

N.B. This document is currently being revised in the light of field experience

**WORLD HEALTH ORGANIZATION
DIVISION OF CHILD AND ADOLESCENT HEALTH AND DEVELOPMENT**

**INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS
MULTI-COUNTRY EVALUATION**

PLAN OF ANALYSIS FOR HOUSEHOLD SURVEYS

August 26, 1999

As part of the Multi-Country Evaluation of IMCI, a list of 17 priority and 30 supplemental indicators were prepared for assessing health care seeking patterns, programme coverage and impact on mortality, morbidity and nutrition (see *The IMCI Impact Model and Community-Based Indicators for the Multi-Country Evaluation of IMCI Effectiveness, 1998*). A questionnaire was then prepared for measuring this set of indicators (see *IMCI Multi-country Evaluation: Household Survey Questionnaire, June 1999*).

The present document includes a set of tables with guidance on how to calculate these indicators on the basis of the household survey questionnaire. Indicators related to infant and underfive mortality (indicators number CP11, CP12, CS17-21) are not included because these require either special surveys with larger samples or information from vital statistics.

The household survey questionnaire also allows the calculation of a number of additional indicators, including those relative to client costs associated with health care utilization. The plan for the analysis of these additional indicators will be produced separately.

In the tables that follow, question numbers are preceded by the letter “Q” and refer to version 7 of the household survey questionnaire.

IMCI INDICATORS FOR HOUSEHOLD SURVEYS

Indicator	Select	Numerator	Denominator	Comments
CP1. <i>Child under 4 months of age is exclusively breastfed</i>	Children < 120 days of age	Q2 = 1 AND all answers to Q3=0 (except for “vitamin...”, “ORS” and “Received only breastmilk”)	Q2 = 0 OR 1	Check consistency with Q3 option “Received only breastmilk” (taking into account that vitamins, minerals and ORS are acceptable).
CP2. <i>Child aged 6-9 months receives breastmilk and complementary feeding</i>	Children aged 180 to 299 days	Q2 = 1 AND Q3 item “solid or semi-solid foods” = 1	Q2 = 0 OR 1	
CP3. <i>Continued breastfeeding rate at one year.</i>	Children aged 365 to 485 days	Q2 = 1	Q2 = 0 OR 1	
CP4. <i>Low weight for age prevalence</i>	All children	Number of children with weight for age NCHS z-score (based on Q79 and age) < -2, excluding outliers (<-5 z-scores)	Number of children with valid weight for age NCHS z-scores, excluding outliers (<-5 or >5 z-scores)	Deduct weight of clothes worn (Q78) from child’s weight (Q79). Outliers as defined by WHO Expert Committee.
CP5. <i>Mean weight for age z-score.</i>	All children	Arithmetic mean of valid weight for age NCHS z-scores (based on Q79 and age), excluding outliers		As above

		(<-5 or >5 z-scores)		
Indicator	Select	Numerator	Denominator	Comments
CP6. <i>Anemia prevalence.</i>	Children aged ≥ 180 days	Number of children with hemoglobin level (Q85) below 11.0 g/dl	Number of children with valid hemoglobin measurements (Q85)	
CP7. <i>Mean hemoglobin level.</i>	Children aged ≥ 180 days	Arithmetic mean of valid hemoglobin measurements (Q85)		
CP8. <i>Ownership of mother's card for children under 2 years.</i>	Child aged < 730 days	Confirmed ownership: Qy (page 2) = 1	Qx (page 2) = 0 OR 1	In countries where cards are not distributed, the indicator should be calculated by dividing Q6=1 by Q6= 0 OR 1
		Informed ownership: Qx (page 2) = 1		
CP9. <i>Ownership of mother's card for children with nutritional problems.</i>	Child aged ≥ 730 days with weight for age NCHS z-score (based on Q79 and age) < -3 OR hemoglobin level (Q85) < 11.0 g/dl	Confirmed ownership: Qy (page 2) = 1	Qx (page 2) = 0 OR 1	In countries where cards are not distributed, the indicator should be calculated by dividing Q6=1 by Q6= 0 OR 1
		Informed ownership: Qx (page 2) = 1		
CP10. <i>Child sleeps under impregnated bednet</i>	All children	Q14 = 1 AND Q15<6	Q13 = 0 OR 1	Where malaria is seasonal, annual impregnation is acceptable (Q15<12)
CP13. <i>Child 12-23 months of age vaccinated against</i>	Children aged 365 to 729 days	Date of first measles vaccination (Q17) < 365 days after child's date of	Q16 = 0 THRU 2	Indicator based on vaccines registered on child's card. Informed

<i>measles before 12 months of age</i>		birth		doses not accepted.
Indicator	Select	Numerator	Denominator	Comments
CP14. <i>Vitamin A supplementation coverage</i>	Children aged 365 to 729 days	Q24 = 1 AND Q25 < 6	Q24 = 0 OR 1	
CP15. <i>Sick child receives increased fluids and continued feeding</i>	Children who are ill on the day of the survey (Q37=1)	Q45=5 AND Q46=3 THRU 5	Q45=1 THRU 5 AND Q46=1 THRU 5	This indicator may also be calculated for children who were ill in the last 2 weeks (Q38=1)
CP16. <i>Child with fever receives appropriate treatment</i>	Q40b (Fever) = 1	Q71 OR Q75 include a locally recommended antimalarial	Q40b (Fever) = 1	Indicator applicable only to malaria risk areas
CP17. <i>Caretaker knows at least two signs for seeking care immediately</i>	All caretakers or children	Caretaker mentions two or more of the signs listed in Q30	All caretakers or children with valid Q30 answers	If questionnaire has a separate caretaker module, this indicator should be referred to caretakers, not children

Indicator	Select	Numerator	Denominator	Comments
<i>CS1. Complementary feeding frequency</i>	Children aged \geq 730 days	Q4 \geq 5	All children with valid Q4 answers	
<i>CS2. Stunting prevalence</i>	All children	Number of children with height/length for age NCHS z-score (based on Q80/Q81 and age) $<$ -2, excluding outliers ($<$ -5 or $>$ 3 z-scores)	Number of children with valid height/length for age NCHS z-scores, excluding outliers ($<$ -5 or $>$ 3 z-scores)	
<i>CS3. Wasting prevalence</i>	All children	Number of children with weight for height/length NCHS z-score (based on Q79 and Q80/Q81) $<$ -2, excluding outliers ($<$ -4 z-scores)	Number of children with valid weight for height/length NCHS z-scores, excluding outliers ($<$ -4 or $>$ 5 z-scores)	Deduct weight of clothes worn (Q78) from child's weight (Q79)
<i>CS4. Mean height for age z-score</i>	All children	Arithmetic mean of valid height/length for age NCHS z-scores (based on Q80/Q81 and age), excluding outliers ($<$ -5 or $>$ 3 z-scores)		
<i>CS5. Mean weight for height z-score</i>	All children	Arithmetic mean of valid weight for height/length NCHS z-scores (based on Q79 and Q80/Q81), excluding outliers ($<$ -4 or $>$ 5 z-scores)		Deduct weight of clothes worn (Q78) from child's weight (Q79)
<i>CS6. Prevalence of night-blindness</i>	Children aged \geq 730 days	Q27=1 AND Q28=1 AND Q29=1	Q29=0 OR 1	Indicator restricted to areas with vitamin A deficiency

<i>CS7. Prevalence of low serum retinol</i>	Children aged ≥ 365 days	Number of children with serum retinol level (Q86) $<70 \mu\text{mol/l}$	Number of children with valid serum retinol levels (Q86)	
Indicator	Select	Numerator	Denominator	Comments
<i>CS8. Mean serum retinol in $\mu\text{mol/l}$</i>	Children aged ≥ 365 days	Arithmetic mean of valid serum retinol levels (Q86) in $\mu\text{mol/l}$		
<i>CS9. Period prevalence of a history of fever</i>	All children	Q40b (fever) = 1	Q40b (fever) = 0 OR 1	
<i>CS10. Prevalence of malaria parasitemia</i>	All children	Q87 > 0	Number of children with valid parasitemia (Q87) values	
<i>CS11. Proportional hospital morbidity due to malaria</i>	All children	Total number of hospital admissions due to malaria (Q36)	Total number of hospital admissions due to all causes (Q36)	This indicator is based on admissions rather than children
<i>CS 12. Period prevalence of diarrhoea</i>	All children	Q40b (diarrhoea) = 1	Q40b (diarrhoea) = 0 OR 1	
<i>CS 13. Period prevalence of severe diarrhoea</i>	All children	Q40b (diarrhoea) = 1 AND one or more of the following: [Q40b (fever) =1 OR Q42 (many watery stools) ≥ 6 OR Q42 (repeated vomiting) =1 OR Q42 (marked thirst) = 1 OR Q42 (not eating/drinking well) =1 OR Q42 (blood in the	Q40b (diarrhoea) = 0 OR 1	

Indicator	Select	Numerator	Denominator	Comments
		stools) =1 OR Q42 (not getting better/getting sicker/very sick) =1]		
<i>CS14. Proportional hospital morbidity due to malaria</i>	All children	Total number of hospital admissions due to diarrhoea (Q36)	Total number of hospital admissions due to all causes (Q36)	This indicator is based on admissions rather than children
<i>CS 15. Period prevalence of pneumonia</i>	All children	Q40b (illness with cough) =1 AND {[Q40b (difficult breathing) =1 OR Q40c (fast breathing) =1] AND Q41 = 1 OR 3}	Q40b (illness with cough) = 0 OR 1	
<i>CS16. Proportional hospital morbidity due to ARI/pneumonia.</i>	All children	Total number of hospital admissions due to ARI/pneumonia (Q36)	Total number of hospital admissions due to all causes (Q36)	This indicator is based on admissions rather than children
<i>CS22. DPT vaccine coverage</i>	Children aged 365 to 729 days	Date of third DPT vaccine dose (Q17) < 365 days after child's date of birth	Q16 = 0 THRU 2	Indicator based on vaccines registered on child's card. Informed doses not accepted.
<i>CS23. Polio vaccine coverage</i>	Children aged 365 to 729 days	Date of third polio vaccine dose (Q17) < 365 days after child's date of birth	Q16 = 0 THRU 2	Indicator based on vaccines registered on child's card. Informed doses not accepted.
<i>CS24. BCG vaccine coverage</i>	Children aged 365 to 729 days	Date of BCG vaccine (Q17) < 365 days after	Q16 = 0 THRU 2	Indicator based on vaccines registered on

		child's date of birth		child's card. Informed doses not accepted.
Indicator	Select	Numerator	Denominator	Comments
<i>CS25. Careseeking for diarrhoea</i>	Children with Q40b (diarrhoea) = 1	Q48 checked for an appropriate provider ¹	Q47 = 0 OR 1	Answers should be broken down by type of provider
<i>CS26. Careseeking for cough</i>	Children with Q40b (illness with cough) = 1	Q48 checked for an appropriate provider ¹	Q47 = 0 OR 1	Answers should be broken down by type of provider
<i>CS26. Careseeking for fever</i>	Children with Q40b (fever) = 1 AND Q40b (illness with cough) = 0 AND Q40b (diarrhoea) = 0	Q48 checked for an appropriate provider ¹	Q47 = 0 OR 1	Answers should be broken down by type of provider
<i>CS28. Appropriate care-seeking</i>	Children who were ill in the two weeks before the survey (Q37=1 OR Q38=1)	First provider sought (Q48) was an appropriate one ¹	Q47 = 0 OR 1	
Indicator	Select	Numerator	Denominator	Comments
<i>CS29. Compliance with recommended treatment</i>	Children who visited an appropriate provider ¹	Follow-up: Q56=1 OR Q57=1	Q54=1	The units of analysis should be provider

¹ **Appropriate providers** include hospital, health centre, dispensary, village health worker, mobile/ outreach clinic, private hospital, health centre or clinic. This list may be modified locally.

<i>or referral</i>	(Q48) in the previous two weeks.	Referral: Q53=1	Q53=0 OR 1	encounters (providers modules completed); information on the three components of the indicator should be combined as a score as well as presented separately
		Treatment: Q71 (did child take it?) = 1 for all drugs prescribed	Q69=1	
<i>CS30 Vitamin A supplementation for very low weight children</i>	Child with weight for age NCHS z-score (based on Q79 and age) < -3	Q24 = 1 AND Q25 < 6	Q24 = 0 OR 1	