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Maternal and Child Survival Program

Review of Newborn Indicators in Maternal and Child Survival Program–Supported Countries

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Abbreviations

AA	associate award
ACS	antenatal corticosteroids
BEmOC	basic emergency obstetric care
BEmONC	basic emergency obstetric and newborn care
CBNC	Community-Based Newborn Care
CEmONC	comprehensive emergency obstetric and newborn care
CHX	chlorhexidine
DHIS	district health information system
DHS	Demographic and Health Surveys
DRC	Democratic Republic of the Congo
ECEB	Essential Care for Every Baby
ECSB	Essential Care for Small Babies
ENAP	Every Newborn Action Plan
ENC	essential newborn care
EPCMD	Ending Preventable Child and Maternal Deaths
GA	gestational age
GPMP	*Global Performance Monitoring Plan*
HBB	Helping Babies Breathe
HC	health center
HDA	Health Development Army
HEW	health extension worker
HF	health facility
HMIS	health management information system
HP	health post
HSSR	health system strengthening and response
HW	health worker
ICCM	integrated community case management
KMC	kangaroo mother care
KPC	knowledge, practice, and coverage
LBW	low birthweight
LM	labor management
MCHIP	Maternal and Child Health Integrated Program
MCSP	Maternal and Child Survival Program
MICS	Multiple Indicator Cluster Surveys
MMEL	Measurement, Monitoring, Evaluation, and Learning
MOH	ministry of health
N/A	not available

PDSR	perinatal death surveillance and response
PMP	performance monitoring plan
PNC	postnatal care
PSBI	possible serious bacterial infection
PY	program year
SBA	skilled birth attendant
SBM-R®	Standards-Based Management and Recognition
TBD	to be determined
USAID	United States Agency for International Development
USG	United States government
VSD	very severe disease
WASH	water, sanitation, and hygiene
WHO	World Health Organization

Background

Reductions in newborn mortality have occurred at a slower pace than reductions in child mortality, with deaths during the neonatal period accounting for 45% of under-5 mortality.[1] The relatively recent focus on interventions to improve newborn health and survival is reflected in lower-quality and less frequently collected indicators for newborn versus child health.[2] Routine monitoring of programs is critical to track implementation strength and ensure outcomes are linked to input and processes.

The Maternal and Child Survival Program (MCSP) is the United States Agency for International Development's (USAID) flagship maternal and child health program. MCSP aims to accelerate reductions in maternal, newborn, and child mortality using increased equity to end preventable maternal and child deaths. MCSP conducted a review and analysis to understand to what extent newborn indicators captured in the MCSP country performance monitoring plans (PMPs) of 24 USAID priority countries align with globally recommended indicators.

Global indicators included in this analysis are those recommended:

- in MCSP's *Global Performance Monitoring Plan (GPMP)*, a working document published internally in December 2014 and
- by the Every Newborn Action Plan (ENAP) steering group in April 2015.[3]

The MCSP *GPMP* was developed before the ENAP indicators were published. The *GPMP* was developed in consultation with USAID and based on global documents with recommended reproductive, maternal, newborn, and child health indicators, including the World Health Organization's (WHO's) *Quality of Care* report and Helping Babies Survive Guidelines.

Whenever an MCSP-supported country develops its PMP, it is recommended that the country includes indicators from the *GPMP* list of indicators. Each country has a headquarters-based monitoring and evaluation support person working with the in-country Monitoring and Evaluation Team to develop a PMP and indicators that are both feasible to collect and relevant to the country's work plan.

In April 2015, the ENAP steering group proposed a set of 10 core indicators to initiate the discussion on standardization and institutionalization of newborn indicators within the global indicators.[3] Several entities, including MCSP, are taking actions to test the feasibility and validity of the ENAP newborn indicators. The data for the indicators are routinely collected in national health management information systems (HMISs), facility registers, program records, or ad hoc population-based surveys.

The information gathered from this review and analysis will be used in three ways:

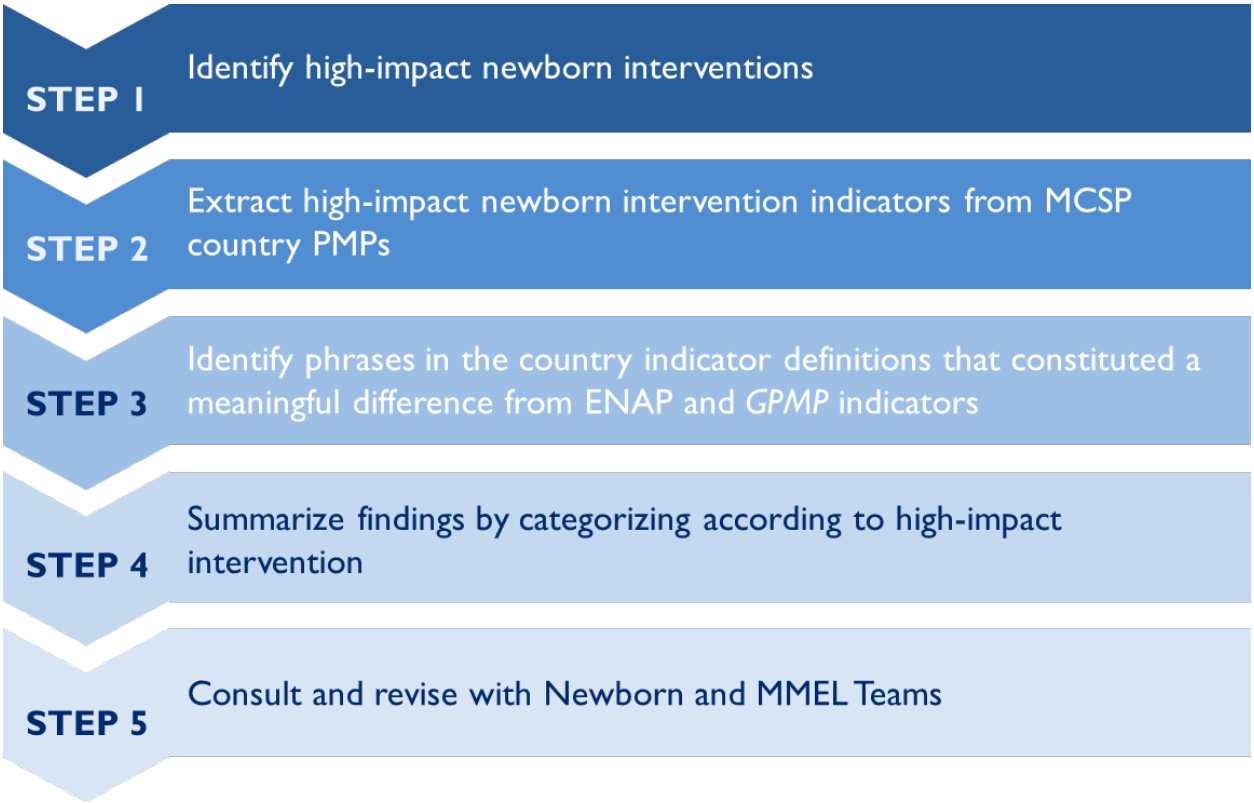
- First, understanding the similarities and differences across indicators in country PMPs will inform internal MCSP efforts to promote standardization of indicators across countries.
- Second, the lessons from country PMPs will shed a light on whether there is a need to propose modifications to the *GPMP*.
- Third, understanding what indicators are already being collected and what the sources of the data are will contribute to global efforts to test the feasibility and validity of institutionalizing globally recommended indicators.

Methodology

The methodology for this review followed multiple steps (see Figure 1):

1. **Identify high-impact newborn interventions:** The presence of high-impact newborn interventions across MCSP- and MCHIP-supported countries was identified.
2. **Extract newborn indicators:** High-impact newborn intervention indicators were extracted from MCSP country PMPs. Newborn indicators from ENAP and *GPMP* were also listed.
3. **Identify meaningful difference:** Country PMP, ENAP, and *GPMP* indicators were compared. Phrases in the country indicator definitions that were meaningfully different from ENAP and *GPMP* indicator definitions were identified.
4. **Summarize and analyze:** A summary of the findings was developed by categorizing findings according to high-impact intervention.
5. **Consult and revise:** A preliminary summary report was shared with the MCSP Newborn and Measurement, Monitoring, Evaluation, and Learning (MMEL) Teams for discussion and revision.

Figure 1: Steps followed



Findings

High-Impact Newborn Interventions

We first identified which newborn interventions were to be included in the analysis. We chose to include all high-impact newborn interventions MCSP seeks to promote and implement across its portfolio of countries. Although postnatal care (PNC) is included in the list of maternal health interventions, we determined it is an important newborn intervention and included it in this analysis as well. Table 1 summarizes the technical definitions of the 10 newborn interventions included in this analysis.

Table 1: High-impact interventions included in analysis

High-Impact Intervention	Technical Definition
Essential newborn care (ENC) / Essential Care for Every Baby (ECEB)	Preventive and supportive care required for all newborns including: warmth, cleanliness, breastfeeding, cord and eye care, vitamin K and immunizations.
Newborn resuscitation / Helping Babies Breathe (HBB)	Basic neonatal resuscitation describes assessment and actions for every newborn at the time of birth, to assist in establishing breathing and circulation; it should be practiced on all non-macerated newborns not breathing spontaneously following immediate drying in accordance with current WHO guidelines. Effective and safe resuscitation of these babies is highly time-sensitive and should be initiated within the first minute after birth. The actions include additional stimulation, clear airway (only if needed), and positive pressure ventilation with bag and mask if clinically indicated following thorough drying. The intervention definition does not include advanced resuscitation measures.
Kangaroo mother care (KMC) / Essential Care for Small Babies (ECSB) / low birthweight (LBW)	A method of caring for LBW newborns (mostly preterm) in direct and continuous skin-to-skin contact, on the mother's (or guardian's) naked chest, with support for early exclusive breastmilk feeding and discharge in skin-to-skin position with regular follow-up. The current evidence to achieve mortality reductions supports KMC for clinically stable newborns weighing less than 2,000 g, initiated in a facility. WHO guidelines support that the infant is cared for in the kangaroo position for the equivalent number of weeks it would have taken for the infant to reach full term (or as long as the baby will tolerate the position) accompanied with appropriate follow-up after discharge.
Antenatal corticosteroids (ACS)	Currently, ACS therapy (24 mg of intramuscular dexamethasone or betamethasone in divided doses over 24 hours) is recommended by WHO for all mothers at risk of imminent preterm birth (delivery before 34 completed weeks of gestation) when the mother is in a facility where accurate gestational age can be obtained, where there is no clinical evidence of maternal infection, and where there are adequate levels of maternity care and special newborn care available (WHO guidelines are currently being revised).
Possible serious bacterial infection (PSBI)	The provision of antibiotics to newborns admitted for inpatient care with PSBI, in accordance with current WHO treatment guidelines and diagnostic algorithms. Case management can also be considered by levels of care: administration of oral antibiotics only, injectable antibiotics only, or full case management of neonatal infection (potentially, second-line antibiotic therapy, IV fluids, oxygen therapy, other supportive measures). Recent trials of Simplified Antibiotic Therapy show that, where referral is not possible, treatment with the simpler regimes by lower-level workers is feasible.
Labor management (LM) (partograph use)	Use of partograph during labor and delivery to prevent prolonged and obstructed labor. This intervention affects newborns by preventing intrapartum birth asphyxia. (Source: MMEL Team leader)

High-Impact Intervention	Technical Definition
Handwashing (facility)	Availability of reliable water point with soap and alcohol-based rubs in health facility (HF) delivery rooms to ensure safe hand hygiene practices and prevent newborn sepsis.[a] Improving water, sanitation, and hygiene (WASH) can establish trust in health care and encourage women to seek antenatal and delivery services from HFs rather than home-based care.[b]
Chlorhexidine (CHX)	CHX cord cleansing is the routine application of topical chlorhexidine digluconate 7.1% (solution or gel, delivering 4%) to the cord stump within the first 24 hours of life. The WHO currently recommends this intervention for home births in settings with a neonatal mortality rate greater than 30 per 1,000.
Perinatal death surveillance and response (PDSR)	One of the key actions recommended in the 2012 WHO ENAP and Ending Preventable Maternal Mortality is the institutionalization of maternal and perinatal death surveillance and response systems to enable a country's use of audit data to track and prevent maternal and early newborn deaths as well as stillbirths.
PNC	A package of healthcare provided to women and their newborns either at the facility or during consultation at home. For women who deliver at a health facility, WHO recommendations support inpatient care for at least 24 hours, and/or provision of care as early as possible and at least within 24 hours for women and newborns who are born at home.

Unless otherwise noted, definitions are taken directly or adapted from Moxon SG, Ruysen H, Kerber KJ, et al. Count every newborn; a measurement improvement roadmap for coverage data. *BMC Pregnancy Childbirth*. 2015;15(Suppl 2):S8. doi:10.1186/1471-2393-15-S2-S8.

a. WHO and UNICEF. *Water, Sanitation and Hygiene in Health Care Facilities: Status in Low- and Middle-Income Countries and Way Forward*. 2015; WHO Press: Geneva, Switzerland. http://apps.who.int/iris/bitstream/10665/154588/1/9789241508476_eng.pdf?ua=1.

b. Russo ET, Sheth A, Menon M, et al. Water treatment and handwashing behaviors among non-pregnant friends and relatives of participants in an antenatal hygiene promotion program in Malawi. *Am J Trop Med Hyg*. 2012;86(5):860–865. doi:10.4269/ajtmh.2012.11-0259.

Distribution of High-Impact Newborn Interventions in Countries

After identifying which newborn interventions are high impact and should be included in the analysis, the next step was to identify which of the MCHIP associate awards (AAs) and MCSP country programs are implementing high-impact newborn interventions. Understanding the scope of newborn interventions across these countries allows an understanding of which countries should be reporting on which of the newborn metrics to monitor program implementation. We reviewed the latest country work plans as of early 2016 to identify which high-impact interventions were being implemented in each country. This analysis also served to update the MCSP dashboard, which highlights distribution of newborn interventions in MCSP-supported countries.

Table 2 provides a matrix of 19 country programs that are implementing the 10 high-impact newborn interventions. All 19 country programs are implementing activities related to ENC/ECEB and newborn resuscitation / HBB. Roughly three-fourths of country programs are implementing LM (using partograph), ECSB/KMC/LBW, or PNC interventions. Slightly less than half are conducting activities related to PSBI, facility handwashing (in delivery area) for infection prevention, and CHX use for umbilical cord care. The additional newborn interventions receiving the greatest amount of attention are ACS for preterm labor and PDSR. Activities related to ACS are in flux in many countries because WHO guidelines are currently being revised for ACS.

Table 2: MCSP country programs with newborn interventions

Target Condition	ENC/Asphyxia			Prematurity		Sepsis			Mortality	PNC
High-impact intervention	**ENC/ ECEB**	**Newborn Resuscitation/ HBB**	**LM (partograph)**	**KMC/ ECSB/ LBW**	**ACS**	**PSBI**	**Handwashing (facility)**	**CHX**	**PDSR**	**PNC**
Bangladesh (AA)	Y	Y	Y	Y	To be determined (TBD)	Y	Y	Y	Y	Y
Burma	Y	Y		Y						
Democratic Republic of the Congo (DRC)	Y	Y		Y			Y			
Ethiopia/ BEmOC	Y	Y	Y	Y						Y
Ethiopia / Community-Based Newborn Care (CBNC)	Y	Y		Y		Y				Y
Guinea / health system strengthening and response (HSSR)	Y	Y	Y							
Haiti / Ending Preventable Child and Maternal Deaths (EPCMD)	Y	Y	Y	Y	TBD	Y	Y			Y
Haiti North	Y	Y	Y				Y			Y
Kenya	Y	Y	Y	Y	TBD	Y	Y	Y	Y	Y
Laos	Y	Y								Y
Liberia	Y	Y	Y	Y		Y	Y	Y	Y	Y
Madagascar	Y	Y	Y	Y		Y	Y	Y		Y

Target Condition	ENC/Asphyxia			Prematurity		Sepsis			Mortality	PNC
Mozambique	Y	Y	Y	Y				Y	Y	Y
Nigeria	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pakistan (AA)	Y	Y	Y	Y	TBD	Y		Y		Y
Rwanda	Y	Y	Y	Y				Y	Y	Y
South Sudan	Y	Y					Y			Y
Tanzania	Y	Y	Y	Y					Y	Y
Zimbabwe (AA)	Y	Y	Y	Y				Y		

Legend

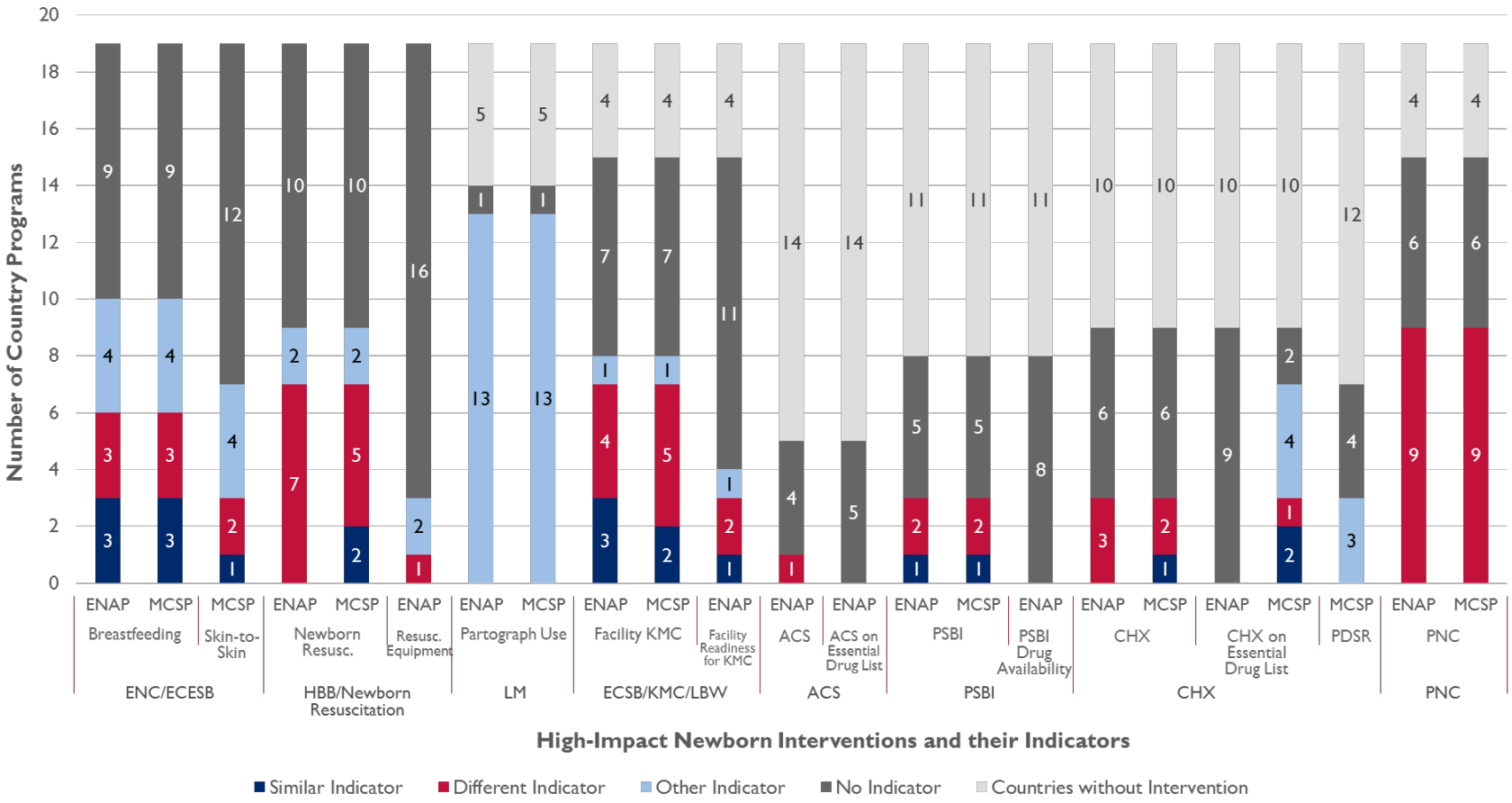
italic	Work plan / PMP is in development		No intervention present in plan	Y	Intervention present in plan	TBD	Intervention is being determined

Newborn Indicator Comparison

One of the major objectives in this mapping of high-impact newborn intervention indicators was to make a comparative analysis that would give insight into how far these indicators are standardized across the MCSP-supported countries and in relation to global indicators. The remaining steps in the analysis started with first, extracting newborn indicators from the MCSP country PMPs. Then the team compared to what extent these newborn indicators were similar or different to global indicators by reviewing the phrasing of the numerator and denominator of each MCSP country PMP indicator and noting any differences from the phrasing of *GPMP* and ENAP indicators. Following this primary review of the indicators, a group of experts comprising members of the MCSP Newborn and MMEL Teams reviewed the identified phrases and determined which differences were meaningful, that is, differences that would affect the type of data reported, as opposed to mere differences in wording. After that, each MCSP country indicator was categorized as being different or similar in meaning to the global indicators. Detailed reviews of the indicators for newborn intervention are outlined in Appendixes A–J.

As seen in Figure 2 this analysis found low levels of similarity (displayed as dark blue bar) between country and global indicators for the same high-impact intervention. A number of country programs have indicators that are close but slightly different from global indicators (red bar). Some country programs are tracking high-impact interventions with indicators related to the intervention but significantly different in content than the global indicators (light blue bar). Several country programs have a high-impact intervention in their work plan but no indicator to track the implementation (dark gray bar). The light gray bar represents country programs that neither have a specific high-impact newborn intervention nor an indicator that would serve to measure that intervention.

Figure 2: Summary of MCSP PMP country indicators across high-impact newborn interventions



One of the most important findings was the number of country programs with a high-impact intervention that do not have an indicator to report on the implementation of that intervention (Figure 2 dark gray bar). One potential explanation for a country program not using an indicator even though an implementation is present in the work plan is that the MCSP-supported country work plans include references to one-time implementation activities. Table 3 provides a more detailed snapshot of implementation intensity for high-impact interventions by country to illuminate underlying reasons for absence of an intervention indicator. One-time activities such as training (denoted as T), development of technical material and job aids (denoted as J), and procurement and distribution of supplies and equipment (denoted as E) are displayed along with continuous support in service delivery of an intervention (denoted as I).

Table 3: Summary of MCSP country programs with any or no newborn indicators across interventions

Target Condition	ENC/Asphyxia			Prematurity		Sepsis			Mortality	PNC	Cross-Cutting Activities		
High-Impact Intervention	**ECEB/ENC**	**HBB / Newborn Resus.**	**LM (partograph)**	**ECSB/ KMC/LBW**	**ACS**	**PSBI**	**Hand-washing (facility)**	**CHX**	**PDSR**	**PNC**	**Training**	**Job Aids**	**Equipment**
Bangladesh (AA)	I	I	J, T	I	TBD	I	I	I	I	I	Y	Y	
Burma	J, T	J, T		E, J, T							Y	Y	Y
DRC	J, T	J, T		J, T			I				Y	Y	
Ethiopia/ BEmOC	I	I	I	I						I	Y		
Ethiopia/CBNC	I	I		I		I		*		I	Y		Y
Guinea/HSSR	I	I	I								Y	Y	
Haiti/EPCMD	J, T	E, J, T	J	J	TBD	J, T	J, T			J, T	Y	Y	Y
Haiti North	J, T	J, T	J, T				I			I	Y		
Kenya	J	J, T	I	I	TBD	I	J	J	I	I	Y		Y
Laos	E, J, T	E, J, T								E, J, T	Y		
Liberia	J, T	J, T	T	J, T		J, T	E	T	I	J, T	Y		
Madagascar	I	I	I	I		I	I	J		J	Y	Y	Y
Mozambique	I	I	I	I				I	I	I	Y	Y	
Nigeria	I	I	I	I	I	I	E	I	I	I	Y	Y	
Pakistan (AA)	I	I	I	E, T	TBD	E, T		I		I	Y		Y
Rwanda	I	I	I	I		*		I	I	I	Y		
South Sudan	T	E, T	*				I			I	Y		
Tanzania	I	J, T	I	I					I	I	Y	Y	
Zimbabwe (AA)	J, T	J, T	I	J				I		*	Y	Y	

Legend

	No intervention present		No indicator present	E	Equipment/procurement activities	*	Indicator present, but no direct intervention
Y	At least one indicator present	I	Service-delivery intervention	T	Training activities	J	Activities related to development or duplication of job aids, protocols, guidelines, etc.
italic	Work plan/PMP is in development						

The review findings revealed differences across MCSP-supported PMPs. There are multiple reasons for these differences. First, there are differences in global indicators in terms of objective, specificity of measurement, numerators, and denominators. One global indicator is not considered superior to the other, but rather reflects the global consensus at the time as well as the difference in objective between ENAP and *GPMP* indicators. When comparing PMP indicators from an MCSP-supported country to the global indicators, we expected to see a greater amount of similarity to the *GPMP* than to ENAP. This is because *GPMP* indicators were published prior to ENAP indicators and the *GPMP* is aligned with countries developing their initial country PMPs.

The second reason for observed differences between MCSP-supported country PMP indicators and global indicators was the source of the data. Most countries prefer to use indicators that are readily available in the HMIS. Therefore, data for some MCSP-supported country PMP indicators are taken directly from the national HMIS. The number of MCSP country PMP indicators adopted from HMISs ranges from none to six per country program for a single high-impact intervention.

Furthermore, adding a new indicator or changing an indicator in a country HMIS is often a less feasible and more time-intensive process. Strong evidence should be gathered before promoting the addition of a new indicator or revision of existing indicators. Since most of the global indicators, including ENAP, have not yet been tested for feasibility and validity, it should not be surprising that countries chose to use preexisting country-specific HMIS indicators, regardless of the indicators' specificity to measuring high-impact newborn interventions.

MCSP is currently undertaking a separate activity to review HMIS indicators in MCSP-supported countries in order to get a general insight into what data can be readily available in MCSP-supported countries to monitor high-impact interventions. This activity is assessing what key data HF registers and HMIS reporting forms are feeding into individual country HMISs. This provides a broader insight into what additional data on high-impact newborn interventions can be extracted without introducing new indicators in MCSP-supported country PMPs. Table 4 summarizes the elements of newborn indicators being assessed during this HMIS review activity. In addition, this activity will provide information to identify gaps and discuss with ministries of health (MOHs) what indicators could potentially be introduced in the HMIS. This HMIS review activity is linked to another "New Indicator Testing" activity MCSP is pursuing.

Table 4: HMIS review of newborn indicator elements

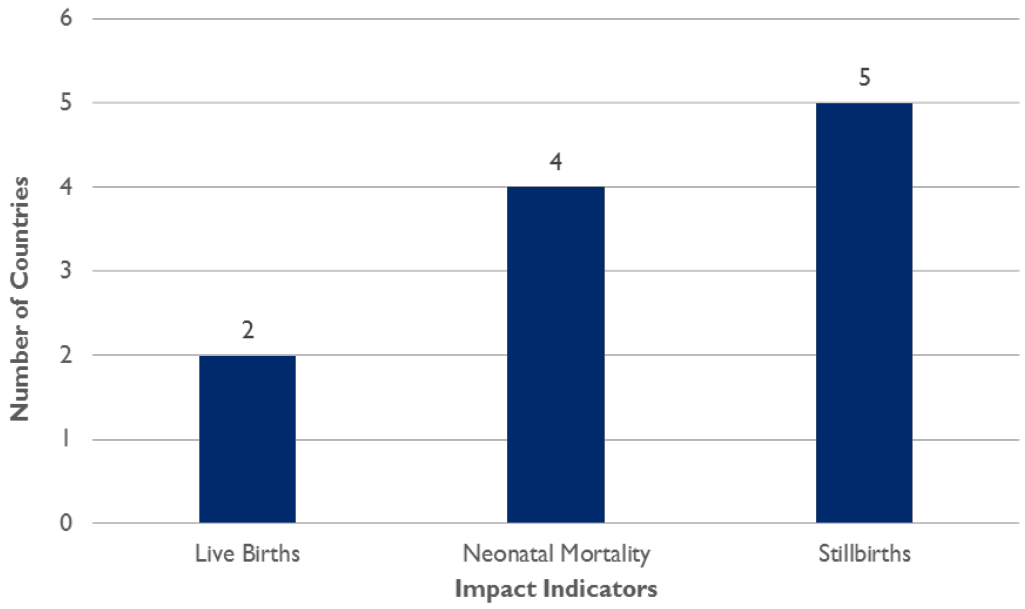
High-Impact Intervention	Elements Included In HMIS Review	Elements Not Included
ENC/ECEB	Breastfeeding within 1 hour ENC / delayed cord clamping ENC / immediate drying ENC / skin-to-skin care Place of delivery	—
Newborn resuscitation / HBB	Newborn complication diagnosed / asphyxia Newborn resuscitation Place of delivery	Outcome of resuscitation Bag and mask availability
KMC/ECSB/LBW	Birthweight Newborn complication diagnosed / LBW KMC follow-up PNC / breastfeeding status Place of delivery	KMC continuous skin-to-skin care in kangaroo position KMC facility readiness (staff trained and KMC space)

High-Impact Intervention	Elements Included In HMIS Review	Elements Not Included
ACS	Gestational age (GA) Newborn complication diagnosed / preterm ACS Place of delivery	ACS commodities on essential drug lists
PSBI	Newborn complication diagnosed / sepsis PNC / antibiotic given for suspected infection	PSBI commodities on essential drug lists
LM (partograph use)	Skilled birth attendant (SBA)	Use of partograph
Handwashing	Place of delivery	Handwashing supplies in delivery room
CHX	CHX applied to cord Newborn complication diagnosed / cord infections PNC / CHX applied to cord Place of delivery	CHX commodities on essential drug lists CHX timing
PDSR	—	Countries with PDSR
PNC	PNC / completion instructions PNC / day 2	—
Impact	Newborn death Live births Stillbirths Very early newborn deaths Cause of neonatal death	—

Impact Indicators

Several MCSP countries are also tracking impact indicators. Figure 3 identifies the number of MCSP countries reporting on impact indicators. Within neonatal mortality, Ethiopia's basic emergency obstetric care (BEmOC) program is tracking very early neonatal deaths and Zimbabwe is tracking facility-based early neonatal and intrapartum deaths. A full list of the indicators by country is provided in Appendix K: Impact Indicators.

Figure 3: Newborn impact indicators reported in MCSP countries



Recommendations

There are four main recommendations from this analysis.

1. Some variation across countries in what indicators are reported on and how they are collected is understandable given that almost all newborn indicators have not been tested for feasibility and validity. This analysis provides a starting to point to understand which MCSP-supported countries are reporting on ENAP indicators as part of their PMPs. As the ENAP steering group works to identify feasible and valid indicators, it will be important to share with countries specific and comprehensive guidance for measuring newborn indicators, such as explicitly stating what the indicators are intended to capture, among what population, and specifically how to gather the data to promote consistency in indicators.
2. Some MCSP country indicators are sourced from country HMISs. We recommend MCSP work with country MOHs and partners to test the feasibility of incorporating globally recommended indicators into the HMIS. MCSP should advocate with the ENAP steering group working with the MOHs for use of standardized newborn indicators across countries. The current MCSP activity reviewing country HMISs should also be used to inform discussions with the ENAP steering group regarding what data are readily available in countries to report on newborn indicators.
3. MCSP country teams should look for ways to make the indicators in their PMPs more specific to better understand how the indicators are operationalized, for example, discussing in detail how and who will acquire data and possible data quality issues. The MCSP Services de Santé de Qualité pour Haïti program in Haiti is an example of a program with sufficient details provided for each indicator in the PMP. Several countries are still in the process of developing work plans or PMPs; this analysis provides an opportunity to influence inclusion of certain indicators based on its findings.
4. There is also room for improvement on the part of MCSP to strengthen standardization across countries and ensure *GPMP* indicators are included in country PMPs.

Appendix A: ECEB/ENC

ECEB/ENC is tracked globally by indicators for immediate breastfeeding and immediate skin-to-skin care. Table A1 and A4 provide the definitions of the global indicators. The MCSP country PMP indicators related to the global indicators are captured in Table A2 and A5. The differences in phrasing across ENAP, *GPMP*, and MCSP country PMPs are identified in Table A3 and A6. These differences were vetted with the Newborn and MMEL Teams to identify which constituted a meaningful difference in the content of the indicator.

Immediate Breastfeeding

Table A1: Global indicator definitions for immediate breastfeeding

Organization	Definition	Data Source
ENAP	Numerator: Number of women with a live birth in the X years prior to survey who put the newborn infant to the breast within 1 hour of birth Denominator: Total number of women with a live birth in the X years prior to survey Source: Countdown to 2015. *A Decade of Tracking Progress for Maternal, Newborn and Child Survival: The 2015 Report*. 2015; WHO Press: Geneva, Switzerland. http://www.countdown2015mnch.org/documents/2015Report/Countdown_to_2015_final_report.pdf. Numerator: Number of live-born infants who are breastfed within first hour after birth Denominator: Total number of live-born infants Sources: Demographic and Health Surveys (DHS) Program. *Survey Indicators*. Accessed 2016/08/02. http://dhsprogram.com/data/Survey-Indicators.cfm. Multiple Indicator Cluster Surveys (MICS). "MICS5 Indicator List." *MICS Tools*. Accessed 2016/08/02. http://mics.unicef.org/tools.	Population-based survey
GPMP	Numerator: Number of women with a live birth in specified time period prior to the survey who put the newborn infant to the breast within 1 hour of birth Denominator: Total number of women with a live birth in the specified time period prior to the survey Notes: Disaggregated by country; coded as S16	Population-based survey

Table A2: MCSP indicators from PMP for immediate breastfeeding

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Bangladesh	Percentage of newborns initiated breastfeeding within 1 hour after birth	No definition	Program year (PY) 3 work plan (PMP included)	Population-based tracer indicator survey report

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Ethiopia/CBNC	Proportion of newborns placed to the breast within 1 hour of birth	Numerator: Number of live births placed to the breast within 1 hour of birth Denominator: Total number of live births	PMP annex	Survey
Kenya	Proportion of newborns initiated on breastfeeding within 1 hour of delivery	Numerator: Number of newborns initiated on breastfeeding within 1 hour of delivery in target facilities Denominator: Total number of newborns in MCSP-supported target facilities	PY2 PMP submitted	Baby's notes / surveillance register
Mozambique	Percentage of newborns put to the breast within 1 hour of birth at MCSP-supported facilities	Numerator: Number of newborns put to the breast within 1 hour of birth at MCSP-supported facilities Denominator: Total number of newborns delivered at MCSP-supported facilities Note: Disaggregated by province	PMP annex	HMIS
Mozambique	Percentage of newborns put to the breast within 1 hour of birth in MCSP-supported areas	Numerator: Number of women with a live birth in specified time period prior to the survey who put the newborn infant to the breast within 1 hour of birth Denominator: Total number of women with a live birth in the last 2 years prior to the survey Note: Disaggregated by province	Knowledge, practice, and coverage (KPC) indicator annex	KPC survey
Rwanda	Percentage of newborns put to the breast within 1 hour of birth in MCSP-supported areas	Numerator: Number of newborns breastfed within 1 hour of birth/delivery Denominator: Total number of live births at MCSP-supported facilities	PMP	Aggregated national reporting system (DHIS 2; https://www.dhis2.org/)

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Tanzania	Percentage of newborns put to the breast within 1 hour of birth in MCSP-supported areas	Numerator: Number of women with a live birth in the 2 years prior to the survey who report putting the newborn infant to the breast within 1 hour of birth Denominator: Total number of women with a live birth in the 2 years prior to the survey	PY2 PMP	KPC study

Table A3: Comparison of phrases across indicators for immediate breastfeeding

Difference	ENAP	*GPMP*	MCSP Country PMPs (if different from global)	Diff. in Meaning?
Target (women or live-born babies)	• "live-born infants"[a,b] Used in Bangladesh, Ethiopia/CBNC, Kenya, Mozambique 1[c], Rwanda[c] • "women with a live birth"[d] Used in Mozambique 2, Tanzania[c]	• "women with a live birth" Used in Mozambique 2, Tanzania[c]	• No indicator definition Used in Bangladesh	No
Process/ initiation or outcome	• "infants who are breastfed"[a,b] Used in Rwanda[c] • "infant put to the breast"[d] Used in Ethiopia/CBNC, Mozambique 1[c] and 2, Tanzania[c]	• "infant put to the breast" Used in Ethiopia/CBNC, Mozambique 1[c] and 2, Tanzania[c]	• "newborns initiated breastfeeding" Used in Kenya • No indicator definition Used in Bangladesh	No
Data source	• Population-based survey Used in Bangladesh, Ethiopia/CBNC, Mozambique 2, Tanzania[c]	• Population-based survey Used in Bangladesh, Ethiopia/CBNC, Mozambique 2, Tanzania[c]	• Service delivery register / HMIS Used in Kenya, Mozambique 1[c], Rwanda[c]	Yes

Note: Numbers following country names indicate two indicators in a particular MCSP country PMP.

a. DHS Program. *Survey Indicators*. Accessed 2016/08/02. http://dhsprogram.com/data/Survey-Indicators.cfm.

b. MICS. "MICS5 Indicator List." *MICS Tools*. Accessed 2016/08/02. http://mics.unicef.org/tools.

c. Data source is country HMIS.

d. Countdown to 2015. *A Decade of Tracking Progress for Maternal, Newborn and Child Survival: The 2015 Report*. 2015; WHO Press: Geneva, Switzerland. http://www.countdown2015mnch.org/documents/2015Report/Countdown_to_2015_final_report.pdf.

Immediate Skin-to-Skin Care

Table A4: Global indicator definitions for skin-to-skin care

Organization	Definition	Data Source
ENAP	Not available (N/A)	—
GPMP	Numerator: Number of newborns in the specified time period prior to the survey who were placed skin to skin naked against their mother's chest immediately after birth Denominator: Total number of live births in the specified time period prior to the survey Notes: Disaggregated by country; coded as S15	Population-based survey

Table A5: MCSP indicators from PMP for skin-to-skin care

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Ethiopia/CBNC	Proportion of newborns placed skin to skin immediately after birth	Numerator: Number of live births who were placed skin to skin naked against their mother's chest immediately after birth Denominator: Total number of live births	PMP annex	Survey
Kenya	Proportion of newborns placed skin to skin	Numerator: Only those newborns who are placed skin to skin within 1 hour of delivery in target facilities Denominator: All newborns born with an SBA in MCSP-supported counties in target facilities	PY2 PMP submitted	Baby's notes Newborn register / surveillance register
Mozambique	Percentage of newborns placed skin to skin immediately after birth at MCSP-supported facilities	Numerator: Number of newborns who were placed skin to skin naked against their mother's chest immediately after birth Denominator: Total number of newborns delivered at MCSP-supported facilities	PMP annex	HMIS
Mozambique	Percentage of newborns placed skin to skin immediately after birth in MCSP-supported areas	Numerator: Number of newborns in the specified time period prior to the survey who were placed skin to skin naked against their mother's chest immediately after birth Denominator: Total number of live births in the last 2 years prior to the survey Note: Disaggregated by province	KPC indicator annex	KPC survey

Table A6: Comparison of phrases across indicators for skin-to-skin care

Differences	*GPMP*	MCSP Country PMPs (if different from global)	Diff. in Meaning?
Timing specified	• "immediately after birth" Used in Ethiopia/CBNC, Mozambique 1[a] and 2	• "within 1 hour of delivery" Used in Kenya	No
Data source	• Population-based survey Used in Ethiopia/CBNC, Mozambique 2	• Service delivery register / HMIS Used in Kenya, Mozambique 1[a]	Yes

Note: Numbers following country names indicate two indicators in a particular MCSP country PMP.

a. Data source is country HMIS.

ECEB/ENC Summary

Table A7 summarizes to what extent the indicators in MCSP country PMPs are similar or different to global indicators. Additionally, Table A7 identifies which country programs are implementing an intervention but are not reporting on any intervention-specific indicators. Table A8 provides an extract of other indicators related to ECEB/ENC.

Table A7: Summary mapping of indicators across MCSP country PMPs related to ECEB/ENC

Country	Presence of Intervention	Early Initiation of Breastfeeding		Skin-to-Skin Care		Other Indicators
		ENAP	MCSP	ENAP	MCSP	
Bangladesh (AA)	I	D	D	N/A	N	O
Burma	J, T	N	N	N/A	N	—
DRC	J, T	N	N	N/A	N	—
Ethiopia/BEmOC	I	N	N	N/A	N	—
Ethiopia/CBNC	I	S	S	N/A	S	—
Guinea	I	N	N	N/A	N	O
Haiti/EPCMD	J, T	N	N	N/A	N	—
Haiti North	J, T	N	N	N/A	N	O
Kenya	J	D	D	N/A	D	O
Laos	E, J, T	N	N	N/A	N	—
Liberia	J, T	N	N	N/A	N	—
Madagascar	I	N	N	N/A	N	O
Mozambique	I	S	S	N/A	D	O
Nigeria	I	N	N	N/A	N	O
Pakistan (AA)	I	N	N	N/A	N	—
Rwanda	I	D	D	N/A	N	O
South Sudan	T	N	N	N/A	N	—
Tanzania	I	S	S	N/A	N	—
Zimbabwe (AA)	J, T	N	N	N/A	N	—

Legend

italics	Country PMP is in development	I	Intervention is present	D	Indicator is present and different
E	Equipment/procurement activities	J	Activities related to development or duplication of job aids, protocols, guidelines, etc.	T	Training activities
O	Indicator data source is HMIS	S	Indicator is present and similar	N	Indicator is not present
N/A	Not available				

Table A8: MCSP country PMP indicators for ECEB/ENC

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Bangladesh	Percentage of targeted facilities that are ready to provide ENC	No definition	PY3 work plan (PMP included)	Project report
Guinea	Number of newborns receiving ENC	Number of newborns receiving ENC	PY1–PY2 PMP	Registers
Haiti North	Number of women reached with individual or small group level education on the benefits of exclusive breastfeeding	Number of women reached with individual or small group level education on the benefits of exclusive breastfeeding at the community level through HFs, community health workers (HWs), women's groups, or project-supported nongovernmental organizations	Separate PMP	Project records
Kenya	Proportion of newborns introduced to prelacteal feeds	Numerator: Number of newborns introduced to prelacteal feeds in MCSP-supported counties in target facilities Denominator: Total number of newborns in MCSP-supported counties in target facilities	PY2 PMP submitted	• Maternity register • Baby's notes • Newborn register / surveillance register / partograph
Madagascar	Number of newborns receiving ENC through programs supported by the United States government (USG)	Number of newborn infants who receive ENC (clean cord care, drying and wrapping, immediate breastfeeding) from trained facility through USG-supported programs	PY2 work plan (PMP included)	• Facility registries • Other monitoring tools (MCSP delivery form, report tool)

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Nigeria	Percentage of newborns receiving essential care through USG-supported programs	Numerator: Number of newborn infants who receive ENC (clean cord care, drying and wrapping, immediate breastfeeding) from facility, through USG-supported programs Denominator: Total number of live births in MCSP-supported HFs	Separate PMP	HMIS / district health information system (DHIS)
Nigeria	Percentage of live births put to breast and kept warm within 30 minutes of birth in an HF	Numerator: Number of live births put to breast and kept warm within 30 minutes of birth Denominator: Number of live births in HF	Separate PMP	TBD
Nigeria	Percentage of MCSP-supported facilities with functional newborn care corner established	Numerator: Number of MCSP-supported facilities with newborn care unit established near the labor room to provide necessary care at birth, resuscitate asphyxiated newborn, manage sick newborn and immunization services Denominator: Total number of MCSP-supported HFs	Separate PMP	Facility audit questionnaire
Rwanda	Number of women reached with education on exclusive breastfeeding	Number of women reached with education on exclusive breastfeeding	PMP	Existing facility-based register (maternity register)

Appendix B: HBB / Newborn Resuscitation

Newborn resuscitation is tracked globally based on indicators for percentage of babies resuscitated and equipment availability as a proxy for resuscitation. Table B1 and B4 provide the definitions of the global indicators. The MCSP country PMP indicators related to the global indicators are captured in Table B2 and B5. The differences in phrasing across ENAP, *GPMP*, and MCSP country PMPs are identified in Table B3 and B6.These differences were vetted with the Newborn and MMEL Teams to identify which constituted a meaningful difference in the content of the indicator.

Equipment Availability for Newborn Resuscitation

Table B1: Global indicator definitions for equipment availability for newborn resuscitation

Organization	Definition	Data Source
ENAP	Numerator: Number of facilities with a functional neonatal bag and two masks (size 0 and size 1) in the labor and delivery service area Denominator: Total number of facilities with inpatient maternity services that are assessed	Facility-based survey
GPMP	N/A	—

Table B2: Indicator from MCSP country PMP for facility readiness for newborn resuscitation

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Bangladesh	Percentage of public health facilities with functional bags and masks (two neonatal mask sizes) in the delivery room	No definition	PY3 work plan (PMP included)	Project Skill Development Project assessment

Table B3: Comparison of phrases across indicators for equipment availability to implement newborn resuscitation

Differences	ENAP	MCSP country PMP (if different from global)	Diff. in Meaning?
Type of equipment	• Two masks (size 0 and size 1)	• No specification of sizes • Used in Bangladesh	Yes
Target	• Facilities with inpatient maternity services	• No mention of inpatient or maternity service • Used in Bangladesh	Yes

Newborn Resuscitation

Table B4: Global indicator definitions for newborn resuscitation

Organization	Definition	Data Source
ENAP	Numerator: Number of newborns who were not breathing spontaneously/crying at birth for whom resuscitation actions (stimulation and/or bag and mask) were initiated; Denominators: • Per 100 live births per year • Per 100 or 1,000 estimated live births for that population per year • Per number of live births in facility per year • Per total births in facility per year (i.e., including stillbirths, macerated and fresh) • Per number of total births in facility per year not breathing spontaneously / crying but excluding macerated stillbirths (i.e., including fresh stillbirths as a surrogate of intrapartum stillbirths) as target population for coverage	Facility-based or population-based survey
GPMP	Numerator: Number of babies not breathing/crying at birth born in MCSP-supported areas that were successfully resuscitated Denominator: Number of babies not breathing/crying at birth born in MCSP-supported areas Notes: Disaggregated by community-based and facility-based births and by country; coded as 11	Facility-based survey

Table B5: MCSP country PMP indicators for newborn resuscitation

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Ethiopia/ BEmOC	Percentage (number) of babies not breathing/crying at birth who were successfully resuscitated in MCSP-supported areas	Numerator: Number of babies not breathing/crying at birth born in MCSP-supported areas who were successfully resuscitated Denominator: Number of babies not breathing/crying at birth born in MCSP-supported areas	PMP database / separate PMP	HMIS
Guinea	Number of asphyxiated newborns successfully resuscitated	Number of newborns not crying or not breathing at birth successfully resuscitated	PY1–PY2 PMP	Registers
Kenya	Proportion of babies not breathing/crying at birth resuscitated	Numerator: Number of newborns not breathing/crying at birth that are resuscitated in targeted facilities Denominator: Total number of newborns not breathing/crying at birth in targeted facilities	PY2 PMP submitted	• Baby's notes • Newborn register / surveillance register / partograph

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Mozambique	Percentage of newborns not breathing/crying at birth who were successfully resuscitated in MCSP-supported areas	Numerator: Number of newborns not breathing/crying at birth who were successfully resuscitated (with stimulation and/or bag and mask) in MCSP-supported areas Denominator: Number of newborns not breathing/crying at birth born in MCSP-supported areas Note: Disaggregated by facility and home births and by province	PMP annex	• HMIS • Community HMIS
Rwanda	Number of newborns not breathing at birth who were resuscitated in USG-supported programs	Numerator: Number of babies who did not cry at birth in the first minute that were resuscitated using stimulation or bag and mask during the reporting period Denominator: None specified	PMP	Aggregated national reporting system (DHIS 2)
Rwanda	Percentage of babies not breathing/crying at birth who were successfully resuscitated in MCSP-supported areas	Numerator: Number of babies not breathing/crying at birth born in MCSP-supported areas that were successfully resuscitated Denominator: Number of babies not breathing/crying at birth born in MCSP-supported areas	PMP	Complementary report
Tanzania	Number and percentage of babies born in HFs who received newborn resuscitation	These data are currently collected in the HMIS but data quality needs to be strengthened; these efforts will be supported by MCSP.	PY2 PMP	DHIS 2
Tanzania	Number of newborns not breathing at birth who were resuscitated in USG-supported programs	Numerator: Number of newborns not breathing at birth who were resuscitated in USG-supported programs Note: Resuscitation includes suction, wrapping, stimulation, and bag/mask.	PY2 PMP	DHIS 2

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Zimbabwe	Percentage of babies not breathing/crying at birth who were successfully resuscitated	Numerator: Number of babies successfully resuscitated at facilities supported with Standards-Based Management and Recognition (SBM-R®) Denominator: Number of babies not crying/ breathing at birth at 30 facilities supported with SBM-R	PY3 work plan (PMP included)	Program records

Table B6: Comparison of phrases across indicators for newborn resuscitation

Difference	ENAP	GPMP	MCSP Country PMPs (if different from global)	Diff. in Meaning?
Process/ initiation vs. outcome	• Initiation of resuscitation actions	• Successful outcome of resuscitation actions Used in Ethiopia/ BEmOC[a], Guinea, Mozambiquea, Rwanda 1, Zimbabwe	• Newborns that are/were resuscitated or received resuscitation Used in Kenya, Rwanda 2[a], Tanzania 1[a] and 2[a]	Yes
Method of resuscitation	• "Stimulation and/or bag and mask" Used in Mozambique[a], Rwanda 2[a]	• Method of resuscitation is not mentioned Used in Ethiopia/ BEmOC[a], Kenya, Guinea, Rwanda 1, Tanzania 1[a], Zimbabwe	• "Resuscitation includes suction, wrapping, stimulation, and bag/mask" • Used in Tanzania 2[a]	Yes
Target denominator	• Population-level estimate • Facility based Used in Kenya, Tanzania 1[a], Zimbabwe	• Based in community and facility Used in Ethiopia/BEmOC[a], Mozambique[a], Rwanda 1, Tanzania 2[a]	• No denominator Used in Guinea, Rwanda 2[a]	Yes
Target denominator	• Live or estimated births • Live births in a facility • Total facility births • Total births in facility per year not breathing spontaneously/crying but excluding macerated stillbirths (i.e., including fresh stillbirths as a surrogate of intrapartum stillbirths)	• Babies not breathing/crying • Used in Ethiopia/BEmOC[a], Kenya, Mozambique[a], Rwanda 1, Tanzania 2[a], Zimbabwe	• Babies who did not cry at birth in the first minute (similar) Used in Rwanda 2[a] • Just refers to "babies" (different) Used in Tanzania 1[a] • No denominator (different) Used in Guinea, Rwanda 2[a]	Yes

Note: Numbers following country names indicate two indicators in a particular MCSP country PMP.

a. Data source is country HMIS.

HBB / Newborn Resuscitation Summary

Table B7 summarizes to what extent the indicators in MCSP country PMPs are similar or different to global indicators related to HBB / newborn resuscitation. Additionally, Table B7 identifies which country programs are implementing an intervention but are not reporting on any intervention-specific indicators. Table B8 provides an extract of other indicators related to HBB / newborn resuscitation.

Table B7: Summary mapping of HBB / newborn resuscitation indicators across MCSP country PMPs

Country	Presence of Intervention	Newborn Resuscitation		Equipment Availability		Other Indicators
		ENAP	MCSP	ENAP	MCSP	
Bangladesh (AA)	I	N	N	D	N/A	—
Burma	J, T	N	N	N	N/A	—
DRC	J, T	N	N	N	N/A	—
Ethiopia/BEmOC	I	D	S	N	N/A	O
Ethiopia/CBNC	I	N	N	N	N/A	—
Guinea/HSSR	I	D	D	N	N/A	—
Haiti/EPCMD	E, J, T	N	N	N	N/A	—
Haiti North	J, T	N	N	N	N/A	O
Kenya	J, T	D	D	N	N/A	O
Laos	E, J, T	N	N	N	N/A	—
Liberia	J, T	N	N	N	N/A	—
Madagascar	I	N	N	N	N/A	—
Mozambique	I	D	D	N	N/A	—
Nigeria	I	N	N	N	N/A	O
Pakistan (AA)	I	N	N	N	N/A	—
Rwanda	I	D	S	N	N/A	O
South Sudan	E, T	N	N	N	N/A	—
Tanzania	J, T	D	D	N	N/A	O
Zimbabwe (AA)	J, T	D	D	N	N/A	—

Legend

italics	Country work plan / PMP is in development	I	Intervention is present	D	Indicator is present and different
E	Equipment/procurement activities	J	Activities related to development or duplication of job aids, protocols, guidelines, etc.	T	Training activities
☐	Indicator data source is HMIS	S	Indicator is present and similar	N	Indicator is not present
N/A	Not available				

Table B8: Other MCSP country PMP indicators for newborn resuscitation

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Ethiopia/ BEmOC	Percentage of project-supported facilities that have provided all seven BEmONC [basic emergency obstetric and newborn care] signal functions in the last quarter	Numerator: Number of MCSP-supported facilities that provide seven BEmONC signal functions Denominator: Number of MCSP-supported facilities Note: Lifesaving maternity care refers to seven signal functions of BEmONC.	Separate PMP	Supportive supervision tool

Haiti North	Number of USG-supported facilities that provide appropriate lifesaving maternity care	Number of USG-supported facilities that provide appropriate lifesaving maternity care in the reporting period
		Note: Appropriate lifesaving maternity care comprises the following elements:
		• Basic obstetric care:
		  • Administration of antibiotics, oxytocin, and anticonvulsants
		  • Manual removal of the placenta
		  • Removal of retained products following miscarriage or abortion
		  • Assisted vaginal delivery, preferably with vacuum extractor
		  • Newborn care
		• Comprehensive obstetric care (for hospitals) includes all the items listed above, as well as:
		  • Cesarean section
		  • Blood transfusion
		  • Care for sick and LBW newborns, including resuscitation
			Separate PMP	Facility records

Kenya	Number of facilities providing emergency obstetric and newborn care / ENC services in program areas	Number of facilities providing emergency obstetric and newborn care / ENC services in program areas	PY2 PMP submitted	Program reports

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source

Nigeria	Percentage of facilities in targeted states providing CEmONC [comprehensive emergency obstetric and newborn care] services	The number of facilities providing all nine CEmONC services (known as signal functions) at least once in the previous 3 months.
		Numerator: Number of facilities in targeted states providing CEmONC
		Denominator: Total number of USG-supported facilities in targeted states
		Note: CEmONC services include the seven signal functions that define BEmONC services, plus two additional signal functions. The BEmONC signal functions are:
		• Administration of:
		  • Parenteral antibiotics
		  • Uterotonic drugs (e.g., parenteral oxytocin)
		  • Parenteral anticonvulsants for pre-eclampsia and eclampsia (e.g., magnesium sulfate)
		• Manual removal of the placenta
		• Removal of retained products (e.g. manual vacuum aspiration);
		• Performing assisted vaginal delivery (e.g., vacuum extraction, forceps)
		• Performing basic neonatal resuscitation (e.g. with bag and mask)
		In addition to these seven signal functions, CEmONC includes the following two:
		• Performing surgery (e.g., cesarean section)
		• Performing blood transfusion
			Separate PMP	Facility survey

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Rwanda	Percentage of MCSP-supported facilities (hospitals) that offer delivery services with nine signal functions for CEmONC	Numerator: Number of MCSP-supported facilities that report providing the nine signal functions for CEmONC in the last 3 months Denominator: Number of MCSP-supported facilities that offer delivery services Note: The nine signal functions include: • Parenteral antibiotics • Parenteral uterotonics • Parenteral anticonvulsants • Manual removal of placenta • Removal of retained products • Assisted vaginal delivery • Newborn resuscitation • Blood transfusion • Cesarean section >	PMP	Routine MCSP records
Rwanda	Percentage of MCSP-supported facilities that offer delivery services that offer seven signal functions for BEmONC	This is the percentage of MCSP-supported facilities that offer delivery services with seven signal functions for BEmONC. Numerator: Number of MCSP-supported facilities that report providing the seven signal functions for BEmONC in the last 3 months Denominator: Number of MCSP-supported health centers (HCs) that offer delivery services The signal functions include the following: Parenteral antibiotics • Parenteral uterotonics • Parenteral anticonvulsants • Manual removal of placenta • Removal of retained products • Assisted vaginal delivery • Newborn resuscitation	PMP	Routine MCSP records

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Tanzania	Number of USG-supported facilities that provide appropriate lifesaving maternity care (disaggregated by the level of facility)	BEmONC: All seven BEmONC signal functions, disaggregated by facility type CEmONC: All nine CEmONC signal functions should be provided, disaggregated by facility type	PY2 PMP	Program reports

Appendix C: LM (Partograph)

There is no global indicator from *GPMP* or ENAP for tracking partograph use during labor and delivery. The MCSP country PMP indicators are captured in Table C1. Table C2 summarizes the differences in phrases across the MCSP country PMPs related to indicators for partograph use. Table C3 provides an extract of other indicators related to LM.

Table C1: MCSP indicators from PMP for partograph use

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Ethiopia/ BEmOC	Percentage of deliveries with correct use of partograph	Numerator: Number of deliveries with correct use of partograph Denominator: Number of partographs reviewed Notes: Correct use refers to completing all fields according to the BEmONC protocol	Separate PMP	HF assessment: a random sample of 19 partographs will be selected from 12 MCSP-supported HFs per semiannual assessment and reviewed by experts (MCSP maternal and newborn health officers and HC staff) proficient in partograph use
Guinea	Number and percentage of women delivering at MCSP-supported facilities with a completed partograph in their medical record	Numerator: Number of women delivering at MCSP-supported facilities that are assisted during labor by a nurse or a doctor using a partograph Denominator: Total number of women delivering at MCSP-supported facilities	PY1–PY2 PMP	Logbooks or medical records
Mozambique	Percentage of deliveries with partograph completely filled	Numerator: Number of deliveries with partograph completely filled by a nurse or a doctor during labor in MCSP-supported HFs Denominator: Number of women who delivered in MCSP-supported facilities where partograph was reviewed for accuracy Note: Disaggregated by facility type and province	PMP annex	HMIS

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Nigeria	Percentage of births monitored with a partograph in the past quarter	Numerator: Number of deliveries in MCSP-supported HFs for which partograph was used to monitor labor and delivery Denominator: Total number of deliveries in MCSP-supported HFs	Separate PMP	HMIS/DHIS

Table C2: Comparison of phrases across indicators for partograph use

Difference	MCSP Country PMPs
Numerator	• Women Used in Guinea • Deliveries Used in Ethiopia/BEmOC, Mozambique[a], Nigeria[a]
Definition of intervention	• Correct use refers to completing all fields according to the BEmONC protocol Used in Ethiopia/BEmOC • No definition Used in Guinea, Mozambique[a], Nigeria[a]
Provider	• Assisted by nurse or doctor Used in Guinea, Mozambique[a] • Not specified Used in Ethiopia/BEmOC, Nigeria[a]
Denominator	• Number of partographs reviewed Used in Ethiopia BEmOC • Number of women Used in Guinea • Women who delivered in facilities where partograph was reviewed Used in Mozambique[a] • Number of deliveries Used in Nigeria[a]

a. Data source is country HMIS.

Table C3: Other MCSP country PMP indicators related to LM

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Bangladesh	Percentage of births attended by a skilled doctor, nurse, or midwife	No definition	PY3 work plan	Population-based tracer indicator survey report
Bangladesh	Number of targeted facilities ready to provide delivery services 24 hours a day, 7 days a week	No definition	PY3 work plan (PMP included)	Project Skill Development Project assessment
Bangladesh	Number of deliveries with an SBA in USG-assisted programs	No definition	PY3 work plan (PMP included)	Ministry of Health and Family Welfare report

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Ethiopia/ BEmOC	Percentage of births attended by an SBA in MCSP-supported HF catchment areas	Numerator: Number of births attended by an SBA Denominator: Expected pregnancies in MCSP-supported HC catchment areas from projected census data Note: SBAs include nurses, midwives, health officers, and doctors, but not health extension workers (HEWs).	Separate PMP	• HMIS • Delivery register
Ethiopia/ CBNC	Proportion of births attended by (facility-based) HWs	Numerator: Total number of deliveries attended by (facility-based) HWs Denominator: Total number of expected deliveries in MCSP-supported areas	PMP annex	Survey
Ethiopia/ CBNC	Proportion of births attended by HEWs	Numerator: Total number of deliveries attended by HEWs Denominator: Total number of expected deliveries in the catchment areas	PMP annex	HMIS survey
Guinea	Number and percentage of women delivering with assistance of an SBA	Numerator: Number of women delivering with assistance of an SBA (in HFs with SBA) Denominator: Estimate of number of births in the catchment area Note: An SBA is a trained nurse, midwife, or medical doctor	PY1–PY2 PMP	Facility logbooks

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Haiti North	Percentage of births attended by SBAs in USG-supported programs	Numerator: Number of live births attended by skilled personnel (physician, nurse, or auxiliary nurse), in HFs, during the reporting period in the project's intervention area. Denominator: Estimated total number of pregnancies during the reporting year (4% of population). Notes: In the Monthly Report of Health Services, births in HFs are classified as normal, cesarean, and other under the category "institutionnels." The numerator includes all the corresponding disaggregation: • 2.5 kg • 2.5 kg et plus • non pesés (unweighed)	Separate PMP	Facility reporting
Haiti North	Number of sites authorized to provide critical care in the field of obstetrics and trauma	Number of sites authorized to provide critical care in the field of obstetrics and trauma	Separate PMP	Project and departmental records
Kenya	Proportion of pregnant women delivering with an SBA	Numerator: All deliveries attended by an SBA (as a doctor, nurse, or midwife) Denominator: All deliveries within program-supported areas	PY2 PMP submitted	• Antenatal care register • Maternity register
Liberia	Number of deliveries with an SBA in program-supported HFs	Total number of deliveries with SBAs Note: "SBAs" refers to doctors, physician's assistants, nurses, nurse-midwives, or midwives	PMP indicator matrix	DHIS 2
Madagascar	Number of deliveries with an SBA in USG-assisted programs	Number of deliveries with an SBA Note: SBA includes medically trained doctor, nurse, or midwife	PY2 work plan (PMP included)	Rapport Mensuel d'Activité (Monthly Activity Report)

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Mozambique	Number of births attended by skilled personnel at MCSP-supported HFs	Number of births attended by skilled personnel at MCSP-supported HFs Notes: Disaggregated by normal or complicated birth and by province. Skilled personnel include doctor, nurse, midwife, or auxiliary midwife.	PMP annex	HMIS
Mozambique	Percentage of live births attended by skilled health personnel (doctor, nurse, midwife, or auxiliary midwife) in MCSP-supported areas	Numerator: Number of live births in the specified time period prior to the survey that were attended by skilled health personnel (doctor, nurse, midwife, or auxiliary midwife) Denominator: Total number of live births in the last 2 years among women surveyed Note: Disaggregated by age and province	KPC indicator annex	KPC survey
Nigeria	Number of deliveries in HFs in MCSP-supported local government areas	Total number of deliveries (including cesarean, normal, and assisted deliveries) in MCSP-supported HFs irrespective of the outcomes	Separate PMP	DHIS 2
Nigeria	Number of deliveries with an SBA	Number of deliveries with an SBA Note: SBA includes medically trained doctor, nurse, or midwife but **not** traditional birth attendant.	Separate PMP	HMIS / DHIS 2
Pakistan	Percentage of births attended by SBA	No definition	Log frame	Project HMIS
Rwanda	Percentage of women delivering at HFs in MCSP-supported districts	Numerator: Total deliveries at supported HFs Denominator: Total expected deliveries at MCSP-supported districts	PMP	Aggregated national reporting system (DHIS 2)
Rwanda	Number of registered home births in MCSP-supported communities	Number of deliveries taking place in the community (e.g., at home or on the way to HF) as reported in SIScom (the country's community health worker information system)	PMP	Aggregated national reporting system (DHIS 2)

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
South Sudan	Percentage of delivery in facility assisted by SBA (MOH indicator)	Numerator: Number of women who delivered with the assistance of an SBA in the facility Denominator: Number of women delivering in the catchment area	Final PMP	Delivery register
Tanzania	Percentage of live births attended by skilled health personnel (doctor, nurse, midwife, or auxiliary midwife) in MCSP-supported areas	Numerator: Number of live births to women in the 2 years prior to the survey who reported being attended during delivery by skilled health personnel (doctor, nurse, midwife, or auxiliary midwife) Denominator: Total number of live births to women in the 2 years prior to the survey	PY2 PMP	KPC Study
Tanzania	Number of women delivering in MCSP-supported facilities	Number of women delivering in MCSP-supported facilities	PY2 PMP	KPC study
Zimbabwe	Number of deliveries with an SBA	No definition Notes: SBA includes medically trained doctor, nurse, or midwife but **not** traditional birth attendants and nurse aides. Number of institutional deliveries will be used as proxy.	PY3 work plan (PMP included)	HMIS / service statistics

Appendix D: ECSB/KMC/LBW

ECSB/KMC/LBW is tracked globally by indicators for facility-based KMC and facility readiness for KMC. Table D1 and D4 provide the definitions of the global indicators. The MCSP country PMP indicators related to the global indicators are captured in Table D2 and D5. The differences in phrasing across ENAP, *GPMP*, and MCSP country PMPs are identified in Table D3 and D6. These differences were vetted with the Newborn and MMEL Teams to identify which constituted a meaningful difference in the content of the indicator.

Facility Readiness for KMC

Table D1: Global indicator definitions for facility readiness for KMC

Organization	Definition	Data Source
ENAP	Numerator: Number of facilities in which a space is identified for KMC and where staff have received KMC training within the past 2 years Denominator: Total number of facilities with inpatient maternity services that are assessed	Facility-based survey
GPMP	N/A	—

Table D2: MCSP country PMP indicators for KMC facility readiness

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Mozambique	Number and percentage of HFs with MCSP-supported KMC sites established/operational	Numerator: Number of KMC sites established/operational through MCSP support Denominator: Total number of MCSP-supported HFs Notes: Disaggregated by province and district. Established/operational is defined as having space identified for KMC and where staff have received KMC training within the past 2 years.	PMP annex	Program records
Nigeria	Number of MCSP-supported facilities implementing KMC	Numerator: Number of MCSP-supported facilities implementing KMC Denominator: None specified	Separate PMP	Checklist / program report
Zimbabwe	Number of KMC units established	Numerator: Number of KMC units established Denominator: None specified	PY3 work plan (PMP included)	Program records

Table D3: Comparison of phrases across indicators for KMC facility readiness

Differences	ENAP	MCSP Country PMPs (if different from global)	Diff. in Meaning?
Input vs. process	• Space and trained staff within the past 2 years Used in Mozambique	• No definition of readiness Used in Zimbabwe • Implementing KMC Used in Nigeria	No
Denominator	• Inpatient maternity services	• No mention of type of services Used in Mozambique • No denominator Used in Nigeria, Zimbabwe	No

Facility-Based KMC

Table D4: Global indicator definitions for facility-based KMC

Organization	Definition	Data Source
ENAP	Numerator: Number of newborns initiated on facility-based KMC Denominators: • Per 100 live births per year • Per 100 or 1,000 estimated live births for that population per year • Per total number of live births in facility per year • Total number of births with birthweight < 2,000g or < 2,500g as target population for coverage	Facility-based survey
GPMP	Numerator: Number of newborns admitted to facility-based KMC at MCSP-supported facilities Denominators: • Per 100 live births • Per 100 expected births Notes: Disaggregated by birthweight if possible (< 2,000g and/or < 2,500g). A rate may be calculated as well. Coded as 10.	Facility-based survey

Table D5: MCSP country PMP indicators for facility-based KMC

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Ethiopia/ BEmOC	Number of newborns admitted to KMC at MCSP-supported facilities	Number of newborns admitted to KMC at MCSP-supported facilities Note: LBW refers to birthweight less than 2,500 grams	PMP database	HMIS
Kenya	Proportion of LBW babies that receive KMC	Numerator: Number of LBW babies in targeted facilities receiving KMC Denominator: Total number of LBW babies in targeted facilities	PY2 PMP submitted	Baby's notes / surveillance register

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Mozambique	Percentage of premature babies admitted to facility-based KMC at MCSP-supported facilities	Numerator: Number of premature babies admitted to facility-based KMC at MCSP-supported facilities Denominator: Total number of premature babies born at MCSP-supported facilities Note: Disaggregated by birthweight if possible (< 2,000g and/or < 2,500g) and by province	PMP annex	Program records
Nigeria	Percentage of LBW newborns admitted to facility-based KMC at MCSP-supported facilities	Numerator: Number of LBW newborns admitted to facility-based KMC Denominator: Total number of newborns with LBW	Separate PMP	HMIS/DHIS
Rwanda	Number of newborns admitted to facility-based KMC at MCSP-supported facilities	Numerator: Number of newborns admitted to facility-based KMC at MCSP-supported facilities Denominators: • Per 100 live births • Per 100 expected births Notes: A rate may be calculated as well. Disaggregated by birthweight if possible (< 2,000g and/or < 2,500g).	PMP	Complementary report
Tanzania	Percentage of LBW babies born in MCSP target facilities that receive prolonged skin-to-skin care	Numerator: Number of LBW babies born in MCSP-supported facilities provided with KMC (skin-to-skin contact immediately after birth for at least 4 hours) Denominator: Number of LBW babies born in MCSP-supported facilities Note: Disaggregated by training topic (BEmONC, CEmONC, KMC, postpartum family planning, postpartum intrauterine contraceptive devices, cervical cancer prevention, skills lab [practical skill examination], immunization), cadre, and gender.	PY2 PMP	HMIS / service statistics or program records

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Zimbabwe	Percentage of LBW babies initiated on KMC	Numerator: Number of LBW babies provided KMC at facilities supported with SBM-R Denominator: Number of LBW babies at facilities supported with SBM-R	PY3 work plan (PMP included)	HMIS / service statistics / KMC register

Table D6: Comparison of phrases across indicators for facility-based KMC

Difference	ENAP	GPMP	MCSP Country PMPs (if different from global)	Diff. in Meaning?
Admitted vs. Initiated	• Initiated on KMC	• Admitted to facility Used in Ethiopia/BEmOC[a], Mozambique, Nigeria[a], Rwanda	• Received KMC Used in Kenya, Tanzania[a], Zimbabwe[a]	No
Definition of KMC	• KMC not defined Used in Ethiopia/BEmOC[a], Kenya, Mozambique	• KMC not defined Used in Ethiopia/BEmOC[a], Kenya, Mozambique, Nigeria[a], Rwanda, Zimbabwe[a]	• KMC defined (different) Used in Tanzania[a]	Partial
Target numerator	• Newborns Used in Ethiopia/BEmOC, Rwanda	• Newborns Used in Ethiopia/BEmOC, Rwanda	• LBW newborns Used in Kenya, Nigeria[a], Tanzania[a], Zimbabwe • Premature babies Used in Mozambique	No
Denominator	• No denominator Used in Ethiopia/ BEmOC[a] • Per 100 live births or per 100 estimated per year • Per total number of live births in facility per year • Total number of births with birthweight < 2,000g or <2,500g as target population for coverage	• No denominator Used in Ethiopia/BEmOC[a], Rwanda • Per 100 live births or per 100 expected births	• Total LBW babies (similar to number of births < 2,000g) Used in Kenya, Nigeria[a], Tanzania[a], Zimbabwe[a] • Total premature babies (different) Used in Mozambique	Partial

a. Data source is country HMIS.

ECSB/KMC/LBW Summary

Table D7 summarizes to what extent the indicators in MCSP country PMPs are similar or different to global indicators for KMC. Additionally, Table D7 identifies which country programs are implementing an intervention but seemingly are not reporting on any intervention-specific indicators. Table D8 provides an extract of other indicators for LBW.

Table D7: Summary mapping of indicators across MCSP country PMPs related to ECSB/KMC/LBW

Country	Presence of Intervention	Facility KMC Coverage		Facility Readiness for KMC		Other Indicators
		ENAP	MCSP	ENAP	MCSP	
Bangladesh (AA)	I	N	N	N	N/A	—
Burma	E, J, T	N	N	N	N/A	—
DRC	J, T	N	N	N	N/A	—
Ethiopia/BEmOC	I	D	S	N	N/A	—
Ethiopia/CBNC	I	N	N	N	N/A	O
Guinea/HSSR	—	—	—	—	N/A	—
Haiti/EPCMD	J	N	N	N	N/A	—
Haiti North	—	—	—	—	N/A	—
Kenya	I	S	D	N	N/A	—
Laos	—	—	—	—	N/A	—
Liberia	J, T	N	N	N	N/A	—
Madagascar	I	N	N	N	N/A	—
Mozambique	I	D	D	S	N/A	—
Nigeria	I	S	D	D	N/A	—
Pakistan (AA)	E, T	N	N	N	N/A	—
Rwanda	I	D	S	N	N/A	—
South Sudan	—	N	N	N	N/A	—
Tanzania	I	D	D	N	N/A	—
Zimbabwe (AA)	J	S	D	D	N/A	—

Legend

italics	Country work plan / PMP is in development	I	Intervention is present	D	Indicator is present and different
E	Equipment/procurement activities	J	Activities related to development or duplication of job aids, protocols, guidelines, etc.	T	Training activities
O	Indicator data source is HMIS	S	Indicator is present and similar	N	Indicator is not present
N/A	Not available				

Table D8: MCSP country PMP indicators for LBW

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Ethiopia/CBNC	Proportion of LBW cases identified in a given catchment area in a given period	Numerator: Total number of LBW cases identified in a given catchment area in a given period of time Denominator: Total number of expected live births in a given catchment area in a given period of time	PMP annex	• HMIS summary form • Integrated community case management (ICCM)/CBNC monthly reporting form and estimates of expected LBW

Appendix E: ACS

Use of ACS is tracked globally by indicators for inclusion of ACS in essential drug lists and treatment with ACS. Table E1 and E2 provide the definitions of the global indicators. There were no MCSP country PMP indicators for ACS availability on essential drug lists. However, the MCSP country PMP indicator related to ACS treatment is captured in Table E3. Activities related to ACS are in flux in many countries because WHO guidelines are currently being revised for ACS.

The differences in phrasing between ENAP and the MCSP country PMP are identified in Table E4. These differences were vetted with the Newborn and MMEL Teams to identify which constituted a meaningful difference in the content of the indicator.

ACS on Essential Drug Lists

Table E1: Global indicator definitions for ACS inclusion on essential drug lists

Organization	Definition	Data Source
ENAP	Numerator: The number of countries with ACS on their essential drug list for the purpose of fetal lung maturation Denominator: Number of countries with essential drug list policy data	• Facility-based survey • Collected in the UN Commission on Life-Saving Commodities for Women and Children data system and reported by Countdown to 2015[a]
GPMP	N/A	—

a. Countdown to 2015. *A Decade of Tracking Progress for Maternal, Newborn and Child Survival: The 2015 Report*. 2015; WHO Press: Geneva, Switzerland. http://www.countdown2015mnch.org/documents/2015Report/Countdown_to_2015_final_report.pdf.

ACS Treatment

Table E2: Global indicator definitions for ACS treatment

Organization	Definition	Data Source
ENAP	Numerator: All women giving birth in facility who are less than 34 completed weeks of gestation and received one dose of ACS for being at risk of preterm birth Denominators: • Per 100 live births per year • Per 100 or 1,000 estimated live births for that population per year • Per number of live births in facility per year • Per total births in facility per year (i.e., including stillbirths, macerated and fresh) • Per number of live births in facility by GA in weeks, notably by GA < 34 weeks as target population for coverage Note: Note initial focus in numerator on counting all women while testing ways to split by GA at birth to identify women treated who did not deliver before 34 completed weeks	Facility-based survey
GPMP	N/A	—

Table E3: MCSP country PMP indicators for ACS

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Kenya	Proportion of mothers with preterm babies who were given a course of dexamethasone	Numerator: Number of mothers with preterm babies who are given dexamethasone in targeted facilities Denominator: Total number of mothers with preterm babies in MCSP-supported subcounties in targeted facilities	PY2 PMP submitted	• Maternity register • Baby's notes • Newborn register / surveillance register / partograph

Table E4: Comparison of phrases across indicators for ACS

Differences	ENAP	MCSP Country PMPs (if different from global)	Diff. in Meaning?
Dosage and specified brand name	• One dose of ACS	• "given dexamethasone" Used in Kenya	No
Specified GA	• Women who are < 34 weeks completed	• Preterm Used in Kenya	Yes
Denominator	• Per 100 live births per year • Per 100 or 1,000 estimated live births for that population per year • Per number of live births in facility per year • Per total births in facility per year (i.e., including stillbirths, macerated and fresh) • Per number of live births in facility by GA in weeks, notably by GA • < 34 weeks as target population for coverage	• Total number of mothers with preterm babies Used in Kenya	Yes

ACS Summary

Table E5 summarizes to what extent the indicators in MCSP country PMPs are similar or different to global indicators for ACS. Additionally, Table E5 identifies which country programs are implementing an intervention but seemingly are not reporting on any intervention-specific indicators.

Table E5: Summary mapping of ACS-related indicators across MCSP country PMPs

Country	Presence of Intervention	Use of ACS		ACS on Essential Drug List		Other Indicators
		ENAP	MCSP	ENAP	MCSP	
Bangladesh (AA)	TBD	N	N/A	N	N/A	—
Burma	—	—	N/A	—	N/A	—
DRC	—	—	N/A	—	N/A	—
Ethiopia/BEmOC	—	—	N/A	—	N/A	—
Ethiopia/CBNC	—	—	N/A	—	N/A	—
Guinea/HSSR	—	—	N/A	—	N/A	—
Haiti/EPCMD	TBD	N	N/A	N	N/A	—
Haiti North	—	—	N/A	—	N/A	—
Kenya	TBD	D	N/A	N	N/A	—
Laos	—	—	N/A	—	N/A	—
Liberia	—	—	N/A	—	N/A	—
Madagascar	—	—	N/A	—	N/A	—
Mozambique	—	—	N/A	—	N/A	—
Nigeria	Y	N	N/A	N	N/A	—
Pakistan (AA)	TBD	N	N/A	N	N/A	—
Rwanda	—	—	N/A	—	N/A	—
South Sudan	—	—	N/A	—	N/A	—
Tanzania	—	—	N/A	—	N/A	—
Zimbabwe (AA)	—	—	N/A	—	N/A	—

Legend

italics	Country work plan / PMP is in development	TBD	To be determined	D	Indicator is present and different
N/A	Not available	Y	Indicator is present and similar to *GPMP*	N	Indicator is not present

Appendix F: PSBI

PSBI is tracked globally by indicators for availability of gentamicin and percentage of newborns receiving antibiotics. Table F1 and F2 provide the definitions of the global indicators related to PSBI. The MCSP country PMP indicators related to the global indicators are captured in Table F3. There were no MCSP indicators for existence of PSBI on essential drug lists. The differences in phrasing across ENAP, *GPMP*, and MCSP country PMPs are identified in Table F4. These differences were vetted with the Newborn and MMEL Teams to identify which constituted a meaningful difference in content of the indicator.

PSBI on Essential Drug Lists

Table F1: Global indicator definitions for availability of antibiotics for PSBI

Organization	Definition	Data Source
ENAP	Numerator: Number of facilities in which gentamicin is available at suitable peripheral level for treatment of severe neonatal infection Denominator: Number of facilities providing treatment of severe neonatal infection that are assessed	• Facility-based survey • WHO QOC data collected by service provision assessment and service availability readiness assessment
GPMP	N/A	—

PSBI Treatment

Table F2: Global indicator definitions for antibiotic therapy for PSBI

Organization	Definition	Data Source
ENAP	Numerator: Number of newborns that received at least one dose of antibiotic injection for PSBI in a facility Denominators: • Per 100 live births per year • Per 100 or 1,000 estimated live births for that population per year • Per number of live births in facility (or catchment area) per year • Number of newborns with any illness presenting to facilities • Number of newborns diagnosed with PSBI as target population for coverage	Facility-based survey
GPMP	Numerator: Number of newborns with PSBI (infant reportedly stopped feeding well and/or stopped moving on its own) receiving antibiotics Denominator: Number of newborns with PSBI Notes: Disaggregated by country; coded as 13	• HMIS • Supplemental data collection form

Table F3: MCSP country PMP indicators for PSBI

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Ethiopia/CBNC	Proportion of very severe disease (VSD; same as PSBI)/PSBI cases who received treatment at health post (HP)	Numerator: Total number of newborns classified by HEW as having VSD/PSBI who received adequate/complete antibiotic treatment Denominator: Total number of newborns classified by HEW as having VSD/PSBI	PMP annex	Form C
Kenya	Proportion of newborns with PSBI who receive appropriate antibiotic therapy	Numerator: Number of newborns with PSBI who receive appropriate care Denominator: Total number of newborns with PSBIs	PY2 PMP submitted	• Baby's notes • Newborn register / surveillance register / partograph
Nigeria	Percentage of newborns identified as having neonatal sepsis or PSBI treated in MCSP-supported facilities	No definition	Separate PMP	HMIS/DHIS
Rwanda	Number of newborns receiving antibiotic treatment for infection through USG-supported programs	Number of newborn infants who received antibiotic treatment for infection at MCSP-supported hospitals Notes: All newborn infants with danger signs are transferred to hospital neonatology units for care. Upon admission in neonatology, any newborn suspected to have neonatal infection receives antibiotics.	PMP	Existing facility-based register (neonatology register)

Table F4: Comparison of phrases across indicators for antibiotic treatment for PSBI

Difference	ENAP	GPMP	MCSP Country PMPs (if different from global)	Diff. in Meaning?
Dosage	• "At least one dose"	• "receiving antibiotics" (no mention of units of dosage; similar to ENAP) Used in Nigeria[a], Rwanda	• "received appropriate care" (different from ENAP) Used in Kenya • "received adequate/complete care" (adequate is 5 days and complete is 7 days; different from ENAP) Used in Ethiopia/CBNC	Partial

Difference	ENAP	GPMP	MCSP Country PMPs (if different from global)	Diff. in Meaning?
Target illness	• No definition of PSBI Used in Kenya	• PSBI defined as "Infant reportedly stopped feeding well and/or stopped moving on its own" Used in Kenya	• PSBI or neonatal sepsis Used in Nigeria[a] • "infection" Used in Rwanda • "VSD" Used in Ethiopia/CBNC	Partial
Denominator	• Number of newborns diagnosed with PSBI as target population for coverage	• Number of newborns with PSBI (similar) Used in Kenya	• Number of newborns classified by HEW as having VSD (similar) Used in Ethiopia/CBNC • No definition Used in Nigeria[a] • No denominator (different) Used in Rwanda	Partial

a. Data source is country HMIS.

PSBI Summary

Table F5 summarizes to what extent the indicators in MCSP country PMPs are similar or different to global indicators. Additionally, Table F5 identifies which country programs are implementing an intervention but seemingly are not reporting on any indicators. Table F6 provides an extract of other indicators related to PSBI.

Table F5: Summary mapping of PSBI-related indicators across MCSP country PMPs

Country	Presence of Intervention	PSBI Treatment		PSBI Drug Availability		Other Indicators
		ENAP	MCSP	ENAP	MCSP	
Bangladesh (AA)	I	N	N	N	N/A	—
Burma	—	—	—	—	N/A	—
DRC	—	—	—	—	N/A	—
Ethiopia/BEmOC	—	—	—	—	N/A	—
Ethiopia/CBNC	I	D	D	N	N/A	O
Guinea/HSSR	—	—	—	—	N/A	—
Haiti/EPCMD	J, T	N	N	N	N/A	—
Haiti North	—	—	—	—	N/A	—
Kenya	I	S	S	N	N/A	—
Laos	—	—	—	—	N/A	—
Liberia	J, T	N	N	N	N/A	—
Madagascar	I	N	N	N	N/A	—
Mozambique	—	—	—	—	N/A	—
Nigeria	I	D	D	N	N/A	—
Pakistan (AA)	E, T	N	N	N	N/A	—
Rwanda	I	D	D	N	N/A	—
South Sudan	—	—	—	—	N/A	—

Country	Presence of Intervention	PSBI Treatment		PSBI Drug Availability		Other Indicators
		ENAP	MCSP	ENAP	MCSP	
Tanzania	—	—	—	—	N/A	—
Zimbabwe (AA)	—	—	—	—	N/A	—

Legend

italics	Country work plan / PMP is in development	I	Intervention is present	D	Indicator is present and different
O	Indicator data source is HMIS	S	Indicator is present and similar	N	Indicator is not present
J	Activities related to development or duplication of job aids, protocols, guidelines, etc.	T	Training activities	N/A	Not available
E	Equipment/procurement activities				

Table F6: Other MCSP country PMP indicators for PSBI

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Ethiopia/CBNC	Proportion of referred VSD treated with prereferral-appropriate (gentamicin + amoxicillin) antibiotics at HP and referred	Numerator: Total number of referred newborns classified by HEW as having VSD who received appropriate prereferral antibiotics gentamicin + amoxicillin Denominator: Total number of newborns classified by HEW as having VSD and referred	PMP annex	Form C
Ethiopia/CBNC	Total number of identified VSD cases	Numerator: Total number of VSD cases identified by HEWs or Health Development Armies (HDAs) in a given catchment area Denominator: Total number of live births in a given catchment area	PMP annex	ICCM/CBNC monthly reporting form
Ethiopia/CBNC	Proportion of VSD cases referred by HEW	Numerator: Total number of VSD cases identified by HEWs and referred to HC in the last year Denominator: Total number of VSD cases identified by HEWs in the last year	PMP annex	ICCM/CBNC monthly reporting form

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Ethiopia/CBNC	Proportion of VSD cases who started treatment at HP	Numerator: Total number of VSD cases who started treatment at HP in a given catchment area in a given period of time Denominator: Total number of expected VSD cases under 1 month of age in HP	PMP annex	• ICCM/CBNC monthly reporting form • Form C
Ethiopia/CBNC	Proportion of VSD cases referred by HEW	Numerator: Total number of VSD cases identified by HEWs and referred to higher HF Denominator: Total number of VSD cases identified by HEWs	PMP annex	ICCM/CBNC monthly reporting form
Ethiopia/CBNC	Proportion of VSD receiving 7 consecutive days of gentamicin at HP	Numerator: Total number of newborns classified by HEW as having VSD who received 7 days of gentamicin treatment (excluding those referred) Denominator: Total number of newborns classified by HEW as having VSD	PMP annex	Form C
Ethiopia/CBNC	Proportion of treated VSD cases whose treatment outcome has improved	Numerator: Total number of newborn sepsis cases whose treatment outcome has improved in a given catchment area in a given period of time Denominator: Total number of VSD cases who are treated at HP in a given catchment area in a given period of time	PMP annex	Form C

Appendix G: CHX

The global indicators related to CHX are for application of CHX for newborn sepsis prevention and for inclusion of CHX on a country's essential drug list. Table G1 and G2 provide the definitions of the global indicators. The MCSP country PMP indicators related to the global indicators are captured in Table G3; there were none for existence of CHX on essential drug lists. The differences in phrasing across ENAP, *GPMP*, and MCSP country PMPs are identified in Table G4. These differences were vetted with the Newborn and MMEL Teams to identify which constituted a meaningful difference in the content of the indicator.

CHX on Essential Drug Lists

Table G1: Global indicator definitions for inclusion of CHX on essential drug lists

Organization	Definition	Data Source
ENAP	Numerator: Number of countries with CHX on their essential drug list for the purpose of cord cleansing Denominator: Number of countries with essential drug list policy data	Collected in the UN Commission on Life-Saving Commodities for Women and Children data system and reported by Countdown to 2015[a]
GPMP	N/A	—

a. Countdown to 2015. *A Decade of Tracking Progress for Maternal, Newborn and Child Survival: The 2015 Report*. 2015; WHO Press: Geneva, Switzerland. http://www.countdown2015mnch.org/documents/2015Report/Countdown_to_2015_final_report.pdf.

CHX Treatment

Table G2: Global indicator definitions for CHX treatment

Organization	Definition	Data Source
ENAP	Numerator: Number of newborns that received at least one dose of CHX (7.1%) to the cord on the first day after birth (within 24 hours of birth) Denominator: Total number of live births in surveyed population (or total number of live births at home depending on national policy / data available)	Population-based survey
GPMP	Numerator: Number of newborns in the specified time period prior to the survey who had CHX applied to their umbilical cord after birth at least once Denominator: Total number of live births in the specified time period prior to the survey Notes: Disaggregated by country; coded as S18	Population-based survey

Table G3: MCSP country PMP indicators for CHX

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Bangladesh	Percentage of newborns receiving CHX application on their umbilical cord immediately following birth	No definition	PY3 work plan (PMP included)	Population-based tracer indicator survey report

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Ethiopia/CBNC	Proportion of newborns who had CHX applied to their umbilical cord at least once after birth	Numerator: Number of newborns with CHX applied at least once to their umbilical cord Denominator: Total number of live births in the catchment area	PMP annex	Survey
Mozambique	Percentage of newborns who had CHX applied to their umbilical cord after birth in MCSP-supported areas	Numerator: Number of newborns in the specified time period prior to the survey who had CHX applied to their umbilical cord after birth at least once Denominator: Total number of live births in the specified time period prior to the survey Note: Disaggregated by facility or home birth and by province	KPC indicator annex	KPC survey
Nigeria	Percentage of babies for whom CHX was applied to the umbilical cord at birth	No definition	Separate PMP	HMIS/DHIS

Table G4: Comparison of phrases across indicators for CHX treatment

Difference	ENAP	GPMP	MCSP Country PMPs (if different from global)	Diff. in Meaning?
Dosage	• "At least one dose"	• "At least once" Used in Ethiopia/CBNC, Mozambique	• No mention of dosage Used in Bangladesh, Nigeria[a]	No
Timing of application	• "on the first day after birth (within 24 hours of birth)"	• "after birth" Used in Ethiopia/CBNC, Mozambique	• "immediately following after birth" Used in Bangladesh • "at birth" Used in Nigeria[a]	Yes
Denominator	• Total number of live births in the specified time period prior to the survey Used in Ethiopia/CBNC • Total number of live births at home in the specified time period prior to the survey	• Total number of live births in the specified time period prior to the survey Used in Ethiopia/CBNC, Mozambique • Total number of live births at home in the specified time period prior to the survey	• Not defined Used in Bangladesh, Nigeria[a]	Yes

a. Data source is country HMIS.

CHX Summary

Table G5 summarizes to what extent the indicators in MCSP country PMPs are similar or different to global indicators. Additionally, Table G5 identifies which country programs are implementing interventions but seemingly are not reporting on any indicators. Table G6 provides an extract of other indicators related to CHX.

Table G5: Summary mapping of CHX-related indicators across MCSP country PMPs

Country	Presence of Intervention	Application of CHX		CHX on Essential Drug List		Other Indicators
		ENAP	MCSP	ENAP	MCSP	
Bangladesh (AA)	I	D	D	N	N/A	—
Burma	—	—	—	—	N/A	—
DRC	—	—	—	—	N/A	—
Ethiopia/BEmOC	—	—	—	—	N/A	—
Ethiopia/CBNC	—	D	S	N	N/A	O
Guinea/HSSR	—	—	—	—	N/A	—
Haiti/EPCMD	—	—	—	—	N/A	—
Haiti North	—	—	—	—	N/A	—
Kenya	J	N	N	N	N/A	—
Laos	—	—	—	—	N/A	—
Liberia	T	N	N	N	N/A	—
Madagascar	J	N	N	N	N/A	—
Mozambique	I	D	S	N	N/A	—
Nigeria	I	D	D	N	N/A	—
Pakistan (AA)	I	N	N	N	N/A	—
Rwanda	I	N	N	N	N/A	—
South Sudan	—	—	—	—	N/A	—
Tanzania	—	—	—	—	N/A	—
Zimbabwe (AA)	I	N	N	N	N/A	—

Legend

italics	Country work plan / PMP is in development	I	Intervention is present	D	Indicator is present and different
O	Indicator data source is HMIS	S	Indicator is present and similar	N	Indicator is not present
N/A	Not available	J	Activities related to development or duplication of job aids, protocols, guidelines, etc.	T	Training activities

Table G6: Other MCSP country PMP indicators for CHX

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Ethiopia/CBNC	Proportion of newborns who had CHX applied to their umbilical cord for at least 5 days after birth	Numerator: Number of newborns with CHX applied for at least 5 days to their umbilical cord Denominator: Total number of live births in the catchment area	PMP annex	Survey

Appendix H: Handwashing (Facility)

Facility handwashing is tracked globally by indicators for handwashing station and supplies in delivery rooms. Table H1 provides the definition of the global indicator. The MCSP country PMP indicators related to the global indicator are captured in Table H2. The differences in phrasing across *GPMP* and MCSP country PMPs are identified in Table H3.

Table H1: Global indicator definitions for handwashing

Organization	Definition	Data Source
ENAP	N/A	—
GPMP	Numerator: Number of target HFs with appropriate handwashing supplies in the delivery room Denominator: Total number of targeted HFs Notes: Clinic workers must wash hands before attending to a birth. Supplies include soap and water or hand sanitizer. Disaggregated by country.	—

Table H2: MCSP country indicators for handwashing

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
DRC	Percentage of target HFs with appropriate handwashing supplies in the delivery room in MCSP-supported areas	Numerator: Number of target HFs with appropriate handwashing supplies in the delivery room Denominator: Total number of targeted HFs Notes: Clinic workers must wash hands before attending to a birth. Supplies include soap and water or hand sanitizer.	Draft work plan (PMP included)	HF survey, supervision records
Kenya	Proportion of HFs with handwashing facilities	Numerator: Number of HFs with handwashing facilities Denominator: Number of HFs in the MCSP-supported areas	PY2 PMP submitted	Program reports
Nigeria	Percentage of targeted HFs with appropriate handwashing supplies in the delivery room in MCSP-supported areas	Numerator: Number of MCSP-supported HFs with appropriate handwashing supplies (water, soap, alcohol-based hand rub) in the delivery room Denominator: Total number of MCSP-supported HFs assessed	Separate PMP	Facility audit questionnaire

Table H3: Comparison of phrases across indicators for handwashing

Differences	GPMP	MCSP Country PMP (if different from global)	Diff. in Meaning?
Intervention	• Soap, water, and hand sanitizer Used in DRC, Nigeria	• Not specified Used in Kenya	Yes
Location or service area	• Delivery room Used in DRC, Nigeria	• Not specified Used in Kenya	Yes

Table H4 summarizes to what extent the indicators in MCSP country PMPs are similar or different to the global indicator. Additionally, Table H4 identifies which country programs are implementing an intervention but seemingly are not reporting on any intervention-specific indicators. Table H5 provides an extract of other indicators related to handwashing.

Table H4: Summary mapping of indicators across MCSP country PMPs related to handwashing in facilities

Country	Presence of intervention	Delivery room handwashing		Other indicators
		ENAP	MCSP	
Bangladesh (AA)	I	N/A	N	—
Burma	—	N/A	—	—
DRC	I	N/A	S	—
Ethiopia/BEmOC	—	N/A	—	—
Ethiopia/CBNC	—	N/A	—	—
Guinea/HSSR	—	N/A	—	—
Haiti/EPCMD	J, T	N/A	N	—
Haiti North	I	N/A	N	O
Kenya	J	N/A	D	O
Laos	—	N/A	—	—
Liberia	E	N/A	N	O
Madagascar	I	N/A	N	—
Mozambique	—	N/A	—	—
Nigeria	E	N/A	S	—
Pakistan (AA)	—	N/A	—	—
Rwanda	—	N/A	—	—
South Sudan	I	N/A	N	O
Tanzania	—	N/A	—	—
Zimbabwe (AA)	—	N/A	—	—

Legend

italics	Country work plan / PMP is in development	I	Intervention is present	D	Indicator is present and different
O	Indicator data source is HMIS	S	Indicator is present and similar	N	Indicator is not present
N/A	Not available	E	Equipment/procurement activities	J	Activities related to development or duplication of job aids, protocols, guidelines, etc.
T	Training activities				

Table H5: Other MCSP country PMP indicators related to handwashing

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Haiti North	Number of HFs making at least two WASH improvements as outlined in their Clean Clinic action plans	Number of HFs making at least two WASH improvements as outlined in their Clean Clinic action plans	Separate PMP	Facility reporting
Haiti North	Number of individuals trained to implement improved sanitation methods	Number of individuals trained, during the reporting period, to implement improved sanitation methods, including: • Identifying excreta disposal behaviors • Promoting appropriate sanitary practices • Assessing and upgrading existing latrines • Conducting sanitation education (e.g., proper handwashing techniques) • Disinfecting and properly storing drinking water at the household level • Treating drinking water Notes: This indicator includes health staff trained on waste management at the facility level. The WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation defines "improved sanitation" as the management of human feces at the household level.	Separate PMP	Project records
Kenya	Proportion of schools with early childhood development teachers oriented in water and sanitation	Numerator: Number of schools with early childhood development teachers oriented in water and sanitation with MCSP support Denominator: Number of early childhood development schools in the program area	PY2 PMP submitted	Program reports

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Liberia	Percentage of MCSP-supported facilities reporting improved scores for infection prevention and control minimum standards for infrastructure/equipment and WASH / waste management	Numerator: Number of facilities with improved score from previous month, plus facilities with score of 100% Denominator: Total number of target facilities	PMP indicator matrix	Infection prevention and control minimum standard tool
South Sudan	Number of individuals reached with WASH promotion activities	Number of individuals reached with WASH promotion activities within the program areas during the reporting period Note: WASH promotion activities consist of small group and one-on-one sessions communicating approved WASH messages contained in a project's WASH training manual	Final PMP	HMIS
South Sudan	Number of people trained in good health and hygiene practices	Total number of people (health personnel and community members) who were trained in good health and hygiene practices with USG support during the reporting period Notes: One person (HW or community member) may be trained more than once and will be counted for every training received. This indicator is a subset of two other indicators: number of health personnel trained in the different program areas and number of community members trained in the different program areas. Disaggregated by training type, sex, and cadre.	Final PMP	Program records

Appendix I: PNC

PNC is tracked globally by indicators for PNC visit within 2 days. Table I1 provides the definitions of the global indicators. The MCSP country PMP indicators related to the global indicators are captured in Table I2. The differences in phrasing across ENAP, *GPMP*, and MCSP country PMPs are identified in Table I3.

Table I1: Global indicator definitions for PNC

Organization	Definition	Data Source
ENAP	Numerator: Number of babies who received PNC within 2 days of birth (regardless of place of delivery) Denominator: Total number of women with a last live births in X years preceding the survey Source: Countdown to 2015. *A Decade of Tracking Progress for Maternal, Newborn and Child Survival: The 2015 Report*. 2015; WHO Press: Geneva, Switzerland. http://www.countdown2015mnch.org/documents/2015Report/Countdown_to_2015_final_report.pdf. Numerators: • Number of last live births who received a health check while in a facility or at home following delivery or a PNC visit within 2 days after delivery (MICS—2 years preceding the survey) • Number of last births with a postnatal checkup in the first 2 days after birth (DHS—2 years preceding the survey) Denominator: Total number of live births in the last 2 years Sources: Demographic and Health Surveys (DHS) Program. *Survey Indicators*. Accessed 2016/08/02. http://dhsprogram.com/data/Survey-Indicators.cfm. Multiple Indicator Cluster Surveys (MICS). "MICS5 Indicator List." *MICS Tools*. Accessed 2016/08/02. http://mics.unicef.org/tools.	Facility-based survey
GPMP	Numerator: Number of newborns who received a PNC visit within 2 days of birth Denominator: Total number of live births in the specified time period prior to the survey Notes: Disaggregated by facility or home birth and by country; coded as S17	—

Table I2: MCSP country PMP indicators for PNC

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Bangladesh	Percentage of newborns receiving postnatal health check within 2 days of birth	—	PY3 work plan (PMP included)	Population-based tracer indicator survey report
Ethiopia/BEmOC	Percentage (number) of mother-baby dyads who received PNC for both the mothers and the babies within 2 days of childbirth	Numerator: Number of postpartum/newborn visits within 2 days of birth Denominator: Expected pregnancies in MCSP-supported HC catchment areas Notes: Disaggregated by HC and HP or home	Separate PMP	HMIS
Ethiopia/CBNC	Percentage of mothers who received early (within 48 hours) postnatal home visits by HEWs	Numerator: Total number of newborns that received an early (within 48 hours) PNC home visit by HEW in the catchment area Denominator: Total number of expected live births in a given catchment area	PMP annex	• Survey • ICCM/CBNC monthly reporting form
Ethiopia/CBNC	Percentage of mothers who received early (within 48 hours) postnatal home visits by HDAs	Numerator: Total number of newborns who received early (within 48 hours) PNC home visit by HDAs in the catchment area Denominator: Total number of expected live births in a given catchment area	PMP annex	Survey
Haiti North	Percentage of newborns receiving postnatal health check within 2 days of birth	Numerator: Total number of newborns recorded in the HWs' records, treated by a health care provider and according to national guidelines, within 2 days (48 hours) after delivery, during the reporting period Denominator: Estimated total number of pregnancies during the reporting period	Separate PMP	Facility and community reporting
Mozambique	Number of postpartum/PNC visits within 2 days of birth in MCSP-supported areas	Number of postpartum/PNC visits within 2 days of birth in MCSP-supported areas	PMP annex	• HMIS • Community HMIS

Table I3: Comparison of phrases across indicators for PNC

Differences	ENAP	GPMP	MCSP country PMP (if different from global)	Diff. in Meaning?
Target population	• babies Used in Tanzania[a] • last live birth • last birth	• Newborns Used in Ethiopia/CBNC, Haiti North, Kenya, Rwanda[a]	• Mother-baby dyads or mother-newborn pairs (different) Used in Ethiopia/BEmOC[a], Mozambique • No indicator definition (different) Used in Bangladesh, Pakistan	Partial
Intervention	• PNC (with no mention of provider or content of PNC) Used in Tanzania[a] • health check while in a facility or at home	• PNC checkup (with no mention of provider or content of PNC) Used in Tanzania[a]	• postpartum/newborn visits Used in Ethiopia/BEmOC[a] • PNC checkup from an HDA or HEW (different) Used in Ethiopia/CBNC • [postnatal health check] according to national guidelines with a health care provider (different) Used in Haiti North • PNC (or were seen by a health care provider) (different) Used in Rwanda[a] • Using designated checklist Used in Kenya • No indicator definition Used in Bangladesh, Pakistan	Partial
Timing	• Within 2 days (48 hours) of birth/delivery or in the first 2 days after birth Used in Ethiopia/BEmOC[a], Ethiopia/CBNC, Haiti North, Mozambique, Tanzania[a]	• Within 2 days (48 hours) of birth/delivery Used in Ethiopia/BEmOC[a], Ethiopia/CBNC, Haiti North, Mozambique, Tanzania[a]	• 3 days of birth reported in HMIS used as proxy for 2 days of birth (different) Used in Rwanda[a] • 3 days of birth (different) Used in Haiti North (2nd PNC indicator) • No indicator definition Used in Bangladesh, Pakistan	Partial
Data source	Population-based survey Used in Bangladesh, Ethiopia/CBNC, Haiti North	• Population-based survey Used in Bangladesh, Ethiopia/CBNC, Haiti North	• Facility records Used in Ethiopia/BEmOC[a], Kenya • No indicator definition Used in Bangladesh, Pakistan	—

Differences	ENAP	GPMP	MCSP country PMP (if different from global)	Diff. in Meaning?
Denominator	• "Women with a last live birth" • "total number of live births in X years" Used in Mozambique	• "total number of live births in X years" Used in Mozambique	• Expected pregnancies in MCSP-supported HC catchment areas (different) Used in Ethiopia/BEmOC[a], Haiti North • "total number of expected live births in X years" (similar to ENAP) Used in Ethiopia/CBNC • No denominator Used in Rwanda[a], Tanzania[a] • No indicator definition Used in Bangladesh, Pakistan	Yes No

a. Data source is country HMIS.

Table I4 summarizes to what extent the indicators in MCSP country PMPs are similar or different to global indicators. Additionally, Table I4 identifies which country programs are implementing an intervention but seemingly are not reporting on any intervention-specific indicators. Table I5 provides an extract of other indicators related to PNC.

Table I4: Summary mapping of indicators across MCSP country PMPs related to PNC

Country	Presence of Intervention	Coverage of PNC Visits within 2 Days		Other Indicators
		ENAP	MCSP	
Bangladesh (AA)	I	D	D	—
Burma	—	—	—	—
DRC	—	—	—	—
Ethiopia/BEmOC	I	D	D	—
Ethiopia/CBNC	I	D	D	O
Guinea/HSSR	—	—	—	—
Haiti/EPCMD	J, T	N	N	—
Haiti North	I	D	D	O
Kenya	I	D	D	—
Laos	E, J, T	N	N	—
Liberia	J, T	N	N	—
Madagascar	J	N	N	—
Mozambique	I	D	D	O
Nigeria	I	N	N	—
Pakistan (AA)	I	D	D	O
Rwanda	I	D	D	—
South Sudan	I	N	N	—
Tanzania	I	D	D	—
Zimbabwe (AA)	—	—	—	O

Legend

italics	Country work plan / PMP is in development	I	Intervention is present	D	Indicator is present and different
O	Indicator data source is HMIS	T	Training activities	N	Indicator is not present
E	Equipment/procurement activities	J	Activities related to development or duplication of job aids, protocols, guidelines, etc.		

Table I5: Other MCSP country PMP indicators for PNC

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Haiti North	Number of newborns receiving postnatal health check within 3 days of birth	Total number of live births recorded in the HWs' records, who received a PNC home visit from an HW and according to national guidelines, within 3 days (72 hours) after delivery, during the reporting period Note: At the institutional level, the numerator includes the total number of live births recorded in the postnatal register or the individual form of postnatal consultation that received a PNC consultation carried out by health staff within 3 days (72 hours) after delivery, during the reporting period	Separate PMP	Facility and community reporting
Zimbabwe	Number of mothers receiving a PNC home visit within the first 3 days of delivery	Number of mothers visited within the first 3 days of life by MCHIP-supported volunteer health workers in MCHIP-supported sites	PY3 work plan (PMP included)	HMIS / service statistics

Appendix J: PDSR

PDSR is tracked globally by number of countries implementing PDSR. None of the MCSP PMP indicators related to PDSR were similar to the *GPMP* global indicator. The MCSP country PMP indicators related to the global indicators are captured in Table J1.

Table J1: Global indicator definitions for PDSR

Organization	Definition	Data Source
ENAP	N/A	—
GPMP	Number of countries implementing a maternal and perinatal death surveillance and response system with MCSP support Notes: This could cover community-based and/or facility-based deaths and may include application of WHO's Maternal Death Surveillance and Response approach. Disaggregated by country.	—

Table J2 identifies which country programs are implementing an intervention but seemingly are not reporting on any intervention-specific indicators. Table J3 provides an extract of other indicators related to PDSR.

Table J2: Summary mapping of PDSR-related indicators across MCSP country PMPs

Country	Presence of Intervention	PDSR		Other Indicators
		ENAP	MCSP	
Bangladesh (AA)	—	N/A	—	—
Burma	—	N/A	—	—
DRC	—	N/A	—	—
Ethiopia/BEmOC	—	N/A	—	—
Ethiopia/CBNC	—	N/A	—	—
Guinea/HSSR	—	N/A	—	—
Haiti/EPCMD	—	N/A	—	—
Haiti North	—	N/A	—	—
Kenya	I	N/A	N	O
Laos	—	N/A	—	—
Liberia	I	N/A	—	—
Madagascar	—	N/A	—	—
Mozambique	I	N/A	N	O
Nigeria	I	N/A	N	—
Pakistan (AA)	—	N/A	—	—
Rwanda	I	N/A	N	O
South Sudan	—	N/A	—	—
Tanzania	I	N/A	N	—
Zimbabwe (AA)	—	N/A	—	—

Legend

italics	Country work plan / PMP is in development	I	Intervention is present	N/A	Not available
O	Indicator data source is HMIS			N	Indicator is not present

Table J3: Other MCSP PMP country indicators related to PDSR

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Kenya	Proportion of facility neonatal deaths audited	Numerator: All neonatal deaths that occur at the facility that are audited (maternal and prenatal death surveillance and response) Denominator: Total number of neonatal deaths that occur at the community in MCSP-supported counties	PY2 PMP submitted	Maternity register; proposed newborn register
Mozambique	Percentage of MCSP-supported districts implementing at least one action in response to facility and community death audits within 2 months after completion of a death audit	Numerator: Number of MCSP-supported districts implementing at least one action in response to facility and community death audits within 2 months after completion of a death audit Denominator: Total number of MCSP-supported districts Note: Disaggregated by type of death (maternal, newborn, child), facility/community, and province.	PMP Annex	District Maternal, Neonatal, and Child Death Audit Committee records
Rwanda	Proportion of red alerts that were responded to by their respective HCs in MCSP-supported districts	Numerator: Number of red alerts with responses from respective MCSP-supported HCs during the reporting period. Denominator: The total number of red alerts sent by community HWs from their respective catchment areas during the same period Notes: For numerator, only HCs responding to **all** red alerts sent to them by community HWs will be counted. Red alerts are sent into the RapidSMS system to notify an HC of a pregnancy at risk in the community, death, newborn in the community, and danger signs in children under 5.	PMP	RapidSMS

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Rwanda	Proportion of MCSP-supported HFs that have identified maternal, child, and newborn death cases and created and posted geographic information system maps on their DHIS 2 dashboards	This indicator measures the extent to which HFs identify, map, and present maternal, child, and newborn deaths in their catchment areas Numerator: Number of HFs that identified, mapped, and posted maternal, child, and newborn death DHIS 2 geographic information system maps on their dashboards Denominator: Total number of MCSP-supported facilities	PMP	Routine MCSP records

Appendix K: Impact Indicators

The indicators included across MCSP country PMPs are captured in Table K1.

Table K1: MCSP country PMP indicators related to impact

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Ethiopia/ BEmOC	Percentage (number) of live births within the facility	Numerator: Number of live births Denominator: Number of deliveries Notes: This includes all births at the facility, including those assisted by HEWs. Disaggregated by assisted vaginal, cesarean section, and normal vaginal.	Separate PMP	• HMIS • Delivery register
Ethiopia/ BEmOC	Percentage (number) of stillbirths at MCSP-supported facilities	Numerator: Number of stillbirths at MCSP-supported facilities. Denominator: Number of deliveries at MCSP-supported facilities	Separate PMP	• HMIS • Delivery register and provider's notebook
Ethiopia/ BEmOC	Very early neonatal deaths rate	Numerator: Number of neonatal deaths in the first 24 hours of life Denominator: Number of live births Notes: The numerator includes infants who died in the first 24 hours / prior to discharge after showing any sign of life, including breathing or crying. Disaggregated by cause including preterm birth, newborn asphyxia, and sepsis.	PMP database	HMIS
Guinea	Number of stillbirths	Number of stillbirths by type (fresh, macerated) at facility	PY1–PY2 PMP	Registers
Mozambique	Institutional neonatal mortality rate	Numerator: Number of deaths of infants between birth and 28 days in the indicated year in MCSP-supported facilities, multiplied by 1,000 Denominator: Number of live births in the indicated year in MCSP-supported facilities Note: Disaggregated by province and cause of death	PMP annex	HMIS: facility records and registers, outcome forms, and death audit reviews
Mozambique	Fresh stillbirth rate (stillbirths occurring after the onset of labor)	Numerator: Number of nonmacerated stillbirths with heartbeat on admission to labor and delivery in MCSP-supported facilities Denominator: Number of live births in MCSP-supported facilities Note: Disaggregated by province	PMP annex	HMIS

Country	Indicator Name	Indicator Definition	Indicator Source	Data Source
Nigeria	Number of live births in MCSP-supported HFs	Number of live births in MCSP-supported HFs	Separate PMP	HMIS/DHIS
Nigeria	Number of stillbirths in MCSP-supported HFs	Refers to a baby born with no signs of life at or after 28 weeks' gestation	Separate PMP	HMIS/DHIS
Nigeria	Facility neonatal mortality rate	Number of neonatal deaths during the first 28 days of life (0–27 days) per 1,000 live births Numerator: Number of newborns showing signs of life at birth who die within 28 days of birth Denominator: Total number of newborns showing signs of life at birth	Separate PMP	DHIS
Zimbabwe	Number of stillbirths in MCSP-supported HFs	Numerator: Total number of facility-based fresh stillbirths and early neonatal deaths within 7 days of delivery Denominator: Total number of facility-based births in MCHIP-supported sites, multiplied by 1,000	PY3 work plan (PMP included)	• HMIS • Facility records
Zimbabwe	Facility-based early neonatal and intrapartum mortality rate	Numerator: Total number of facility-based fresh stillbirths and early neonatal deaths within 7 days of delivery Denominator: Total number of facility-based births in MCHIP-supported sites, multiplied by 1,000	PY3 work plan (PMP included)	• HMIS • Facility records

References

1. You D, Hug L, Ejdemyr S, et al. *Levels & Trends in Child Mortality: Report 2015*. UN Inter-agency Group for Child Mortality Estimation. 2015; UNICEF: New York, NY. http://www.unicef.org/media/files/IGME_Report_Final2.pdf.
2. Lawn JE, Blencowe H, Oza S, et al. Every newborn: Progress, priorities, and potential beyond survival. *Lancet*. 2014;384(9938):189–205. doi:10.1016/S0140-6736(14)60496-7.
3. Moxon SG, Ruysen H, Kerber KJ, et al. Count every newborn; a measurement improvement roadmap for coverage data. *BMC Pregnancy Childbirth*. 2015;15(Suppl 2):S8. doi:10.1186/1471-2393-15-S2-S8.