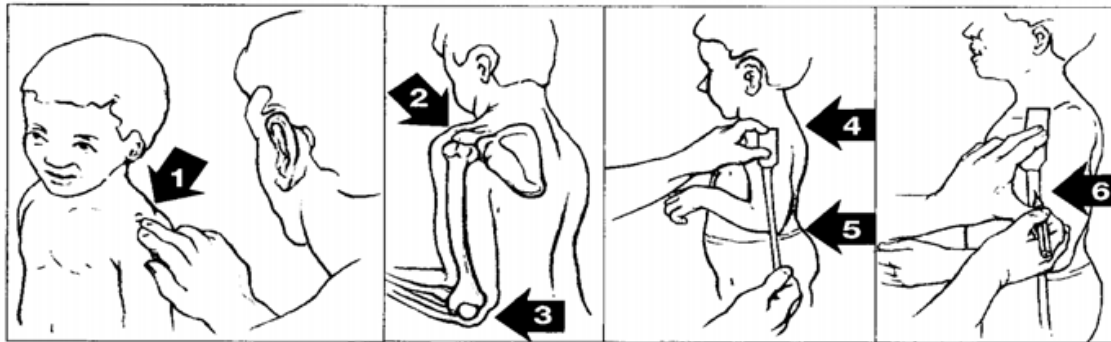
WFH/L

Weight-for-height BOYS

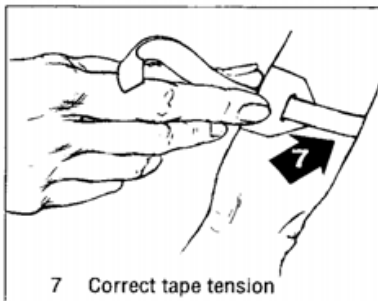
2 to 5 years (z-scores)



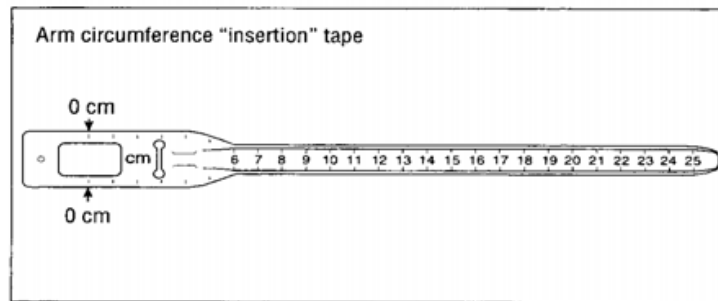
MUAC



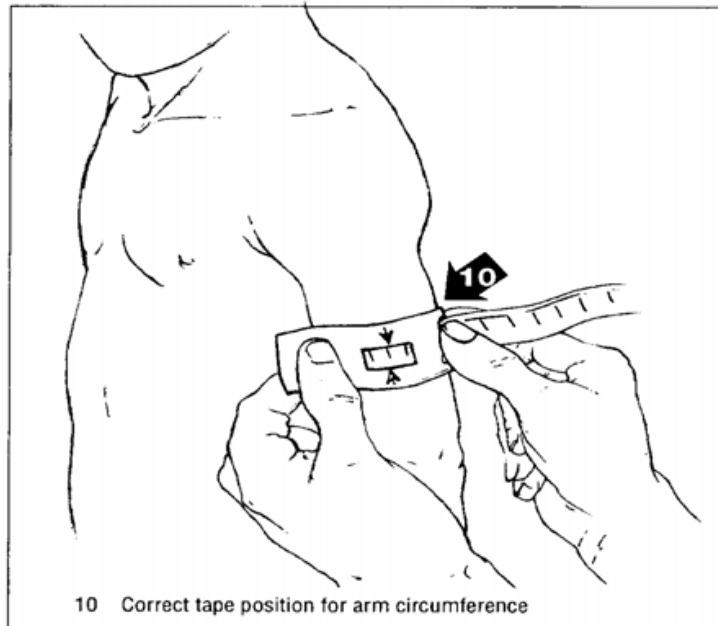
- 1 Locate tip of shoulder
- 2 Tip of shoulder
- 3 Tip of elbow
- 4 Place tape at tip of shoulder
- 5 Pull tape past tip of bent elbow
- 6 Mark midpoint



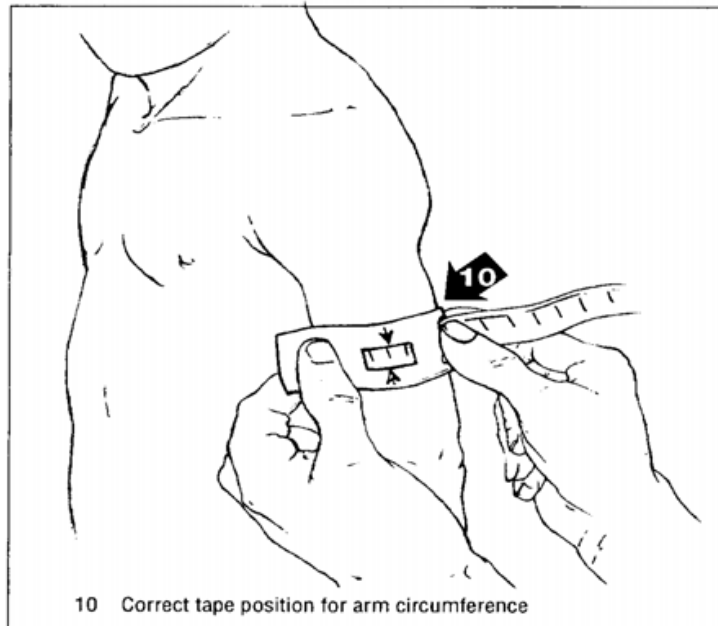
7 Correct tape tension



8 Tape too tight



9 Tape too loose



10 Correct tape position for arm circumference

MUAC interpretation

- If MUAC is less than 115 mm - severe acute malnutrition and threat of death
- If MUAC is 115 up to 125 mm - moderate acute malnutrition
- If MUAC is 125 mm or more – no malnutrition

THEN CHECK FOR HIV INFECTION

Use this chart if the child is **NOT** enrolled in HIV care.

ASK

Has the mother or child had an HIV test?

IF YES:

Decide HIV status:

- Mother: POSITIVE or NEGATIVE
- Child:
 - Virological test POSITIVE or NEGATIVE
 - Serological test POSITIVE or NEGATIVE

If mother is HIV positive and child is negative or unknown, ASK:

- Was the child breastfeeding at the time or 6 weeks before the test?
- Is the child breastfeeding now?
- If breastfeeding ASK: Is the mother and child on ARV prophylaxis?

IF NO, THEN TEST:

- Mother and child status unknown: TEST mother.
- Mother HIV positive and child status unknown: TEST child.

**Classify
HIV
status**

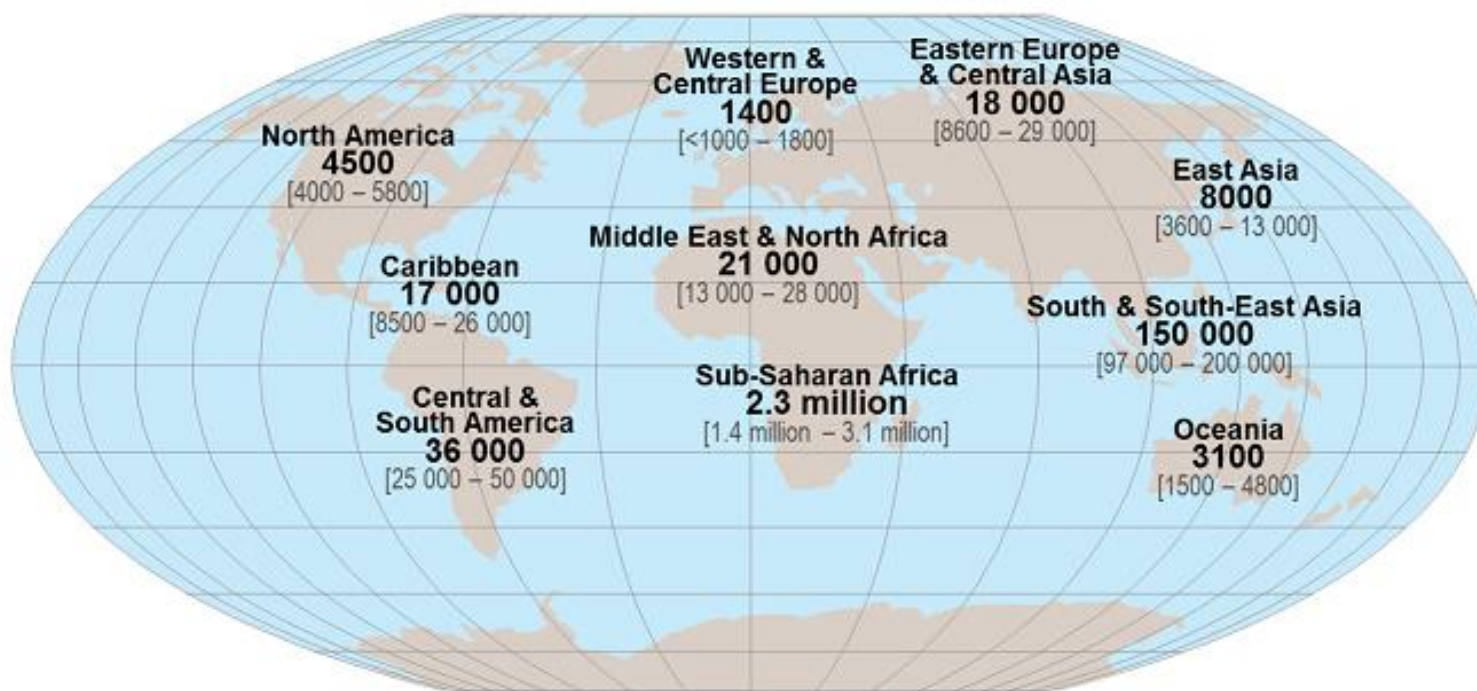
<ul style="list-style-type: none"> ● Positive virological test in child <p>OR</p> <ul style="list-style-type: none"> ● Positive serological test in a child 18 months or older 	<p>Yellow: CONFIRMED HIV INFECTION</p>	<ul style="list-style-type: none"> ■ Initiate ART treatment and HIV care ■ Give cotrimoxazole prophylaxis* ■ Assess the child's feeding and provide appropriate counselling to the mother ■ Advise the mother on home care ■ Assess or refer for TB assessment and INH preventive therapy ■ Follow-up regularly as per national guidelines
<ul style="list-style-type: none"> ● Mother HIV-positive AND negative virological test in a breastfeeding child or only stopped less than 6 weeks ago <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> ● Mother HIV-positive, child not yet tested <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> ● Positive serological test in a child less than 18 months old 	<p>Yellow: HIV EXPOSED</p>	<ul style="list-style-type: none"> ■ Give cotrimoxazole prophylaxis ■ Start or continue ARV prophylaxis as recommended ■ Do virological test to confirm HIV status** ■ Assess the child's feeding and provide appropriate counselling to the mother ■ Advise the mother on home care ■ Follow-up regularly as per national guidelines
<ul style="list-style-type: none"> ● Negative HIV test in mother or child 	<p>Green: HIV INFECTION UNLIKELY</p>	<ul style="list-style-type: none"> ■ Treat, counsel and follow-up existing infections

* Give cotrimoxazole prophylaxis to all HIV infected and HIV-exposed children until confirmed negative after cessation of breastfeeding.

** If virological test is negative, repeat test 6 weeks after the breastfeeding has stopped; if serological test is positive, do a virological test as soon as possible.

HIV guidelines vary by region

Children (<15 years) estimated to be living with HIV | 2009



Total: 2.5 million [1.6 million - 3.4 million]

THEN CHECK THE CHILD'S IMMUNIZATION, VITAMIN A AND DEWORMING STATUS

IMMUNIZATION SCHEDULE:

Follow national guidelines

AGE	VACCINE					
Birth	BCG*	OPV-0	Hep B0			
6 weeks	DPT+HIB-1	OPV-1	Hep B1	RTV1	PCV1***	
10 weeks	DPT+HIB-2	OPV-2	Hep B2	RTV2	PCV2	
14 weeks	DPT+HIB-3	OPV-3	Hep B3	RTV3	PCV3	
9 months	Measles **					
18 months	DPT					

VITAMIN A SUPPLEMENTATION

Give every child a dose of Vitamin A every six months from the age of 6 months. Record the dose on the child's chart.

ROUTINE WORM TREATMENT

Give every child mebendazole every 6 months from the age of one year. Record the dose on the child's card.

*Children who are HIV positive or unknown HIV status with symptoms consistent with HIV should not be vaccinated.

**Second dose of measles vaccine may be given at any opportunistic moment during periodic supplementary immunization activities as early as one month following the first dose.

***HIV-positive infants and pre-term neonates who have received 3 primary vaccine doses before 12 months of age may benefit from a booster dose in the second year of life.

ASSESS OTHER PROBLEMS:

MAKE SURE CHILD WITH ANY GENERAL DANGER SIGN IS REFERRED after first dose of an appropriate antibiotic and other urgent treatments. Treat all children with a general danger sign to prevent low blood sugar.

Treat the Child

TEACH THE MOTHER TO GIVE ORAL DRUGS AT HOME

Follow the instructions below for every oral drug to be given at home. Also follow the instructions listed with each drug's dosage table.

- Determine the appropriate drugs and dosage for the child's age or weight.
- Tell the mother the reason for giving the drug to the child.
- Demonstrate how to measure a dose.
- Watch the mother practise measuring a dose by herself.
- Ask the mother to give the first dose to her child.
- Explain carefully how to give the drug, then label and package the drug.
- If more than one drug will be given, collect, count and package each drug separately.
- Explain that all the oral drug tablets or syrups must be used to finish the course of treatment, even if the child gets better.
- Check the mother's understanding before she leaves the clinic.

Give an Appropriate Oral Antibiotic

- FOR PNEUMONIA, ACUTE EAR INFECTION:

FIRST-LINE ANTIBIOTIC: Oral Amoxicillin

AGE or WEIGHT	AMOXICILLIN*	
	TABLET 250 mg	SYRUP 250mg/5 ml
2 months up to 12 months (4 - <10 kg)	1	5 ml
12 months up to 3 years (10 - <14 kg)	2	10 ml
3 years up to 5 years (14-19 kg)	3	15 ml

* Amoxicillin is the recommended first-line drug of choice in the treatment of pneumonia due to its efficacy and increasing high resistance to cotrimoxazole.

- FOR PROPHYLAXIS IN HIV CONFIRMED OR EXPOSED CHILD:

ANTIBIOTIC FOR PROPHYLAXIS: Oral Cotrimoxazole

AGE	COTRIMOXAZOLE (trimethoprim + sulfamethoxazole)		
	Syrup (40/200 mg/5ml)	Paediatric tablet (Single strength 20/100 mg)	Adult tablet (Single strength 80/400 mg)
Less than 6 months	2.5 ml	1	-
6 months up to 5 years	5 ml	2	1/2

- FOR DYSENTERY give Ciprofloxacin

FIRST-LINE ANTIBIOTIC: Oral Ciprofloxacin

AGE	CIPROFLOXACINE	
	250 mg tablet	500 mg tablet
Less than 6 months	1/2	1/4
6 months up to 5 years	1	1/2

- FOR CHOLERA:

FIRST-LINE ANTIBIOTIC FOR CHOLERA: _____

SECOND-LINE ANTIBIOTIC FOR CHOLERA: _____

AGE or WEIGHT	ERYTHROMYCIN	TETRACYCLINE
	Give four times daily for 3 days	Give four times daily for 3 days
	TABLET 250 mg	TABLET 250 mg
2 years up to 5 years (10 - 19 kg)	1	1

TEACH THE MOTHER TO GIVE ORAL DRUGS AT HOME

Follow the instructions below for every oral drug to be given at home.
Also follow the instructions listed with each drug's dosage table.

Give Inhaled Salbutamol for Wheezing

USE OF A SPACER*

A spacer is a way of delivering the bronchodilator drugs effectively into the lungs. No child under 5 years should be given an inhaler without a spacer. A spacer works as well as a nebuliser if correctly used.

- From salbutamol metered dose inhaler (100 µg/puff) give 2 puffs.
- Repeat up to 3 times every 15 minutes before classifying pneumonia.

Spacers can be made in the following way:

- Use a 500ml drink bottle or similar.
- Cut a hole in the bottle base in the same shape as the mouthpiece of the inhaler. This can be done using a sharp knife.
- Cut the bottle between the upper quarter and the lower 3/4 and disregard the upper quarter of the bottle.
- Cut a small V in the border of the large open part of the bottle to fit to the child's nose and be used as a mask.
- Flame the edge of the cut bottle with a candle or a lighter to soften it.
- In a small baby, a mask can be made by making a similar hole in a plastic (not polystyrene) cup.
- Alternatively commercial spacers can be used if available.

To use an inhaler with a spacer:

- Remove the inhaler cap. Shake the inhaler well.
- Insert mouthpiece of the inhaler through the hole in the bottle or plastic cup.
- The child should put the opening of the bottle into his mouth and breath in and out through the mouth.
- A carer then presses down the inhaler and sprays into the bottle while the child continues to breath normally.
- Wait for three to four breaths and repeat.
- For younger children place the cup over the child's mouth and use as a spacer in the same way.

* If a spacer is being used for the first time, it should be primed by 4-5 extra puffs from the inhaler.

Give Oral Antimalarial for MALARIA

■ If Artemether-Lumefantrine (AL)

- Give the first dose of artemether-lumefantrine in the clinic and observe for one hour. If the child vomits within an hour repeat the dose.
- Give second dose at home after 8 hours.
- Then twice daily for further two days as shown below.
- Artemether-lumefantrine should be taken with food.

■ If Artesunate Amodiaquine (AS+AQ)

- Give first dose in the clinic and observe for an hour, if a child vomits within an hour repeat the dose.
- Then daily for two days as per table below using the fixed dose combination.

WEIGHT (age)	Artemether-Lumefantrine tablets (20 mg artemether and 120 mg lumefantrine) Give two times daily for 3 days			Artesunate plus Amodiaquine tablets Give Once a day for 3 days					
				(25 mg AS/67.5 mg AQ)			(50 mg AS/135 mg AQ)		
	Day 1	Day 2	day 3	Day 1	Day 2	Day 3	Day 1	Day 2	Day 3
5 - <10 kg (2 months up to 12 months)	1	1	1	1	1	1	-	-	-
10 - <14 kg (12 months up to 3 years)	1	1	1	-	-	-	1	1	1
14 - <19 kg (3 years up to 5 years)	2	2	2	-	-	-	1	1	1

Give Paracetamol for High Fever (> 38.5°C) or Ear Pain

- Give paracetamol every 6 hours until high fever or ear pain is gone.

AGE or WEIGHT	PARACETAMOL	
	TABLET (100 mg)	TABLET (500 mg)
2 months up to 3 years (4 - <14 kg)	1	1/4
3 years up to 5 years (14 - <19 kg)	1 1/2	1/2

TEACH THE MOTHER TO GIVE ORAL DRUGS AT HOME

Follow the instructions below for every oral drug to be given at home.

Also follow the instructions listed with each drug's dosage table.

Give Iron*

- Give one dose daily for 14 days.

AGE or WEIGHT	IRON/FOLATE TABLET	IRON SYRUP
	Ferrous sulfate 200 mg + 250 µg Folate (60 mg elemental iron)	Ferrous fumarate 100 mg per 5 ml (20 mg elemental iron per ml)
2 months up to 4 months (4 - <6 kg)		1.00 ml (< 1/4 tsp.)
4 months up to 12 months (6 - <10 kg)		1.25 ml (1/4 tsp.)
12 months up to 3 years (10 - <14 kg)	1/2 tablet	2.00 ml (<1/2 tsp.)
3 years up to 5 years (14 - 19 kg)	1/2 tablet	2.5 ml (1/2 tsp.)

* Children with severe acute malnutrition who are receiving ready-to-use therapeutic food (RUTF) should not be given Iron.

TEACH THE MOTHER TO TREAT LOCAL INFECTIONS AT HOME

- Explain to the mother what the treatment is and why it should be given.
- Describe the treatment steps listed in the appropriate box.
- Watch the mother as she does the first treatment in the clinic (except for remedy for cough or sore throat).
- Tell her how often to do the treatment at home.
- If needed for treatment at home, give mother the tube of tetracycline ointment or a small bottle of gentian violet.
- Check the mothers understanding before she leaves the clinic.

Soothe the Throat, Relieve the Cough with a Safe Remedy

- Safe remedies to recommend:
 - Breast milk for a breastfed infant.

- Harmful remedies to discourage:

Treat Eye Infection with Tetracycline Eye Ointment

- Clean both eyes 4 times daily.
 - Wash hands.
 - Use clean cloth and water to gently wipe away pus.
- Then apply tetracycline eye ointment in both eyes 4 times daily.
 - Squirt a small amount of ointment on the inside of the lower lid.
 - Wash hands again.
- Treat until there is no pus discharge.
- Do not put anything else in the eye.

*Clear the Ear by Dry Wicking and Give Eardrops**

- Dry the ear at least 3 times daily.
 - Roll clean absorbent cloth or soft, strong tissue paper into a wick.
 - Place the wick in the child's ear.
 - Remove the wick when wet.
 - Replace the wick with a clean one and repeat these steps until the ear is dry.
 - Instill quinolone eardrops after dry wicking three times daily for two weeks.

* Quinolone eardrops may include ciprofloxacin, norfloxacin, or ofloxacin.

Treat for Mouth Ulcers with Gentian Violet (GV)

- Treat for mouth ulcers twice daily.
 - Wash hands.
 - Wash the child's mouth with clean soft cloth wrapped around the finger and wet with salt water.
 - Paint the mouth with half-strength gentian violet (0.25% dilution).
 - Wash hands again.
 - Continue using GV for 48 hours after the ulcers have been cured.
 - Give paracetamol for pain relief.

Treat Thrush with Nystatin

Treat thrush four times daily for 7 days

- Wash hands
- Wet a clean soft cloth with salt water and use it to wash the child's mouth
- Instill nystatin 1ml four times a day
- Avoid feeding for 20 minutes after medication
- If breastfed check mother's breasts for thrush. If present treat with nystatin
- Advise mother to wash breasts after feeds. If bottle fed advise change to cup and spoon
- Give paracetamol if needed for pain

GIVE VITAMIN A AND MEBENDAZOLE IN CLINIC

- Explain to the mother why the drug is given
- Determine the dose appropriate for the child's weight (or age)
- Measure the dose accurately

Give Vitamin A Supplementation and Treatment

VITAMIN A SUPPLEMENTATION:

- Give first dose any time after 6 months of age to ALL CHILDREN
- Thereafter vitamin A **every six months** to ALL CHILDREN

VITAMIN A TREATMENT:

- Give an extra dose of Vitamin A (same dose as for supplementation) for **treatment** if the child has MEASLES or PERSISTENT DIARRHOEA. If the child has had a dose of vitamin A within the past month or is on RUTF for treatment of severe acute malnutrition, DO NOT GIVE VITAMIN A.
- Always record the dose of Vitamin A given on the child's card.

AGE	VITAMIN A DOSE
6 up to 12 months	100 000 IU
One year and older	200 000 IU

Give Mebendazole

- Give 500 mg mebendazole as a single dose in clinic if:
 - hookworm/whipworm are a problem in children in your area, and
 - the child is 1 years of age or older, and
 - the child has not had a dose in the previous 6 months.

GIVE THESE TREATMENTS IN THE CLINIC ONLY

- Explain to the mother why the drug is given.
- Determine the dose appropriate for the child's weight (or age).
- Use a sterile needle and sterile syringe when giving an injection.
- Measure the dose accurately.
- Give the drug as an intramuscular injection.
- If child cannot be referred, follow the instructions provided.

Give Intramuscular Antibiotics

GIVE TO CHILDREN BEING REFERRED URGENTLY

- Give Ampicillin (50 mg/kg) and Gentamicin (7.5 mg/kg).

AMPICILLIN

- Dilute 500mg vial with 2.1ml of sterile water (500mg/2.5ml).
- IF REFERRAL IS NOT POSSIBLE OR DELAYED, repeat the ampicillin injection every 6 hours.
- Where there is a strong suspicion of meningitis, the dose of ampicillin can be increased 4 times.

GENTAMICIN

- 7.5 mg/kg/day once daily

AGE or WEIGHT	AMPICILLIN 500 mg vial	GENTAMICIN 2ml/40 mg/ml vial
2 up to 4 months (4 - <6 kg)	1 m	0.5-1.0 ml
4 up to 12 months (6 - <10 kg)	2 ml	1.1-1.8 ml
12 months up to 3 years (10 - <14 kg)	3 ml	1.9-2.7 ml
3 years up to 5 years (14 - 19 kg)	5 m	2.8-3.5 ml

Give Diazepam to Stop Convulsions

- Turn the child to his/her side and clear the airway. Avoid putting things in the mouth.
- Give 0.5mg/kg diazepam injection solution per rectum using a small syringe without a needle (like a tuberculin syringe) or using a catheter.
- Check for low blood sugar, then treat or prevent.
- Give oxygen and REFER
- If convulsions have not stopped after 10 minutes repeat diazepam dose

AGE or WEIGHT	DIAZEPAM 10mg/2mls
2 months up to 6 months (5 - 7 kg)	0.5 ml
6 months up to 12months (7 - <10 kg)	1.0 ml
12 months up to 3 years (10 - <14 kg)	1.5 ml
3 years up to 5 years (14-19 kg)	2.0 ml

Give Artesunate Suppositories or Intramuscular Artesunate or Quinine for Severe Malaria

FOR CHILDREN BEING REFERRED WITH VERY SEVERE FEBRILE DISEASE:

- Check which pre-referral treatment is available in your clinic (rectal artesunate suppositories, artesunate injection or quinine).
- Artesunate suppository: Insert first dose of the suppository and refer child urgently
- Intramuscular artesunate or quinine: Give first dose and refer child urgently to hospital.

IF REFERRAL IS NOT POSSIBLE:

- For artesunate injection:
 - Give first dose of artesunate intramuscular injection
 - Repeat dose after 12 hrs and daily until the child can take orally
 - Give full dose of oral antimalarial as soon as the child is able to take orally.
- For artesunate suppository:
 - Give first dose of suppository
 - Repeat the same dose of suppository every 24 hours until the child can take oral antimalarial.
 - Give full dose of oral antimalarial as soon as the child is able to take orally
- For quinine:
 - Give first dose of intramuscular quinine.
 - The child should remain lying down for one hour.
 - Repeat the quinine injection at 4 and 8 hours later, and then every 12 hours until the child is able to take an oral antimalarial. Do not continue quinine injections for more than 1 week.

If low risk of malaria, do not give quinine to a child less than 4 months of age.

AGE or WEIGHT	RECTAL ARTESUNATE SUPPOSITORY		INTRAMUSCULAR ARTESUNATE	INTRAMUSCULAR QUININE	
	50 mg suppositories Dosage 10 mg/kg	200 mg suppositories Dosage 10 mg/kg	60 mg vial (20mg/ml) 2.4 mg/kg	150 mg/ml* (in 2 ml ampoules)	300 mg/ml* (in 2 ml ampoules)
2 months up to 4 months (4 - <6 kg)	1		1/2 ml	0.4 ml	0.2 ml
4 months up to 12 months (6 - <10 kg)	2		1 ml	0.6 ml	0.3 ml
12 months up to 2 years (10 - <12 kg)	2	-	1.5 ml	0.8 ml	0.4 ml
2 years up to 3 years (12 - <14 kg)	3	1	1.5 ml	1.0 ml	0.5 ml
3 years up to 5 years (14 - 19 kg)	3	1	2 ml	1.2 ml	0.6 ml

* quinine salt

GIVE THESE TREATMENTS IN THE CLINIC ONLY

Treat the Child to Prevent Low Blood Sugar

- **If the child is able to breastfeed:**
 - Ask the mother to breastfeed the child.
- **If the child is not able to breastfeed but is able to swallow:**
 - Give expressed breast milk or a breast-milk substitute.
 - If neither of these is available, give sugar water*.
 - Give 30 - 50 ml of milk or sugar water* before departure.
- **If the child is not able to swallow:**
 - Give 50 ml of milk or sugar water* by nasogastric tube.
 - If no nasogastric tube available, give 1 teaspoon of sugar moistened with 1-2 drops of water sublingually and repeat doses every 20 minutes to prevent relapse.
 - * To make sugar water: Dissolve 4 level teaspoons of sugar (20 grams) in a 200-ml cup of clean water.

GIVE EXTRA FLUID FOR DIARRHOEA AND CONTINUE FEEDING

(See **FOOD** advice on **COUNSEL THE MOTHER** chart)

PLAN A: TREAT DIARRHOEA AT HOME

Counsel the mother on the 4 Rules of Home Treatment:

1. Give Extra Fluid
2. Give Zinc Supplements (age 2 months up to 5 years)
3. Continue Feeding
4. When to Return.

1. GIVE EXTRA FLUID (as much as the child will take)

■ TELL THE MOTHER:

- Breastfeed frequently and for longer at each feed.
- If the child is exclusively breastfed, give ORS or clean water in addition to breast milk.
- If the child is not exclusively breastfed, give one or more of the following:
ORS solution, food-based fluids (such as soup, rice water, and yoghurt drinks), or clean water.

■ It is especially important to give ORS at home when:

- the child has been treated with Plan B or Plan C during this visit.
- the child cannot return to a clinic if the diarrhoea gets worse.

■ TEACH THE MOTHER HOW TO MIX AND GIVE ORS. GIVE THE MOTHER 2 PACKETS OF ORS TO USE AT HOME.

■ SHOW THE MOTHER HOW MUCH FLUID TO GIVE IN ADDITION TO THE USUAL FLUID INTAKE:

Up to 2 years	50 to 100 ml after each loose stool
2 years or more	100 to 200 ml after each loose stool

Tell the mother to:

- Give frequent small sips from a cup.
- If the child vomits, wait 10 minutes. Then continue, but more slowly.
- Continue giving extra fluid until the diarrhoea stops.

2. GIVE ZINC (age 2 months up to 5 years)

■ TELL THE MOTHER HOW MUCH ZINC TO GIVE (20 mg tab):

2 months up to 6 months	1/2 tablet daily for 14 days
6 months or more	1 tablet daily for 14 days

■ SHOW THE MOTHER HOW TO GIVE ZINC SUPPLEMENTS

- Infants - dissolve tablet in a small amount of expressed breast milk, ORS or clean water in a cup.
- Older children - tablets can be chewed or dissolved in a small amount of water.

3. CONTINUE FEEDING (exclusive breastfeeding if age less than 6 months)

4. WHEN TO RETURN

PLAN B: TREAT SOME DEHYDRATION WITH ORS

In the clinic, give recommended amount of ORS over 4-hour period

■ DETERMINE AMOUNT OF ORS TO GIVE DURING FIRST 4 HOURS

WEIGHT	< 6 kg	6 - <10 kg	10 - <12 kg	12 - 19 kg
AGE*	Up to 4 months	4 months up to 12 months	12 months up to 2 years	2 years up to 5 years
In ml	200 - 450	450 - 800	800 - 960	960 - 1600

* Use the child's age only when you do not know the weight. The approximate amount of ORS required (in ml) can also be calculated by multiplying the child's weight (in kg) times 75.

- If the child wants more ORS than shown, give more.
- For infants under 6 months who are not breastfed, also give 100 - 200 ml clean water during this period if you use standard ORS. This is not needed if you use new low osmolarity ORS.

■ SHOW THE MOTHER HOW TO GIVE ORS SOLUTION.

- Give frequent small sips from a cup.
- If the child vomits, wait 10 minutes. Then continue, but more slowly.
- Continue breastfeeding whenever the child wants.

■ AFTER 4 HOURS:

- Reassess the child and classify the child for dehydration.
- Select the appropriate plan to continue treatment.
- Begin feeding the child in clinic.

■ IF THE MOTHER MUST LEAVE BEFORE COMPLETING TREATMENT:

- Show her how to prepare ORS solution at home.
- Show her how much ORS to give to finish 4-hour treatment at home.
- Give her enough ORS packets to complete rehydration. Also give her 2 packets as recommended in **Plan A**.
- Explain the 4 Rules of Home Treatment:
 1. GIVE EXTRA FLUID
 2. GIVE ZINC (age 2 months up to 5 years)
 3. CONTINUE FEEDING (exclusive breastfeeding if age less than 6 months)
 4. WHEN TO RETURN

GIVE EXTRA FLUID FOR DIARRHOEA AND CONTINUE FEEDING

PLAN C: TREAT SEVERE DEHYDRATION QUICKLY

FOLLOW THE ARROWS. IF ANSWER IS "YES", GO ACROSS. IF "NO", GO DOWN.

START HERE

Can you give intravenous (IV) fluid immediately?

YES →

NO



- Start IV fluid immediately. If the child can drink, give ORS by mouth while the drip is set up. Give 100 ml/kg Ringer's Lactate Solution (or, if not available, normal saline), divided as follows

AGE	First give 30 ml/kg in:	Then give 70 ml/kg in:
Infants (under 12 months)	1 hour*	5 hours
Children (12 months up to 5 years)	30 minutes*	2 1/2 hours

* Repeat once if radial pulse is still very weak or not detectable.

- Reassess the child every 1-2 hours. If hydration status is not improving, give the IV drip more rapidly.
- Also give ORS (about 5 ml/kg/hour) as soon as the child can drink: usually after 3-4 hours (infants) or 1-2 hours (children).
- Reassess an infant after 6 hours and a child after 3 hours. Classify dehydration. Then choose the appropriate plan (A, B, or C) to continue treatment.

Is IV treatment available nearby (within 30 minutes)?

YES →

NO



Are you trained to use a naso-gastric (NG) tube for rehydration?

YES →

NO



Can the child drink?

YES →

NO



Refer URGENTLY to hospital for IV or NG treatment

- Refer URGENTLY to hospital for IV treatment.
- If the child can drink, provide the mother with ORS solution and show her how to give frequent sips during the trip or give ORS by naso-gastric tube.

- Start rehydration by tube (or mouth) with ORS solution: give 20 ml/kg/hour for 6 hours (total of 120 ml/kg).
- Reassess the child every 1-2 hours while waiting for transfer:
 - If there is repeated vomiting or increasing abdominal distension, give the fluid more slowly.
 - If hydration status is not improving after 3 hours, send the child for IV therapy.
- After 6 hours, reassess the child. Classify dehydration. Then choose the appropriate plan (A, B or C) to continue treatment.

NOTE:

- If the child is not referred to hospital, observe the child at least 6 hours after rehydration to be sure the mother can maintain hydration giving the child ORS solution by mouth.

FOLLOW-UP

GIVE FOLLOW-UP CARE FOR ACUTE CONDITIONS

- Care for the child who returns for follow-up using all the boxes that match the child's previous classifications.
- If the child has any new problem, assess, classify and treat the new problem as on the **ASSESS AND CLASSIFY** chart.

PNEUMONIA

After 3 days:

Check the child for general danger signs.
Assess the child for cough or difficult breathing.

Ask:

- Is the child breathing slower?
- Is there a chest indrawing?
- Is there less fever?
- Is the child eating better?

} See **ASSESS & CLASSIFY** chart.

Treatment:

- If **any general danger sign or stridor**, refer **URGENTLY** to hospital.
- If **chest indrawing and/or breathing rate, fever and eating are the same or worse**, refer **URGENTLY** to hospital.
- If **breathing slower, no chest indrawing, less fever, and eating better**, complete the 5 days of antibiotic.

PERSISTENT DIARRHOEA

After 5 days:

Ask:

- Has the diarrhoea stopped?
- How many loose stools is the child having per day?

Treatment:

- If **the diarrhoea has not stopped** (child is still having 3 or more loose stools per day), do a full reassessment of the child. Treat for dehydration if present. Then refer to hospital.
- If **the diarrhoea has stopped** (child having less than 3 loose stools per day), tell the mother to follow the usual feeding recommendations for the child's age.

DYSENTERY

After 3 days:

Assess the child for diarrhoea. > See **ASSESS & CLASSIFY** chart.

Ask:

- Are there fewer stools?
- Is there less blood in the stool?
- Is there less fever?
- Is there less abdominal pain?
- Is the child eating better?

Treatment:

- If the child is **dehydrated**, treat dehydration.
- If **number of stools, amount of blood in stools, fever, abdominal pain, or eating are worse or the same**:
 - Change to second-line oral antibiotic recommended for dysentery in your area. Give it for 5 days. Advise the mother to return in 3 days. If you do not have the second line antibiotic, REFER to hospital.

Exceptions - if the child:

- is less than 12 months old, or
 - was dehydrated on the first visit, or
 - if he had measles within the last 3 months
- } REFER to hospital.

- If **fewer stools, less blood in the stools, less fever, less abdominal pain, and eating better**, continue giving ciprofloxacin until finished.

Ensure that mother understands the oral rehydration method fully and that she also understands the need for an extra meal each day for a week.

MALARIA

If fever persists after 3 days:

Do a full reassessment of the child. > See **ASSESS & CLASSIFY** chart.

DO NOT REPEAT the Rapid Diagnostic Test if it was positive on the initial visit.

Treatment:

- If the child has **any general danger sign or stiff neck**, treat as **VERY SEVERE FEBRILE DISEASE**.
- If the child has any **other cause of fever other than malaria**, provide appropriate treatment.
- If there is **no other apparent cause of fever**:
 - If fever has been present for 7 days, refer for assessment.
 - Do microscopy to look for malaria parasites. If parasites are present and the child has finished a full course of the first line antimalarial, give the second-line antimalarial, if available, or refer the child to a hospital.
 - If there is no other apparent cause of fever and you do not have a microscopy to check for parasites, refer the child to a hospital.

COUNSEL THE MOTHER

FEEDING COUNSELLING

Assess Child's Appetite

All children aged 6 months or more with **SEVERE ACUTE MALNUTRITION** (oedema of both feet or WFH/L less than -3 z-scores or MUAC less than 115 mm) and no medical complication should be assessed for appetite.

Appetite is assessed on the initial visit and at each follow-up visit to the health facility. Arrange a quiet corner where the child and mother can take their time to get accustomed to eating the RUTF. Usually the child eats the RUTF portion in 30 minutes.

Explain to the mother:

- The purpose of assessing the child's appetite.
- What is ready-to-use-therapeutic food (RUTF).
- How to give RUTF:
 - Wash hands before giving the RUTF.
 - Sit with the child on the lap and gently offer the child RUTF to eat.
 - Encourage the child to eat the RUTF without feeding by force.
 - Offer plenty of clean water to drink from a cup when the child is eating the RUTF.

Offer appropriate amount of RUTF to the child to eat:

- After 30 minutes check if the child was able to finish or not able to finish the amount of RUTF given and decide:
 - Child **ABLE** to finish at least one-third of a packet of RUTF portion (92 g) or 3 teaspoons from a pot within 30 minutes.
 - Child **NOT ABLE** to eat one-third of a packet of RUTF portion (92 g) or 3 teaspoons from a pot within 30 minutes.



WHEN TO RETURN

Advise the Mother When to Return to Health Worker

FOLLOW-UP VISIT: Advise the mother to come for follow-up at the earliest time listed for the child's problems.

If the child has:	Return for follow-up in:
<ul style="list-style-type: none"> ■ PNEUMONIA ■ DYSENTERY ■ MALARIA, if fever persists ● FEVER: NO MALARIA, if fever persists ■ MEASLES WITH EYE OR MOUTH COMPLICATIONS ■ MOUTH OR GUM ULCERS OR THRUSH 	3 days
<ul style="list-style-type: none"> ■ PERSISTENT DIARRHOEA ■ ACUTE EAR INFECTION ■ CHRONIC EAR INFECTION ■ COUGH OR COLD, if not improving 	5 days
<ul style="list-style-type: none"> ■ UNCOMPLICATED SEVERE ACUTE MALNUTRITION ■ FEEDING PROBLEM 	14 days
<ul style="list-style-type: none"> ■ ANAEMIA 	14 days
<ul style="list-style-type: none"> ■ MODERATE ACUTE MALNUTRITION 	30 days
<ul style="list-style-type: none"> ■ CONFIRMED HIV INFECTION ■ HIV EXPOSED 	According to national recommendations

NEXT WELL-CHILD VISIT: Advise the mother to return for next immunization according to immunization schedule.



WHEN TO RETURN IMMEDIATELY

Advise mother to return immediately if the child has any of these signs:	
Any sick child	<ul style="list-style-type: none"> ■ Not able to drink or breastfeed ■ Becomes sicker ■ Develops a fever
If child has COUGH OR COLD, also return if:	<ul style="list-style-type: none"> ■ Fast breathing ■ Difficult breathing
If child has diarrhoea, also return if:	<ul style="list-style-type: none"> ■ Blood in stool ■ Drinking poorly

Online Training

<http://www.icatt-impactt.org/>

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