IMCI

integrated Management of Childhood Illness

Dr. Faten M. Rabie

Professor of Public Health & Community medicine

Mutah University

OUTLINE

- INTRODUCTION
- DEFINITION
- RATIONALE FOR THE INTEGRATED APPROACH
- ADVANTAGES OF THE INTEGRATED APPROACH
- COMPONENTS OF IMCI
- IMCI PROCESS
- OBJECTIVES OF IMCI
- STRATEGIES OF IMCI

INTRODUCTION

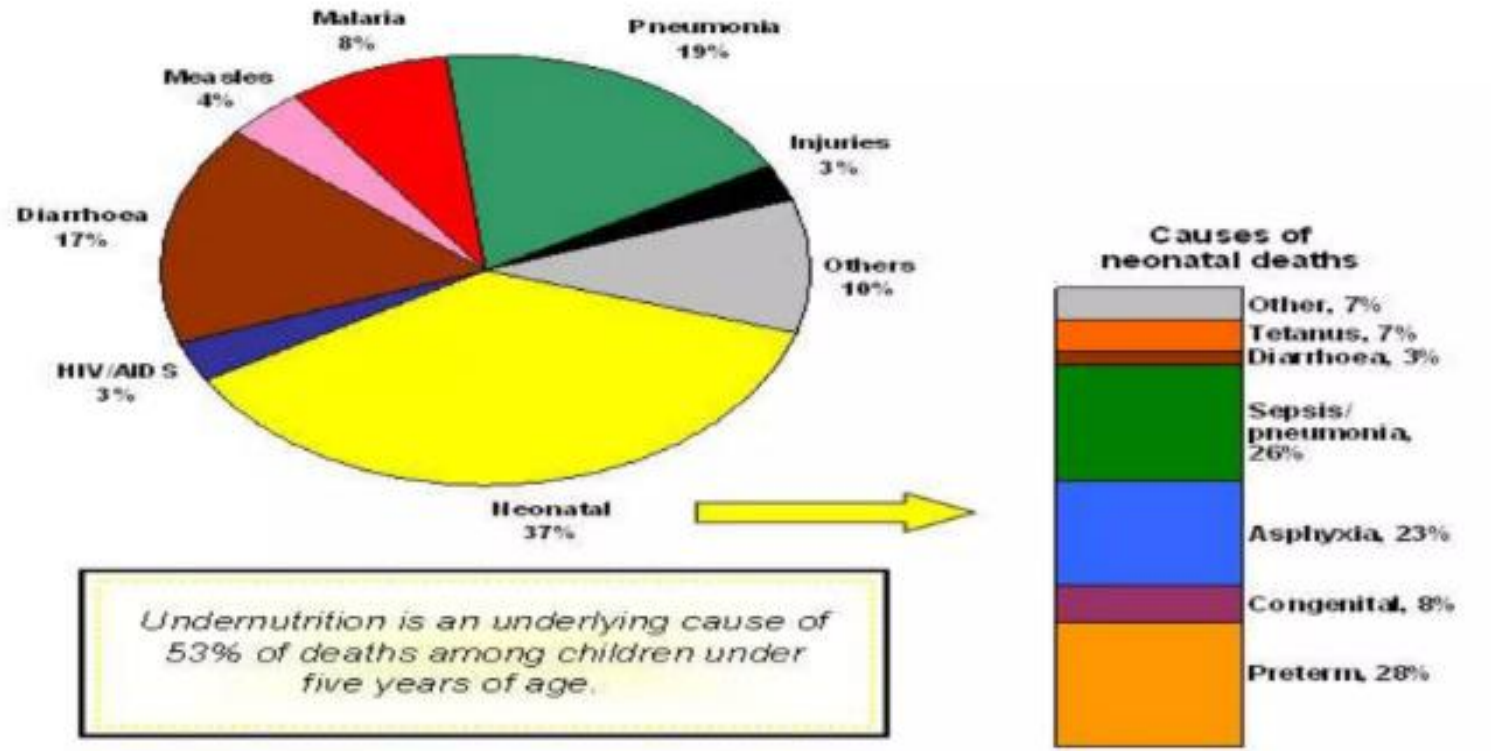
- Pneumonia, diarrhea, fever, malaria ,measles and malnutrition cause more than 70% of the deaths in children under 5 years of age. All these are preventable diseases in which when managed and treated early could have prevented these deaths.

- In response to this challenge, WHO and UNICEF in the early 1990's (1995) developed an integrated management of childhood illness, a strategy designed to reduce child morbidity and mortality in developing countries .

INTRODUCTION

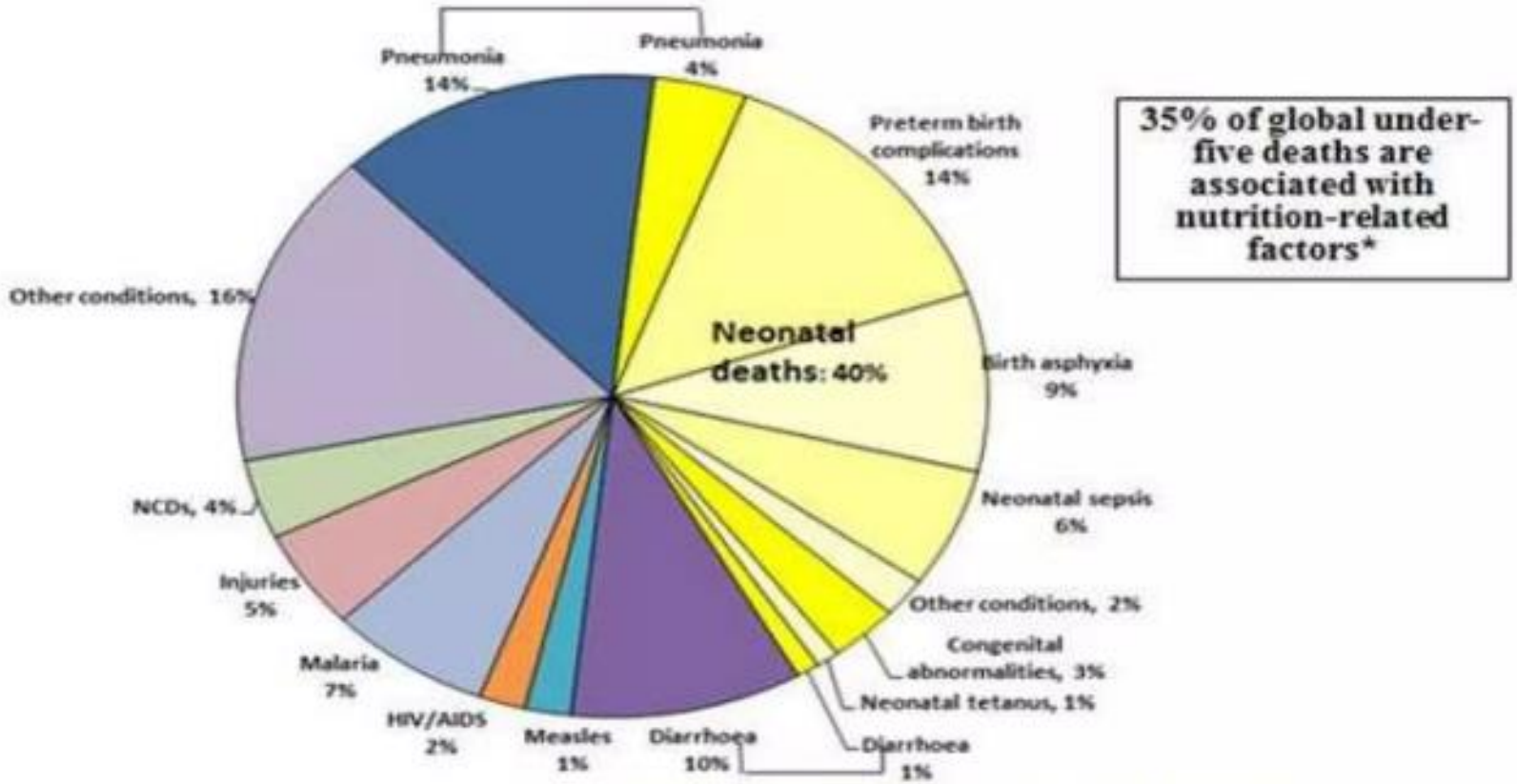
- The approach focuses on the major causes of death in children through improving case management skills of health workers ,strengthening the health system , and addressing family and community practices.

Major causes of death among children under 5 years of age and neonates in the world, 2000-2003



Undernutrition is an underlying cause of 53% of deaths among children under five years of age.

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)

Estimates Developed by the UN Inter-agency Group for Child Mortality Estimation (UNICEF, WHO, World Bank, UN DESA Population Division) at childmortality.org. Projected data are from the United Nations population Division's World Populati prospects; and may in some cases not be consistent with the data before the current year.

DEFINITION

- It is an integrated approach to child health that focuses on the well being of the whole child. It includes both preventive and curative services that are implemented by families and communities as well as by health facilities. It aims to reduce death, illness, and disability , and promote improved growth and development among children under 5 years of age.

RATIONALE FOR THE INTEGRATED APPROACH

- Integrated approach is child centered.
- 5 conditions are the major cause of death: Pneumonia, Diarrhoea, Malaria, Measles, and Malnutrition are the major causes of death
- 3 out of 4 children seeking health care in developing countries suffer from one of these conditions
- Children are likely to be suffering from more than one condition
- Often combination of these conditions lead to fatal results
- Making a single diagnosis may be difficult
- Such children usually need combined therapy for successful treatment

COMPONENTS OF IMCI

- Improvements in case management skills by health care staff
- Improvements in overall health systems
- Improvements in family and community health care practices

IMCI Process:

Source: IMCI: Student's Handbook, WHO

OBJECTIVES OF IMCI

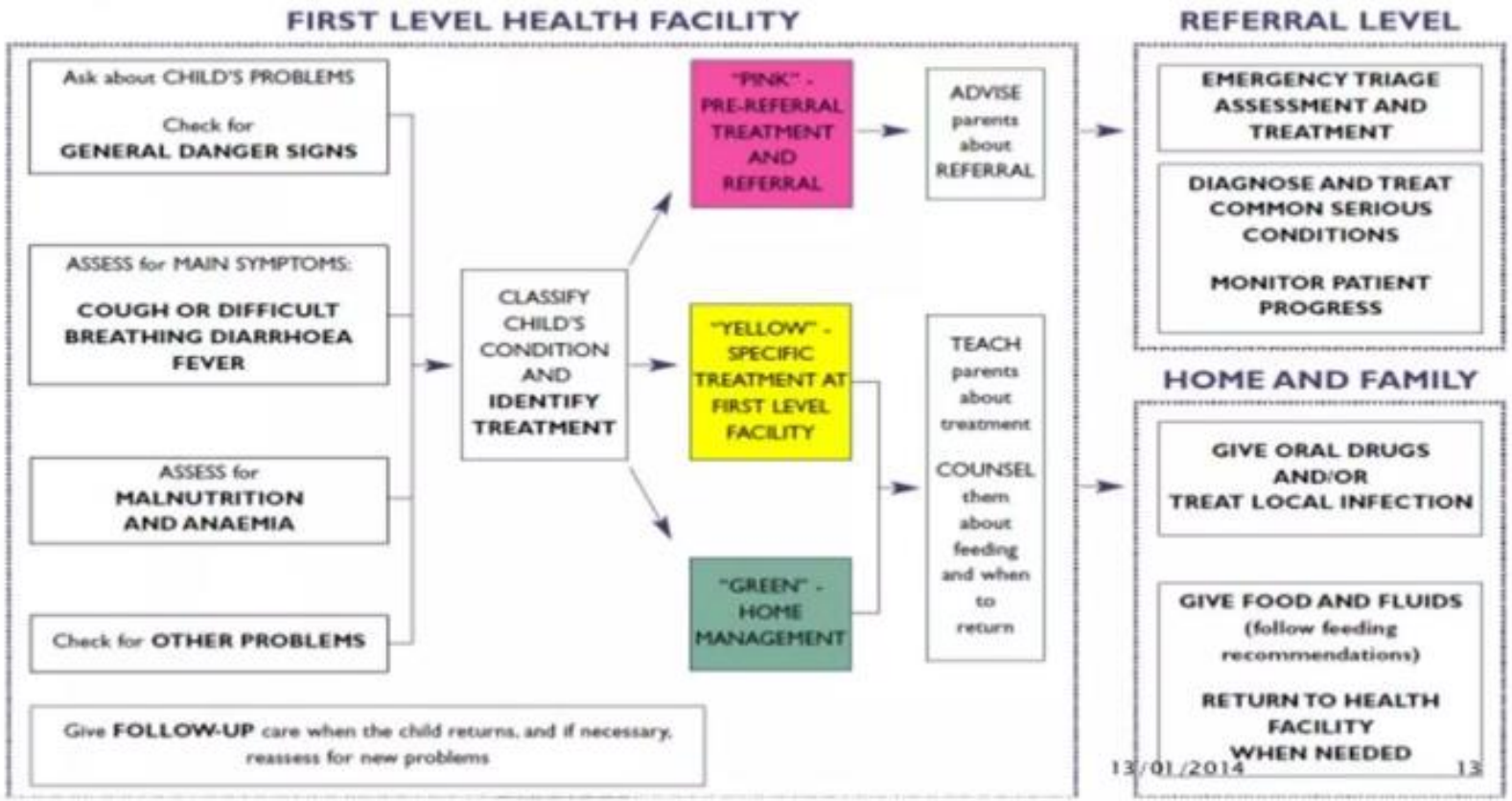
- To reduce significantly , global morbidity and mortality associated with the major causes of illnesses in children

- To contribute to healthy growth and development of children

STRATEGIES FOR IMPROVED CASE MANAGEMENT SKILLS OF HEALTH WORKERS

- It uses charts to describe the following steps
- 1. Assess the child
- 2.Classify the illness
- 3.Identify the treatment
- 4.Treat the child
- 5.Counsel the mother
- 6. Give follow up care

IMCI case management at first level health facility, referral level, and home :



IDENTIFICATION AND PROVISION OF TREATMENT INCLUDE:

- Curative component adapted to address the most common life threatening conditions in each country
- Rehydration(diarrhea)
- Antibiotics(pneumonia, “severe disease”)
- Antimalarial treatment
- Vitamin A(measles, severe malnutrition)

PROMOTIVE AND PREVENTIVE ELEMENTS

- Reducing missed opportunities for immunization(vaccination given if needed)
- Breastfeeding and other nutritional counselling
- Vitamin A and iron supplementation
- Treatment of helminth infections

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-referal treatment immediately** ▪ **Treat to prevent low blood sugar** ▪ **Keep the child warm** ▪ **Refer URGENTLY.**

GENERAL DANGER SIGNS

For ALL sick children ask the mother about the child's problem, then CHECK FOR GENERAL DANGER SIGNS

ASK:	LOOK:
Is the child able to drink or breastfeed? Does the child vomit everything? Did the child have convulsions?	See if the child is lethargic or unconscious

A child with any general danger signs needs URGENT attention: complete the assessment and any pre-referral treatment immediately so referral is not delayed

Then ASK about main symptoms: cough and difficulty in breathing, diarrhea, fever, ear problem. CHECK for malnutrition and anemia, immunization status and for other problems

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

Classify COUGH or DIFFICULT BREATHING

• Any general danger sign or • Stridor in calm child.	***Pink:*** **SEVERE PNEUMONIA OR VERY SEVERE DISEASE**	▪ **Give first dose of an appropriate antibiotic** ▪ **Refer URGENTLY to hospital****
• Chest indrawing or • Fast breathing.	***Yellow:*** **PNEUMONIA**	▪ **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
• No signs of pneumonia or very severe disease.	***Green:*** **COUGH OR COLD**	▪ 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

Cut off points for fast breathing

- The child is Fast breathing if:
- Birth up to 2 month ……. 60 breaths per minute or more
- 2 months up to 12 months …… 50 breaths per minute or more
- 12 Months up to 5 years ……40 breaths per minute or more

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

CLASSIFICATION TABLE FOR DEHYDRATION

SIGNS	CLASSIFY AS	IDENTIFY TREATMENT (Urgent pre-referral treatments are in bold print.)
Two of the following signs: • Lethargic or unconscious • Sunken eyes • Not able to drink or drinking poorly • Skin pinch goes back very slowly	**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	**SOME DEHYDRATION**	Give fluid 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.	**NO DEHYDRATION**	Give fluid and food to treat diarrhoea at home (Plan A). Advise mother when to return immediately. Follow-up in 5 days if not improving.

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

• Oedema of both feet **OR** • WFH/L less than -3 z-scores **OR** MUAC less than 115 mm **AND any one of the following:** ○ Medical complication present or ○ Not able to finish RUTF or ○ Breastfeeding problem.	***Pink:*** **COMPLICATED SEVERE ACUTE MALNUTRITION**	▪ **Give first dose appropriate antibiotic** ▪ **Treat the child to prevent low blood sugar** ▪ **Keep the child warm** ▪ **Refer URGENTLY to hospital**
• WFH/L less than -3 z-scores **OR** • MUAC less than 115 mm **AND** • Able to finish RUTF.	***Yellow:*** **UNCOMPLICATED SEVERE ACUTE MALNUTRITION**	▪ **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
• WFH/L between -3 and -2 z-scores **OR** • MUAC 115 up to 125 mm.	***Yellow:*** **MODERATE ACUTE MALNUTRITION**	▪ 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
• WFH/L - 2 z-scores or more **OR** • MUAC 125 mm or more.	***Green:*** **NO ACUTE MALNUTRITION**	▪ 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

THEN CHECK FOR ANAEMIA

Check for anaemia

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

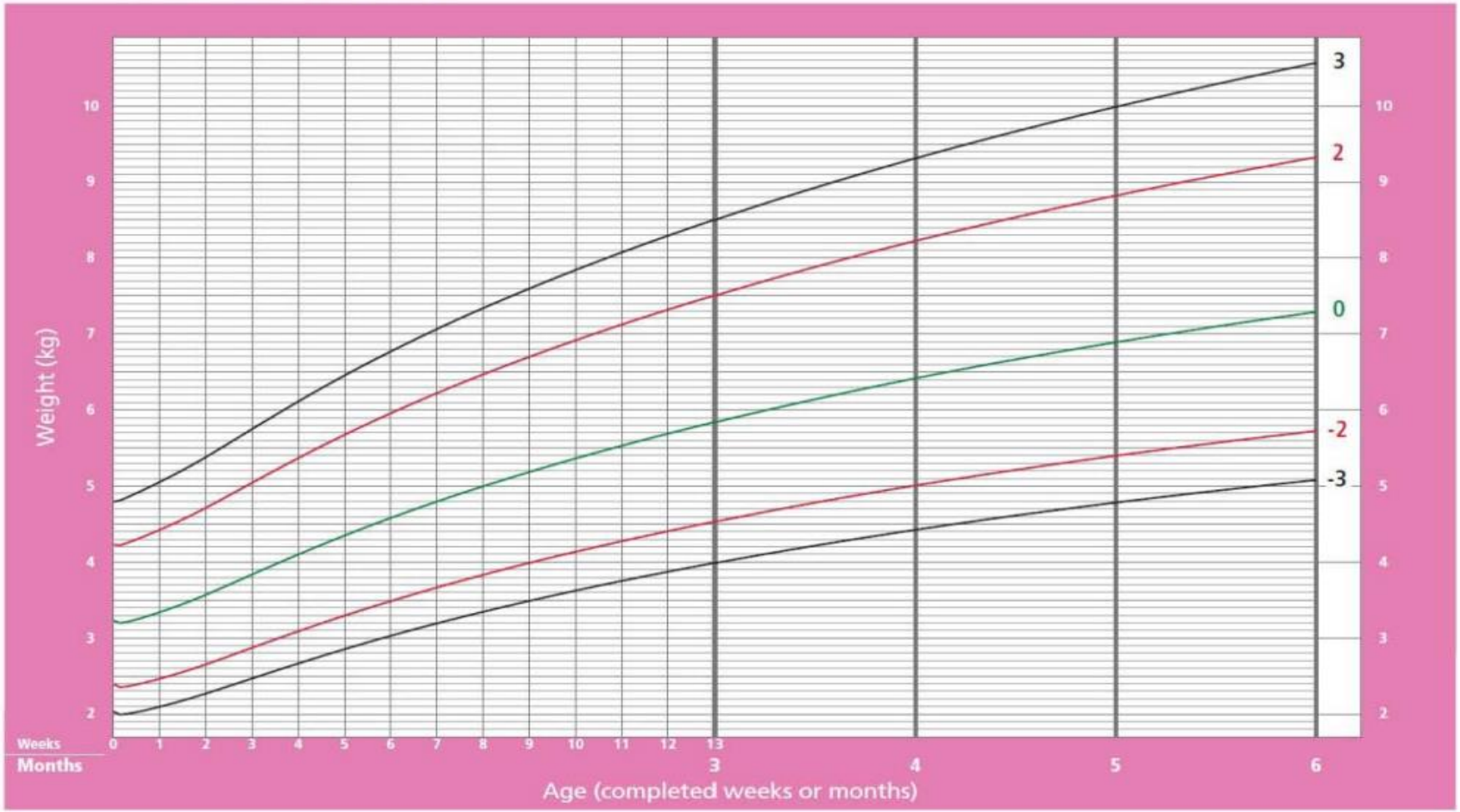
Classify ANAEMIA **Classification arrow**

• Severe palmar pallor	***Pink:*** **SEVERE ANAEMIA**	▪ **Refer URGENTLY to hopsital**
• Some pallor	***Yellow:*** **ANAEMIA**	▪ 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
• No palmar pallor	***Green:*** **NO ANAEMIA**	▪ • If child is less than 2 years old, assess the child's feeding and counsel the mother according to the feeding recommendations o If feeding problem, follow-up in 5 days

Weight-for-age GIRLS

Birth to 6 months (z-scores)

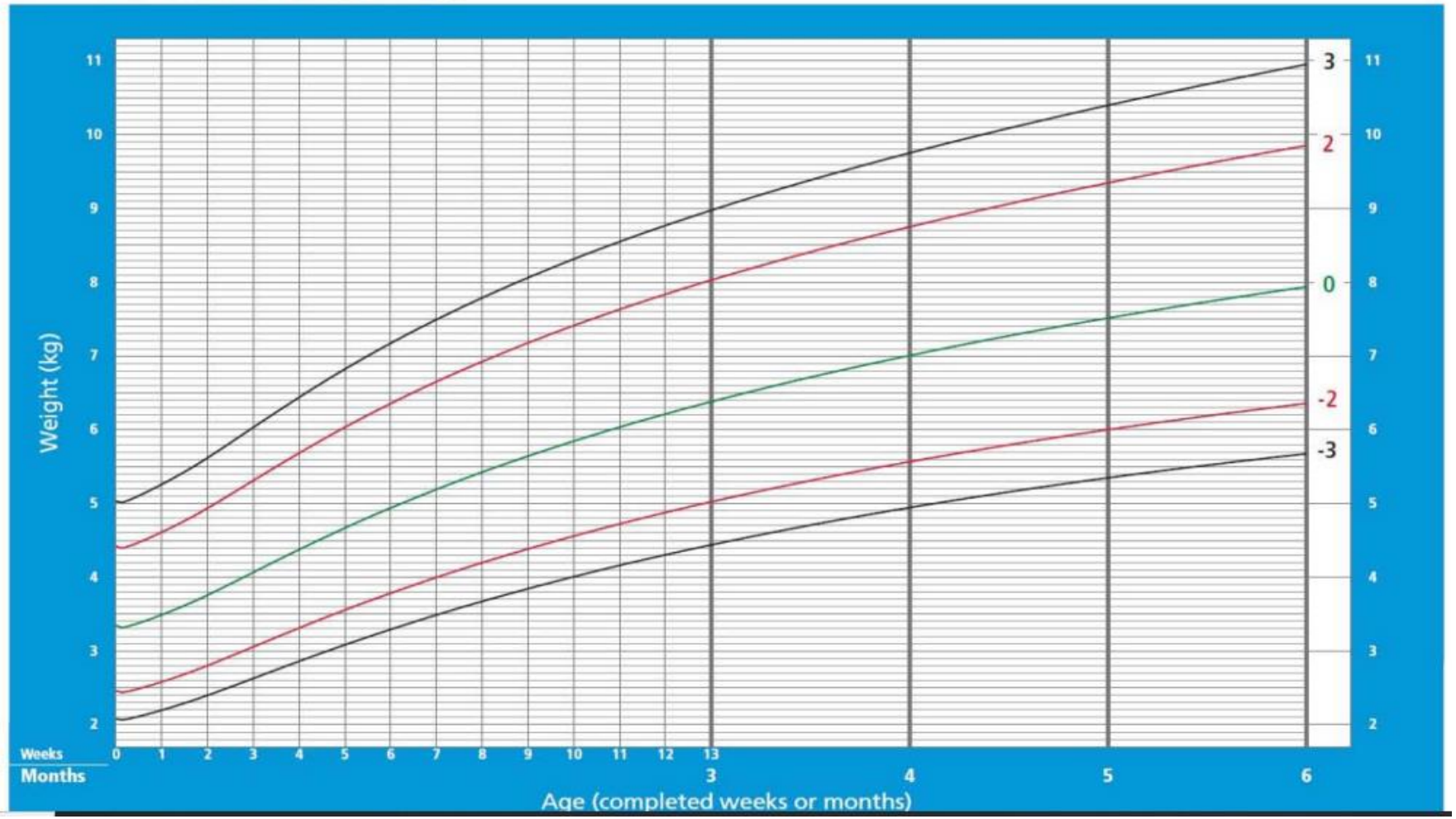
World Health Organization



Weight-for-age BOYS

Birth to 6 months (z-scores)

World Health Organization



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:

WHEN TO RETURN IMMEDIATELY

Advise mother to return immediately if the child has any of these signs:	
Any sick child	■ Not able to drink or breastfeed ■ Becomes sicker ■ Develops a fever
If child has COUGH OR COLD, also return if:	■ Fast breathing ■ Difficult breathing
If child has diarrhoea, also return if:	■ Blood in stool ■ Drinking poorly

STRATEGIES FOR IMPROVEMENTS IN FAMILY AND COMMUNITY HEALTH CARE PRACTICES

- IMCI aims to reach families and communities where they live and is one way of impacting marginalized and hard to reach children. It promotes and enables the participation of parents ,caregivers and communities in their own development and in actions that will make a difference in the survival and development of their children using the following strategies through key family and community practices as below.

GROWTH PROMOTION AND DEVELOPMENT

- Exclusively breast feed for 6 months
- Introduce appropriate energy and nutrient rich complementary foods from 6 months while continuing breast feeding up to 24 months
- Provide adequate micronutrient through diet or supplementation
- Promote mental and psychosocial development

HOME MANAGEMENT

- Continue to feed and offer more food and fluids when child is sick
- Give child appropriate home treatment for illness
- Take appropriate actions to prevent and manage child injuries and accidents

STRATEGIES FOR HEALTH SYSTEM STRENGTHENING.

- To do this, countries develop interventions to improve the availability of drugs and supplies, strengthen the service quality and organization at health facilities, reinforce referral systems, and ensure equity of access to health care.

ADVANTAGES OF THE INTEGRATED APPROACH

- Speeds up the urgent treatment and treatment seeking practices
- Prompt recognition of serious conditions ,hence prompt referral
- Involves parents in effective care of baby at home
- Involves prevention of diseases by active immunization
- Improved nutrition and exclusive breast feeding practices
- Highly cost effective
- It avoids wastages of resources by using the most appropriate medicines and treatments
- It reduces duplication of effort