HO9.1

Theme 9: Monitoring and Evaluation for ENA

Objectives:

By the end of the session we shall be able to:

1. Define key IYCF indicators and the way in which they are collected (24 hour recall);
2. Describe indicators that can be used to assess other Essential Nutrition Actions related to the feeding of the sick child, women's nutrition, and the control of vitamin A deficiency, anemia and iodine deficiency disorders;
3. Describe two major types of indicators: impact and process; and
4. Describe four components of a M/E system

HO9.2

SAMPLE QUESTIONNAIRE FORMAT TO COLLECT IYCF INDICATORS

MOTHERS OF CHILDREN UNDER 12 MONTHS OF AGE

(Verify that the child is less than 12 months old and continue. If the child is exactly 12 months or older, thank the mother and discontinue the interview)

Form number: _____	Village: _____
District: _____	House number: _____
Sub-district: _____	NGO: _____

Name of Supervisor: _____
Signature_____

Date of interview……..……

Notes: Please record any observations you made during the interview in this space.

SECTION 1: BACKGROUND

FIRST, I WANT TO ASK YOU A FEW QUESTIONS ABOUT YOURSELF AND YOUR YOUNGEST CHILD.

1	What is your youngest child's name? ***(use this name in remaining questions)***			
2	How old is (name of child)? ***Record age in completed months.***		months	
3	Date of birth of child			
4	Date of birth verified using child growth card/available record?		1. Yes	2. No
5	Sex of child		1. Boy	2. Girl

SECTION 2: FEEDING HISTORY

NOW I'D LIKE TO ASK YOU SPECIFIC QUESTIONS ABOUT THE THINGS (NAME OF CHILD) EATS OR DRINKS.

6	Have you ever breastfed (name of child)?	1. Yes 2. No ***Skip to 11***	
7	How long after birth did you put (name of child) to the breast? ***If "immediately" or less than 1 hour, record "00"hours. If less than 24 hours, record hours. Otherwise, record days.***	_____ Hours _____ Days	
8	Are you still breastfeeding (name of child)?	1. Yes 2. No	
9	**Since this time yesterday, has (name of child) received (insert each item here)?**		
A	Breastmilk	1. Yes	2. No
B	Plain water	1. Yes	2. No
C	Teas, millet water, fruit juice, sweetened water, herbal teas, etc.	1. Yes	2. No
D	Milk (fresh cow milk, tin milk, baby formula, other)	1. Yes	2. No
E	ORS	1. Yes	2. No
F	Other liquids	1. Yes	2. No
G	Fruits	1. Yes	2. No
H	Semi-solid foods (porridge, tom brown, rice water, weanimix, cerelac, soup)	1. Yes	2. No
I	Solids or mushy foods (meat, fish, eggs, beans, nuts, yam, kenkey, rice, potatoes, petepete, yama, stew, etc)	1. Yes	2. No
J	Other semi-solid foods, solids	1. Yes	2. No

SECTION 3: LAM NOW I'D LIKE TO ASK YOU SPECIFIC QUESTIONS ABOUT BIRTH SPACING.		
10	Are you currently doing something or using any method to delay or avoid getting pregnant?	1. Yes 2. No ***Skip to 14***
11	Which method are you currently using?	Lactational Amenorrhea Method 1 Female Sterilization 2 Male Sterilization 3 Pill 4 IUD 5 Injections 6 Condom 7 Diaphragm 8 Periodic Abstinence 9 Withdrawal 10 Breastfeeding 11 Other _____ 12
12	Have you heard of LAM?	1. Yes 2. No

(CHECK THE QUESTIONNAIRE TO MAKE SURE THAT ALL RESPONSES HAVE BEEN PROVIDED)

Thank you very much for your time and for helping us as we try to make children's health better.

Do you have any questions for me?

SECTION 4: ANALYSIS

FROM SECTION 2, INDICATE BELOW WHETHER THE REQUIRED BEHAVIOUR WAS PERFORMED.

13	Was breastfeeding timely initiated (That is Q7 = 00 hours) TIBF	1. Yes	0. No
14	If the child is less than 6 months, is he/she exclusively breastfed (That is Q9A = Yes and Q9b – Q9J = No) EBR	1. Yes	0. No
15	If the child is 6-9 months, has complementary feeding started (That is Q9A = Yes and any one or more of Q9G – Q9J = Yes) TICF	1. Yes	0. No
16	If child is less than 6 months, does mother use LAM? (Q11 = 1)	1. Yes	0. No

HO9.3

Definitions of Key IYCF Indicators

Timely Initiation Of Breastfeeding (TIBF): Percentage Of Infants 0-< 12 Months Who Were Put To The Breast Within One Hour Of Delivery	
Definition	This indicator measures the timely initiation of breastfeeding after delivery. It is calculated as: # of infants 0<12 months put to breast w/in 1 hour of delivery x100 Total # of infants 0<12 months
Numerator	The number of infants less than 12 months old who were put to breast within 1 hour of delivery.
Denominator	The total # of infants less than 12 months old.
Data Requirements	A recall of initiation of breastfeeding after delivery of infants less than 12 months of age.
Data Source(s)	Population-based surveys employing representative samples. The DHS reports the initiation of breastfeeding within one hour for those countries in which the breastfeeding/infant-feeding module is included in the DHS. Program records may be used to track trends in breastfeeding initiation, but not to measure the impact of program interventions.
What it Measures	TIBF is defined by the following criteria: 1. The infant is less than 12 months old, **and** 2. The infant was put to breast within 1 hour of delivery.
How to Measure It	See **sample survey** with questions needed to calculate the rate.
Strengths and Limitations	A mother may have difficulty remembering for as long as 12 months when she initiated breastfeeding for her youngest infant, and thus this indicator is subject to potential recall bias. This bias is likely to be even greater in populations that are not accustomed to remembering and conceptualizing time. However, because this particular type of bias (toward a longer or shorter period than actually occurred) is assumed to be randomly distributed across a population, the potential bias should not skew the data to misrepresent the population's general behavior related to breastfeeding initiation.

Exclusive Breastfeeding Rate (EBR): Percentage Of Infants 0-<6 Months of Age Who Are Exclusively Breastfed	
Definition	Proportion of infants aged 0-<6 months of age who are being exclusively breastfed. This means that the infant received only breastmilk, and no other liquids or solids including water. Infants are, however, allowed to have drops of vitamins/minerals/ medicines.[1] # of infants 0-<6 months exclusively breastfed x 100 Total # of infants 0-<6 months This equation may be modified to calculate rates for one-month intervals. The month-interval in the numerator should match the month-interval in the denominator.
Numerator	The number of infants less than 6 months old exclusively breastfed.
Denominator	The total # of infants less than 6 months old.
Data Requirements	A 24-hour recall of food consumption of infants less than 6 months of age.
Data Source(s)	Population-based surveys employing representative samples (e.g., DHS). Program records of EBR (to track trends but not impact). The DHS country reports and Nutrition Reports both present the EBR for infants 0-<4 months of age. However, EBR for infants 0-<6 months can be calculated using DHS data (see calculator below). Service delivery data can also be used to measure EBR. This data reflects the specific population receiving services at the service delivery site rather than the larger program catchment area. The advantage of using this data source is that it can be incorporated into existing service statistic collection efforts. As well, using this data source captures the full effect of the intervention on the population actually receiving services that support optimal breastfeeding behaviors. All exclusive breastfeeding data can be disaggregated so that month-specific exclusive breastfeeding rates can be calculated. Month-specific EBR is more sensitive to changes in infant feeding behaviors since changes in these intervals identify exact ages of breastfeeding behaviors.
What it Measures	EBR is defined by three criteria: 1. The infant is less than 6 months old, **and** 2. The infant was breastfed in the previous 24 hours, **and** 3. The infant received no other liquids or solids, including water, in the previous 24 hours.
How to Measure It	See **sample survey** with questions needed to calculate the rate. The **EBR calculator** allows you to insert DHS EBR data (provided in 2-month intervals) from which the under 6 month EBR will be automatically calculated.
Strengths and Limitations	Using a 24-hour recall period measures current status and may cause the proportion of exclusively breast-fed infants to be slightly overestimated, since some infants who are given other liquids irregularly may not have received them in the 24 hours before the survey. WHO's *Indicators for Assessing Breast-feeding Practices*, Wellstart International's *Tool Kit for Monitoring and Evaluating Breastfeeding Practices and Programs*, and the DHS surveys define the EBR using the 24-hour recall method. Using cross-sectional surveys, the best estimates of exclusive breastfeeding are obtained from current status data which includes all births within a specified time period. The advantage of this approach is that it is not subject to recall error. The measure, then, should be interpreted as the percent of infants who "are currently being exclusively breastfed" rather than the percent who have been exclusively breastfed since birth.

[1]This is the WHO definition of exclusive breastfeeding, 1991, adopted thereafter by international agencies, including USAID.

Timely Complementary Feeding Rate (TCF): Percentage Of Infants 6-< 10 Months Given Breastmilk And Solid And/Or Semi-Solid Foods	
Definition	The percentage of infants 6 through 9 months of age who receive breastmilk and a solid/semi-solid food (based on 24-hour recall). Solid foods are defined as foods of mushy or solid consistency, not fluids. The rate is calculated as follows: # of infants 6–<10 months breastfeeding and receiving solid/semi-solid foods x 100 total # of infants 6–<10 months This equation may be modified to calculate rates for one-month intervals. The month-interval in the numerator should match the month-interval in the denominator.
Numerator	The number of infants 6-<10 months old breastfeeding and receiving solid/semi-solid foods.
Denominator	The total # of infants 6-<10 months.
Data Requirements	A 24-hour recall of food consumption of infants 6-<10 months of age.
Data Source(s)	Population-based surveys employing representative samples (e.g., the DHS). Program records may be used to track trends in complementary feeding but not to measure impact. DHS reports present data for this indicator for those countries in which the breastfeeding/infant-feeding module was included. All complementary feeding data can be disaggregated so that month-specific complementary feeding rates can be calculated. Month-specific TCF is more sensitive to changes in infant feeding behaviors since changes in these intervals identify exact ages of complementary feeding behaviors.
What it Measures	TCF is defined by three criteria: 1. The infant is 6-<10 months old, **and** 2. The infant was breastfed in the previous 24 hours, **and** 3. The infant was fed a solid or semi-solid food in the previous 24 hours.
How to Measure It	See **sample survey** with questions needed to calculate the rate.
Strengths and Limitations	This is a basic calculation of complementary feeding, using 24-hour recall. These data may be supplemented by an additional indicator(s) that reflects program messages relating to quantity, density, and/or quality of complementary foods. By age 6 months, almost all infants should receive complementary feeds in addition to breastmilk. This indicator has several limitations. First, it reflects only the consumption of complementary feeding, not the appropriateness of those foods. Second, it provides minimal information on the extent to which infants are fed according to prescribed guidelines. If researchers or evaluators opt to collect additional information on complementary feeding (e.g., for the purpose of evaluating a specific program intervention), we recommend retaining this “basic” indicator as well, for comparisons with other populations.

Lactational Amenorrhea Method (LAM) Rate: Percentage Of Eligible Women Who Use Lam As Their Method Of Family Planning	
Definition	Proportion of eligible women who give birth in a given period of time who consciously and deliberately accept LAM as a modern contraceptive method. This is self-reported use of a family planning method. This can be calculated using the following equation: # Of women using LAM as a FP method X100 Total # of women with infants <6 months
Numerator	The number of mothers of infants less than 6 months old who say they use LAM as a method of family planning.
Denominator	The total # of mothers less than 6 months old.
Data Requirements	In order to correctly calculate the LAM Rate, data are needed on the total number of women with infants less than 6 months old, and of those, the number who choose to use LAM as a method of family planning.
Data Source(s)	Population-based surveys employing representative samples (e.g., DHS). Family planning service statistics (if data are systematically obtained on the age of the youngest child).
What it Measures	LAM is defined by three criteria: 1. The woman's menstrual periods have not resumed, **and** 2. The infant is fully or nearly fully breastfed[2], **and** 3. The infant is less than 6 months old.
How to Measure It	See **sample survey** with questions needed to calculate the rate. The **LAM rate calculator** allows you to insert your clinic or population-based survey data from which the LAM rate will be automatically calculated.
Strengths and Limitations	One shortcoming of this indicator is that it is often based on self-report, without verification that the respondent actually fulfills the three criteria listed above. A more precise measure would include questions that confirm that the respondent knows the three criteria and that she meets them.

[2] Full or nearly full breastfeeding is defined as breastfeeding that significantly impacts fertility. This includes exclusive, almost exclusive and high (partial) breastfeeding. Thus, the infant can receive only breastmilk or mostly breastmilk with some addition of liquids such as juice or ritualistic feeds given infrequently.

HO9.4

Methodological Challenges of Evaluating Infant Feeding Programs

- **The use of 24-hour recall data tends to overestimate the percentage of infants who have been exclusively breastfed since birth**

A 24-hour recall measure reflects current breastfeeding status and may cause the proportion of exclusively breast-fed infants to be slightly overestimated, since some infants who are given other liquids irregularly may not have received them in the 24 hours before the survey.

WHO's *Indicators for Assessing Breast-feeding Practices*, Wellstart International's *Tool Kit for Monitoring and Evaluating Breastfeeding Practices and Programs*, and the DHS reports all calculate the exclusive breastfeeding rate (EBR) using the 24-hour recall method. Using cross-sectional surveys, one can obtain the best estimates of exclusive breastfeeding from current status data that includes all births within a specified time period. The advantage of this approach is that it is not subject to recall error. The measure, then, should be interpreted as the percent of infants who "are currently being exclusively breastfed" rather than the percent who have been exclusively breastfed since birth.

- **Evaluators need large sample sizes to detect change in breastfeeding practices, but infants represent a small proportion of the population**

Any assessment of behavioral change in infant feeding requires attention to the size of the comparison groups. The sample size depends on both the magnitude of the change and on how common the condition or practice is. The detection of relatively small changes (e.g. five to ten percentage points) over time in breastfeeding and other infant feeding behaviors requires large sample sizes.

By contrast, simple monitoring of infant feeding practices does not require a specific sample size and can be very useful in tracking ongoing project outreach. However, monitoring does not allow for a rigorous evaluation of change, nor does it measure actual prevalence of this behavior because of the small, non-representative samples.

- **Infant feeding behavior data relies upon accurate age data of the infant**

While many health interventions can be tracked with only a general reference to the child's age (e.g., less than one year), tracking breastfeeding practices requires accurate assessment of the infant's age. This can be ascertained by first asking the mother for the infant's birth date and then confirming the birth date with a child health card or other official registry of the child's birth date.

- **Breastfeeding questions typically require more than a "yes" or "no" response**

Multiple factors define whether breastfeeding is optimal, including what exact liquids and foods, if any, were given in the preceding 24-hours. Ideally this list of liquids and foods will be comparable to the DHS with additional items that reflect local food preferences and food availability.

The data needed to calculate infant feeding behaviors related to exclusive breastfeeding 0-<6 months of age and timely complementary feeding 6-<10 months of age requires that the interviewers ask the respondent about a series of foods given within the previous 24-hours. This line of questioning requires more than a "yes" or "no" response, which increases the likelihood of interviewer or respondent error. Thus, interviewers should undergo intensive training on this set of items.

- **The accepted, standard complementary feeding indicator reflects general dietary intake of sold and semi-solid foods during a specified time period only**

Complementary feeding is a highly complex issue. It involves factors such as the quantity and quality of food, frequency and timeliness of feeding, food hygiene, and feeding during/after illness. Programs at the country level must take these many factors into consideration in trying to address the problems of infant and young child feeding in the local context.

The standard CF indicator does not take into account program-specific or context-specific feeding recommendations regarding the frequency, quality or quantity of foods given during the proceeding 24 hours.

- **Two Age-groups for Optimal Infant Feeding**

There are two main types of indicators related to optimal infant feeding; (1) those concerning breastfeeding behaviors during the first 6 months of life, and (2) those which refer to the introduction of complementary foods while maintaining breastfeeding beginning at six months. These age groups reflect expert consensus as to the optimal time period for exclusive breastfeeding as well as for the introduction of complementary foods to an infant's diet.

In population-based surveys, measuring these infant feeding indicators requires sampling of infants 0-<6 months of age and infants 6-<12 months of age. Together, these groups represent the continuum of infant nutrition care in the first year of life. Used together, these datasets reflect the prevalence of optimal infant feeding behaviors during the first year of life in a given population.

The main purpose of a common set of breastfeeding indicators is to standardize the assessment and evaluation of breastfeeding behaviors across programs implemented and funded by different organizations. The set of indicators in this section are limited in number, fairly easy to measure and interpret, and operationally useful. Moreover, they have been field-tested, are consistent with worldwide breastfeeding goals, and can be obtained from available DHS data.

The indicators in this section can be used as the outcome variables in measuring behavior change due to program interventions, if an experimental or quasi-experimental design is used. They can also be calculated from program statistics for the purpose of tracking trends but not for establishing the impact of a specific program or intervention on behavior in a given population.

Example of 24 hour recall data collection form…		
Now I am going to ask you what (NAME) ate and drank recently		
	At any time during the past 24 hours beginning yesterday at dawn and ending today at dawn did you or anyone else give (NAME)? **Read each liquid and food and circle yes or no for each.**	
A.	Breastmilk?	1. Yes 2. No
B.	Vitamins/medicine?	1. Yes 2. No
C.	ORS	1. Yes 2. No
D.	Infant formula or other acceptable breastmilk substitute?	1. Yes 2. No
E.	Cow's milk (including powdered milk for adults, liquid milk from shops, fresh milk from cows)?	1. Yes 2. No
F.	Plain water?	1. Yes 2. No
G.	Sugar water, soft drink or fruit juice?	1. Yes 2. No
H.	Tea/coffee?	1. Yes 2. No
I.	Other liquids?	1. Yes, Specify _____ 2. No
J.	Thin porridge?	1. Yes 2. No
K.	Cooked mashed foods?	1. Yes, Specify _____ 2. No
L.	Other semi-solids?	1. Yes, Specify _____ 2. No

HO9.5

Examples of indicators to measure programmatic aspects of ENA components related to feeding of the sick child, women's nutrition and the control of micronutrient deficiencies

Feeding of the sick child:

-for infants 0-6 months of age who were sick in previous two weeks, breastfeeding pattern during illness was: 1.) more often than usual, 2.) the same as usual, 3.) less than usual

- for infants 0-6 months of age in previous two weeks, breastfeeding pattern after illness was: 1.) more often than usual, 2.) the same as usual, 3.) less than usual

-for children 6-24 months who were sick in previous two weeks, breastfeeding pattern during illness was: 1.) more often than usual, 2.) the same as usual, 3.) less than usual

- for children 6-24 months of age who were sick in previous two weeks, complementary feeding pattern after illness was: 1.) more often than usual, 2.) the same as usual, 3.) less than usual

Women's nutrition

-during last pregnancy, the mother ate 1.) more than usual, 2.) same as usual, or 3.) less than usual

-while breastfeeding, the mother ate 1.) more than usual, 2.) same as usual, or 3.) less than usual

Control of vitamin A deficiency involving supplementation:

-percent of women who received 400,000 IU within 8 weeks of delivery of last pregnancy;

-percent of children 6-11 months who received 100,000 IU within past 6 months

-percent of children 12-59 months who received 200,000 IU within past 6 months

Control of iodine deficiency disorders involving iodized salt:

-percentage of households that possess salt testing positive for iodine

Control of anemia using iron supplementation, malaria control and de-worming:

Iron supplementation:
-percent of women who received iron tablet at ante-natal contact during last pregnancy

Malaria control & prophylaxis:
-percent of women using impregnated mosquito net during last pregnancy

-percent of women who receive malaria prophylaxis at ante-natal contact during last pregnancy

De-worming:
-percent of pregnant women who received de-worming tablets at ante-natal contact during last pregnancy

-percent of under fives who received de-worming tablets during previous 6 months