SM2015 – Honduras

18-Month Health Facility

Data Quality Report

January 2015

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This Data Quality Report on the SM2015-Honduras Facility Survey was produced in agreement with the Inter-American Development Bank (IDB). All analyses and report writing were performed by the Institute for Health Metrics and Evaluation (IHME) at the University of Washington. This report is meant as a descriptive analysis to explore the most significant aspects of the information gathered for Salud Mesoamérica 2015 and to ensure that collected data is of the highest possible quality. Its purpose is to detail summary statistics of data collected for the first follow-up measurement and to provide comparisons, where applicable, between SM2015 performance health indicators from the baseline and first follow-up measurements.

About IHME

IHME monitors global health conditions and health systems and evaluates interventions, initiatives, and reforms. Our vision is that better health information will lead to more knowledgeable decision-making and higher achievements in health. To that end, we strive to build the needed base of objective evidence about what does and does not improve health conditions and health systems performance. IHME provides high-quality and timely information on health, enabling policymakers, researchers, donors, practitioners, local decision-makers, and others to better allocate limited resources to achieve optimal results.

Lead authors

Alexandra Schaefer, BA
Data Analyst, IHME

Bernardo Hernández Prado, MS, DSc
Associate Professor, IHME

Ali H. Mokdad, PhD
Professor, IHME

Erin Palmisano, BA
Project Officer, IHME

Contributing authors

Brent Anderson, BA
Project Officer, IHME

K. Ellicott Colson, MPH
Post-Bachelor Fellow, IHME

Sima Desai, BS
Data Analyst, IHME

Marielle C. Gagnier, BS
Post-Bachelor Fellow, IHME

Annie Haakenstad, MA
Project Officer II, IHME

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Chapter 1 SURVEY METHODOLOGY

1.1 Overview

Salud Mesoamérica 2015 (SM2015) is a regional public-private partnership that brings together Mesoamerican countries, private foundations and bilateral and multilateral donors with the purpose of reducing health inequalities affecting the poorest 20 percent of the population in the region. Funding will focus on supply and demand-side interventions, including changes in policy, evidence-based interventions, the expansion of proven and cost-effective healthcare packages, and the delivery of incentives for effective health services. One of its defining features is the application of a results-based financing model (RBF) that relies on serious performance measurement and enhanced transparency in reporting accountability and global impact assessment. The initiative will focus its resources on integrating key interventions aimed at reducing health inequalities resulting from the lack of access to reproductive, maternal and neonatal health (including immunization and nutrition) for the poorest quintile of the population.

The objectives of the SM2015 evaluation are to assess whether countries are reaching the targeted indicators set by the initiative, and to evaluate the impact of specific interventions. In Honduras, data collection is taking place at households and health facilities in intervention and control areas. The 18-month follow-up data collection took place at health facilities only. Future data collection will occur at 36 and 54 months at households and health facilities. This document describes the 18-month follow-up performance and monitoring indicator results in health facilities.

1.2 Health facility survey

The health facility survey is one of two (the other being a household survey) components of the overall data collection method employed in the initiative. Twining of both surveys is a defining and innovative feature designed to most accurately capture prevalence estimates of select key indicators. In general terms, the objectives of the health facility survey are assessing facility conditions, evaluating service provision and utilization, and measuring quality of care. The medical record review (MRR) was implemented in order to capture historical data on the facilities' treatment practices by asking about various medical complications that mothers and infants experienced, along with how each case was treated. It also assessed the medical practices of the facilities before, during, and after uncomplicated births. Importantly, the facility survey captures changes made by interventions at the level of the health services access point, the health facility, and predicts changes in population health outcomes. The 18-month health facility survey, recounted in this report, measured follow-up estimates of various health indicators with the aim of monitoring future changes in those indicators.

1.3 Contents and methods for data collection

1.3.1 Contents of the 2014 18-month Honduras health facility survey

The health facility survey includes 3 components: an interview questionnaire, an observation checklist, and a medical record review. The questionnaire captures information reported by the facility director, manager, or person in charge of the health facility; the checklist captures objective data observed by the surveyors at the time of the survey using an observation checklist, and in the case of some inputs, also reviewing administrative records to identify the presence of stock-outs in the 3 months prior to the

survey. The medical record review assesses the record-keeping of the facilities and captures the facilities' treatment practices. In each part of the survey, data is collected on general facility characteristics, infrastructure, and human resource composition, supply logistics, infection control, child health care, vaccine availability, family planning, and maternal antenatal, delivery, and postpartum care. For the topics of child and maternal care and family planning, information is collected on the types of services provided, components of the care offered, equipment available, and quality of record keeping.

1.3.2 Methods for data collection

The facility survey is conducted using a computer-assisted personal interview (CAPI). The CAPI was programmed using DatStat Illume and installed into computer netbooks which are used by the surveyors at all times of the interview. CAPI supports skip patterns, inter-question answer consistency, and data entry ranges. The aim of introducing CAPI to the field was to reduce survey time by prompting only relevant questions, to maintain a logical answering pattern across different questions, and to decrease data entry errors.

1.4 Sampling

For this evaluation, a sample of 60 health facilities was selected from a list of all facilities serving the municipalities in intervention areas covered by the SM2015 initiative, located in the departments of Choluteca, Copán, Intibucá, La Paz, Lempira, Olancho, and Ocotepeque. This list was constructed according to a referral network outlined by the Secretary of Health. All basic and complete facilities serving SM2015 areas were included in the sample with certainty, due to small numbers. Among all ambulatory facilities, 50% of the remaining sample was drawn randomly from the list of ambulatory health facilities located in SM2015 intervention areas that were interviewed at baseline. The other 50% were drawn from the remaining ambulatory facilities in SM2015 areas that were not visited at baseline. A simple random sample was drawn from each ambulatory strata to reach the quota of 60 intervention facilities.

For the MRR, a systematic sampling method was used to reach the required sample of records in each facility, with some records for some types of complications manually over-sampled for representativeness. Records for specific conditions (maternal and neonatal complications, deliveries, antenatal and postpartum care, child care) were selected according to a quota set considering the Essential Obstetric and Neonatal Care (EONC) level that each facility provides. Cases of maternal and neonatal complications were sampled at random from Secretary of Health (Secretaría de Salud) registries and, if required, additional cases were sampled using a systematic sampling technique in-facility.

1.5 Survey implementation

1.5.1 Data collection instruments

All health facility surveys were conducted using computer netbooks equipped with CAPI programs (See section 1.3.2)

1.5.2 Training and supervision of data collectors

Training sessions and health facility pilot surveys were conducted in Honduras in February 2014. The

eight surveyors, all nurses, had medical backgrounds and underwent four days of training. The training included an introduction to the initiative, proper conduct of the survey, in-depth review of the instrument, and hands-on training on the CAPI software. Training was followed by a six-day pilot of all components of the survey at currently operating health facilities.

1.5.3 Data collection and management

As described in Section 1.3.2, data were collected using computer netbooks equipped with CAPI software. A lead surveyor monitored the implementation of the facility survey and reported feedback. Data collection using CAPI allowed data to be transferred instantaneously once a survey was completed via a secure link to IHME. IHME monitored collected data on a continuous basis and provided feedback. Suggestions, surveyor feedback, and any modifications were incorporated into the health facility instruments and readily transmitted to the field.

1.5.4 Data analysis and report writing

Ongoing data analysis was done at IHME and new data were continuously incorporated. Analysis was done using STATA version 13.1. Performance indicators were calculated at IHME following the indicator definitions provided by IDB. A mid-survey report was submitted to IDB with estimates on key performance indicators. This 18-month report includes information from facilities in intervention areas and comparisons to baseline intervention-area results. An appendix showing updated baseline performance and monitoring indicators is included (Appendix A).

Chapter 2 FACILITY-LEVEL INFRASTRUCTURE, RESOURCES, MANAGEMENT, AND SUPPORT

The main body of this report refers to facilities surveyed for the 18-month evaluation in intervention areas only, and compares intervention-area data at the 18-month follow-up to intervention-area data from the baseline evaluation when detailing performance indicators. Appendix A compares performance and monitoring indicator values from baseline to follow-up.

2.1 General description of the facility

2.1.1 Type of health facility

A total of 60 facilities in intervention areas were surveyed for the 18-month evaluation. Included in the sample are 46 ambulatory EONC health units, 8 basic EONC health units, and 6 complete EONC units. At the ambulatory level, CESAR (Centros de Salud Rural) health facilities are categorized as units without a doctor, while CESAMO (Centro de Salud con Médico y Odontólogo) health facilities are defined as ambulatory units with at least one doctor on staff. The basic level is comprised of CMI units (Clínica Materno-Infantil) and the complete level includes all hospitals in SM2015 intervention areas. These health units are further broken down by facility classification and geographical representation in Table 2.1.1.

Table 2.1.1 Health facility classification

	BASELINE	18 MONTH
CESAR	27	33
CESAMO	18	13
CMI	8	8
Hospital	6	6
Total	59	60

2.1.2 Geographical representation

Facilities surveyed for the 18-month evaluation were located in 25 municipalities in a total of 7 departments (Table 2.1.2).

Table 2.1.2 Geographical representation

Department	Municipality	No. of facilities
Choluteca	Choluteca	1
	Concepcion de Maria	7
	Duyure	1
	San Marcos de Colon	4
	Cabanas	2
Copan	Copan	1
	Copan Ruinas	2
	San Antonio	1
	Santa Rita	2
Intibuca	Concepcion	4
	Intibuca	1
	Magdalena	1
	San Antonio	3
	Sta. Lucia	3
La Paz	La Paz	1
	Santiago de Puringa	5
Lempira	Cololaca	2
	Guarita	3
	San Juan De Guarita	2
	Tambla	2
	Tomala	1
	Valladolid	1
Olancho	Culmi	8
	Juticalpa	1
Ocotepeque	San Marcos	1
TOTAL	25	60

2.1.3 Medical record extraction

The health facility survey included a review of 1,091 medical records. The number and type of medical records reviewed varied depending on the type of facility and the services it provided. Records of antenatal care were evaluated in ambulatory- and basic-level facilities. In addition, records of delivery, postpartum care, maternal complications and neonatal complications were reviewed at the basic and complete level of facility.

Table 2.1.3 Number of medical records by facility classification (EONC level)

Medical records	Ambulatory	Basic	Complete	Total
Antenatal care	248	15	0	263
Delivery	0	110	147	257
Post partum care	0	51	79	130
Maternal complications	0	60	148	208
Neonatal complications	0	31	202	233
Total medical records	248	267	576	1091

2.1.4 Referrals

In response to the question, “Do you usually receive referred patients from another health facility?” 26.1% of ambulatory facilities and 100% of basic and complete facilities reported receiving referred patients from other facilities. 96.7% of all facilities reported sending or referring patients to other health units.

2.1.5 Governing authority

All health facilities were public institutions under the jurisdiction of the Secretary of Health (Secretaría de Salud).

2.2 Basic infrastructure

2.2.1 Electricity and Water

All basic and complete health units and 84.8% of ambulatory units had functional electricity. Of the ambulatory health units that had functional electricity, 82.1% used a central electricity supply and 10.3% used a solar generator.

Of all ambulatory facilities, the majority (91.3%) had water piped into the facility. Most basic and complete facilities reported having water piped into the facility (85.7%), while one quarter of basic facilities used a tanker truck and one third of complete facilities used a facility well for water.

Table 2.2.1 details the sources of electricity and water available at facilities. Interviewers asked facility representatives to indicate all sources of electricity and water for the health unit, therefore representatives could indicate more than one source serving the facility.

Table 2.2.1 Electricity and water

	AMBULATORY			BASIC			COMPLETE		
	N	%	SE	N	%	SE	N	%	SE
Functional electricity	46	84.8	5.3	8	100		6	100	
Source of electricity									
Central supply (Comisión Federal de Electricidad)	39	82.1	6.2	8	87.5	11.7	6	100	
Private supply	39	2.6	2.5	8	25	15.3	6	0	
In-facility generator	39	2.6	2.5	8	0	0.0	6	0	
Solar generator	39	10.3	4.9	8	37.5	17.1	6	0	
Other source	39	5.1	3.5	8	0	0.0	6	0	
Source of water									
Piped into facility	46	91.3	4.2	8	87.5	11.7	6	83.3	15.2
Public well	46	4.3	3.0	8	12.5	11.7	6	0	
Facility well	46	2.2	2.2	8		0.0	6	33.3	19.3
Unprotected well	46	2.2	2.2	8		0.0	6	0	
Hand pump	46	0		8		0.0	6	0	
Bottled water	46	8.7	4.2	8		0.0	6	0	
Tanker truck	46	4.3	3.0	8	25	15.3	6	0	
Rain water	46	2.2	2.2	8		0.0	6	0	
Other	46	2.2	2.2	8		0	6	0	

2.2.2 Internet access

All hospitals had access to the internet, but only one basic facility and one ambulatory facility in our sample reported internet access.

2.3 Personnel

2.3.1 Personnel in ambulatory units

Ambulatory health units are further sub-categorized into two facility types: CESARs and CESAMOs. The following table (Table 2.3.1) details the personnel composition in ambulatory health facilities. Personnel are limited in CESARs, with general physicians, health promoters, nurses, auxiliary nurses, and midwives reported. The mean represents the average number of personnel reported per category. On average, there were 0.5 general physicians, 1 health promoter, 0.2 nurses, 1.4 auxiliary nurses, and 0.5 midwives per CESAR.

CESAMOs are expected to have a general physician and a dentist on staff, and these units report a greater variety of personnel and, in general, a larger number of staff working at the facility. On average there were 1.2 general physicians, 1.8 health promoters, 0.5 nurses, 3.2 auxiliary nurses, 1.2 midwives, 0.2 laboratory technicians, and 0.1 social workers per CESAMO.

Table 2.3.1 Personnel composition in ambulatory facilities

	CESAR			CESAMO		
	N	mean	SE	N	mean	SE
General physician	33	0.5	0.5	13	1.2	0.7
Pediatrician	33	0		13	0	
Nutritionist	33	0		13	0	
Pharmacist	33	0		13	0	
Nurse	33	0.2	0.6	13	0.5	0.9
Auxiliary nurse	33	1.4	0.7	13	3.2	2.2
Midwife	33	0.5	1.3	13	1.2	1.9
Social worker	33	0	0.2	13	0.1	0.3
Laboratory technician	33	0	0.2	13	0.2	0.6
Health promoter	33	1	0.8	13	1.8	1.2
Other	33	0		13	0.1	0.3

2.3.2 Personnel in basic and complete facilities

The personnel composition shows a large variation across basic and complete health units. The mean represents the average number of personnel reported per category by facility type (Table 2.3.2).

Table 2.3.2 Personnel composition in basic and complete health units

	CMI			HOSPITAL		
	N	mean	SE	N	mean	SE
General physician	8	3	1.6	6	19.2	10.7
Pediatrician	8	0		6	5.8	1.9
Nutritionist	8	0		6	0	
Pharmacist	8	0		6	1.2	1.0
Nurse	8	0.8	0.5	6	26.8	13.0
Auxiliary nurse	8	6.6	1.6	6	106.8	60.9
Midwife	8	2.9	8.1	6	0	
Social worker	8	0		6	0.8	1.3
Laboratory technician	8	0.4	0.5	6	8.7	3.5
Health promoter	8	1.6	4.6	6	0	
Internist	8	0		6	3.2	1.6
Gynecologist	8	0		6	6.5	3.6
Surgeon	8	0		6	2.8	1.7
Anesthesiologist	8	0		6	0.7	0.8
Emergency medical technician	8	0.1	0.3	6	0	
Radiology technician	8	0		6	6.2	1.2
Ambulance driver/polyvalent	8	0.9	0.8	6	3.3	1.4
Other specialties	8	0.1	0.3	6	0.5	0.8

Chapter 3 CHILD HEALTH

3.1 Child services offered – a background

This chapter summarizes key indicators related to child health care. In the questionnaire component of the survey, facility representatives were asked about service provision and logistics of ordering and receiving supplies. In the observation component, interviewers observed the setting of the room in which child services are provided, functionality of equipment, stock of pharmacy inputs, stock of vaccines, and related educational materials. Table 3.1.1 shows the percentage of facilities that offer child health care services and vaccinations for children under age 5, as well as the setting in which these services are provided. Data were incorporated from both the observation module and the interview module, which indicated differing prevalence of child health service provision. In some cases, facility representatives indicated that child health services were not provided, though interviewers observed child health rooms in these facilities.

Table 3.1.1 Child health care services provision

	AMBULATORY			BASIC			COMPLETE		
	N	%	SE	N	%	SE	N	%	SE
Unit offers child services	46	97.8	2.2	8	75	15.3	6	50	20.4
Unit vaccinates children under 5	46	100		8	50	17.7	6	50	20.4
Child care room*									
Private room with visual and auditory privacy	44	100		6	66.7	19.3	6	100	
Don't provide such services	44	0		6	33.3	19.3	6	0	

*Child care setting data not available for 4 facilities

3.2 Availability of inputs for treatment of diarrhea and pneumonia

The indicator related to treatment of diarrhea and pneumonia requires a variety of inputs necessary for the treatment of pneumonia and diarrhea in children, including select drugs and basic medical equipment. Only units which provide child care are included in the indicator calculation. The 18-month evaluation showed great increases in all of the inputs required for this indicator at all facility types, as detailed in sections 3.3 and 3.4. These tables show stocks of drugs on the day of the survey and necessary equipment viewed on the day of the survey. Below, Table 3.2.1 shows the overall performance of ambulatory- and basic-level facilities regarding this indicator.

Table 3.2.1 Continuous availability of supplies and equipment needed for child care

	CESAR			CESAMO			CMI		
	N	%	SE	N	%	SE	N	%	SE
Observed and functional equipment	31	61.3	8.8	10	20	12.6	4	50	25.0
All pharmacy inputs observed on the day of the survey	31	96.8	3.2	10	100		4	100	
No stock out of pharmacy inputs in the previous 3 months	31	96.8	3.2	10	100		4	100	
Meets all criteria listed above*	31	61.3	8.8	10	20	12.6	4	50	25.0

*To account for missingness, 1 CESAR and 2 CESAMOs excluded from the calculation

3.3 Child health care equipment

In the health facility survey observation module, interviewers checked availability and functional status

of inputs needed for child care and treatment of pneumonia and diarrhea among children under 5 years of age. The tables below (Tables 3.3.1a-3.3.1c) list medical equipment relating to basic child health care in facilities that provide these services. Items were observed by the surveyors in ambulatory- and basic-level facilities, rather than merely reported by facility staff.

Most required inputs were found at CESARs and CMIs. However, the most notable shortage was observed in CESAMOs. Only 4 out of 10 CESAMOs had a pediatric or neonatal stethoscope, and 6 out of 10 had a pediatric scale.

Table 3.3.1a Child health care equipment observed and functional in CESARs

	CESAR					
	BASELINE			18-MONTH		
	N	%	SE	N*	%	SE
Measuring tape	27	96.3	3.6	31	100	
Height rod	27	55.6	9.6	31	100	
Standing scale for children	27	22.2	8.0	31	96.8	3.2
Stethoscope	27	88.9	6.1	31	90.3	5.3
Nebulization equipment	27	81.5	7.5	31	90.3	5.3
Pediatric scale	27	63.0	9.3	31	83.9	6.6
Exam table	27	74.1	8.4	31	83.9	6.6
Hand lamp or gooseneck lamp	27	40.7	9.5	31	83.9	6.6

*To account for missingness, 1 CESAR excluded from the calculation

Table 3.3.1b Child health care equipment observed and functional in CESAMOs

	CESAMO					
	BASELINE			18-MONTH		
	N	%	SE	N*	%	SE
Nebulization equipment	18	100		10	100	
Exam table	18	88.9	7.4	10	100	
Standing scale for children	18	33.3	11.1	10	100	
Measuring tape	18	88.9	7.4	10	100	
Stethoscope	18	77.8	1.1	10	100	
Hand lamp or gooseneck lamp	18	27.8	10.6	10	100	
Height rod	18	61.1	11.5	10	90	9.5
Pediatric scale	18	88.9	7.4	10	60	15.5
Pediatric or neonatal stethoscope**	18	5.6	5.4	10	40	15.5

*To account for missingness, 2 CESAMOs excluded from the calculation

**Due to survey programming, these inputs were asked in combination

Table 3.3.1c Child health care equipment observed and functional in CMIs

	CMI					
	BASELINE			18-MONTH		
	N	%	SE	N	%	SE
Measuring tape	8	87.5	11.7	4	100	
Nebulization equipment	8	100		4	100	
Hand lamp or gooseneck lamp	8	37.5	17.1	4	100	
Pediatric scale	8	87.5	11.7	4	100	
Exam table	8	62.5	17.1	4	100	
Standing scale for children	8	25	15.3	4	100	
Pediatric sphygmomanometer	8	62.5	17.1	4	75	21.6
Height rod	8	62.5	17.1	4	75	21.6
Oto-ophthalmoscope	8	87.5	11.7	4	75	21.6
Reflex mallet	8	37.5	17.1	4	75	21.6
Pediatric or neonatal stethoscope*	8	25	15.3	4	75	21.6

*Due to survey programming, these inputs were asked in combination

3.4 Important drugs and supplements

3.4.1 Pharmacy inputs for treatment of diarrhea and pneumonia

Interviewers also observed the availability and stock of important drugs and supplements used for basic child health care in the pharmacy section, namely packets or envelopes of oral rehydration salts (ORS), zinc sulfate, and albendazole/mebendazole. In addition, CESAMOs and CMIs were required to have antibiotics, and CMIs were required to have isotonic solutions.

In order to measure continuous availability of pharmacy inputs needed for basic child care, interviewers were instructed to check the stock of certain drugs for the previous three months in facilities that had all required drugs on the day of the survey. All facilities with the exception of one CESAR had three months' stock of all required pharmacy inputs.

Table 3.4.1a Child health care observed drugs and supplements in CESARs

	CESAR					
	BASELINE			18-MONTH		
	N	%	SE	N*	%	SE
Zinc sulfate	27	7.4	5.0	31	96.8	3.2
Packets or envelopes of oral rehydration salts	27	96.3	3.6	31	100	
Albendazole/mebendazole	27	100		31	100	

*To account for missingness, 1 CESAR excluded from the calculation

Table 3.4.1b Child health care observed drugs and supplements in CESAMOs

	CESAMO					
	BASELINE			18-MONTH		
	N	%	SE	N**	%	SE
Zinc sulfate	18	0		10	100	
Packets or envelopes of oral rehydration salts	18	88.9	7.4	10	100	
Antibiotics*	18	100		10	100	
Albendazole/mebendazole	18	100		10	100	

*At baseline, amoxicillin/erythromycin/penicillin measured; at followup, benzathine penicillin also measured

**To account for missingness, 2 CESAMOs excluded from the calculation

Table 3.4.1c Child health care observed drugs and supplements in CMIs

	CMI					
	BASELINE			18-MONTH		
	N	%	SE	N	%	SE
Zinc sulfate	8	12.5	11.7	4	100	
Packets or envelopes of oral rehydration salts	8	100		4	100	
Saline solution/dextrose/Hartmann's solution	8	100		4	100	
Antibiotics*	8	100		4	100	
Albendazole/mebendazole	8	50	17.7	4	100	

*At baseline, amoxicillin/erythromycin/penicillin measured; at followup, benzathine penicillin also measured

3.4.2 Micronutrients

The indicator related to the availability of micronutrient powder, which is evaluated in ambulatory facilities, was not measured at baseline. At the follow-up, almost all ambulatory-level health units had stocks of micronutrient powder both the day of the survey and over the previous three months. Table 3.4.2 details the stock of the Chispitas brand micronutrient powder in ambulatory facilities.

Table 3.4.2 Availability of Chispitas

	CESAR			CESAMO		
	N	%	SE	N	%	SE
Chispitas observed on day of survey	33	97	3.0	13	100	
Chispitas in stock in last month	33	97	3.0	13	92.3	7.4
Chispitas in stock in second to last month	33	97	3.0	13	100	
Chispitas in stock in third to last month	33	97	3.0	13	100	

3.5 Education material

Table 3.5.1 lists some educational materials observed either as cards handed to the caretaker or as illustrations of disease management hung on the unit walls.

Table 3.5.1 Child health education and awareness

	AMBULATORY			BASIC			COMPLETE		
	N	%	SE	N	%	SE	N	%	SE
Printed materials on child growth and child development	44	95.5	3.14	4	100	0	6	100	0
Printed materials on danger signs and symptoms in children	44	95.5	3.14	4	100	0	6	100	0

3.6 Management of diarrhea

According to the indicator related to management of diarrhea, records of children under 5 years of age with diarrhea should indicate that the child was given oral rehydration salts (ORS) or IV rehydration therapy, in addition to zinc. In the medical record review portion of the survey, records of children who had visited the facility in the past two years were selected systematically and reviewed.

At the baseline, records were evaluated on the presence of ORS or IV rehydration treatment, and at the follow-up, zinc was also required (Tables 3.6.1a-3.6.1b). Because zinc administration is less common than administration of oral rehydration salts or IV rehydration therapy, the percentage of records

meeting the indicator dropped significantly from baseline to follow-up.

Table 3.6.1a Management of diarrhea in CESARs

	CESAR					
	BASELINE			18-MONTH		
	N	%	SE	N	%	SE
ORS or IV treatment administered	110	99.1	0.9	164	98.2	1.0
Zinc administered	n/a	n/a	n/a	164	39.0	3.8
Meets all criteria listed above	110	99.1	0.9	164	38.4	3.8

Table 3.6.1b Management of diarrhea in CESAMOs

	CESAMO					
	BASELINE			18-MONTH		
	N	%	SE	N	%	SE
ORS or IV treatment administered	67	98.5	1.5	62	95.2	2.7
Zinc administered	n/a	n/a	n/a	62	40.3	6.2
Meets all criteria listed above	67	98.5	1.5	62	40.3	6.2

3.7 Management of pneumonia

According to the indicator related to management of pneumonia, records of children under 5 years of age with pneumonia should indicate that the child had a follow-up appointment two days after the initial appointment. In the medical record review portion of the survey, records of children who had visited the facility in the past two years were selected systematically and reviewed.

Tables 3.6.1a-3.6.1b show a comparison between the findings of the medical record review of children with pneumonia at baseline and follow-up evaluations. Records only met the indicator requirements if the date of the child's follow-up appointment was exactly two days after the initial appointment, and fewer records met this criteria at the 18-month evaluation.

Table 3.7.1a Management of diarrhea in CESARs

	CESAR					
	BASELINE			18-MONTH		
	N	%	SE	N	%	SE
Date of admission to date of follow-up = 2 days	107	68.2	4.5	66	50	6.2

Table 3.7.1b Management of diarrhea in CESAMOs

	CESAMO					
	BASELINE			18-MONTH		
	N	%	SE	N	%	SE
Date of admission to date of follow-up = 2 days	56	78.6	5.5	40	62.5	7.7

Chapter 4 VACCINES

4.1 Vaccination services

When asked about vaccination services, all ambulatory health facilities and half of all basic- and complete-level facilities reported that they do vaccinate children. Interviewers observed and recorded the setting of the room used for immunization; while most facilities that provide vaccination services provide a private room with visual and auditory privacy during immunization (Table 4.1.1). Data were incorporated from both the observation module and the interview module, which indicated differing prevalence of vaccination service provision.

Table 4.1.1 Vaccination services

	AMBULATORY			BASIC			COMPLETE		
	N	%	SE	N	%	SE	N	%	SE
Unit vaccinates children under 5	46	100		8	50	17.7	6	50	20.4
Immunization room*									
Private room with visual and auditory privacy	44	93.2	3.8	6	50	20.4	4	100	
Non-private room without auditory or visual privacy	44	4.5	3.1	6	0		4	0	
Visual privacy only	44	2.3	2.3	6	0		4	0	
Don't provide such services	44	0		6	50	20.4	4	0	

*Immunization setting data not available for 6 facilities

4.2 Vaccine logistics

4.2.1 Storage

In the questionnaire component of the survey, interviewers asked facility representatives about vaccine storage. Among ambulatory facilities, 95.6% of the units store vaccines in-facility. All basic and complete facilities report storing vaccines within the facility (Table 4.2.1).

Table 4.2.1 Vaccine storage

	AMBULATORY			BASIC			COMPLETE		
	N	%	SE	N	%	SE	N	%	SE
Storage									
Stored in facility	45	95.6	3.1	6	100		6	100	
Picked up from another facility	45	2.2	2.2	6	0		6	0	
Delivered when services are being provided	45	0		6	0		6	0	
None of the above	45	2.2	2.2	6	0		6	0	

4.2.2 Demand and supply

Facilities that store vaccines were asked logistical questions about the supply and demand of vaccines. All facilities reported self-determination in ordering vaccine supplies, and ordering the same quantity each time. Responses from facility representatives about the time it takes to receive orders and whether they received the correct quantity are further detailed in Table 4.2.2.

Table 4.2.2 Vaccine supply and demand

	AMBULATORY			BASIC			COMPLETE		
	N	%	SE	N	%	SE	N	%	SE
Ordering Strategy									
Determines own needs	43	100		6	100		6	100	
Need determined elsewhere	43	0		6	0		6	0	
Both(differ by vaccine)	43	0		6	0		6	0	
Quantity to order strategy									
Order same amount	43	100		6	100		6	100	
Different per vaccine	43	0		6	0		6	0	
Time to order strategy									
Fixed time, > once/week	43	88.4	4.9	6	100		6	50	20.4
Fixed time, < once/week	43	9.3	4.4	6	0		6	50	20.4
Order when needed	43	2.3	2.3	6	0		6	0	
Time to receive supplies									
< 1 week	43	74.4	6.7	6	83.3	15.2	6	100	
1-2 weeks	43	23.3	6.4	6	16.7	15.2	6	0	
> 2 weeks	43	2.3	2.3	6	0		6	0	
Reception of quantity ordered									
Always	43	79.1	6.2	6	100		6	100	
Almost always	43	18.6	5.9	6	0		6	0	
Almost never	43	2.3	2.3	6	0		6	0	

4.3 Vaccines observed

Tables 4.3.1a-4.3.1c indicate the percentage of facilities at which at least one unit of a specified vaccine was observed by the surveyors at the time of the survey (if the facility stores vaccines). Vaccine stocks saw a slight increase at the 18-month evaluation. Note that DPT, HepB, and Hib as individual vaccines were only sought out if the facility did not have the pentavalent vaccine on the day of the survey.

Table 4.3.1a Vaccine stocks observed in ambulatory facilities

	AMBULATORY					
	BASELINE			18-MONTH		
	N	%	SE	N	%	SE
Pentavalent	42	97.6	2.4	42	100	
Measles, mumps, and rubella	42	97.6	2.4	42	92.9	4.0
Polio	42	97.6	2.4	42	97.6	2.3
Influenza	42	9.5	4.5	42	47.6	7.7
Rotavirus	42	92.9	4.0	42	95.2	3.3
Pneumococcal conjugate	42	97.6	2.4	42	97.6	2.3
BCG	42	88.1	5	42	97.6	2.3
DPT alone	1	0		0		
HepB alone	1	0		0		
Hib alone	1	0		0		

Table 4.3.1b Vaccine stocks observed in basic facilities

	BASIC					
	BASELINE			18-MONTH		
	N	%	SE	N	%	SE
Pentavalent	7	0		7	42.9	18.7
Measles, mumps, and rubella	7	0		7	14.3	13.2
Polio	7	0		7	14.3	13.2
Influenza	7	0		7	14.3	13.2
Rotavirus	7	0		7	14.3	13.2
Pneumococcal conjugate	7	0		7	14.3	13.2
BCG	7	71.4	17.1	7	100	
DPT alone	7	0		4	0	
HepB alone	7	37.5	17.1	4	25	21.6
Hib alone	7	50	17.7	4	50	25

Table 4.3.1c Vaccine stocks observed in complete facilities

	COMPLETE					
	BASELINE			18-MONTH		
	N	%	SE	N	%	SE
Pentavalent	6	50	20.4	6	66.7	19.3
Measles, mumps, and rubella	6	50	20.4	6	50	20.4
Polio	6	50	20.4	6	50	20.4
Influenza	6	33.3	19.3	6	83.3	15.2
Rotavirus	6	50	20.4	6	66.7	19.3
Pneumococcal conjugate	6	50	20.4	6	66.7	19.3
BCG	6	100		6	100	
DPT alone	3	0		2	0	
HepB alone	3	66.7	27.2	2	0	
Hib alone	3	33.3	27.2	2	100	

4.4 Cold chain

Facilities that either store vaccines, collect vaccines from other health units or have vaccines delivered to the unit to be immediately applied were asked questions related to cold chain. Interviewers observed the type of fridges used to store vaccines. Table 4.4.1 details the percent of facilities that have each type of fridge observed and functional at the time of the survey. Electric fridges and cold boxes were most common at all facility levels.

Table 4.4.1 Cold chain input availability

	AMBULATORY			BASIC			COMPLETE		
	N	%	SE	N	%	SE	N	%	SE
Storage									
Electric fridge	45	86.7	5.1	7	100		6	100	
Kerosene fridge	45	0		7	0		6	0	
Gas fridge	45	2.2	2.2	7	0		6	0	
Solar fridge	45	4.4	3.1	7	0		6	0	
Cold box	45	68.9	6.9	7	71.4	17.1	6	66.7	19.3
Any of the above	45	95.6	3.1	7	100		6	100	
Thermometers									
Digital thermometers	45	62.2	7.2	7	71.4	17.1	6	83.3	15.2
Alcohol thermometers	45	26.7	6.6	7	28.6	17.1	6	50	20.4
Other thermometers	26	61.5	9.5	5	40	21.9	5	100	
Any of the above	45	82.2	5.7	7	85.7	13.2	6	100	

Chapter 5 FAMILY PLANNING

5.1 Service provision and storage

This chapter summarizes key indicators related to family planning. In the questionnaire component of the survey, facility representatives are asked about service provision and logistics of ordering and receiving supplies. In the observation component of the survey, interviewers observe the stock of certain family planning methods in the previous 3 months.

All health facilities reported providing family planning services in-facility, and all facilities store contraceptives, with the exception of one ambulatory facility (Tables 5.1.1-5.1.2). Data were incorporated from both the observation module and the interview module, which indicated differing prevalence of family planning service provision. In one CMI, facility representatives indicated that family planning services were provided, though interviewers were unable to observe a family planning area in this facility because it does not provide such services. Interviewers recorded the setting of the room used for family planning services, finding that the majority of facilities offer rooms with visual and auditory privacy for patients seeking family planning services.

Table 5.1.1 Family planning (FP) services provision

	AMBULATORY			BASIC			COMPLETE		
	N	%	SE	N*	%	SE	N	%	SE
Offers FP services	46	100		8	100		6	100	
FP room									
Private room with visual and auditory privacy	46	100		7	85.7	13.2	6	100	
Non-private room without auditory or visual privacy	46	0		7	0		6	0	
Visual privacy only	46	0		7	0		6	0	
No privacy	46	0		7	0		6	0	
Don't provide such services	46	0		7	14.3	13.2	6	0	
Other	46	0		7	0		6	0	

*Family planning setting data not available for 1 CMI

Table 5.1.2 Family planning (FP) storage

	AMBULATORY			BASIC			COMPLETE		
	N	%	SE	N	%	SE	N	%	SE
FP storage									
Yes, stores contraceptives	46	97.8	2.2	8	100		6	100	
No, delivered when services are being provided	46	2.2	2.2	8	0		6	0	

5.2 Observed contraception methods and reported family planning services

5.2.1 Observed contraception methods and reported family planning services in ambulatory facilities

Table 5.2.1 lists the percent of facilities in which the surveyor observed at least one unit of a specific contraception method at the time of the survey. Most popular are the male condoms, pills, and injectables. The table also shows reported availability of other services; all ambulatory units offer pregnancy tests, while 63.6% of CESARs and 92.3% of CESAMOs are capable of offering IUD insertion.

Table 5.2.1 Observed contraception methods and reported services in ambulatory facilities

	CESAR			CESAMO		
	N	%	SE	N	%	SE
Observed FP methods						
Any pill	33	97	3.0	13	100	
Combined oral pill	33	87.9	5.7	13	92.3	7.4
Progestin only pill	33	39.4	8.5	13	38.5	13.5
Any injectable	33	100		13	100	
Combined injectable (1 month)	33	27.3	7.8	13	23.1	11.7
Progestin only injectable (3 months)	33	97	3.0	13	92.3	7.4
Male condom	33	100		13	100	
IUD*	33	84.8	6.2	13	100	
Reported services						
Offers pregnancy test	33	100		13	100	
Trained personnel to perform IUD insertion	33	63.6	8.4	13	92.3	7.4

*Intrauterine device

5.2.2 Observed contraception methods and reported family planning services in basic and complete facilities

Table 5.2.2 details the percent of basic- and complete-level facilities in which the surveyor observed at least one unit of a specific contraception method at the time of the survey. Most prevalent at the basic level were injectables, male condoms, and IUDs. At complete-level facilities, all evaluated family planning methods were prevalent. The table below also details the availability of pregnancy tests, vasectomy, and tubal ligation in basic- and complete-level facilities.

Table 5.2.2 Observed contraception methods and reported services in basic and complete facilities

	CMI			HOSPITAL		
	N	%	SE	N*	%	SE
Observed FP methods						
Any pill	6	83.3	15.2	5	100	
Combined oral pill	6	83.3	15.2	5	100	
Progestin only pill	6	33.3	19.3	5	80	17.9
Any injectable	6	100		5	100	
Combined injectable (1 month)	6	16.7	15.2	5	80	17.9
Progestin only injectable (3 months)	6	100		5	100	
Male condom	6	100		5	100	
IUD**	6	100		5	100	
IUD insertion kit	6	100		5	100	
Reported services						
Offers pregnancy tests	6	83.3	15.2	6	100	
Trained doctor to perform tubal ligation	6	16.7	15.2	6	100	
Trained doctor to perform vasectomy	6	0		6	66.7	19.3

*Family planning data missing in 2 CMIs and 1 hospital

**Intrauterine device

5.3 Composite family planning indicator

Facilities that meet the requirements of the composite family planning indicator offer family planning services and have, as observed by surveyors at the time of the survey, certain family planning methods and no stock out of those methods in the last three months.

According to the country indicator manual, the composite family planning indicator requires ambulatory-level facilities without a doctor to have continuous availability (no stock out in the last 3 months) of condoms, any pill, and any injectable. CESAMOs, CMIs, and hospitals meet the family planning indicator if they have continuous availability of condoms, any pill, any injectable, and IUD.

Ambulatory facilities performed better on the family planning indicator at 18 months than at baseline. 50% of CMIs met indicator requirements at follow-up, compared to 75% at baseline. All hospitals at 18 months stocked required inputs on the day of the survey, and had continuous availability of all required inputs in the three months before the survey.

The components of this indicator are further detailed by facility classification in Tables 5.3.1a-5.3.1d.

Table 5.3.1a Composite family planning indicator in CESARs

	CESAR					
	BASELINE			18-MONTH		
	N	%	SE	N	%	SE
Condom	27	96.3	3.6	33	100	
Any pill	27	100		33	97	3.0
Any injectable	27	100		33	100	
Availability of all above methods on the day of the survey	27	96.3	3.7	33	97	3.0
Continuous availability of all methods in the previous three months*	27	88.9	6.2	33	97	3.0

*Includes availability on the day of the survey

Table 5.3.1b Composite family planning indicator in CESAMOs

	CESAMO					
	BASELINE			18-MONTH		
	N	%	SE	N	%	SE
Condom	18	94.4	5.4	13	100	
Any pill	18	100		13	100	
Any injectable	18	94.4	5.4	13	100	
Intrauterine device	18	88.9	7.4	13	100	
Availability of all above methods on the day of the survey	18	88.9	7.6	13	100	
Continuous availability of all methods in the previous three months*	18	83.3	9.0	13	100	

*Includes availability on the day of the survey

Table 5.3.1c Composite family planning indicator in CMIs

	CMI					
	BASELINE			18-MONTH		
	N	%	SE	N*	%	SE
Condom	8	87.5	11.7	6	100	
Any pill	8	87.5	11.7	6	83.3	16.7
Any injectable	8	87.5	11.7	6	100	
Intrauterine device	8	87.5	11.7	6	100	
Availability of all above methods on the day of the survey	8	75	16.4	6	83.3	16.7
Continuous availability of all methods in the previous three months**	8	75	16.4	6	50	22.4

*Family planning data not recorded in 2 CMIs

** Includes availability on the day of the survey

Table 5.3.1d Composite family planning indicator in hospitals

	HOSPITAL					
	BASELINE			18-MONTH		
	N	%	SE	N*	%	SE
Condom	6	100		5	100	
Any pill	6	100		5	100	
Any injectable	6	100		5	100	
Intrauterine device	6	100		5	100	
Availability of all above methods on the day of the survey	6	100		5	100	
Continuous availability of all methods in the previous three months**	6	100		5	100	

*Family planning data not recorded in one hospital

**Includes availability on the day of the survey

5.4 Teaching and awareness

Table 5.4.1 illustrates the percent of facilities that promote family planning through counseling and teaching. All facilities with a response to this question provide family planning counseling individually and in a group setting.

Table 5.4.1 Teaching and awareness on family planning and STIs

	AMBULATORY				BASIC			COMPLETE		
	N	%	SE	DK/DTR	N	%	SE	N	%	SE
Individual FP counseling	46	100		0	8	100		6	100	
Group FP counseling	45	100		1	8	100		6	100	

Chapter 6 MATERNAL HEALTH: ANTENATAL CARE (ANC), DELIVERY, AND POSTPARTUM CARE (PPC)

6.1 Service provision

This chapter summarizes key indicators related to maternal health. Interviewers observed the functionality of equipment, the continuous availability of drugs and supplements, and key lab inputs related to the provision of antenatal, delivery and postpartum care. In addition to the questionnaire and observation component of the survey, interviewers reviewed antenatal care medical records in all applicable facilities, as well as delivery and postpartum care medical records in facilities at the basic and complete level.

All ambulatory facilities reported offering antenatal care services. The setting of the room used for antenatal care had auditory and visual privacy for all CESARs and 75% of CESAMOs (Table 6.1.1). Questions about delivery and postpartum care were not asked at the ambulatory level.

Table 6.1.1 ANC service provision in ambulatory facilities

	CESAR			CESAMO		
	N	%	SE	N*	%	SE
Offers ANC services	33	100		13	100	
ANC room						
Private room with auditory and visual privacy	33	100		12	75	12.5
Non-private room without auditory or visual privacy	33	0		12	25	12.5
Visual privacy only	33	0		12	0	
No privacy	33	0		12	0	

*ANC setting data not available for 1 CESAMO

25% of basic-level facilities reported offering antenatal care services, and 87.5% offer postpartum care services. All basic facilities also offered routine delivery services. Interviewers observed private rooms with auditory and visual privacy for all basic facilities. 100% of hospitals offered antenatal care and routine delivery service, and 66.7% offered postpartum care services in rooms with visual and auditory privacy (Table 6.1.2).

Table 6.1.2 ANC, delivery, and PPC service provision in basic and complete facilities

	CMI			HOSPITAL		
	N*	%	SE	N	%	SE
Offers ANC services	8	25	15.3	6	100	
Offers routine delivery services (non-urgent)	8	100		6	100	
Offers PPC services	8	87.5	11.7	6	66.7	19.3
ANC - PPC room						
Private room with auditory and visual privacy	6	100		6	100	
Non-private room without auditory nor visual privacy	6	0		6	0	
Visual privacy only	6	0		6	0	
No privacy	6	0		6	0	
Delivery room						
Private room with auditory and visual privacy	7	100		6	100	
Non-private room with neither auditory nor visual privacy	7	0		6	0	
Visual privacy only	7	0		6	0	
No privacy	7	0		6	0	

*ANC-PPC and delivery setting data not available for 1 CMI

6.2 ANC - PPC equipment

Tables 6.2.1a-6.2.2b indicate the percentage of ambulatory facilities where specific ANC equipment was present at the time of the survey and was observed as functional by a surveyor.

6.2.1 ANC - PPC equipment in ambulatory facilities

Tables 6.2.1a-6.2.1b detail the change over time seen in availability of ANC equipment in ambulatory facilities. CESARs and CESAMOs both tended to be better-equipped at the 18-month follow-up. The greatest increase was seen in prevalence of tallimeters/stadiometers.

Table 6.2.1a Observed and functional ANC - PPC equipment in ambulatory facilities without a doctor

	CESAR					
	BASELINE			18-MONTH		
	N	%	SE	N	%	SE
Standing scale	27	81.5	7.5	32	93.8	4.3
Tallimeter or stadiometer	27	22.2	8.0	32	100	
Gynecological exam table/bed	27	81.5	7.5	32	71.9	7.9
Obstetrical tape	27	96.3	3.6	32	100	
Perinatal maternal medical history	27	96.3	3.6	32	100	
Perinatal maternal card	27	96.3	3.6	32	100	

Table 6.2.1b Observed and functional ANC - PPC equipment in ambulatory facilities with a doctor

	CESAMO					
	BASELINE			18-MONTH		
	N	%	SE	N	%	SE
Standing scale	17	94.1	5.7	12	91.7	8.0
Tallimeter or stadiometer	17	41.2	11.9	12	83.3	10.8
Gynecological exam table/bed	17	100		12	91.7	8.0
Obstetrical tape	17	100		12	100	
Perinatal maternal medical history*	16	100		12	100	
Perinatal maternal card*	16	100		12	100	

*Missing data on maternal medical history and maternal card for 1 CESAMO health unit at baseline

6.2.2 ANC - PPC equipment in basic and complete facilities

Tables 6.2.2a-6.2.2b detail the percentage of basic and complete facilities where specific ANC and PPC equipment was present and observed and functional, in comparison to the baseline. Slight increases were seen in many equipment categories at the follow-up.

Table 6.2.2a Observed and functional ANC - PPC equipment in basic facilities

	CMI					
	BASELINE			18-MONTH		
	N	%	SE	N	%	SE
Standing scale	6	66.7	19.3	6	100	
Tallimeter or stadiometer	6	16.7	15.2	6	66.7	19.3
Gynecological exam table/bed	6	83.3	15.2	6	100	
Obstetrical tape	6	66.7	19.3	6	100	
Gooseneck or hand lamp for pelvic exams	6	83.3	15.2	6	83.3	15.2
Blood pressure apparatus	6	83.3	15.2	6	100	
Stethescope	6	83.3	15.2	6	100	
IUD insertion kit	6	83.3	15.2	6	83.3	15.2
Perinatal maternal medical history*	5	80	17.9	6	100	
Perinatal maternal card*	5	80	17.9	6	83.3	15.2

*Missing data on maternal medical history and maternal card for 1 CMI at baseline

Table 6.2.2b Observed and functional ANC - PPC equipment in complete facilities

	HOSPITAL					
	BASELINE			18-MONTH		
	N	%	SE	N	%	SE
Standing scale	6	83.3	15.2	6	100	
Tallimeter or stadiometer	6	16.7	15.2	6	66.7	19.3
Gynecological exam table/bed	6	100		6	100	
Obstetrical tape	6	83.3	15.2	6	100	
Gooseneck or hand lamp for pelvic exams	6	100		6	100	
Blood pressure apparatus	6	100		6	100	
Stethescope	6	100		6	100	
IUD insertion kit	6	83.3	15.2	6	66.7	19.3
Perinatal maternal medical history	6	83.3	15.2	6	100	
Perinatal maternal card	6	83.3	15.2	6	100	

6.3 ANC medical record review

6.3.1 Antenatal care according to the norm for births in the past two years

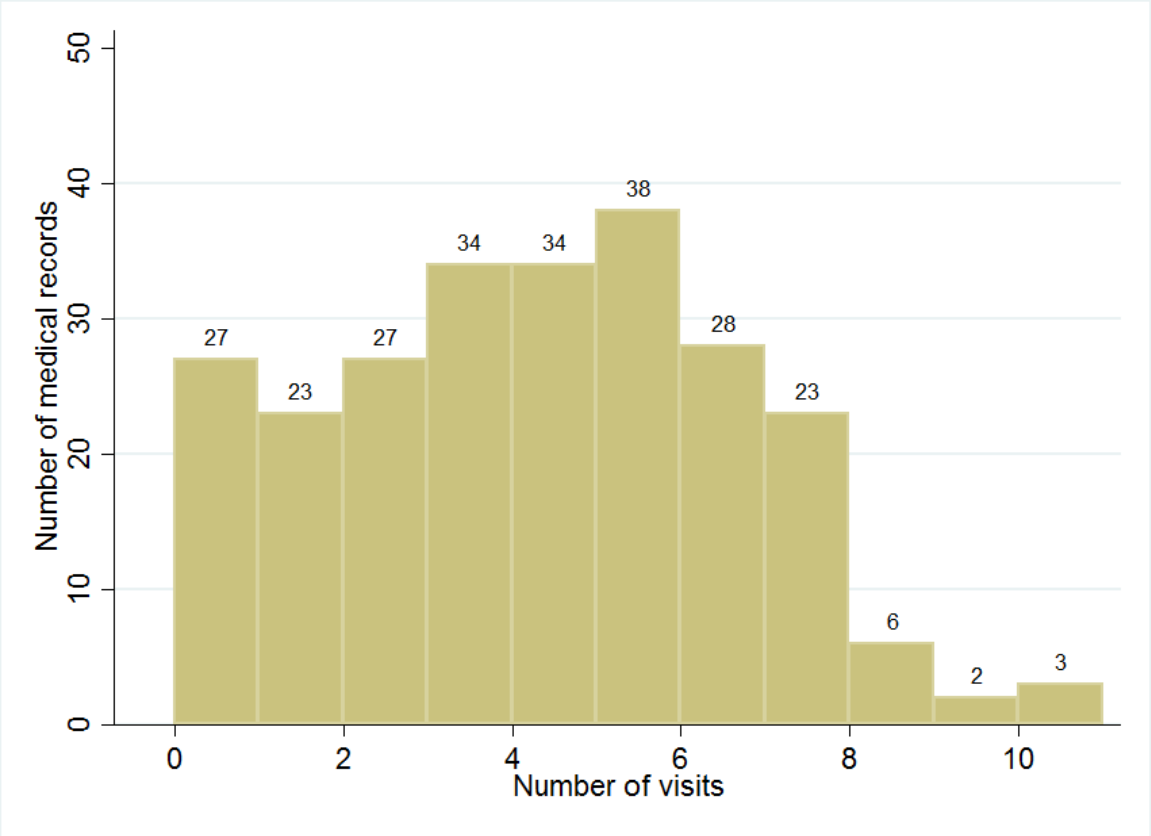
Records of antenatal care were reviewed in all applicable facilities. In order to demonstrate antenatal care according to the standards, each woman must have had at least 4 visits with a doctor or nurse during her pregnancy, and her weight, blood pressure, and fundal height must have been recorded at each visit. In addition, any visit after 20 weeks' gestation must have included a check of fetal heart rate and fetal movement. In order to meet indicator requirements, a variety of laboratory tests must have been performed at least once during the pregnancy, as detailed in Table 6.3.1.

Table 6.3.1 Antenatal care according to the norm for births in the past two years

	AMBULATORY		
	N	%	SE
At least 4 ANC visits	245	67.8	3.0
At least 4 ANC visits according to the norm	245	54.7	3.2
Lab tests			
Blood group	245	96.7	1.1
Hb	245	90.6	1.9
Urinalysis	245	92.7	1.7
VDRL	245	91.8	1.8
Rh factor	245	95.9	1.3
HIV	245	95.9	1.3
Blood glucose level	245	95.9	1.3
All lab tests performed at least once during pregnancy	245	86.9	2.2
Antenatal care given according to the norm	245	52.7	3.2

Figure 6.3.1 displays the number of visits with a doctor or nurse where all appropriate checks were made found during the medical record review. While most women saw a doctor or nurse and had all appropriate checks performed at least once, only about half of all records showed that the woman had at least 4 such visits.

Figure 6.3.1 Number of visits according to the norm in ambulatory facilities



6.4 Delivery medical record review

6.4.1 Oxytocin administration

During the review of delivery medical records in hospitals, interviewers reported administration of oxytocin after deliveries in the last two years. 94.5% of records reported the administration of oxytocin or another uterotonic after delivery. Of these cases where oxytocin was administered after birth, 93.7% showed that the form of oxytocin delivery was intramuscular.

6.4.2 Partograph revision

Delivery records of women who gave birth in hospitals in the previous two years were selected systematically and reviewed. There are three ways in which the indicator was calculated as met:

1. No partograph observed + woman arrived with imminent birth or elected C-section
2. Partograph observed and filled out + Fetal Heart Rate (FHR) and alert curve recorded if dilation was greater than 4.5 cm + nothing further required if FHR > 120 beats per minute (bpm) or alert curve was not surpassed
3. Partograph observed and filled out + FHR and alert curve recorded if dilation was greater than 4.5 cm + a note within 30 minute if FHR < 120 bpm or alert curve was surpassed.

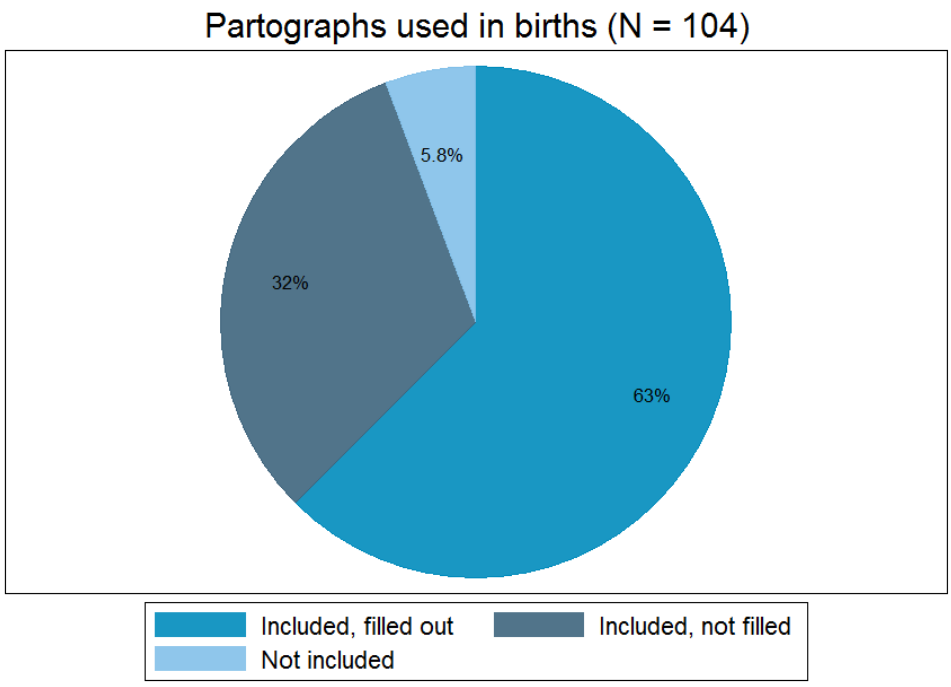
Table 6.4.2 details the findings of partograph record review in hospitals.

Table 6.4.2 Partograph revision

Partograph revision in CMIs	CMI N	CMI %	CMI SE
Partograph included and filled out or woman arrived in imminent birth or elective C-section	104	97.1	1.6
Women with dilation > 4.5 cm	65	75.4	5.4
Fetal heart rate and alert curve are recorded if dilation > 4.5 cm	49	93.9	3.5
Women with alert curve surpassed	65	66.2	5.9
Fetal heart rate < 120 bpm	65	7.7	3.3
There exists a note within 30 minutes if FHR < 120 bpm	5	40	24.5
Partograph according to the norm	104	91.3	2.8

Figure 6.4.2 indicates that 63% of delivery records had a partograph included and filled out. Accounting for women who arrived in imminent birth and C-section, 91.3% of records met the indicator according to the norm.

Figure 6.4.2 Partograph use during birth in CMIs



6.5 Postnatal care medical record review

6.5.1 Checks after birth performed according to the norm

Birth records were reviewed to determine whether postnatal care in the first hours after birth was

adequately given. In order to meet this indicator, women should have the following checks performed and recorded 4 times in the first hour after birth, 2 times in the second hour, and once at discharge: systolic and diastolic blood pressure + temperature + pulse. The results of this review are presented in Table 6.5.1.

Table 6.5.1 Postnatal care according to the norm

	CMI			HOSPITAL		
	N	%	SE	N	%	SE
Checks performed 4 times in 1st hour	51	98	1.9	32	28.1	7.9
Checks performed 2 times in 2nd hour	51	98	1.9	32	53.1	8.8
Postnatal care according to the norm	51	98	1.9	32	28.1	7.9

Chapter 7 MATERNAL & NEONATAL HEALTH: COMPLICATIONS

7.1 Emergency obstetric and neonatal care service provision

This chapter summarizes key indicators related to the management of maternal and neonatal complications at the basic- and complete-level facilities. Interviewers observed equipment in the room designated for emergency obstetric and neonatal care and certain related drugs in the pharmacy. In addition, interviewers reviewed medical records of women and neonates with one or more complication. Table 7.1.1 displays the setting of emergency care provision in CMIs and hospitals, all of which offer emergency care in a private room with auditory and visual privacy.

Table 7.1.1 Emergency obstetric and neonatal care service provision in basic and complete facilities

	CMI			HOSPITAL		
	N*	%	SE	N	%	SE
Emergency room						
Private room with visual and auditory privacy	7	100	0	6	100	0
Non-private room without auditory or visual privacy	7	0	0	6	0	0
Visual privacy only	7	0	0	6	0	0
No privacy	7	0	0	6	0	0
Don't provide this service	7	0	0	6	0	0

*Emergency care setting data not available for 1 CMI

7.2 Drugs needed for emergency obstetric and neonatal care in maternity clinics

In the health facility survey observation module, interviewers checked availability of inputs in the emergency obstetric and neonatal care room, the availability of certain medications in the pharmacy, and stock out of some of those medications in the last 3 months. In order to meet criteria, health facilities should have all inputs required in the emergency obstetric and neonatal care room, and no stock out of medications in the last 1 month, 2 and 3 months.

7.2.1 Drugs needed for emergency obstetric and neonatal care in maternity clinics

Table 7.2.1 details the availability of drugs for emergency and neonatal care in maternity clinics as observed by interviewers on the day of the survey. If all were observed, interviewers went on to review the stock of some of these drugs in the previous three months. The stock out of uterotonics, gentamicin, and magnesium sulfate in the previous three months was considered in the calculation of the performance indicator relating to maternity clinics with continuous availability of supplies needed for emergency obstetric and neonatal care. The only drug that was not observed in all hospitals was gentamicin, which was missing in one unit.

Table 7.2.1 Availability of drugs for emergency obstetric and neonatal care in Maternity Clinics

	CMI					
	BASELINE			18-MONTH		
	N	%	SE	N	%	SE
Ampicillin	8	87.5	11.7	7	100	
Uterotonic*	8	100		7	100	
Gentamicin	8	87.5	11.7	7	85.7	13.2
Magnesium sulfate	8	100		7	100	
Availability of all drugs on the day of the survey	8	62.5	17.1	7	85.7	13.2
Continuous availability of all drugs in the previous three months**	8	62.5	17.1	7	85.7	13.2

*Includes oxytocin/ergometrine/ergobasine

**Includes availability on the day of the survey

7.3 Supplies and equipment needed for emergency obstetric and neonatal care in hospitals

7.3.1 Equipment needed for emergency obstetric and neonatal care in hospitals

The indicator related to emergency obstetric and neonatal care in hospitals requires that hospitals have at least one functional example of all items in Table 7.3.1. At the 18-month evaluation, 50% of hospitals had all necessary equipment, compared to 0% at the baseline. The greatest increase was seen in prevalence of pediatric/neonatal stethoscopes at the 18-month evaluation.

Table 7.3.1 Observed and functional equipment for emergency obstetric and neonatal care in hospitals

	HOSPITAL					
	BASELINE			18-MONTH		
	N	%	SE	N	%	SE
Resuscitation bag for adults	6	83.3	15.2	6	100	
Neonatal resuscitation bag	6	100		6	100	
MVA kit	6	66.7	19.3	6	100	
Stethoscope	6	66.7	19.3	6	100	
Sphygmomanometer	6	83.3	15.2	6	100	
Pinard stethoscope/portable Doppler	6	100		6	100	
Oxygen tank	6	83.3	15.2	6	100	
Autoclave/dry heat sterilizer	6	66.7	19.2	6	83.3	15.2
Pediatric/neonatal stethoscope	6	0		6	83.3	15.2
Laryngoscope	6	100		6	83.3	15.2
Anesthesia kit	6	66.7	19.3	6	66.7	19.3

7.3.2 Drugs needed for emergency obstetric and neonatal care in hospitals

Though certain drugs, such as tetracycline eye ointment, were uncommon at the baseline evaluation, all required drugs were found in all hospitals at the follow-up (Table 7.3.2).

Table 7.3.2 Availability of drugs for emergency obstetric and neonatal care in hospitals on the day of the survey

	HOSPITAL					
	BASELINE			18-MONTH		
	N	%	SE	N	%	SE
Uterotonics*	6	100		6	100	
Tetracycline eye ointment	6	16.7	15.2	6	100	
Saline wash	6	66.7	19.3	6	100	
Saline solution or Ringer's lactate	6	83.3	15.2	6	100	
Magnesium sulfate	6	100		6	100	
Anti-hypertensives**	6	100		6	100	
Naloxone hydrochloride	6	83.3	15.2	6	100	
Furosemide	6	100		6	100	
Phenobarbital sodium	6	100		6	100	
Diazepam	6	100		6	100	
Dextrose	6	66.7	19.3	6	100	
Dexabethasone/ betamethasone***	6	66.7	19.3	6	100	
Sodium bicarbonate	6	100		6	100	
Antibiotics****	6	100		6	100	
Adrenaline	6	100		6	100	
Atropine/epinephrine	6	100		6	100	

*Baseline: oxytocin or ergometrine; followup: oxytocin, ergometrine, or ergobasine

**Hydralazine, hydralazine hydrochloride, alphamethyl dopa, propanolol, nifedipine

***At baseline, only dexamethasone is measured; at followup, betamethasone is also measured. Requirement for one of these two drugs only applies to follow-up

****Amoxicillin, ampicillin, amikacin sulfate, penicillin G, clindamycin, cephalexin, dicloxicillin, doxycycline, gentamicin, metronidazole

7.4 Distribution of obstetric and neonatal complications

This section summarizes key indicators related to the management of maternal and neonatal complications in hospitals. Interviewers reviewed records of women with complications of sepsis, hemorrhage, pre-eclampsia and eclampsia and neonates with sepsis, asphyxia, prematurity, and low birth weight. These records were evaluated for vital signs, laboratory tests, correct treatment, and appropriate procedural actions.

Records of women and infants who had one of the maternal or neonatal complications of interest in the last two years were selected systematically and reviewed. In total, interviewers reviewed the records of 208 women and 202 infants with one or more complications (Tables 7.4.1-7.4.2). Because a woman or child could have experienced more than one complication, the total number of records below exceeds the number of women or children with complications.

Table 7.4.1 Distribution of obstetric complications by facility classification

	CMI	HOSPITAL
Women with sepsis	15	37
Women with hemorrhage	36	53
Women with pre-eclampsia	10	43
Women with eclampsia	0	14
Total	61	147

Table 7.4.2 Distribution of neonatal complications by facility classification

	HOSPITAL
Neonates with low birth weight	40
Neonates with prematurity	17
Neonates with sepsis	113
Neonates with asphyxia	35
Total	205

7.5 Management of obstetric complications (sepsis, hemorrhage, pre-eclampsia and eclampsia) in the last two years

7.5.1 Sepsis in basic facilities (CMIs)

According to the country indicator manual, sepsis is managed according to the norm at basic level facilities if vital signs were checked (temperature + pulse + diastolic and systolic blood pressure), antibiotics were administered, and the woman was referred to another health facility.

There were 15 records of maternal sepsis at the basic level (Table 7.5.1). Correct treatment entails that antibiotics are administered and the woman is referred to another facility, but only 6.7% of records indicated both of these.

Table 7.5.1 Medical record review at basic level facilities: sepsis

	BASIC		
	N	%	SE
Blood pressure + temperature + pulse checked	15	73.3	11.4
Reference to another facility	15	66.7	12.2
Antibiotics administered according to the norm	15	40	12.6
Sepsis managed according to the norm	15	6.7	6.4

7.5.2 Sepsis in complete facilities (hospitals)

According to the country indicator manual, sepsis is managed according to the norm if vital signs were checked (temperature + pulse + diastolic and systolic blood pressure), a leukocyte count was performed, antibiotics were administered, and correct treatment was recorded.

Correct treatment is evaluated as follows:

- Manual vacuum aspiration or revision of uterus if septic abortion
- Hysterectomy if uterine perforation
- Laparotomy if perforation or abscesses or infected ectopic pregnancy
- Surgical repair if tears of cervical canal or uterus

There were 37 records of maternal sepsis at the complete level and most had the appropriate vital signs checked and correct treatment recorded (Table 7.5.2). 83.8% of records indicate that antibiotics had been administered, but taken together, only 29.7% of records show sepsis management according to the norm.

Table 7.5.2 Medical record review at complete level facilities: sepsis

	COMPLETE		
	N	%	SE
Antibiotics administered according to the norm	37	83.8	6.1
Blood pressure + temperature + pulse checked	37	78.4	6.8
Treatment according to the norm	37	70.3	7.5
Leukocyte count performed	37	48.7	8.2
Sepsis managed according to the norm	37	29.7	7.5

7.5.3 Hemorrhage in basic facilities (CMIs)

Hemorrhage is managed according to the norm if vital signs were checked (pulse + diastolic and systolic blood pressure), medication was administered (oxytocin/other uterotonic + Ringer's lactate), and the woman was referred elsewhere. Fetal heart rate was not captured during this round of data collection and could not be evaluated for this indicator.

Most of the evaluated records had noted that appropriate vital signs were checked, but only 13.9% indicated administration of appropriate medications. Those records that indicated medication administration tended not to include a referral to another unit, and therefore these cases were not managed according to the standards (Table 7.5.3).

Table 7.5.3. Medical record review at basic level facilities: hemorrhage

	BASIC		
	N	%	SE
Pulse + blood pressure checked	36	72.2	7.5
Woman referred to another facility	36	66.7	7.9
Oxytocin/other uterotonic and Ringer's lactate administered	36	13.9	5.8
Hemorrhage managed according to the norm	36	5.6	3.8

7.5.4 Hemorrhage in complete facilities (hospitals)

Hemorrhage is managed according to the norm if vital signs were checked (diastolic and systolic blood pressure), lab tests were performed (Ht + Hb + PT + PTT + platelet count), oxytocin or other uterotonic was administered, and correct treatment was given.

Correct treatment is evaluated as follows:

- Manual vacuum aspiration or revision of uterus if complicated abortion or retained placenta
- Caesarian section or hysterectomy if placenta previa or placenta abruption or uterine rupture or uterine atony
- Laparotomy if ectopic pregnancy or uterine atony
- Surgical repair if tears of cervical canal or uterus.

Only 3 of the evaluated records had prothrombin time (PT) recorded, and all others therefore were not managed according to the standards (Table 7.5.4).

Table 7.5.4 Medical record review at complete level facilities: hemorrhage

	HOSPITAL		
	N	%	SE
Cause of hemorrhage recorded	53	94.3	3.2
Blood pressure checked	53	83.0	5.2
Oxytocin/other uterotonic administered	53	49.1	6.9
Treatment according to the norm	53	17.0	5.2
Lab tests performed according to the norm	53	1.9	1.8
Hemorrhage managed according to the norm	53	0	0

7.5.5 Pre-eclampsia in basic facilities (CMIs)

According to the country indicator manual, pre-eclampsia and eclampsia are managed according to the standards if vital signs were checked (diastolic and systolic blood pressure), lab tests were performed (urine protein), and magnesium sulfate was administered. Fetal heart rate was not captured during this round of data collection and could not be evaluated for this indicator.

As detailed in Table 7.5.5, no record of a woman with pre-eclampsia managed according to the norm was found, as record of diastolic and systolic blood pressure and urine protein tests were not common.

Table 7.5.5a Medical record review at basic level facilities: pre-eclampsia

	BASIC		
	N	%	SE
Blood pressure checked	10	20	12.6
Urine protein checked	10	20	12.6
Magnesium sulfate administered	10	30	14.5
Pre-eclampsia managed according to the norm	10	0	

7.5.6 Pre-eclampsia & eclampsia in complete facilities (hospitals)

According to the country indicator manual, pre-eclampsia and eclampsia are managed according to the standards if vital signs were checked (diastolic and systolic blood pressure + pulse + respiratory rate), lab tests were performed (urine protein + platelet count + aspartate transaminase + lactate dehydrogenase), correct treatment was given, and the outcome of pregnancy was recorded.

Correct treatment is evaluated as follows:

- If diastolic blood pressure is greater than 110, then administration of hydralazine/nifedipine
- If gestational age is 26-34 weeks, then administration of dexamethasone/betamethasone
- Administration of magnesium sulfate

As detailed in Tables 7.5.6a-7.5.6b, none of the records of women with pre-eclampsia or eclampsia are managed according to the norm, as none have all lab tests recorded. Specifically, only 4.7% of pre-eclampsia cases and 0% of eclampsia cases have lactate dehydrogenase recorded.

Table 7.5.6a Medical record review at complete level facilities: pre-eclampsia

	COMPLETE		
	N	%	SE
Outcome of pregnancy recorded	43	90.7	4.4
Respiratory rate + blood pressure + pulse checked	43	88.4	4.9
Treatment according to the norm	43	67.4	7.2
Lab tests performed according to the norm	43	0	
Pre-eclampsia managaed according to the norm	43	0	

Table 7.5.6b Medical record review at complete level facilities: eclampsia

	COMPLETE		
	N	%	SE
Outcome of pregnancy recorded	14	64.3	12.8
Treatment according to the norm	14	64.3	12.8
Respiratory rate + blood pressure + pulse checked	14	71.4	12.1
Lab tests performed according to the norm	14	0	0
Eclampsia managed according to the norm	14	0	0

7.6 Management of neonatal complications (low birth weight, prematurity, sepsis and asphyxia) in the last two years

7.6.2 Low birth weight (LBW) and prematurity in complete facilities (hospitals)

According to the country indicator manual, low birth weight and prematurity are managed according to the standards if all checks are performed (weight + respiratory rate + blood pressure + Silverman score), lab tests were performed (blood glucose level + oxygen saturation level), correct treatment was given, and neonate was evaluated by a doctor. Correct treatment entails IV feeding if respiratory rate is greater than 80, and the child must have been kept in an incubator or administered oxygen in some form.

Few of the evaluated records of neonates with low birth weight reported management according to the standards, due to a lack of performing all necessary checks. Although all infants were evaluated by a doctor at admission and most were given correct treatment, only 3 LBW records and only 4 prematurity records had Silverman score.

Table 7.6.2a Medical record review in complete level facilities: low birth weight

	COMPLETE		
	N	%	SE
Treatment according to the norm	39	69.2	7.4
Oxygen saturation and blood glucose level checked	39	7.7	4.3
Baby evaluated by doctor	39	100	
Checks performed according to the norm	39	7.7	4.3
Low birth weight managed according to the norm	39	7.7	4.3

Table 7.6.2b Medical record review in complete level facilities: prematurity

	COMPLETE		
	N	%	SE
Treatment according to the norm	17	70.6	11.1
Oxygen saturation and blood glucose level checked	17	29.4	11.1
Baby evaluated by doctor	17	100	
Checks performed according to the norm	17	0	
Indicator according to the norm	17	0	

7.6.4 Sepsis in complete facilities (hospitals)

According to the country indicator manual, sepsis is managed according to the standards if all vital signs checked (temperature + blood pressure), lab tests were performed (leukocyte count + oxygen saturation level), any antibiotic was administered, and neonate was evaluated by a doctor.

As detailed in Table 7.6.4, 0% of the evaluated records showed neonates managed according to the norm for sepsis. This is largely due to the absence of laboratory tests (oxygen saturation level was recorded in only 3.5% of cases) and vital signs (27.4% of cases showed that blood pressure was checked).

Table 7.6.4 Medical record review in complete level facilities: infants with sepsis

	COMPLETE		
	N	%	SE
Baby evaluated by doctor	113	98.2	1.2
Antibiotic administered according to the norm	148	59.5	4.0
Checks performed according to the norm	113	23.0	4.0
Lab tests performed according to the norm	113	2.7	1.5
Sepsis managed according to the norm	113	0	

7.6.6 Asphyxia in complete facilities (hospitals)

According to the country indicator manual, asphyxia is managed according to the standards if respiratory rate and Silverman score were checked, all lab tests were performed (oxygen saturation level + blood glucose level + hemoglobin), and oxygen was administered.

None of the evaluated records of neonates with asphyxia reported management according to the standards because all lab tests were seldom performed. Blood glucose level was checked in 13.9% of cases and oxygen saturation level was checked in 22.2% of cases. Although the 86.1% of infants had respiratory rate reported, only 11.1% had Silverman score (Table 7.6.6).

Table 7.6.6 Medical record review in complete level facilities: infants with asphyxia

	COMPLETE		
	N	%	SE
Baby evaluated by doctor	35	97.1	2.8
Oxygen or incubator according to the norm	35	65.7	8.0
Respiratory rate and Silverman score checked	36	11.1	5.2
Lab tests performed according to the norm	36	2.8	2.7
Indicator according to the norm	35	0	

Chapter 8 INFECTION CONTROL

8.1 Equipment for disposal and disposal methods

8.1.1 Equipment for disposal

Staff at health facilities were asked about certain items available related to biohazard disposal, including incinerators, manuals that specify decontamination methods, and contracts with other facilities for biohazard disposal (Table 8.1.1).

Table 8.1.1 Equipment for disposal

	AMBULATORY			BASIC			COMPLETE		
	N	%	SE	N	%	SE	N	%	SE
Incinerator at facility	46	71.7	6.6	8	75	15.3	6	16.7	15.2
Contract with other facility for biohazard disposal	46	2.2	2.2	8	12.5	11.7	6	50	20.4
Manual for decontamination	46	41.3	7.3	8	75	15.3	6	83.3	15.2

8.2 Decontamination and sterilization

Table 8.2.1 lists the different techniques used for decontaminating and sterilizing equipment. Units that chose “other” when responding to the decontamination question often specified that autoclave was the decontamination method of choice.

Table 8.2.1 Decontamination and sterilization

	AMBULATORY			BASIC			COMPLETE		
	N	%	SE	N	%	SE	N	%	SE
Decontamination methods									
Submerged in disinfectant, then scrubbed with a brush, soap and water	46	80.4	5.8	8	87.5	11.7	6	100	
Scrubbed with a brush, soap and water, then submerged in disinfectant	46	32.6	6.9	8	25	15.3	6	16.7	15.2
Scrubbed with a brush, soap and water only	46	10.9	4.6	8	12.5	11.7	6	16.7	15.2
Submerged in disinfectant, without scrubbing with brush	46	6.5	3.6	8	0		6	0	
Cleaned with water and soap, without scrubbing with a brush	46	0		8	0		6	0	
Equipment never reused	46	0		8	0		6	0	
Other	46	0		8	0		6	0	
Sterilization methods									
Dry heat	46	17.4	5.6	8	12.5	11.7	6	0	
Autoclave	46	60.9	7.2	8	87.5	11.7	6	100	
Boiling	46	6.5	3.6	8	12.5	11.7	6	0	
Steam	46	23.9	6.3	8	0		6	0	
Chemical sterilization	46	0		8	0		6	0	
Processed away from facility	46	4.3	3.0	8	0		6	0	
Facility doesn't sterilize	46	0		8	0		6	0	
Other	46	0		8	0		6	0	

Appendix A: SM2015 Health Facility Indicators

In total, four health facility performance indicators were measured at both the baseline and 18-month evaluations for the 18-month payment tranche, and one indicator pertaining to the availability of powdered micronutrients was introduced. All indicators included in the 18-month performance assessment were measured using the health facility observation checklist survey. The construction of some indicators captured at both the baseline and 18-month marks have changed. The table below (Table A.1.1) provides indicator values in accordance with 18-month definitions to ensure appropriate comparison. All specifics regarding these adaptations have been detailed in the corresponding chapters of this report, where the components of these indicators are disaggregated, providing a more comprehensive assessment of progress from the baseline to the 18-month evaluation.

Table A.1.2 details monitoring indicators from baseline and 18-month data collection. Performance and monitoring indicator definitions can be found in the country indicator manual.

Table A.1.1 Facility performance indicators matrix and compliance with 18-month targets

		BASELINE EVALUATION*			18-MONTH EVALUATION			18-MONTH TARGETS	
#	Indicator	N	n	Percent (95% CI)	N	n	Percent (95% CI)	target	one-sided Z-test p value**
7030	Availability of inputs for neonatal and obstetric emergencies in CMIs	8	5	62.5 (24.5-91.5%)	7	6	85.7 (42.1-99.6%)	80%	0.6473
7035	Availability of inputs for neonatal and obstetric emergencies in hospitals	6	0	0.0 (0.0-45.9%)	6	3	50.0 (11.8-88.2%)	2 units	0.8068
7050	Continuous availability of family planning methods	59	51	86.4 (75.0- 94.0%)	57	53	93.0 (83.0-98.1%)	90%	0.7735
7060	Availability of inputs for the treatment of pneumonia and diarrhea	53	0	0.0 (0.0-4.6%)	45	23	51.1 (35.8-66.3%)	80%	<0.00001
7070	Availability of powdered micronutrients	n/a	n/a	n/a	46	43	93.5 (82.1-98.6%)	80%	0.9889

*Baseline numbers in this table have been updated to reflect the changes to the indicators requested at the follow-up

**One side test of proportions to determine whether the estimate is lower than the target

Table A.1.2 Facility monitoring indicators matrix and comparison to baseline

		BASELINE EVALUATION			18-MONTH EVALUATION		
#	Indicator	N	n	Percent (95% CI)	N	n	Percent (95% CI)
3030	Women of reproductive age (15-49) who received >= 4 ANC visits by qualified personnel according to best practices for a birth in the last two years	139	26	18.7% (12.6-26.2%)	245	129	52.7% (46.2-59.0%)
4050	Institutional postpartum patients of reproductive age, evaluated and registered in clinical records, at least every 15 min during the first hour and every 30 min during the second hour after birth in the last two years	157	106	67.5% (59.6-74.8%)	83	59	71.1% (60.1-80.5%)
4065	Partograph filled according to the norm for births in the last two years	n/a	n/a	n/a	104	95	91.3% (84.2-96.0%)
4070	Neonates with complications (low birth weight, prematurity, birth asphyxia and sepsis) managed according to the norm in the last two years	174	12	6.9% (3.6-11.7%)	199	3	1.5% (0.3-4.3%)
4080	Women with obstetric complications (sepsis, hemorrhage, severe pre-eclampsia and eclampsia) managed according to the norm in the last two years	172	19	11.0% (6.8-16.7%)	207	14	6.8% (3.7-11.1%)
4130	Children 0-59 months, diagnosed with diarrhea, who were prescribed IV rehydration therapy/oral rehydration salts and zinc	n/a	n/a	n/a	226	88	38.9% (32.5-45.6%)
4140	Children 0-59 months, diagnosed with pneumonia, who attended follow up appointment two days later in CESARs and CESAMOs	163	117	71.8% (64.2-78.5%)	106	58	54.7% (44.8-64.4%)