

# **SM2015 – Belize**

## **18-Month Health Facility**

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**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 better informed decision-making and higher achievement in health. To that end, we strive to build the 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.

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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 governments, 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 focuses on supply- and demand-side interventions, including 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 performance measurement and enhanced transparency and accountability. The initiative focuses its resources on integrating key interventions aimed at reducing health inequalities that stem from the lack of access to reproductive, maternal and neonatal health services (including immunization and nutrition services) in 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 Belize, data collection is taking place in communities using the Lot Quality Assurance Sampling method (LQAS), and health facilities in intervention areas. The evaluation design includes a baseline data collection prior to the beginning of the intervention, as well as follow-up measures at 18 months (only in health facilities), and again at 36 months. This document describes the 18-month follow-up monitoring and performance indicator results for 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. The pairing of the two types of surveys is a defining and innovative feature designed to most accurately capture select key indicators. In general terms, the objectives of the health facility survey are to assess facility conditions, evaluate service provision and utilization, and measure quality of care. The medical record review (MRR) is implemented to collect retrospective data on facilities' treatment practices. These extractions capture the various medical complications that mothers and infants experience, along with how each case was treated. They also assess the medical care provided before, during, and after normal deliveries. Importantly, this survey captures changes produced by interventions at the level of the health services access point, the health facility, which may foretell changes in population health outcomes. The 18-month health facility survey, captured in this report, conducted follow-up measurements of various health indicators with the aim of monitoring changes in those indicators.

### 1.3 Contents and methods for data collection

#### 1.3.1 Contents of the 2014 baseline Belize health facility survey

The 18-month health facility survey included three components: an interview questionnaire, an observation checklist, and medical record reviews. The questionnaire captures information reported by the facility director, manager, or person otherwise in charge of the health facility. The checklist captures the direct observations of the surveyors at the time of the survey using a checklist of items to guide the observation of key equipment, supplies and infrastructure, and, in the case of some inputs, review

administrative records to identify the presence of stock-outs in the three months prior to the survey. The medical record review assesses the record-keeping of the facilities and captures facilities' treatment practices. Across survey components, data are collected on general facility characteristics, infrastructure, 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 care, maternal care and family planning, information is collected on the types of services provided, components of the care offered, equipment availability, and quality of record-keeping.

### **1.3.2 Methods for data collection**

The facility survey is conducted using a computer-assisted personal interview (CAPI) approach. The CAPI was programmed using DatStat Illume and installed onto computer netbooks which are used by the surveyors throughout all data collection components. 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, maintain a logical answering pattern across different questions, and decrease data entry errors. Uploading of data occurred several times a week, allowing for rigorous data quality assurance measures to be applied.

### **1.4 Sampling**

For this evaluation, 40 health facilities were selected to be surveyed from the municipalities covered by the SM2015 initiative. While 40 facilities were originally intended to be surveyed, two facilities were found non-functional, resulting in data collection at a total of 38 facilities. The list of facilities was based on the referral network outlined by the Ministry of Health. All ambulatory, basic and complete level facilities serving SM2015 areas from baseline evaluation were included in the survey.

For the medical record review, a systematic sampling method was used to select complications and delivery 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, deworming, diarrhea, low birth weight, and child services) were selected according to a quota set considering the Essential Obstetric and Neonatal Care (EONC) level that each facility provides.

### **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 Belize in April 2014. The nine surveyors had backgrounds in medicine, public health and laboratory science (physicians, nurses and lecturers at the university) 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 with the CAPI software. Training was accompanied by a two-day pilot of all components of the survey at currently operating health facilities. Also a mid-data collection visit was made to ensure continued

implementation of quality data-collection techniques and methods.

### **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 data collection supervisor 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**

Data analysis was conducted at IHME. Analysis was done using STATA version 13.1. Performance indicators were calculated at IHME following the indicator definition provided by IDB.

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

### 2.1 General description

#### 2.1.1 Health facility classification

While 40 facilities were originally intended to be surveyed, two facilities were found non-functional, resulting in data collection at a total of 38 facilities. These 38 were surveyed at both the baseline and the 18-month evaluations. The health units are further broken down by facility EONC classification in Table 2.1.1a.

**Table 2.1.1a** Health facility classification

	BASELINE	18-MONTH
Ambulatory	35	34
Basic	2	2
Complete	2	2
Total	39	38

Among facilities surveyed for the 18-month evaluation, 18 are part of the Quality Improvement Fund (QIF). Of these facilities, 17 were included in both the baseline and 18-month evaluations. These health units are further broken down by facility EONC classification in Table 2.1.1b. Each indicator measured throughout this document is re-evaluated using only these facilities in the Quality Improvement Fund (found in Appendix B).

**Table 2.1.1b** QIF health facility classification

	QIF	
	BASELINE	18-MONTH
Ambulatory	13	14
Basic	2	2
Complete	2	2
Total	17	18

#### 2.1.2 Geographical representation

Facilities surveyed for the 18-month evaluation were located in eleven constituencies within three districts (Table 2.1.2a & Table 2.1.2b).

**Table 2.1.2a** All facilities by municipality

District	Constituency	No. of Facilities
Cayo District	Belmopan	3
	Cayo South	5
	Cayo West	5
Corozal District	Corozal Bay	2
	Corozal North	2
	Corozal South East	5
	Corozal South West	3
Orange Walk	Orange Walk Central	2
	Orange Walk East	2
	Orange Walk North	3
	Orange Walk South	6
<b>TOTAL</b>	<b>11</b>	<b>38</b>

**Table 2.1.2b** QIF facilities by municipality

QIF		
District	Constituency	No. of Facilities
Cayo District	Belmopan	2
	Cayo South	1
	Cayo West	3
Corozal District	Corozal Bay	2
	Corozal South East	3
	Corozal South West	2
Orange Walk	Orange Walk Central	1
	Orange Walk North	1
	Orange Walk South	3
<b>TOTAL</b>	<b>10</b>	<b>18</b>

### 2.1.3 Governing authority

All health facilities were public institutions governed by the Ministry of Health of Belize.

### 2.1.4 Medical record extraction

The health facility survey included a review of 1,197 medical records. The number and type of medical records reviewed varied depending on the type of facility and the services it provided. Records of child service, deworming, and family planning were checked only at ambulatory facilities. Records of maternal and neonatal complications and delivery with no complications were checked only at the basic and complete levels. Table 2.1.4a displays the number and type of medical records collected from all facilities and Table 2.1.4b displays the number and type of medical records collected from only QIF facilities.

**Table 2.1.4a** Number of medical records by facility classification (EONC level)

Medical records	Ambulatory	Basic	Complete	Total
Antenatal care	157	49	40	246
Delivery	0	57	35	92
Postpartum	6	36	35	77
Maternal complications	0	25	38	63
Neonatal complications	0	9	31	40
Diarrhea	1	35	38	74
Child service	149	0	0	149
Deworm	161	0	0	161
Family planning	176	0	0	176
Low birth weight	99	10	10	119
<b>TOTAL</b>	<b>749</b>	<b>221</b>	<b>227</b>	<b>1,197</b>

**Table 2.1.4b** Number of QIF medical records by facility classification (EONC level)

Medical records	QIF			
	Ambulatory	Basic	Complete	Total
Antenatal care	66	49	40	155
Delivery	0	57	35	92
Postpartum	5	36	35	76
Maternal complications	0	25	38	63
Neonatal complications	0	9	31	40
Diarrhea	1	35	38	74
Child service	65	0	0	65
Deworm	65	0	0	65
Family planning	75	0	0	75
Low birth weight	51	10	10	71
<b>TOTAL</b>	<b>328</b>	<b>221</b>	<b>227</b>	<b>776</b>

### 2.1.5 Referrals

In response to the question, “Do you usually receive referred patients from another health facility?” 26.5% of ambulatory and 100% of basic and complete facilities reported receiving referred patients from other facilities. In response to the question, “Do you usually refer patients to another health facility?” 79.4% of ambulatory and 100% of basic and complete facilities reported sending patients to other facilities.

## 2.2 Basic infrastructure

### 2.2.1 Electricity and Water

In the health facility questionnaire, facility managers are asked about sources of electricity and water serving the facility. At the ambulatory level, 79.4% reported having a functional electricity source. At the basic and complete levels, 100% of facilities reported having a functional electricity source. All facilities

with electricity reported using a central supply. The most common sources of water for all facilities included water piped into the facility and a tanker truck. The ‘other’ open text responses that were provided regarding water sources include the reservoir and water taken from the community supply, whether it is through tanks or buckets. Table 2.2.1 details these 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	34	79.4	6.9	2	100		2	100	
Source of electricity									
Central supply	27	100		2	100		2	100	
Private supply	27	0		2	0		2	0	
In-facility generator	27	0		2	0		2	0	
Solar generator	27	0		2	0		2	0	
Other source	27	0		2	0		2	0	
DK/ DR	0			0			0		
Source of water									
Piped into facility	28	78.6	7.8	2	100		2	100	
Public well	28	0		2	0		2	0	
Facility well	28	3.6	3.5	2	0		2	50.0	35.4
Unprotected well	28	3.6	3.5	2	0		2	0	
Hand pump	28	0		2	0		2	0	
Bottled water	28	10.7	5.8	2	50.0	35.4	2	50.0	35.4
Tanker truck	28	14.3	6.6	2	0		2	100	
Rain water	28	14.3	6.6	2	0		2	0	
Other	28	17.9	7.2	2	50.0	35.4	2	0	
DK/ DR	0			0			0		

## 2.2.2 Internet access

Only 20.6% of ambulatory facilities reported having internet access while 100% of basic and complete facilities reported the same.

## 2.3 Personnel

### 2.3.1 Personnel in ambulatory units

Ambulatory health units are further categorized by those that do and those that do not have a doctor on staff. The following table (Table 2.3.1) details the personnel composition in ambulatory health facilities. Ambulatory facilities were asked about personnel in two separate questions, one referring to general staff and the other referring to specialized staff. As shown in the table below, personnel are limited in ambulatory health units with and without a doctor. In the “other” category, many facility representatives reported having a care taker or public health/rural nurse. The mean in Table 2.3.1 represents the average number of personnel reported per category. On average, there are only 0.8 nurses per ambulatory facility without a doctor. Ambulatory health units that have a doctor report a

greater variety of personnel and, in general, a larger number of staff working at the facility. On average, ambulatory facilities with a doctor employ 2.1 nurses, 1.3 pharmacists, 0.7 general physicians, 0.5 dispensers at a pharmacy and 0.4 pediatricians.

**Table 2.3.1** Personnel composition in ambulatory facilities

Personnel type	Ambulatory without doctor			Ambulatory with doctor		
	N	mean	SE	N	mean	SE
General physician	23	0		11	0.7	0.47
Pediatrician	23	0		11	0.4	0.67
Nutritionist	23	0		11	0.1	0.3
Pharmacist	23	0		11	1.3	1.85
Nurse	23	0.8	1.2	11	2.1	1.8
Auxiliary nurse	23	0		11	0.2	0.4
Midwife	23	0	0.2	11	0.3	0.6
Practical midwife	23	0		11	0	
Social worker	23	0		11	0.2	0.4
Laboratory technician	23	0		11	1	1.8
Health promoter / Community health educator	23	0		11	0.3	0.5
Dispenser at pharmacy	23	0		11	0.5	0.9
Other	23	0.1	0.3	11	0.3	0.6
<b>Specialists</b>						
Internist	23	0		11	0	
Gynecologist	23	0		11	0.4	0.8
Surgeon	23	0		11	0	
Anesthesiologist	23	0		11	0	
Emergency medical technician	23	0		11	0	
Radiology technician	23	0		11	0	
Other specialist	23	0	0.2	11	0	

### 2.3.2 Personnel in basic facilities

Table 2.3.2 details the number of personnel reported per category in basic level facilities. Basic facilities were asked about personnel in two separate questions, one referring to general staff and the other referring to specialized staff. On average, there are 11 auxiliary nurses, 10 general physicians, and 8 nurses per basic level facility. In complete facilities, on average, there are 51 nurses, 18 auxiliary nurses, and 9.5 general physicians per facility. In the “other” category of the personnel types, answers varied and included dentist, x-ray technician, psychiatric or statistician.

**Table 2.3.2** Personnel composition in basic and complete health units

Personnel type	Basic			Complete		
	N	mean	SE	N	mean	SE
General physician	2	10.0		2	9.5	3.5
Pediatrician	2	5.5	6.4	2	2.0	
Nutritionist	2	0		2	0.5	0.7
Pharmacist	2	2.0	2.8	2	2.5	3.5
Nurse	2	8.0	1.4	2	51.0	18.4
Auxiliary nurse	2	11.0	9.9	2	18.0	7.1
Midwife	2	4.0		2	7.5	3.5
Practical midwife	2	4.5	4.9	2	2.5	0.7
Social worker	2	0.5	0.7	2	0.5	0.7
Laboratory technician	2	3.0		2	5.5	0.7
Health promoter / Community health educator	2	1.0		2	1.0	
Dispenser at pharmacy	2	2.0	1.4	2	2.5	0.7
Other	2	0		2	0.5	0.7
<b>Specialists</b>						
Internist	2	0		2	2.5	0.7
Gynecologist	2	0		2	2.5	0.7
Surgeon	2	0		2	2.0	
Anesthesiologist	2	0		2	2.5	0.7
Emergency medical technician	2	0		2	0.5	0.7
Radiology technician	2	2.0	2.8	2	1.5	2.1
Other specialist	2	0		0	0	

#### 2.4. 24/7 Availability of staff

Interviewers asked representatives at hospitals about availability of services and staff for 24 hours a day and 7 days a week. 100% of these facilities reported providing services 24/7 as well as providing a physician available on call 24/7.

#### 2.5 Patient satisfaction

This performance indicator measures whether or not health facilities provide a suggestion box in order to support the implementation of patient satisfaction surveys. 100% of basic and complete facilities reported providing a suggestion box while only 50% of ambulatory facilities reported the same.

#### 2.6 Connection with Belize Health Information System (BHIS)

Health facilities that can submit and receive data from the Belize Health Information System (BHIS) were evaluated during the 18-month evaluation. Ten separate departments from six health facilities in our sample were eligible to be measured for the ability to access and use the BHIS. Within each department, the interviewer observed whether specific equipment was presented as well as whether the department had the ability to generate any MCH, nutrition, or immunization report within the last 4 weeks. Of the ten departments, all met the equipment requirements, however, only three had the ability to generate a report within the past four weeks. Table 2.6.1b displays the types of reports that can be generated.

**Table 2.6.1a** BHIS equipment and report generation

	Facilities with BHIS		
	N	%	SE
IT Equipment			
Computer	10	100	
Printer	10	100	
Network	10	100	
Report generation			
At least one report generated on the day of the survey	10	30.0	14.5

**Table 2.6.1b** BHIS reports generated

Type of BHIS report	Facilities with BHIS		
	N	%	SE
Pregnancies by age range	10	30	14.5
Antenatal Gestational Encounter 16 wks	10	30	14.5
Antenatal Related Diagnoses	10	30	14.5
Antenatal Preexisting Diagnoses	10	30	14.5
Postnatal Related Diagnoses	10	30	14.5
Live Births by Gender	10	30	14.5
Nutrition			
Feeding practices of children aged 6 months	10	20	12.6
Feeding practices of children aged 12 months	10	20	12.6
Nutritional status children < 5 years	10	20	12.6
Weight for length/height	10	20	12.6
Height for age	10	20	12.6
Immunizations			
Immunizations by location	10	30	14.5
None observed	10	70	14.5
Decline to show	10	0	

## 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. 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** Child health care services provision

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Unit offers child services	34	97.1	2.9	2	100		2	100	
Unit vaccinates children under 5	34	97.1	2.9	2	100		2	100	
Child care room*									
Private room with visual and auditory privacy	33	69.7	8.0	1	100		2	100	
Non-private room without auditory or visual privacy	33	9.1	5.0	1	0		2	0	
Visual privacy only	33	9.1	5.0	1	0		2	0	
No privacy	33	9.1	5.0	1	0		2	0	
Don't provide such services	33	3.0	3.0	1	0		2	0	

\*Due to an error in skip logic, data is missing for one ambulatory & one basic facility regarding the type of child care room

### 3.2 Child health care equipment

In the health facility survey observation module, interviewers checked availability and functional status of important inputs for child care among children under 5 years old. Items were observed by the surveyors, rather than merely reported by facility staff. Table 3.2.1 displays medical equipment related to child health care in facilities that provide child care services and were measured for the child health care performance indicator. No facilities contained all functional equipment necessary for child health care.

**Table 3.2.1** Child health care equipment observed and functional in ambulatory facilities

	Ambulatory					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Pediatric scales or salter scales	33	57.6	8.6	33	100	
Measuring Tape	33	54.5	8.7	33	97.0	3.0
Height rod	33	51.5	8.7	33	93.9	4.2
Stethoscope	33	57.6	8.6	33	100	
Pediatric stethoscope	33	9.1	5.0	33	12.1	5.7
Oto-ophthalmoscope	33	6.1	4.2	33	9.1	5.0
Hand lamp	33	18.2	6.7	33	75.8	7.5
Examination table or stretcher	33	60.6	8.5	33	90.9	5.0
All equipment observed and functional	33	0		33	0	

**Table 3.2.2** Child health care equipment observed and functional in basic facilities

	Basic					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Pediatric scale or salter scale	2	100		2	100	
Height rod	2	100		2	100	
Measuring Tape	2	100		2	100	
Pediatric blood pressure apparatus	2	50	35.4	2	100	
Neonatal tensiometer	2	0		2	0	
Pediatric stethoscope	2	100		2	0	
Hand lamp	2	0		2	100	
Binaural stethoscope for newborns	2	50	35.4	2	0	
Reflex hammer	2	50	35.4	2	100	
Negatoscope	2	0		2	100	
Pantascopes/oto-ophthalmoscope*	2	0		2	0	
Examination table or stretcher	2	100		2	100	
All equipment observed and functional	2	0		2	0	

\*only pantascopes checked at baseline

**Table 3.2.3** Child health care equipment observed and functional in complete facilities

	Complete					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Pediatric scales or salter scales	2	100		2	100	
Height rod	2	100		2	100	
Measuring Tape	2	100		2	100	
Pediatric blood pressure apparatus	2	0		2	100	
Neonatal tensiometer	2	0		2	0	
Pediatric stethoscope	2	0		2	50	35.4
Hand lamp	2	0		2	100	
Binaural stethoscope for newborns	2	0		2	0	
Reflex hammer	2	0		2	50	35.4
Negatoscope	2	0		2	100	
Pantascopes/oto-ophthalmoscope*	2	0		2	0	
Examination table or stretcher	2	50	35.4	2	100	
All equipment observed and functional	2	0	0	2	0	

\*only pantascopes checked at baseline

### 3.3 Important drugs, supplements

Interviewers also observed the availability and stock of important drugs and supplements used for basic child health care in the pharmacy section. Tables 3.3.1 – 3.3.4 display pharmacy inputs related to child health care and were required for the child health care performance indicator in facilities that provide the service. All drugs should have continuous availability (no stock out in the previous three months) of

all inputs.

**Table 3.3.1** Child health care observed drugs and supplements in health posts/mobile facilities

Ambulatory - Health Post or Mobile Clinic						
	Baseline			18-Month		
	N	%	SE	N	%	SE
Packets/envelopes of oral rehydration salt	15	20.0	10.3	19	94.7	5.1
Ferrous sulfate drops/multivitamins	15	40.0	12.7	19	94.7	5.1
Albendazole/Mebendazole	15	40.0	12.7	19	94.7	5.1
Zinc sulfate/zinc gluconate	15	0		19	73.7	10.1
All drugs observed on day of the survey	15	0		19	73.7	10.1
All drugs available at survey and in past 3 months	15	0		19	68.4	10.7

**Table 3.3.2** Child health care observed drugs and supplements in ambulatory facilities

Ambulatory						
	Baseline			18-Month		
	N	%	SE	N	%	SE
Packets/envelopes of oral rehydration salt	6	100		14	92.9	6.9
Ferrous sulfate drops/multivitamins	6	100		14	78.6	11
Albendazole/mebendazole	6	100		14	100	
Zinc sulfate/zinc gluconate	6	66.7	19.3	14	92.9	6.9
Antibiotics*	6	100		14	85.7	9.4
All drugs observed on day of the survey	6	66.7	19.3	14	71.4	12.1
All drugs available at survey and in past 3 months	6	66.7	19.3	14	71.4	12.1

\*Baseline antibiotics = Amoxicillin/Benzatinic penicillin/Erythromycin/Azithromycin

\*18 month antibiotics = Amoxicillin/Benzatinic penicillin/Erythromycin/Azithromycin/Trimetropin Sulfa

\*\*Pharmacy data missing for 9 facilities at baseline

**Table 3.3.3** Child health care observed drugs and supplements in basic facilities

Basic						
	Baseline			18-Month		
	N	%	SE	N	%	SE
Packets/envelopes of oral rehydration salt	2	100		2	100	
Ferrous sulfate drops or multivitamins	2	50.0	35.4	2	50.0	35.4
Zinc sulfate/zinc gluconate	2	50.0	35.4	2	100	
Albendazole/Mebendazole	2	100		2	50.0	35.4
Antibiotics*	2	100		2	100	
Ringer lactate/hartmann/saline solution	2	100		2	100	
IV Set**	2	50.0	35.4	2	100	
All drugs observed on day of the survey	2	50.0	35.4	2	0	
All drugs available at survey and in past 3 months	2	50.0	35.4	2	0	

\*Baseline antibiotics = Amoxicillin/Benzatinic penicillin/Erythromycin/Azithromycin

\*18 month antibiotics = Benzatinic penicillin/Erythromycin/Azithromycin/Trimetropin Sulfa

\*\* Scalp vein set at baseline, stockout not checked

**Table 3.3.4** Child health care observed drugs and supplements in complete facilities

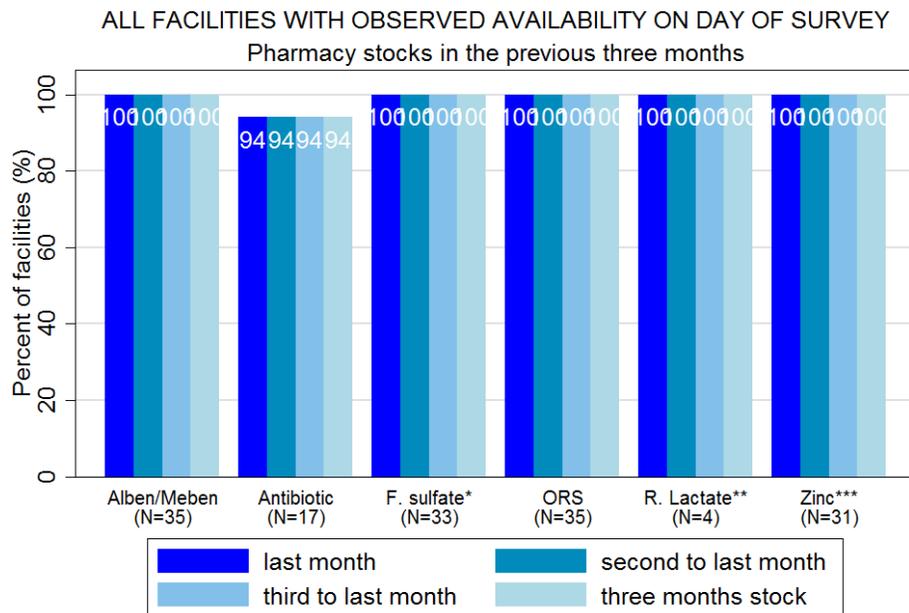
	Complete					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Packets/envelopes of oral rehydration salt	2	100		2	100	
Ferrous sulfate drops/multivitamins	2	100		2	50.0	35.4
Albendazole/Mebendazole	2	100		2	100	
Zinc sulfate/zinc gluconate	2	100		2	100	
Antibiotics*	2	100		2	100	
IV Set**	2	50.0	35.4	2	100	
Ringer lactate/hartmann/saline solution	2	100		2	100	
All drugs observed on the day of survey	2	100		2	50.0	35.4
All drugs available at survey and in past 3 months	2	100		2	50.0	35.4

\*Baseline antibiotics = Amoxicillin/Benzatinic penicillin/Erythromycin/Azithromycin

\*18 month antibiotics = Benzatinic penicillin/Erythromycin/Azithromycin/Trimetropin Sulfa

\*\*Scalp vein set at baseline, stockout not checked

**Figure 3.3.5** Availability of pharmacy inputs in the previous three months (if the drug was observed on the day of the survey)



\*Ferrous Sulfate; \*\*Ringer lactate/Hartman solution/Saline Solution \*\*\*Zinc sulfate/Zinc gluconate

### 3.4 Education material

Table 3.4.1 lists educational material observed either as cards handed to the caretaker or as illustration of disease management flowcharts hung on the unit walls in facilities that offer child care.

**Table 3.4.1** Child health education and awareness

Education material	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Materials on child growth and child development	31	41.9	8.9	1	100	0	2	50.0	35.4
Materials on danger signs and symptoms of children	31	29.0	8.1	1	100	0	2	50.0	35.4

\*Missing data for one basic facility

### 3.5 Diarrhea management

During the medical record reviews, interviewers systematically selected records of diarrhea cases in children (0–59 months) that were treated with oral rehydration solution and zinc in the last two weeks. None of children in complete facilities were treated with the appropriate solutions and only 5.7% of children in basic facilities were treated with the appropriate solutions in the last two weeks.

### 3.6 Deworming treatment

During the medical record reviews, interviewers systematically selected records of children (12–59 months) and who received two doses of the deworming treatment (albendazol or mebendazol) in the last year. Only records from ambulatory facilities were reviewed. Of those records, only 14.2% of children received two doses of the deworming treatment in the last year (Table 3.6.1).

**Table 3.6.1** Medical record review in basic & complete facilities: Deworming

	Ambulatory		
	N	%	SE
First dose received	161	39.8	3.9
Second dose received	120	20.8	3.7
Child received both doses of deworming treatment	120	14.2	3.2

### 3.7 Management of low weight-for age

Low birth weight for neonates is measured using a dedicated low birth weight module and monitoring indicator. The table below (Table 3.7.1) displays the information and medical treatments that are required to be provided to neonates and mothers for children with low birth weight.

**Table 3.7.1** LBW Medical record review in all facilities

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Weight checked at each visit	99	77.8	4.2	10	80.0	12.6	10	90.0	9.5
Height / length checked at each visit	99	53.5	5.0	10	20.0	12.6	10	40.0	15.5
Charting of weight & height on take home cards	99	99.0	1.0	10	70.0	14.5	10	10.0	9.5
Supplements provided	99	36.4	4.8	10	50.0	15.8	10	30.0	14.5
Assess feeding practices of children at risk or with under nutrition	99	93.9	2.4	10	100		10	100	
Information about referral*	n/a	n/a	n/a	10	50.0	15.8	10	10.0	9.5
Information about breastfeeding*	n/a	n/a	n/a	10	100		10	100	
Vitamin A prescribed*	n/a	n/a	n/a	10	10.0	9.5	10	20.0	12.6
Dose of vitamin A 200,000 IU**	n/a	n/a	n/a	1	0		2	0	
Iron prescribed*	n/a	n/a	n/a	10	0		10	10.0	9.5
Dose of iron 2-4 mg/kg/day***	n/a	n/a	n/a	0			1	0	
Multivitamin prescribed*	n/a	n/a	n/a	10	50.0	15.8	10	30.0	14.5

\*Only measured at basic & complete facilities

\*\*Only measured if the drug was prescribed

### 3.8 Newborn enrollment in child services

During the medical record reviews, interviewers systematically selected records of newborns and checked the date of enrollment for child health services at ambulatory facilities. Only 17.0% of newborns at ambulatory facilities were enrolled for child health services within 7 days of delivery.

## Chapter 4 VACCINES

### 4.1 Vaccination services

This chapter summarizes the types of vaccines and storage methods in all facilities. When asked about vaccination services, 97.1% of ambulatory and 100% of basic health facilities report that they vaccinate children. The majority of facilities that vaccinate children use a private room with visual and auditory privacy.

**Table 4.1.1** Vaccination services

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Unit vaccinates children under 5	34	97.1	2.9	2	100		2	100	
Immunization room*									
Private room with visual and auditory privacy	33	69.7	8.0	1	100		2	100	
Non-private room without auditory or visual privacy	33	9.1	5.0	1	0		2	0	
Visual privacy only	33	9.1	5.0	1	0		2	0	
No privacy	33	9.1	5.0	1	0		2	0	
Other	33	3.0	3.0	1	0		2	0	

\*Due to an error in skip logic, data is missing for one ambulatory & one basic facility regarding the type of immunization room

### 4.2 Vaccine logistics

#### 4.2.1 Storage

In the questionnaire component of the survey, interviewers asked facility representatives about vaccine storage. Of the facilities that provide immunization services for children under 5, 100% of basic and complete facilities store vaccinations. Of the ambulatory facilities that provide immunization services for children under 5, 48.5% of facilities store vaccines and 36.4% have vaccines delivered when services are being provided (Table 4.2.1). 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 order the same quantity each time. Responses from facility representatives about the time it takes to receive orders and whether they received the correct quantity ordered are further detailed in Table 4.2.1.

**Table 4.2.1** Vaccine supply and demand

Vaccine Information	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
<b>Storage</b>									
Stored in facility	33	48.5	8.7	2	100		2	100	
Picked up from another facility	33	15.2	6.2	2	0		2	0	
Delivered when services are being provided	33	36.4	8.4	2	0		2	0	
None of the above	33	0		2	0		2	0	
<b>Ordering Strategy</b>									
Determines own needs	16	100		2	100		2	100	
Need determined elsewhere	16	0		2	0		2	0	
Both(differ by vaccine)	16	0		2	0		2	0	
<b>Quantity to order strategy</b>									
Order same amount	16	100		2	100		2	100	
Different per vaccine	16	0		2	0		2	0	
<b>Time to order strategy</b>									
Fixed time, > once/week	16	81.3	9.8	2	50.0	35.4	2	100	
Fixed time, < once/week	16	0		2	50.0	35.4	2	0	
Order when needed	16	12.5	8.3	2	0		2	0	
<b>Time to receive supplies</b>									
< 1 week	16	100		2	100		2	100	
1-2 weeks	16	0		2	0		2	0	
> 2 weeks	16	0		2	0		2	0	
<b>Reception of quantity ordered</b>									
Always	16	25.0	10.8	2	0		2	0	
Almost always	16	75.0	10.8	2	100		2	100	
Almost never	16	0		2	0		2	0	

### 4.3 Vaccines observed for child health care

Tables 4.3.1 – 4.3.3 indicate the percentage of facilities at which at least one unit of a specified vaccine was observed on the day of the survey. 100% of facilities that had vaccines in stock contained BCG, MMR, pentavalent on the day of the survey. Influenza was the only vaccine which was not in stock at all facilities.

**Table 4.3.1** Vaccines observed in ambulatory facilities

	Ambulatory					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Pentavalent	7	100		13	100	
MMR	7	100		13	100	
Polio	7	100		13	100	
Influenza	7	100		13	61.5	13.5
BCG	7	85.7	13.2	13	100	
All vaccines available on day of survey	7	85.7	13.2	13	61.5	13.5

\* Pentavalent = DPT + HepB + Hib; MMR = Measles + Mumps + Rubella

**Table 4.3.2** Vaccines observed in basic facilities

	Basic					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Pentavalent	2	100		2	100	
MMR	2	100		2	100	
Polio	2	100		2	100	
Influenza	2	50.0	35.4	2	0	
BCG	2	100		2	100	
All vaccines available on day of survey	2	50.0	35.4	2	0	

\* Pentavalent = DPT + HepB + Hib; MMR = Measles + Mumps + Rubella

**Table 4.3.3** Vaccines observed in complete facilities

	Complete					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Pentavalent	2	100		2	100	
MMR	2	100		2	100	
Polio	2	100		2	100	
Influenza	2	100		2	50	35.4
BCG	2	100		2	100	
All vaccines available on day of survey	2	100		2	50	35.4

\* Pentavalent = DPT + HepB + Hib; MMR = Measles + Mumps + Rubella

#### 4.4 Cold chain

Facilities that either store vaccines or collect or have vaccines delivered from other health units were asked questions related to cold chain in the observation survey. Interviewers observed the type of fridges used to store vaccines in the room or area designated for immunization. Table 4.4.1 details the percent of facilities that have at least one of each type of fridge or cold box observed and functional at the time of the survey. Electric fridges were the only types of fridges used at all facility types. In addition to fridges, 23.1% of ambulatory, 50% of basic, and 0% of complete facilities used cold boxes to store vaccines.

**Table 4.4.1** Fridge availability

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Storage									
Electric fridge	13	100		2	100		2	100	
Kerosene fridge	13	0		2	0		2	0	
Gas fridge	13	0		2	0		2	0	
Solar fridge	13	0		2	0		2	0	
Any of the above	13	100		2	100		2	100	

## Chapter 5 FAMILY PLANNING

### 5.1 Service provision

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.

As reported by facility representatives, 94.1% of ambulatory facilities and 100% of basic and complete facilities offer family planning services (Table 5.1.1). Interviewers recorded the setting of the room used for family planning services, finding that the majority of facilities offer private rooms with visual and auditory privacy. Table 5.1.2 displays contraceptive storage according to the questionnaire.

**Table 5.1.1** Family planning (FP) services provision

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Offers FP services	34	94.1	4.0	2	100		2	100	
FP room*									
Private room with visual and auditory privacy	33	72.7	7.8	1	100		2	100	
Non-private room without auditory or visual privacy	33	9.1	5.0	1	0		2	0	
Visual privacy only	33	9.1	5.0	1	0		2	0	
No privacy	33	6.1	4.2	1	0		2	0	
Other	33	0		1	0		2	0	

\*Due to an error in skip logic, data is missing for one ambulatory & one basic facility regarding the type of fp room

**Table 5.1.2** Family planning (FP) storage

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
FP Storage									
Yes, stores contraceptives	34	47.1	8.6	2	100		2	100	
No, delivered when services are being provided	34	50.0	8.6	2	0		2	0	
None provided	34	2.9	2.9	2	0		2	0	

### 5.2 Observed contraception methods and reported family planning services

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. 100% of basic and complete facilities carried all methods of contraception listed below except for spermicide, diaphragms, and emergency pill contraception.

Facility representatives were also asked about family planning services, such as the availability of pregnancy tests and trained doctors to perform IUD insertion, tubal ligation and vasectomy. Questions about service provision were asked depending on facility classification.

**Table 5.2.1** Observed contraception methods and reported services

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Observed FP methods									
Any pill	18	100		2	100		2	100	
Combined oral pill	18	100		2	100		2	100	
Progestin only pill	18	77.8	9.8	2	100		2	100	
Any injectable	18	94.4	5.4	2	100		2	100	
Combined injectable (1 month)	18	94.4	5.4	2	100		2	100	
Progestin only injectable (3 months)	18	94.4	5.4	2	100		2	100	
Male condom	18	100		2	100		2	100	
Female condom	18	94.4	5.4	2	100		2	100	
Intrauterine device	18	72.2	10.6	2	100		2	100	
Spermicide	18	5.6	5.4	2	0		2	0	
Diaphragm	18	5.6	5.4	2	0		2	0	
Emergency contraception pill	18	88.9	7.4	2	100		2	50.0	35.4
Reported Services*									
Offers pregnancy tests	32	100		2	100		2	100	
Trained doctor to perform IUD insertion	32	25.0	7.7	2	100		2	100	
Trained doctor to perform tubal ligation**	n/a	n/a	n/a	2	0		2	100	
Trained doctor to perform vasectomy**	n/a	n/a	n/a	2	50.0	35.4	2	100	

\*Asked only if facility reported providing FP services in the questionnaire

\*\*Only applicable to basic & complete facilities

### 5.3 Family planning services indicator

The family planning performance indicator is displayed in Tables 5.3.1 – 5.3.3 and measures stock of family planning methods with no stock out in the last three months. 100% of basic and complete facilities had continuous availability of all methods in the previous three months. Ambulatory facilities increased from 66.7% to 87.5% of facilities with continuous availability from the baseline.

**Table 5.3.1** Composite family planning performance indicator in ambulatory facilities

	Ambulatory					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Male condom	15	86.7	8.8	16	100	
Any pill	15	100		16	100	
Any injectable	14	78.6	11.0	16	93.8	6.1
Availability of all above methods on the day of the survey	15	73.3	11.8	16	93.8	6.1
Continuous availability of all methods in the previous three months*	15	66.7	12.6	16	87.5	8.3

\*Includes availability on the day of the survey

**Table 5.3.2** Composite family planning performance indicator in basic facilities

	Basic					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Male condom	2	100		2	100	
Any pill	2	100		2	100	
Any injectable	2	100		2	100	
IUD	2	100		2	100	
Availability of all above methods on the day of the survey	2	100		2	100	
Continuous availability of all methods in the previous three months*	2	100		2	100	

\* Includes availability on the day of the survey

**Table 5.3.3** Composite family planning performance indicator in complete facilities

	Complete					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Male condom	2	100		2	100	
Any pill	2	100		2	100	
Any injectable	2	100		2	100	
IUD	2	100		2	100	
Availability of all above methods on the day of the survey	2	100		2	100	
Continuous availability of all methods in the previous three months*	2	100		2	100	
Doctor trained to perform tubal ligation & vasectomy**	1	100		2	100	

\* Includes availability on the day of the survey

\*\*At baseline, one hospital responded "Don't know" when asked about staff trained to perform vasectomy. This case was considered missing, resulting in denominator of 1.

## 5.4 Family planning counseling indicator

Tables 5.4.1 and 5.4.2 measure the availability of educational materials about family planning from the observation module. Flip charts and brochures are more common in all facilities over tapes and videos about family planning.

**Table 5.4.1** FP educational materials for health posts/mobile units & ambulatory facilities

	Health post / Mobile Unit			Ambulatory		
	N	%	SE	N	%	SE
Flip charts	19	21.1	9.4	14	92.9	6.9
Brochures	19	47.4	11.4	14	85.7	9.4
Tapes* **	19	0		13	0	
Videos* **	19	0		13	7.7	7.4

\*Not required for a health post / mobile unit

\*\*One ambulatory facility selected 'decline to show' & was excluded from analysis

**Table 5.4.2** FP educational materials for basic & complete facilities

	Basic			Complete		
	N	%	SE	N	%	SE
Flip charts	2	100		2	100	
Brochures	2	100		2	100	
Tapes	2	50.0	35.4	2	0	
Videos	2	50.0	35.4	2	0	

Medical records of female patients of a reproductive age were selected using a systematic sampling method. Table 5.4.3 displays family planning counseling and family planning methods that were given to these women as documented in their records. At ambulatory facilities, while 97.1% of women were given a family planning method, only 23.6% were counseled on family planning.

**Table 5.4.3** FP counseling in ambulatory facilities

	Ambulatory		
	N	%	SE
Family planning counseling was given	174	23.6	3.2
Family planning method was given	174	97.1	1.3
Reason for refusal of family planning was recorded*	2	0	

\*Reason for refusal was only asked if family planning method was not given

## 5.5 Family planning method adoption

Medical records of women who gave birth in the last two years and received postpartum care were reviewed. These records were used to measure rates of family planning method adoption after delivery. Table 5.5 displays whether a woman received a contraceptive after delivery and, more specifically, whether the contraceptive was a condom, injection, IUD, or tubal ligation.

**Table 5.5** Family planning methods adopted during postpartum care

	Baseline			18-month		
	N	%	SE	N	%	SE
Woman received a contraceptive	42	7.1	4.0	66	6.1	2.9
Condom	42	0		66	1.5	1.5
Injection	42	4.8	3.3	66	1.5	1.5
Intrauterine device	42	0		66	0	
Tubal ligation	42	2.4	2.4	66	0	
Not recorded	42	0		66	3.0	2.1
Woman received a contraceptive + contraceptive was recorded condom/injection/IUD/tubal ligation	42	7.1	4.0	66	3.0	2.1

## 5.6 Job aid tools

The job aid tools performance indicator measures the percentage of health facilities that have implemented Quality of Care job aid tools for reproductive health. Tables 5.5.1 – 5.5.3 display the types of job aid tools available and used by health facilities. All basic and complete facilities carried at least 5 quality of care job aid tools, however, only 50% of ambulatory facilities carried at least 5 tools. The tool least likely to be carried by any facility was the 5 p checklist.

**Table 5.6.1** Quality of Care job aid tools for ambulatory facilities

Quality of Care job aid tools for reproductive health	Ambulatory		
	N	%	SE
5 P Checklist	34	2.9	2.9
COC Fact Sheet	34	26.5	7.6
Checklist for Contraception	34	55.9	8.5
DEPO Fact Sheet	34	11.8	5.5
Dual Protection	34	38.2	8.3
What you need to Know about Birth Control - Preventing unwanted pregnancies (Brochure)	34	50.0	8.6
Use a condom the right way every time you have sex (Poster)/Protect yourself	34	41.2	8.4
STI's- Herpes	34	47.1	8.6
STI's- Gonorrhoea*	33	63.6	8.4
STI's- Genital Warts	34	47.1	8.6
HIV/AIDS	34	64.7	8.2
Abstain or use a modern contraceptive method (Poster)	34	47.1	8.6
Observed at least 5 items listed above	34	50.0	8.6

\*1 facility missing data for this input

\*\*An additional alternative exists called, "Use a condom the right way," however, this was not measured during data collection

**Table 5.6.2** Quality of Care job aid tools for basic facilities

Quality of Care job aid tools for reproductive health	Basic		
	N	%	SE
5 P checklist	2	0	
COC fact sheet	2	100	
Checklist for contraception	2	100	
DEPO fact sheet	2	50.0	35.4
Dual protection	2	50.0	35.4
What you need to know about birth control - Preventing unwanted pregnancies (Brochure)	2	100	
Use a condom the right way every time you have sex (Poster) /Protect yourself	2	100	
STI's- Herpes	2	100	
STI's- Gonorrhea	2	100	
STI's- Genital Warts	2	100	
HIV/AIDS	2	100	
Abstain or use a modern contraceptive method (Poster)	2	100	
Observed at least 5 items listed above	2	100	

\*An additional alternative exists called, "Use a condom the right way," however, this was not measured during data collection

**Table 5.6.3** Quality of Care job aid tools for complete facilities

Quality of Care job aid tools for reproductive health	Complete		
	N	%	SE
5 P checklist	2	0	
COC fact sheet	2	50.0	35.4
Checklist for contraception	2	100	
DEPO fact sheet	2	50.0	35.4
Dual protection	2	100	
What you need to know about birth control - Preventing unwanted pregnancies (Brochure)	2	100	
Use a condom the right way every time you have sex (Poster) /Protect yourself	2	100	
STI's- Herpes	2	100	
STI's- Gonorrhea	2	100	
STI's- Genital Warts	2	100	
HIV/AIDS	2	100	
Abstain or use a modern contraceptive method (Poster)	2	100	
Observed at least 5 items listed above	2	100	

\*An additional alternative exists called, "Use a condom the right way," however, this was not measured during data collection

## 5.7 Educational materials targeted at adolescents

The educational materials performance indicator measures the percentage of facilities that have sexual and reproductive health educational materials specifically targeted at adolescents. 100% of basic and complete facilities contained at least three sexual and reproductive health educational materials, but only 57.6% of ambulatory facilities contained the same. Table 5.6.1 lists all available materials.

**Table 5.7.1** Educational materials at all facilities

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Reproductive life-plan worksheet	33	0		2	50.0	35.4	2	0	
Contraceptives for adolescents flip-chart	33	48.5	8.7	2	50.0	35.4	2	100	
Thinking of having a baby? - 10 reasons not to. Adolescents from those who know (brochure)	33	54.5	8.67	2	100		2	100	
Community - based adolescent sexual and reproductive health programme (brochure)	33	51.5	8.7	2	100		2	100	
S & R H - Don't want to get pregnant right now? Birth control (flyer)	33	51.5	8.7	2	100		2	100	
Having sex? Things you need to know (flyer)	33	57.6	8.6	2	100		2	100	
Growing up? It's a normal part of life! (puberty - flyer)	33	51.5	8.7	2	100		2	100	
Seek help from your CHW (poster)	33	63.6	8.37	2	100		2	100	
At least 3 items (listed above) are observed	33	57.6	8.6	2	100		2	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. Interviewers also reviewed antenatal care medical records in all facilities, as well as delivery and postpartum care medical records in facilities at the basic and complete levels. In total, 52.2% of ambulatory facilities without a doctor reported offering ANC services and 100% of ambulatory facilities with a doctor provided the same. For the majority of facilities, the setting of the room had auditory and visual privacy. Questions about delivery and PPC were not asked at the ambulatory level.

**Table 6.1.1** ANC service provision in ambulatory facilities

	Ambulatory without doctor			Ambulatory with doctor		
	N	%	SE	N	%	SE
Offers ANC services	23	52.2	10.4	11	100	
ANC room*						
Private room with auditory and visual privacy	16	75.0	10.8	8	100	
Non-private room without auditory nor visual privacy	16	6.3	6.1	8	0	
Visual privacy only	16	18.8	9.8	8	0	
No privacy	16	0		8	0	
Don't provide this service	7			1		

\*Due to an error in skip logic, data is missing for two ambulatory facilities with a doctor regarding the type of ANC room

At the basic and complete levels, 100% of facilities reported offering antenatal care and postpartum services. 100% of basic and complete facilities also reported offering delivery services (Table 6.1.2).

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

	Basic			Complete		
	N	%	SE	N	%	SE
Offers ANC services	2	100		2	100	
Offers routine delivery services (non-urgent)	2	100		2	100	
Offers PPC services	2	100		2	100	
ANC - PPC room*						
Private room with auditory and visual privacy	1	100		2	100	
Non-private room without auditory nor visual privacy	1	0		2	0	
Visual privacy only	1	0		2	0	
No privacy	1	0		2	0	
Delivery room						
Private room with auditory and visual privacy	1	100		2	50.0	35.4
Non-private room without auditory nor visual privacy	1	0		2	0	
Visual privacy only	1	0		2	50.0	35.4
No privacy	1	0		2	0	

\*Due to an error in skip logic, data is missing for one basic facility regarding the type of ANC-PPC & Delivery room

## 6.2 ANC - PPC equipment, pharmacy, & lab inputs

### 6.2.1 ANC - PPC equipment

The ANC performance indicator measures the availability of ANC and PPC equipment. Tables 6.2.1a – 6.2.1c display the percentage of facilities where specific ANC and PPC equipment was observed and functional on the day of the survey. 100% of basic facilities had all functional equipment necessary for ANC and PPC. While only 44.0% of ambulatory facilities contained all functional equipment, it increased from only 3.2% of facilities containing equipment at the baseline.

**Table 6.2.1a** Observed and functional ANC - PPC equipment in ambulatory facilities

	Ambulatory					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Scale with measuring rod	31	54.8	8.9	26	76.9	8.3
Gynecological exam table	31	54.8	8.9	26	100	
CLAP obstetrical tape	31	51.6	9.0	26	96.2	3.8
Gestogram	31	38.7	8.8	26	100	
Lamp	31	41.9	8.9	26	96.2	
Sphygmomanometer*	31	41.9	8.9	25	100	
Stethoscope	31	54.8	8.9	26	100	
Fetoscope	31	25.8	7.9	26	92.3	5.2
Thermometer	31	35.5	8.6	26	100	
Reflex hammer	31	6.5	4.4	26	65.4	9.3
Perinatal maternal medical history	31	54.8	8.9	26	96.2	3.8
Perinatal maternal card	31	54.8	8.9	26	96.2	3.8
Referral forms	31	35.5	8.6	26	96.2	3.8
Robes or sheets for patients	31	41.9	8.9	26	88.5	6.3
All equipment observed and functional	31	3.2	3.2	25	44.0	9.9

\* Missing data on sphygmomanometer for one ambulatory facility

**Table 6.2.1b** Observed and functional ANC - PPC equipment in basic facilities

	Basic					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Scale with measuring rod	2	100		2	100	
Gynecological exam table	2	100		2	100	
CLAP obstetrical tape	2	50.0	35.4	2	100	
Equipment cart	2	0		2	100	
Gestogram	2	0		2	100	
Lamp	2	100		2	100	
Sphygmomanometer	2	100		2	100	
Stethoscope	2	50.0	35.4	2	100	
Set for IUD insertion	2	0		2	100	
Fetoscope	2	0		2	100	
Thermometer	2	0		2	100	
Reflex hammer	2	0		2	100	
Perinatal maternal medical history	2	100		2	100	
Perinatal maternal card	2	100		2	100	
Referral forms	2	0		2	100	
Robes or sheets for patients	2	0		2	100	
All equipment observed and functional	2	0		2	100	

**Table 6.2.1c** Observed and functional ANC - PPC equipment in complete facilities

	Complete					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Scale with measuring rod	2	100		2	100	
Gynecological exam table	2	100		2	100	
CLAP obstetrical tape	2	100		2	100	
Equipment cart	2	0		2	100	
Gestogram	2	0		2	100	
Lamp	2	100		2	100	
Sphygmomanometer	2	100		2	100	
Stethoscope	2	100		2	100	
Set for IUD insertion	2	50.0	35.4	2	100	
Fetoscope	2	0		2	100	
Thermometer	2	0		2	100	
Reflex hammer	2	50.0	35.4	2	50.0	35.4
Perinatal maternal medical history	2	100		2	100	
Perinatal maternal card	2	100		2	100	
Referral forms	2	50.0	35.4	2	100	
Robes or sheets for patients	2	50.0	35.4	2	100	
All equipment observed and functional	2	0	0	2	50.0	35.4

## 6.2.2 ANC - PPC pharmacy inputs

In the observation component of the survey, interviewers checked for certain pharmacy inputs important for antenatal care services. The ANC payment indicator measured the continuous availability of pharmacy inputs within the previous three months. The findings are displayed below in Tables 6.2.2a – 6.2.2c.

**Table 6.2.2a** ANC - PPC pharmacy inputs for ambulatory facilities

	Ambulatory					
	Baseline			18-Month		
	N	%	SE	N	%	SE
(Iron + Folic acid) or Multivitamin	22	59.1	10.5	26	92.3	5.2
Nitrofurantoin	22	13.6	7.32	26	50	9.8
Cephalexin	22	31.8	9.9	26	46.2	9.8
Tetanus vaccine*	22	45.5	10.6	19	89.5	7
Ayre palettes / swabs	22	27.3	9.5	26	69.2	9.1
Pap smear slides **	N/A	N/A		26	73.1	8.7
All inputs observed on the day of the survey	22	13.6	7.3	26	23.1	8.3
Continuous availability of all drugs in the previous three months***	22	13.6	7.3	26	19.2	7.7

\* Only applicable if facility stores vaccines

\*\* Due to a mistranslation at the baseline, PAP smear slides were not observed and could not be included in the baseline value.

\*\*\*Overall drug availability including availability of all inputs on the day of the survey and no stock out of multivitamin/ iron +folic acid, tetanus (if facility stores vaccines), cephalixin, nitrofurantoin and ayre palletes or swabs in the previous three months

**Table 6.2.2b** ANC - PPC pharmacy inputs for basic facilities

	Basic					
	Baseline			18-Month		
	N	%	SE	N	%	SE
(Iron + Folic acid) or Multivitamin	2	100		2	100	
Nitrofurantoin	2	100		2	50	35.4
Cephalexin	2	100		2	100	
Tetanus vaccine	2	0		2	100	
Ayre palettes / swabs	2	0		2	100	
PAP smear slides*	N/A	N/A		2	100	
All inputs observed on the day of the survey	2	0		2	50	35.4
Continuous availability of all drugs in the previous three months**	2	0		2	50	35.4

\* Due to a mistranslation at the baseline, PAP smear slides were not observed and could not be included in the baseline value.

\*\*Overall drug availability including availability of all inputs on the day of the survey and no stock out of multivitamin/ iron +folic acid, tetanus (if facility stores vaccines), cephalixin, nitrofurantoin and ayre palletes or swabs in the previous three months. Ayre stock out data is missing for 1 basic facility.

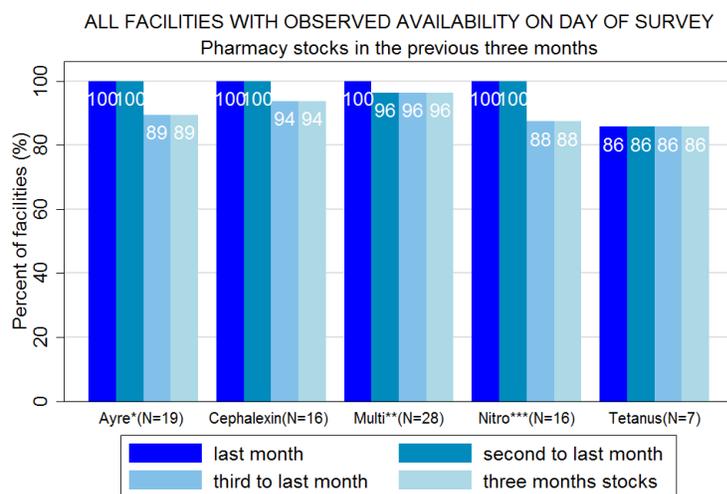
**Table 6.2.2c ANC - PPC pharmacy inputs for complete facilities**

	Complete					
	Baseline			18-Month		
	N	%	SE	N	%	SE
(Iron + Folic acid) or Multivitamin	2	50	35.4	2	100	
Nitrofurantoin	2	100		2	100	
Cephalexin	2	50	35.4	2	100	
Tetanus vaccine	2	50	35.4	2	100	
Ayre palettes / swabs	2	0		2	100	
PAP smear slides*	N/A	N/A		2	100	
All inputs observed on the day of the survey	2	0		2	100	
Continuous availability of all drugs in the previous three months**	2	0		2	0	

\*Due to a mistranslation at the baseline, PAP smear slides were not observed and could not be included in the baseline value.

\*\*Overall drug availability including availability of all inputs on the day of the survey and no stock out of multivitamin/ iron +folic acid, tetanus (if facility stores vaccines), cephalaxin, and nitrofurantoin in the previous three months. Ayre stock out data is missing for both complete facilities.

**Figure 6.2.2d Availability of pharmacy inputs in the previous 3 months**



\*Missing ayre stock out data for 1 basic & 2 complete facilities

### 6.2.3 ANC - PPC lab inputs

In the observation component of the survey, interviewers checked for certain laboratory inputs important for antenatal care services in basic and complete facilities that provide ANC – PPC care and have a lab. The ANC performance indicator measured the continuous availability of these inputs with no stock out in the last three months of specific reagents as displayed below in Table 6.2.4. The majority of laboratory inputs were observed on the day of the survey with the exception of microcuvettes in basic facilities and glucose strips in complete facilities.

**Table 6.2.3a** ANC – PPC lab inputs and lab reagents at basic facilities

Laboratory inputs	Basic					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Rapid syphilis test / dark field microscope / equipment for enzyme immunoassay	2	100		2	100	
Rapid HIV/AIDS test / fluorescence microscope	2	100		2	100	
Urine protein strips / urinalysis equipment	2	100		2	100	
Blood glucose strips / glucose meter	2	0		2	100	
Hemocue / automated cell counter	2	100		2	100	
Microcuvettes	2	100		2	50	35.4
Pregnancy test kit	2	100		2	100	
All lab reagents observed on day of survey and continuous availability in previous three months*	N/A	N/A		2	100	
Availability of all lab inputs	2	0		2	50	35.4

\* Lab reagents not captured at baseline. Lab reagents include: Blood type antibody, RH factor antibody, Syphilis antigen and HIV/AIDS antigen (if equipment for enzyme immunoassay is observed).

**Table 6.2.3b** ANC - PPC lab inputs and lab reagents at complete facilities

Laboratory inputs	Complete					
	Baseline*			18-Month		
	N	%	SE	N	%	SE
Rapid syphilis test / dark field microscope / equipment for enzyme immunoassay	2	50.0	35.4	2	100	
Rapid HIV/AIDS test / fluorescence microscope	2	0		2	100	
Urine protein strips / urinalysis equipment	2	100		2	100	
Blood glucose strips / glucose meter	2	0		2	50.0	35.4
Hemocue / automated cell counter	2	0		2	100	
All lab reagents observed on day of survey and continuous availability in previous three months**	N/A	N/A		2	100	
Availability of all lab inputs	2	0		2	50.0	35.4

\* Rapid tests not asked at complete facilities at the baseline. Baseline values only represent availability of lab equipment, not considering rapid tests as alternative.

\*\* Lab reagents not captured at baseline. Lab reagents include: Blood type antibody, RH factor antibody, Syphilis antigen and HIV/AIDS antigen (if equipment for enzyme immunoassay is observed).

## 6.3 ANC - PPC medical record review

### 6.3.1 ANC - PPC medical record review – First ANC visit

Records of women who received antenatal care in-facility in the last two years are selected systematically and reviewed. Table 6.3.1 shows the proportion of women who had their first ANC visit attended by a doctor or nurse as well as the proportion of women who had their first ANC visit within 12 weeks of gestation, as measured by the ANC monitoring indicator. Gestational age was calculated by subtracting the date of the woman's last menstrual period from the date of her first ANC visit. As shown in the table below, the majority of visits were not before 12 weeks gestation.

**Table 6.3.1** ANC during the first trimester

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Doctor or nurse attended first ANC visit	140	100		44	77.3	6.3	29	62.1	9.0
First ANC visit before 12 weeks gestation	140	25.7	3.7	44	15.9	5.5	29	34.5	8.8
First ANC visit according to the norm*	140	25.7	3.7	44	13.6	5.2	29	24.1	7.9

\*The gestational age was also reported in the med records. If the indicator was calculated using the stated gestational age, 21.6% ambulatory, 12.2% basic, and 16.1% of complete facilities had their first ANC visit before 12 weeks gestation.

### 6.3.2 ANC - PPC medical record review – Neonatal Care

Records of neonates who received care according to standards from medical personnel within the first 48 hours after birth in the last two years are also selected systematically and reviewed. The monitoring indicator measuring the delivery and procedures involved in immediate neonatal care is displayed in Table 6.3.3 for basic and complete facilities. It is important to note that if a procedure / checkup was not recorded in the medical record, it was treated as if it was not provided for the neonate. Over 80% of neonates at basic and complete facilities were given the proper treatment within the first 48 hours after birth.

**Table 6.3.2** Immediate neonatal care in basic & complete facilities

	Basic			Complete		
	N	%	SE	N	%	SE
Newborn attended by a doctor / nurse / midwife	35	100		33	100	
Procedures and checkups recorded						
Vitamin K	35	97.1	2.8	33	100	
Application oxitetraciline ophthalmic prophylaxis / chloramphenicol	35	94.3	3.9	33	100	
Evaluation of malformations presence	35	97.1	2.8	33	93.9	4.2
Apgar score (1 + 5)	35	100		33	100	
Pulse	35	94.3	3.9	33	100	
Respiratory rate	35	88.6	5.4	33	100	
Weight	35	100		33	93.9	4.2
Height	35	91.4	4.7	33	97.0	3.0
Head circumference	35	91.4	4.7	33	97.0	3.0
Newborn attended + all procedures and checkups recorded	35	82.9	6.4	33	87.9	5.7

### 6.4 Delivery care equipment & pharmacy inputs

In the observation component of the health facility survey, interviewers check for certain supplies and equipment necessary for delivery and newborn care. Table 6.4.1 displays equipment used for delivery in basic and complete facilities and the percentage of those facilities that possess these functional items.

**Table 6.4.1** Equipment needed for delivery care in basic & complete facilities

Equipment type	Basic			Complete		
	N	%	SE	N	%	SE
Metallic clamp / umbilical tape	2	50.0	35.4	2	100	
Intravenous catheter sterile N ° 18	2	100		2	100	
IV administration kit	2	100		2	100	
Nasogastric tube	2	100		2	50.0	35.4
Sterile fields or sheltering for a baby	2	50.0	35.4	2	100	
All equipment observed and functional*	2	50.0	35.4	2	50.0	35.4

\*Data for functionality only applicable for iv administration kit & sterile fields

Table 6.4.2 displays the pharmacy inputs used for deliveries in basic and complete facilities. All inputs were observed on the day of the survey through the observation module. Epinefrina is the only drug used for delivery that was not present in a facility on the day of the survey.

**Table 6.4.2** Pharmacy inputs needed for delivery care in basic & complete facilities

Pharmacy inputs	Basic			Complete		
	N	%	SE	N	%	SE
Chloramphenicol / gentamicin ampules 80 mg*	2	100		2	100	
Epinefrina	2	50.0	35.4	2	100	
Ergmetrine / Oxytocin	2	100		2	100	
Ringer lactate / Hartmann solution / Saline solution	2	100		2	100	
All pharmacy inputs available on the day of the survey	2	50.0	35.4	2	100	

\*Gentamicin ampules 80mg was only measured at basic facilities

### 6.4.3 Prevalence of C-sections

In the health facility questionnaire module, the number of C-sections in the last 2 years is asked to the managers of complete health facilities. This data was only collected from two complete health facilities. Of the 4,165 total deliveries performed by the two health facilities, 49.1% were carried out as C-sections.

## 6.5 Delivery medical record review

### 6.5.1 Active management of delivery

Interviewers reported administration of oxytocin or other uterotonic within one minute after delivery for women who delivered in the health facility in the last two years. Table 6.5.1 displays the percentage of women that were treated with the appropriate drugs at basic and complete facilities; this table does not reflect if the administration was within one minute of delivery. While 89.5% of women at basic facilities were administered the drugs, only 63.6% of women at complete facilities were given the same.

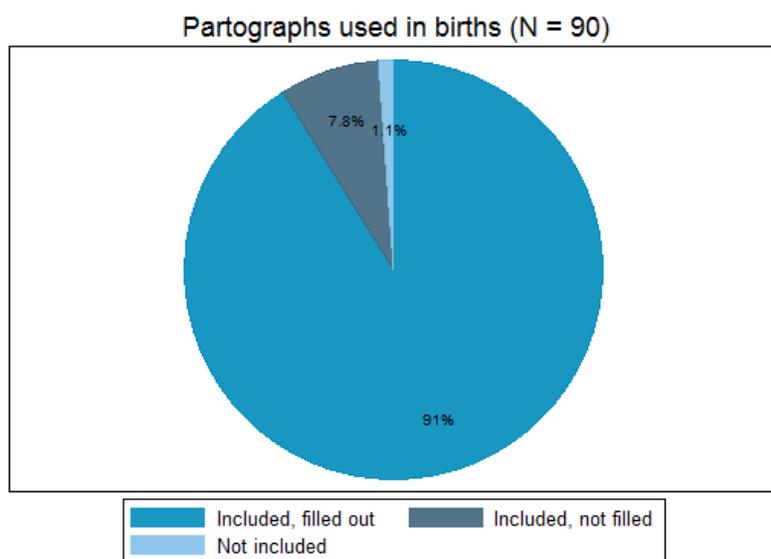
**Table 6.5.1** Administration of oxytocin/other uterotonics in basic & complete facilities

	Basic			Complete		
	N	%	SE	N	%	SE
Administration of oxytocin / other uteronic	57	89.5	4.1	33	63.6	8.4

### 6.5.2 Partograph revision

During the review of delivery medical records in basic and complete facilities, interviewers reported the number of deliveries for which a partograph was included in the record. This is found in the figure below (Figure 6.5.2a).

**Figure 6.5.2a** Percent of partographs used during births in basic & complete facilities



The partograph use monitoring indicator also used the systematic review of delivery records to determine whether a partograph was completed appropriately during birth when the woman did not arrive on imminent birth or planned C-section. There are two ways in which the indicator was calculated and met:

1. 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
2. Partograph observed and filled out + Fetal Heart Rate (FHR) and alert curve recorded if dilation was greater than 4.5 cm + a note within 30 minute if FHR < 120 beats per minute (bpm) or alert curve was surpassed.

Table 6.5.2b displays the components of this monitoring indicator.

**Table 6.5.2b** Partograph revision in basic & complete facilities

Partograph revision in basic facilities	Basic			Complete		
	N	%	SE	N	%	SE
Partograph included and filled out	57	91.2	3.8	33	90.9	5.1
Women with dilation > 4.5 cm	52	69.2	6.5	30	83.3	6.9
Fetal heart rate and alert curve are recorded if dilation > 4.5 cm	36	63.9	8.1	25	96.0	4.0
Women with alert curve surpassed	52	26.9	6.2	30	3.3	3.3
There exists a note within 30 minutes if alert curve surpassed	14	85.7	9.7	1	100	
Fetal heart rate < 120 bpm	52	1.9	1.9	30	0	
There exists a note within 30 minutes if FHR < 120 bpm	1	0		0		
Partograph according to the norm	57	75.4	5.8	33	97.0	3.0

## 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. Data is only reported for one basic facility regarding the type of emergency room provided. This basic facility reported having an emergency room with visual privacy only. The remaining sections of this chapter detail interviewers' observation of equipment and drugs related to emergency obstetric and neonatal care. In addition, interviewers reviewed medical records of women and neonates with one or more complication.

### 7.2 Supplies and equipment needed for emergency obstetric and neonatal care

According to the performance indicator related to emergency obstetric and neonatal care, all basic and complete level facilities should have the equipment listed in the table below. This equipment should be present and functional on the day of the survey. No basic or complete facilities contained all equipment necessary for emergency obstetric and neonatal care, however, the tables indicate improvement in the quantity of equipment carried at the facilities.

**Table 7.2.1** Observed and functional equipment for emergency care in basic facilities

	Basic					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Blood pressure apparatus	2	100		2	100	
Stethoscope	2	100		2	100	
Pinard stethoscope/portable Doppler	2	50.0	35.4	2	50.0	35.4
Autoclave/Dry heat sterilizer	2	0		2	100	
Tank of oxygen/Central oxygen supply	2	100		2	100	
Reanimation resuscitation bag for adult	2	100		2	100	
Neonatal resuscitation bag	2	100		2	100	
Laryngoscope	2	0		2	100	
Uterine curettage kit	2	0		2	0	
All equipment observed and functional	2	0		2	0	

**Table 7.2.2** Observed and functional equipment for emergency care in complete facilities

	Complete					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Blood pressure apparatus	2	100		2	100	
Stethoscope	2	100		2	100	
Pinard stethoscope/Portable Doppler	2	100		2	50.0	35.4
Autoclave/Dry heat sterilizer	2	0		2	100	
Tank of oxygen/Central oxygen supply	2	100		2	100	
Reanimation resuscitation bag for adult	2	100		2	100	
Neonatal resuscitation bag	2	100		2	50.0	35.4
Laryngoscope	2	50.0	35.4	2	100	
MVA kit	2	0		2	100	
Neonatal/pediatric stethoscope	2	50.0	35.4	2	0	
Anesthesia equipment	2	0		2	100	
Equipment for C-sections	2	0		2	100	
All equipment observed and functional	2	0		2	0	

### 7.3 Important drugs needed for emergency obstetric and neonatal care

In the health facility survey observation module, interviewers check for the availability of certain drugs related to emergency obstetric and neonatal care. If a facility did not have a drug on the day of the survey, three-month stock out of that drug was not evaluated. The figures detailing pharmacy stocks below show only the stocks of each drug in facilities that had the drug on the day of the survey.

**Table 7.3.1** Pharmacy inputs needed for emergency care in basic facilities

	Basic					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Dexamethasone / Betamethasone	2	100		2	100	
Magnesium sulfate	2	100		2	100	
Antibiotic*	2	100		2	100	
Amikacin	2	50.0	35.4	2	100	
Chloramphenicol	2	100		2	100	
Hydralazine ampoule	2	50.0	35.4	2	100	
Diazepam	2	100		2	100	
Oxytocin / Ergometrine	2	100		2	100	
Benzylpenicillin G Procainic	2	100		2	100	
Doxycycline	2	50.0	35.4	2	100	
Clindamycin	2	0		2	50.0	35.4
Cefotaxime/ceftriaxone**	2	0		2	100	
Gentamicin	2	100		2	100	
Calcium gluconate	2	50.0	35.4	2	100	
Atropine / Epinephrine	2	100		2	100	
All drugs available on the day of the survey	2	0		2	50.0	35.4
Continuous availability in the previous three months	2	0		2	50.0	35.4

\* Penicillin crystals or IV ampicillin or amoxicillin

\*\*Only cefotaxime checked at baseline.

**Table 7.3.2** Observed and functional equipment for emergency care in complete facilities

	Complete					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Dexamethasone / Betamethasone	2	100		2	100	
Magnesium sulfate	2	100		2	100	
Antibiotic*	2	100		2	100	
Amikacin	2	50.0	35.4	2	100	
Chloramphenicol / Metronidazole	2	100		2	100	
Hydralazine ampoule/Hydralazine chlorhydrate	2	100		2	100	
Diazepam / Midazolam Chlorhydrate***	2	100		2	100	
Oxytocin / Ergometrine	2	100		2	100	
Suxamethonium chloride	2	50.0	35.4	2	100	
Sevoflurane/Isoflurane**	2	50.0	35.4	2	100	
Nifedipine	2	50.0	35.4	2	100	
Ceftriaxone	2	50.0	35.4	2	100	
Furosemide	2	100		2	100	
Atropine / Epinephrine	N/A	N/A		2	100	
All drugs available on the day of the survey	2	0		2	100	
Continuous availability in the previous three months***	2	0		2	100	

\*IV ampicillin or penicillin crystals or amoxicillin

\*\*Only sevoflurane checked at baseline

\*\*\*Stock-out of midazolam chlorhydrate not evaluated

#### 7.4 Distribution of obstetric and neonatal complications

This section summarizes key indicators related to the management of maternal and neonatal complications in basic and complete facilities. 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 61 women and 40 infants with one or more complications (Tables 7.3.1 – 7.3.2). 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

	Basic	Complete
Women with sepsis	1	1
Women with hemorrhage	2	11
Women with pre-eclampsia	14	16
Women with eclampsia	7	10
Total	24	38

**Table 7.4.2** Distribution of neonatal complications by facility classification

	Basic	Complete
Neonates with low birth weight	1	1
Neonates with prematurity	0	8
Neonates with sepsis	6	21
Neonates with asphyxia	2	4
Total	9	34

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

### **7.5.1 Sepsis**

According to the indicator regarding management of obstetric complications, sepsis is managed according to the norm at basic and complete level facilities if vital signs were checked (temperature + pulse + diastolic and systolic blood pressure) and antibiotics were administered. 100% of sepsis maternal complications records were treated appropriately.

**Table 7.5.1** Medical record review: Sepsis

	Basic			Complete		
	N	%	SE	N	%	SE
Temperature + pulse + blood pressure checked	1	100		1	100	
Antibiotics administered*	1	100		1	100	
Sepsis managed according to the norm (meets all above criteria)	1	100		1	100	

\*Antibiotics = amikacin / clindamicin / gentamicin / ampicillin / metranidazol / other antibiotics

## 7.5.2 Hemorrhage

Hemorrhage is considered managed according to the norm at basic and complete level facilities if vital signs are checked, laboratory tests are performed, and oxytocin/other uterotonics are administered. Tables 7.5.2a and 7.5.2b display the medical checkups and treatments necessary to correctly manage hemorrhage at basic and complete facilities.

**Table 7.5.2a** Medical record review in basic facilities: Hemorrhage

	Basic		
	N	%	SE
Vital Signs			
Pulse	2	100	
Temperature	2	100	
Respiratory rate	2	100	
Blood pressure	2	100	
Oxytocin / other uterotonics administered	2	50.0	35.4
Hemorrhage managed according to the norm (meets all criteria above)	2	50.0	35.4

**Table 7.5.2b** Medical record review in complete facilities: Hemorrhage

	Complete		
	N	%	SE
Vital Signs			
Blood pressure	11	100	
Laboratory tests			
Hb	11	81.8	11.6
Ht	11	100	
Pt	11	36.4	14.5
Ptt	11	36.4	14.5
Platelet count	11	27.3	13.4
Oxytocin /other uterotonics administered	11	81.8	11.6
Hemorrhage managed according to the norm (meets all criteria above)	11	9.1	8.7

### 7.5.3 Pre-eclampsia

Tables 7.5.3a – 7.5.3b below display the tests and inputs necessary to treat pre-eclampsia. According to the country indicator manual, no records were managed correctly in a complete health facility because the patellar reflex was never checked and only 12.5% of women were given lactate dehydrogenase.

**Table 7.5.3a** Medical record review in basic facilities: Pre-eclampsia

	Basic		
	N	%	SE
Vital signs checked			
Blood pressure	14	100	
Pulse	14	85.7	9.4
Respiratory rate	14	85.7	9.4
Laboratory inputs			
Hydralazine / nifedipine (if diastolic BP > 110)	14	92.9	6.9
Magnesium sulfate*	12	58.3	14.2
Urine protein	14	64.3	12.8
Pre-eclampsia managed according to the norm (meets all above criteria)	12	25.0	12.5

\*Data is missing for two basic records

**Table 7.5.3b** Medical record review in complete facilities: Pre-eclampsia

	Complete		
	N	%	SE
Vital signs checked			
Blood pressure	16	100	
Pulse	16	100	
Patellar reflex	16	0	
Respiratory rate	16	100	
Laboratory inputs			
Alanine aminotransferase	16	37.5	12.1
Aspartate aminotransferase	16	43.8	12.4
Dexamethasone / betamethasone (if gestational age 26 - 34 weeks)	16	100	
Hydralazine / nifedipine (if diastolic BP > 110)	16	100	
Lactate dehydrogenase	16	12.5	8.3
Magnesium sulfate	16	81.3	9.8
Platelet count	16	56.3	12.4
Urine protein	16	75.0	10.8
Outcome of pregnancy recorded*	16	100	
Pre-eclampsia managed according to the norm (meets all above criteria)	16	0	

### 7.5.4 Eclampsia

Eclampsia is considered managed according to the norm at basic and complete level facilities if certain vitals are checked and laboratory inputs are administered. Tables 7.5.4a – 7.5.4b display the medical checkups and treatments necessary to correctly manage eclampsia. No eclampsia cases were managed according to the norm at complete facilities.

**Table 7.5.4a** Medical record review in basic facilities: Eclampsia

	Basic		
	N	%	SE
Vital signs checked			
Blood pressure	7	100	
Pulse	7	100	
Respiratory rate	7	100	
Laboratory inputs			
Hydralazine / nifedipine (if diastolic BP > 110)	7	85.7	13.2
Magnesium sulfate	7	57.1	18.7
Urine protein	7	71.4	17.1
Eclampsia managed according to the norm (meets all above criteria)	7	28.6	17.1

**Table 7.5.4b** Medical record review in complete facilities: Eclampsia

	Complete		
	N	%	SE
Vital signs checked			
Blood pressure	10	100	
Pulse	10	100	
Patellar reflex	10	0	
Respiratory rate	10	100	
Laboratory inputs			
Alanine aminotransferase	10	10.0	9.5
Aspartate aminotransferase	10	10.0	9.5
Dexamethasone / betamethasone (if gestational age 26 - 34 weeks)	10	100	
Hydralazine / nifedipine (if diastolic BP > 110)	10	100	
Lactate dehydrogenase	10	0	
Magnesium sulfate	10	50.0	15.8
Platelet count	10	50.0	15.8
Urine protein	10	70.0	14.5
Outcome of pregnancy recorded	10	100	
Eclampsia managed according to the norm (meets all above criteria)	10	0	

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

### 7.6.1 Low birth weight (LBW)

The indicator related to the management of neonatal complications measures whether low birth weight is managed according to the norm in the last two years. Table 7.6.1 displays the items measured to ensure low birth weight is treated correctly.

**4095Table 7.6.1** Medical record review in basic & complete facilities: Low birth weight

	Basic			Complete		
	N	%	SE	N	%	SE
Pulse	1	100		1	100	
Respiratory rate	1	100		1	100	
Oxygen saturation	1	0		1	100	
Silverman score	1	100		1	0	
Glycemia	1	0		1	100	
Baby was evaluated by a doctor at admission	1	100		1	100	
Low birth weight managed according to the norm (meets all above criteria)	1	0		1	0	

### 7.6.2 Prematurity

Prematurity is considered managed correctly if all checkups recorded (pulse + respiratory rate + oxygen saturation + silverman score) + glycemia tested + evaluated by a doctor at admission. Table 7.6.2 displays the number of records at complete facilities that performed all required checkups for prematurity.

**Table 7.6.2** Medical record review in complete facilities: Prematurity

	Complete		
	N	%	SE
Pulse	8	100	
Respiratory rate	8	87.5	11.7
Oxygen saturation	8	75	15.3
Silverman score	8	12.5	11.7
Glycemia	8	12.5	11.7
Baby was evaluated by a doctor at admission	8	100	
Prematurity managed according to the norm (meets all above criteria)	8	0	

### 7.6.3 Asphyxia

Asphyxia is considered managed according to the standards if all checkups are recorded, treatments are given, and the baby is evaluated by a doctor at admission. Tables 7.6.3a & 7.6.3b display the separate requirements basic and complete facilities are required to do in order to effectively treat asphyxia.

**Table 7.6.3a** Medical record review in basic facilities: Asphyxia

	Basic		
	N	%	SE
Apgar score (1 minute + 5 minutes)	2	50.0	35.4
Pulse	2	100	
Respiratory rate	2	50.0	35.4
Temperature	2	50.0	35.4
Glycemia	2	50.0	35.4
Hb	2	50.0	35.4
Antibiotic treatment	2	50.0	35.4
Baby was evaluated by a doctor at admission	2	100	
Asphyxia managed according to the norm (meets all above criteria)	2	50.0	35.4

**Table 7.6.3b** Medical record review in complete facilities: Asphyxia

	Complete		
	N	%	SE
Pulse	4	100	
Respiratory rate	4	100	
Silverman score	4	0	
Temperature	4	100	
C-reactive protein	4	25.0	21.6
Chest radiograph	4	50.0	25.0
Erythrocyte sedimentation rate	4	0	
Glycemia	4	75.0	21.6
Hb	4	50.0	25.0
Oxygen saturation	4	50.0	25.0
Antibiotic treatment	4	75.0	21.6
Baby was evaluated by a doctor at admission	4	100	
Asphyxia managed according to the norm (meets all above criteria)	4	0	

#### 7.6.4 Sepsis

Sepsis is considered managed according to the standards if all checkups are recorded, treatments are given, and the baby is evaluated by a doctor at admission. Table 7.5.4 displays the separate requirements basic and complete facilities are required to do in order to effectively treat sepsis.

**Table 7.6.4** Medical record review in basic & complete facilities: Sepsis

	Basic			Complete		
	N	%	SE	N	%	SE
Pulse	6	100		21	100	
Temperature	6	100		21	95.2	4.7
C-reactive protein*	n/a	n/a	n/a	21	33.3	10.3
Erythrocyte sedimentation rate*	n/a	n/a	n/a	21	0	
Leukocyte count	6	83.3	15.2	21	90.5	6.4
Antibiotic treatment	6	50.0	20.4	21	100	
Baby was evaluated by a doctor at admission	6	83.3	15.2	21	95.2	4.7
Asphyxia managed according to the norm (meets all above criteria)	6	33.3	19.3	21	0	

\*Measured only at complete facilities

## 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 9.1.1).

**Table 8.1.1** Equipment for disposal

	Ambulatory				Basic				Complete			
	N	%	SE	DK/DR	N	%	SE	DK/DR	N	%	SE	DK/DR
Incinerator at facility	33	3.0	3.0	1	2	0		0	2	0		0
Contract with other facility for biohazard disposal*	33	42.4	8.6	1	2	50.0	35.4	0	2	100		0
Manual for decontamination	34	35.3	8.2	0	2	50.0	35.4	0	2	100		0

\*Only asked if they did not answer 'yes' when asked if the facility had an incinerator

### 8.2 Decontamination and sterilization

**Table 8.2.1** Decontamination and sterilization

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
<b>Decontamination methods</b>									
Submerged in disinfectant, then scrubbed with a brush, soap and water	34	5.9	4.0	2	0		2	50.0	35.4
Scrubbed with a brush, soap and water, then submerged in disinfectant	34	50.0	8.6	2	100		2	100	
Scrubbed with a brush, soap and water only	34	0		2	0		2	0	
Submerged in disinfectant, without scrubbing with brush	34	0		2	0		2	0	
Cleaned with water and soap, without scrubbing with a brush	34	0		2	0		2	0	
Equipment never reused	34	0		2	0		2	0	
Facility doesn't decontaminate	34	8.8	4.9	2	0		2	0	
Other	34	61.8	8.3	2	50.0	35.4	2	50.0	35.4
<b>Sterilization methods</b>									
Dry heat	34	0		2	0		2	0	
Autoclave	34	58.8	8.4	2	100		2	100	
Boiling	34	0		2	0		2	0	
Steam	34	0		2	50.0	35.4	2	100	
Chemical sterilization	34	5.9	4.0	2	50.0	35.4	2	100	
Processed away from facility	34	0		2	0		2	0	
Facility doesn't sterilize	34	0		2	0		2	0	
Other	34	52.9	8.6	2	0		2	0	

## Appendix A: SM2015 Health Facility Indicators

**Table A.1.1** Facility performance indicators matrix

Indicator	BASELINE EVALUATION			18-MONTH EVALUATION		
	N	n	Percent (95% CI)	N	n	Percent (95% CI)
Health facilities that have the necessary inputs for providing emergency obstetric and neonatal care according to the norms <sup>1</sup>	4	0	0% (0 - 60.2%)	4	0	0% (0-60.2%)
Health facilities that have the necessary inputs for providing pre- and post natal care according to the norms <sup>2</sup>	35	1	2.9% (0.0 - 14.9%)	29	5	17.2% (5.8-35.8%)
Health facilities that have the necessary inputs to provide child health care according to the norms <sup>3</sup>	37	0	0% (0 - 9.5%)	37	0	0% (0-9.5%)
Health facilities that have permanent availability of all 5 types of modern family planning methods (injectable, barrier, oral, IUD, permanent) according to the norms	19	14	73.7% (48.8 - 90.9%)	20	18	90%(68.3-98.8%)
Health facilities with a mechanism in place for carrying out patient satisfaction surveys	n/a	n/a	0%*	38	21	55.3% (38.3-71.4%)
Health facilities that have implemented Quality of Care job aid tools for reproductive health	n/a	n/a	0%*	38	21	55.3% (38.3-71.4%)
Health facilities that can submit and receive data from the Belize Health Information System (BHIS)	n/a	n/a	0%*	10	3	30% (6.7-65.2%)
Health facilities that have sexual and reproductive health (SRH) educational materials specifically targeted at adolescents	n/a	n/a	0%*	37	23	62.2% (44.8-77.5%)

\* New intervention: baseline assumed to be 0%

<sup>1</sup> Baseline calculation only checks cefotaxime at basic level and sevoflurane at complete level. Follow-up indicator value remains same when re-calculated with this baseline definition

<sup>2</sup> Baseline calculation does not check PAP smear slides and does not check Rapid Tests as alternatives at complete level. Follow-up indicator value remains same when re-calculated with this baseline definition

<sup>3</sup> Baseline calculation does not include Trimetropin Sulfa as an antibiotic alternative; does not include stock-outs of: ferrous sulfate/multivitamins, Amoxicillin/Benzatinic penicillin/Erythromycin/Azithromycin (basic & complete levels), Ringer lactate solutions (basic & complete levels), and trimetropin sulfa; does not include oto-ophthalmoscope as an alternative to pantoscope (basic & complete levels).

**Table A.1.2** Facility monitoring indicators matrix

Monitoring indicators	BASELINE EVALUATION			18-MONTH EVALUATION		
	N	n	Percent (95% CI)	N	n	Percent (95% CI)
Women of reproductive age (15-49) who received their 1st prenatal visit by a doctor/nurse before 12 weeks gestation in the last 2 years <sup>1</sup>	57	13	22.8% (12.7-35.8%)	213	49	23.0% (17.5-29.2%)
Number of deliveries for which partograph was used and correctly interpreted according to the norms in the last 2 years <sup>2</sup>	15	4	26.7% (7.8-55.1%)	90	75	83.3% (74.0-90.4%)
Neonatal complications managed according to norms in the last 2 years	53	4	7.5% (2.1-18.2%)	40	3	7.5% (1.6-20.4%)
Obstetric complications managed according to the norms in the last 2 years	39	1	2.6% (0.1-13.5%)	59	8	13.6% (6.0-25.0%)
Number of institutional deliveries for which oxytocin/other uterotonic was administered within one minute after birth <sup>3</sup>	15	9	60% (32.3-83.7%)	61	72	70.5% (57.4-81.5%)
Neonates who received care from medical personnel within the first 48 hours after birth in the last 2 years <sup>4</sup>	43	11	25.6% (13.5-41.2%)	68	44	85.3% (74.6-92.7%)
C-sections as proportion of childbirths in the last 2 years	4,199		35.9% (-)	4,165	-	49.1% (-)
Children 0-23 months with LBW managed according to norms in the last 2 years <sup>5</sup>	73	2	2.7% (0.3-9.5%)	119	23	19.3% (12.7-27.6%)
Newborns enrolled for child health services within seven days of birth in the last two years	91	23	25.3% (16.7-35.5%)	147	25	17.0% (11.3-24.1%)
Children (12-59 months) who received two doses of de-worming treatment in the last year	89	40	44.9% (34.4-55.9%)	120	17	14.2% (8.5-21.7%)
Diarrhea cases in children 0-59 months that were treated with ORS and zinc during their last visit	5	1	20% (0.5-71.4%)	73	2	2.7% (0.3-9.5%)

<sup>1</sup>Using the reported gestational age at follow-up, only 19.0% of facilities meet the indicator

<sup>2</sup>Parameters of indicator redefined at followup

<sup>3</sup>Baseline value only measures oxytocin/other uterotonic administration; baseline value does not measure if administered within one minute

<sup>4</sup>Baseline value previously misreported as 19.4%

<sup>5</sup>Information about referral & breastfeeding missing at the ambulatory level

## A.2 Indicator Definitions

### 1. Health facilities that have the necessary inputs for providing emergency obstetric and neonatal care according to the norms

#### Denominator:

Total number of basic and complete health facilities in the sample that provide emergency care.

#### Formula:

*Basic:* Observed on the day of the survey: blood pressure apparatus + stethoscope + Pinard stethoscope/Portable Doppler + autoclave/dry heat sterilizer + tank of oxygen/central oxygen supply + reanimation resuscitation bag for adults + neonatal resuscitation bag + laryngoscope + uterine curettage kit + No break in supply of the following inputs in the last three months (including the day of the survey): dexamethasone/betamethasone + atropine/epinephrine + antibiotics (penicillin crystals/IV ampicillin/amoxicillin) + amikacin + magnesium sulfate + ergometrine/oxytocin + chloramphenicol + hydralazine ampoules + diazepam + benzylpenicillin G procainic + doxycycline + clindamycin + cefotaxime/ceftriaxone + gentamicin + calcium gluconate.

*Complete:* Observed on the day of the survey: blood pressure apparatus + stethoscope + Pinard stethoscope/Portable Doppler + autoclave/dry heat sterilizer + tank of oxygen/central oxygen supply + reanimation resuscitation bag for adults + neonatal resuscitation bag + laryngoscope + MVA kit + pediatric stethoscope/neonatal stethoscope + equipment for anesthesia + equipment for c-sections + diazepam/midazolam chloride + No break in supply of the following inputs in the last three months (including the day of the survey): dexamethasone/betamethasone + atropine/epinephrine + antibiotics (penicillin crystals/IV ampicillin/amoxicillin) + amikacin + magnesium sulfate + ergometrine/oxytocin + chloramphenicol/metronidazole + hydralazine ampoules/hydralazine chloride + diazepam (if diazepam was observed on day of survey) + suxamethonium chloride + sevoflurane/ isoflurane + nifedipine + ceftriaxone + furosemide

### 2. Health facilities with continuous availability of supplies and equipment needed for antenatal and postpartum care:

#### Denominator:

Total number of health facilities that provide antenatal and postnatal services (and laboratory equipment for basic and complete facilities) in the sample.

#### Formula:

*Ambulatory:* Observed on the day of the survey: scale with measuring rod + gynecological examination table or stretcher + obstetric tape for CLAP + gestogram + swan neck lamp or pelvic examination lamp or headlight/hand lamp + sphygmomanometer (tensiometer) + stethoscope + fetoscope

(Pinard stethoscope or Doppler) + oral/axillary thermometer + reflex hammer + perinatal maternal medical history + perinatal maternal card + referral forms + stretcher sheets or robes for patients + No break in supply of the following inputs in the last three months (including the day of the survey): multivitamin/(iron + folic acid) + tetanus + nitrofuratoin + cephalixin + Ayre palettes (for consideration of cervical cytology) / swabs

*Basic:* Observed on the day of the survey: scale with measuring rod + gynecological examination table/stretcher + obstetric tape for CLAP/measuring tape + instrument/equipment cart or stand + gestogram + swan neck lamp or pelvic examination lamp or headlight/hand lamp+ sphygmomanometer (tensiometer) + stethoscope + fetoscope (Pinard stethoscope or Doppler) + oral/axillary thermometer + reflex hammer + perinatal maternal medical history + perinatal maternal card + referral forms + stretcher sheets or robes for patients + set for IUD insertion + rapid syphilis test/dark field microscope/equipment for enzyme immunoassay + rapid HIV/AIDS test/fluorescence microscope + urine protein strips/urinalysis equipment + blood glucose strips/glucose meter + HemoCue/automated cell counter + microcuvettes + pregnancy test kit + if equipment for enzyme immunoassay is observed: syphilis antigen + HIV/AIDS antigen + No break in supply of the following inputs in the last three months (including the day of the survey): multivitamin/(iron + folic acid) + tetanus + nitrofuratoin + cephalixin + Ayre palettes (for consideration of cervical cytology) / swabs + rapid HIV/AIDS test (if rapid HIV/AIDS test was observed)+ Rh factor antibody + blood type antibody

*Complete:* Observed on the day of the survey: scale with measuring rod + gynecological examination table/stretcher + obstetric tape for CLAP/measuring tape + instrument/equipment cart or stand + gestogram + swan neck lamp or pelvic examination lamp or headlight/hand lamp+ sphygmomanometer (tensiometer) + stethoscope + fetoscope (Pinard stethoscope or Doppler) + oral/axillary thermometer + reflex hammer + perinatal maternal medical history + perinatal maternal card + referral forms + stretcher sheets or robes for patients + set for IUD insertion + rapid syphilis test/dark field microscope/equipment for enzyme immunoassay + rapid HIV/AIDS test/fluorescence microscope + urine protein strips/urinalysis equipment + blood glucose strips/glucose meter + HemoCue/automated cell counter + No break in supply of the following inputs in the last three months (including the day of the survey): multivitamin/(iron + folic acid) + tetanus + nitrofuratoin + cephalixin + Ayre palettes (for consideration of cervical cytology)/ swabs + rapid HIV/AIDS test (if rapid HIV/AIDS test was observed)+ Rh factor antibody + blood type antibody

### **3. Health facilities with continuous availability of supplies and equipment needed for child care, immunization and nutrition:**

#### Denominator:

Total number of health facilities that offer child services and vaccines (if vaccines are stored) in the sample.

#### Formula:

*Ambulatory (mobile clinics and health posts):* Observed on the day of the survey: pediatric scale + measuring tape + height rod + stethoscope + pediatric stethoscope + oto-ophthalmoscope + swan neck lamp or pelvic examination lamp or headlight/hand lamp + examination table or stretcher + pentavalent/ (HepB + Hib + DPT) vaccine + polio vaccine + influenza vaccine. No break in supply of the following inputs in the last three months

(including the day of the survey): MMR vaccine + BCG vaccine + sachets of oral rehydration salt + ferrous sulfate drops/multivitamin + sulfate of zinc/gluconate of zinc + albendazole/mebendazole

*Ambulatory:* Observed on the day of the survey: pediatric scale + measuring tape + height rod + stethoscope + pediatric stethoscope + oto-ophthalmoscope + swan neck lamp or pelvic examination lamp or headlight/hand lamp + examination table or stretcher + pentavalent/ (HepB + Hib + DPT) vaccine + polio vaccine + influenza vaccine. No break in supply of the following inputs in the last three months (including the day of the survey): MMR vaccine + BCG vaccine + sachets of oral rehydration salt + ferrous sulfate drops/multivitamin + sulfate of zinc/gluconate of zinc + albendazole/mebendazole + antibiotics (amoxicillin/benzathine penicillin/erythromycin/ trimethoprim sulfa/azithromycin).

*Basic:* Observed on the day of the survey: pediatric scale + measuring tape + height rod + pediatric stethoscope + pantascope/oto-ophthalmoscope + swan neck lamp or pelvic examination lamp or headlight/hand lamp + examination table or stretcher + pediatric blood pressure apparatus + neonatal tensiometer + binaural stethoscope for newborns + reflex hammer + negatoscope + pentavalent/ (HepB + Hib + DPT) vaccine + polio vaccine + influenza vaccine + IV set. No break in supply of the following inputs in the last three months (including the day of the survey): MMR vaccine + BCG vaccine + sachets of oral rehydration salt + ferrous sulfate drops/multivitamin + sulfate of zinc/gluconate of zinc + albendazole/mebendazole + antibiotics (benzathine penicillin/erythromycin/ trimethoprim sulfa/ azithromycin + Ringer's lactate/Hartmann's solution/saline solution.

*Complete:* Observed on the day of the survey: pediatric scale + measuring tape + height rod + pediatric stethoscope + pantascope/oto-ophthalmoscope + swan neck lamp or pelvic examination lamp or headlight/hand lamp + examination table or stretcher + pediatric blood pressure apparatus + neonatal tensiometer + binaural stethoscope for newborns + reflex hammer + negatoscope + pentavalent/ (HepB + Hib + DPT) vaccine + polio vaccine + influenza vaccine + IV set. No break in supply of the following inputs in the last three months (including the day of the survey): MMR vaccine + BCG vaccine + sachets of oral rehydration salt + ferrous sulfate drops/multivitamin + sulfate of zinc/gluconate of zinc + albendazole/mebendazole + antibiotics (benzathine penicillin/erythromycin/ trimethoprim sulfa / azithromycin + Ringer's lactate/Hartmann's solution/saline solution.

#### **4. Health facilities that have supplies of modern family planning methods (oral, injectable, barrier, IUD):**

##### Denominator:

Total number of health facilities that store family planning methods in the sample.

##### Formula:

*Ambulatory:* No break in supply of the following inputs in the last three months (including the day of the survey): male condom + any oral pill + any injectable

*Basic:* No break in supply of the following inputs in the last three months (including the day of the survey): male condom + any oral pill + any injectable + IUD

*Complete:* No break in supply of the following inputs in the last three months (including the day of the survey): male condom + any oral pill + any injectable + IUD + reported by the facility: trained staff in tubal ligation + trained staff to perform vasectomy.

#### **5. Number of health facilities with a mechanism in place for carrying out the patient satisfaction surveys:**

Denominator:

Total number of health facilities in the sample.

Formula:

*Ambulatory, Basic and Complete:* Reported availability of a suggestion box in the health facility

#### **6. Health facilities that have implemented Quality of Care job aid tools for reproductive health**

Denominator:

Total number of health facilities in the sample.

Formula:

*Ambulatory, Basic and Complete:* At least five of the following materials must be observed: (1) 5 P Checklist (as within a manual), (2) COC Fact Sheet / "What you need to know about birth control", (3) Checklist for Contraception / Job Aid tool, (4) DEPO Fact Sheet, (5) Protect yourself / "Use a condom the right way every time you have sex" (poster), (6) Dual Protection, (7) "What you need to Know about Birth Control" - Preventing unwanted pregnancies (brochure), (8) STI's - Herpes (flyer), (9) STI's - Gonorrhea (flyer), (10) STI's - Genital Warts (flyer), (11) HIV/AIDS (flyer), (12) Abstain or use modern contraceptive method" (poster)

#### **7. Health facilities that have the necessary inputs to submit and receive data from Belize Health Information System (BHIS)**

Denominator:

Health facilities required to have a BHIS connection

Formula:

*Community and Regional Hospitals:* Required to have following inputs observed in both maternity ward and community health department/maternal and child health unit: computer + printer + network connection + BHIS report produced and dated within four weeks of the day of the survey.

*Health Centers:* Required to have the following inputs observed: computer + printer + network connection + BHIS report produced and dated within four weeks of the day of the survey.

**8. Health facilities that have sexual and reproductive health educational materials specifically targeted at adolescents**

Denominator:

Total number of health facilities that provide family planning services.

Formula:

*Ambulatory, Basic and Complete:* At least three of the following materials must be observed: (1) Reproductive life plan worksheet, (2) Contraceptives for adolescents flip chart, (3) Thinking of having a baby? 10 reasons not to (brochure), (4) Community-based Adolescent Sexual and Reproductive Health Programme (brochure), (5) S & RH: Don't want to get pregnant right now? Birth Control (flyer), (6) Having Sex? Things you need to know now (flyer), (7) Growing up? It's a normal part of life (Puberty - flyer), (8) Seek help from your CHW (poster).

**9. Women of reproductive age (15-49) who received their first prenatal visit by a doctor or nurse before 12 weeks gestation in in the last two years**

Denominator:

Total number of antenatal care records in the sample.

Formula:

*Ambulatory, Basic, Complete:* First ANC visit performed by a doctor/nurse + (date of 1<sup>st</sup> ANC visit – date of last menstrual period = before 12 weeks gestation)

**10. Number of deliveries for which partograph was used and correctly interpreted according to the norms**

Denominator:

Total number of delivery records in the sample.

Formula:

*Basic and Complete:* A partograph is included in the record and filled out completely (in cases where the woman did not arrive in imminent birth or for a C-section). If a partograph is completed and included in the record (regardless of the type of delivery) the following standards must be met: fetal heart rate & alert curves recorded (if dilation >4.5cm) + a note is in the partograph/record within 30 minutes (if fetal heart rate < 120 bpm) + a note is in the partograph/record within 30 minutes (if alert curve is surpassed).

**11. Neonates with complications (low birth weight, prematurity, birth asphyxia and sepsis) managed according to standards in the last two years**

Denominator:

Total number of neonatal complication records in the sample.

Formula:

Low birth weight:

*Basic:* Observe the following in the record: pulse + respiratory rate + oxygen saturation + Silverman score + blood glucose level + baby was evaluated by a doctor at admission

*Complete:* Observe the following in the record: pulse + respiratory rate + oxygen saturation + Silverman score + blood glucose level + baby was evaluated by a doctor at admission

Prematurity:

*Basic:* Observe the following in the record: pulse + respiratory rate + oxygen saturation + Silverman score + blood glucose level + baby was evaluated by a doctor at admission

*Complete:* Observe the following in the record: pulse + respiratory rate + oxygen saturation + Silverman score + blood glucose level + baby was evaluated by a doctor at admission

Asphyxia:

*Basic:* Observe the following in the record: temperature + pulse + respiratory rate + blood glucose level + antibiotic treatment (ampicillin/gentamicin/other antibiotic) + Apgar score in 1 minute + Apgar score in 5 minutes + Hb + baby was evaluated by a doctor at admission

*Complete:* Observe the following in the record: temperature + pulse + respiratory rate + blood glucose level + antibiotic treatment (ampicillin/gentamicin/other antibiotic) + Silverman score + oxygen saturation + c-reactive protein + Hb + erythrocyte sedimentation rate + chest radiograph + baby was evaluated by a doctor at admission

Sepsis:

*Basic:* Observe the following in the record: temperature + pulse + leukocyte count + baby was evaluated by a doctor at admission + treatment with antibiotics (ampicillin/gentamicin/other antibiotic)

*Complete:* Observe the following in the record: temperature + pulse + leukocyte count + c-reactive protein + erythrocyte sedimentation rate + baby was evaluated by a doctor at admission + treatment with antibiotics (ampicillin/gentamicin/other antibiotic)

## 12. Women with obstetric complications (sepsis, hemorrhage, severe pre-eclampsia and eclampsia) managed according to the norm in the last two years

Denominator:

Total number of maternal complications records in the sample.

Formula:

Hemorrhage:

*Basic:* Observe the following in the record: vital signs checked (pulse + diastolic blood pressure + systolic blood pressure + respiratory rate + temperature) + oxytocin/other uterotonics administered

*Complete:* Observe the following in the record: vital signs checked (diastolic blood pressure + systolic blood pressure) + lab tests performed (Ht + Hb + PT + PTT + platelet count) + oxytocin/other uterotonics administered

Pre-eclampsia:

*Basic:* Observe the following in the record: vital signs checked (systolic blood pressure + diastolic blood pressure + pulse + respiratory rate) + lab tests performed (urine protein) + medication was administered (magnesium sulfate + hydralazine/nifedipine (if diastolic blood pressure is >110 bpm))

*Complete:* Observe the following in the record: vital signs check (systolic blood pressure + diastolic blood pressure + pulse + respiratory rate + patellar reflex) + lab tests performed (urine protein + platelet count + aspartate aminotransferase + alanine aminotransferase + lactate dehydrogenase) + medication was administered (magnesium sulfate + hydralazine/nifedipine (if diastolic blood pressure is >110 bpm) + dexamethasone/betamethasone (if gestational age is 26-34 weeks)) + outcome of pregnancy (c-section/vaginal delivery/other)

Eclampsia:

*Basic:* Observe the following in the record: vital signs checked (systolic blood pressure + diastolic blood pressure + pulse + respiratory rate) + lab tests performed (urine protein) + medication was administered (magnesium sulfate + hydralazine/nifedipine (if diastolic blood pressure is >110 bpm))

*Complete:* Observe the following in the record: vital signs check (systolic blood pressure + diastolic blood pressure + pulse + respiratory rate + patellar reflex) + lab tests performed (urine protein + platelet count + aspartate aminotransferase + alanine aminotransferase + lactate dehydrogenase) + medication was administered (magnesium sulfate + hydralazine/nifedipine (if diastolic blood pressure is >110 bpm) + dexamethasone/betamethasone (if gestational age is 26-34 weeks)) + outcome of pregnancy (c-section/vaginal delivery/other)

Sepsis:

*Basic:* temperature + pulse + systolic blood pressure + diastolic blood pressure + antibiotic administration

*Complete:* temperature + pulse + systolic blood pressure + diastolic blood pressure + antibiotic administration

**13. Number of institutional deliveries for which oxytocin/other uterotonic was administered immediately after birth:**

Denominator:

Total number of delivery records in the sample.

Formula:

*Basic:* Oxytocin/other uterotonic was administered after delivery

*Complete:* Oxytocin/other uterotonic was administered after delivery

**14. Neonates who received care according to standards from medical personnel within the first 48 hours after birth in the last 2 years:**

Denominator:

Total number of postpartum care records in the sample.

Formula:

*Basic:* Newborn was attended by doctor/nurse/midwife + all procedures and checkups recorded (administration of vitamin K + application of oxytetracycline ophthalmic prophylaxis/chloramphenicol + evaluation of malformation presence + Apgar score + pulse + respiratory rate + weight + height)

*Complete:* Newborn was attended by doctor/nurse/midwife + all procedures and checkups recorded (administration of vitamin K + application of oxytetracycline ophthalmic prophylaxis/chloramphenicol + evaluation of malformation presence + Apgar score + pulse + respiratory rate + weight + height)

#### 15. Prevalence of C-sections:

Denominator:

Total number of births in the last 2 years in the sample.

Formula:

*Complete:* Number of C-sections in the last 2 years / total number of births in the last two years

#### 16. Children (0-23 months) with low weight-for-age managed according to norms in the last two years:

Denominator:

Total number of records of children 0-23 months in the sample.

Formula:

*Ambulatory:* weight recorded in each visit + height/length recorded in each visit + charting of weight and height on take home cards + provide supplements + assess feeding practices of child

*Basic:* weight recorded in each visit + height/length recorded in each visit + charting of weight and height on take home cards + provide supplements + assess feeding practices of child + information about breastfeeding + information about referral + vitamin A prescribed + dose vitamin A is 200,000 IU + iron prescribed + dose of iron is 2-4mg/kg/day + multivitamin is prescribed

*Complete:* weight recorded in each visit + height/length recorded in each visit + charting of weight and height on take home cards + provide supplements + assess feeding practices of child + information about breastfeeding + information about referral + vitamin A prescribed + dose vitamin A is 200,000 IU + iron prescribed + dose of iron is 2-4mg/kg/day + multivitamin is prescribed

**17. Newborn enrolled for child health services within seven days of birth in the last two years**

Denominator:

Total number of records of newborns in the sample.

Formula:

*Ambulatory:* Date of birth – date of enrollment for child services  $\leq 7$  days

**18. Children (12-59 months) who received two doses of de-worming treatment in the last year:**

Denominator:

Total number of deworming records in the sample.

Formula:

*Ambulatory:* two doses of albendazole (400 mg) or mebendazole (500 mg) was given to the child. The combination of albendazole/mebendazole or only one drug in the two visits is required.

**19. Number of diarrhea cases in children 0-59 months that were treated with oral rehydration solution (ORS) and zinc in the last two weeks:**

Denominator:

Total number of diarrhea cases in children 0-59 months in the last two weeks in the sample.

Formula:

*Basic and Complete:* ORS and zinc was prescribed and recorded

## Appendix B: QIF Indicators

**Table B.2.2.1** Electricity and water

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Functional electricity	14	100		2	100		2	100	
Source of electricity									
Central supply	14	100		2	100		2	100	
Private supply	14	0		2	0		2	0	
In-facility generator	14	0		2	0		2	0	
Solar generator	14	0		2	0		2	0	
Other source	14	0		2	0		2	0	
DK/ DR	0			0			0		
Source of water									
Piped into facility	14	85.7	9.4	2	100		2	100	
Public well	14	0		2	0		2	0	
Facility well	14	7.1	6.9	2	0		2	50.0	35.4
Unprotected well	14	7.1	6.9	2	0		2	0	
Hand pump	14	0		2	0		2	0	
Bottled water	14	14.3	9.4	2	50.0	35.4	2	50.0	35.4
Tanker truck	14	14.3	9.4	2	0		2	100	
Rain water	14	21.4	11.0	2	0		2	0	
Other	14	14.3	9.4	2	50.0	35.4	2	0	
DK/ DR	0			0			0		

**Table B.2.3.1** Personnel composition in ambulatory facilities

Personnel type	Ambulatory without doctor			Ambulatory with doctor		
	N	mean	SE	N	mean	SE
General physician	4	0		10	0.8	0.4
Pediatrician	4	0		10	0.3	0.7
Nutritionist	4	0		10	0.1	0.3
Pharmacist	4	0		10	1.0	1.7
Nurse	4	1.0		10	2.1	1.9
Auxiliary nurse	4	0		10	0.2	0.4
Midwife	4	0.3	0.5	10	0.3	0.7
Practical midwife	4	0		10	0	
Social worker	4	0		10	0.1	0.3
Laboratory technician	4	0		10	0.8	1.8
Health promoter / Community health educator	4	0		10	0.2	0.4
Dispenser at pharmacy	4	0		10	0.4	1.0
Other	4	0.5	0.6	10	0.3	0.7
<b>Specialists</b>						
Internist	4	0		10	0	
Gynecologist	4	0		10	0.2	0.6
Surgeon	4	0		10	0	
Anesthesiologist	4	0		10	0	
Emergency medical technician	4	0		10	0	
Radiology technician	4	0		10	0	
Other specialist	4	0		10	0	

**Table B.2.3.2** Personnel composition in basic facilities

Personnel type	Basic			Complete		
	N	mean	SE	N	mean	SE
General physician	2	10.0		2	9.5	3.5
Pediatrician	2	5.5	6.4	2	2.0	
Nutritionist	2	0		2	0.5	0.7
Pharmacist	2	2.0	2.8	2	2.5	3.5
Nurse	2	8.0	1.4	2	51.0	18.4
Auxiliary nurse	2	11.0	9.9	2	18.0	7.1
Midwife	2	4.0		2	7.5	3.5
Practical midwife	2	4.5	4.9	2	2.5	0.7
Social worker	2	0.5	0.7	2	0.5	0.7
Laboratory technician	2	3.0		2	5.5	0.7
Health promoter / Community health educator	2	1.0		2	1.0	
Dispenser at pharmacy	2	2.0	1.4	2	2.5	0.7
Other	2	0		2	0.5	0.7
<b>Specialists</b>						
Internist	2	0		2	2.5	0.7
Gynecologist	2	0		2	2.5	0.7
Surgeon	2	0		2	2.0	
Anesthesiologist	2	0		2	2.5	0.7
Emergency medical technician	2	0		2	0.5	0.7
Radiology technician	2	2.0	2.8	2	1.5	2.1
Other specialist	2	0		0	0	

**Table B.2.6.1a** BHIS equipment and report generation

Facilities with BHIS			
	N	%	SE
<b>IT Equipment</b>			
Computer	10	100	
Printer	10	100	
Network	10	100	
<b>Report generation</b>			
At least one report generated on the day of the survey	10	30.0	14.5

**Table B.2.6.1b BHIS reports generated**

Type of BHIS report	Facilities with BHIS		
	N	%	SE
Pregnancies by age range	10	30	14.5
Antenatal Gestational Encounter 16 wks	10	30	14.5
Antenatal Related Diagnoses	10	30	14.5
Antenatal Preexisting Diagnoses	10	30	14.5
Postnatal Related Diagnoses	10	30	14.5
Live Births by Gender	10	30	14.5
<b>Nutrition</b>			
Feeding practices of children aged 6 months	10	20	12.6
Feeding practices of children aged 12 months	10	20	12.6
Nutritional status children < 5 years	10	20	12.6
Weight for length/height	10	20	12.6
Height for age	10	20	12.6
<b>Immunizations</b>			
Immunizations by location	10	30	14.5
None observed	10	70	14.5
Decline to show	10	0	

**Table B.3.1.1 Child health care services provision**

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Unit offers child services	14	100		2	100		2	100	
Unit vaccinates children under 5	14	100		2	100		2	100	
<b>Child care room*</b>									
Private room with visual and auditory privacy	13	92.3	7.4	1	100		2	100	
Visual privacy only	13	7.7	7.4	1	0		2	0	

\*Due to an error in skip logic, data is missing for one ambulatory & one basic facility regarding the type of child care room

**Table B.3.2.1 Child health care equipment observed and functional in ambulatory facilities**

	Ambulatory					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Pediatric scales or salter scales	12	83.3	10.8	14	100	
Measuring Tape	12	83.3	10.8	14	100	
Height rod	12	75.0	12.5	14	92.9	6.88
Stethoscope	12	83.3	10.8	14	100	
Pediatric stethoscope	12	25.0	12.5	14	21.4	10.97
Oto-ophthalmoscope	12	16.7	10.8	14	21.4	10.97
Hand lamp	12	33.3	13.6	14	100	
Examination table or stretcher	12	83.3	10.8	14	100	
All equipment observed and functional	12	0		14	0	

**Table B.3.2.2** Child health care equipment observed and functional in basic facilities

	Basic					
	Baseline			18-Month		
	N	%	SE	N	%	
Pediatric scale or salter scale	2	100		2	100	
Height rod	2	100		2	100	
Measuring Tape	2	100		2	100	
Pediatric blood pressure apparatus	2	50.0	35.4	2	100	
Neonatal tensiometer	2	0		2	0	
Pediatric stethoscope	2	100		2	0	
Hand lamp	2	0		2	100	
Binaural stethoscope for newborns	2	50.0	35.4	2	0	
Reflex hammer	2	50.0	35.4	2	100	
Negatoscope	2	0		2	100	
Pantascopes/oto-ophthalmoscope*	2	0		2	0	
Examination table or stretcher	2	100		2	100	
All equipment observed and functional	2	0		2	0	

\*only pantascopes checked at baseline

**Table B.3.2.3** Child health care equipment observed and functional in complete facilities

	Complete					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Pediatric scales or salter scales	2	100		2	100	
Height rod	2	100		2	100	
Measuring Tape	2	100		2	100	
Pediatric blood pressure apparatus	2	0		2	100	
Neonatal tensiometer	2	0		2	0	
Pediatric stethoscope	2	0		2	50.0	35.4
Hand lamp	2	0		2	100	
Binaural stethoscope for newborns	2	0		2	0	
Reflex hammer	2	0		2	50.0	35.4
Negatoscope	2	0		2	100	
Pantascopes/oto-ophthalmoscope*	2	0		2	0	
Examination table or stretcher	2	50.0	35.4	2	100	
All equipment observed and functional	2	0	0	2	0	

\*only pantascopes checked at baseline

**Table B.3.3.2** Child health care observed drugs and supplements in ambulatory facilities

Ambulatory						
	Baseline			18-Month		
	N	%	SE	N	%	SE
Packets/envelopes of oral rehydration salt	6	100		14	92.9	6.9
Ferrous sulfate drops/multivitamins	6	100		14	78.6	11
Albendazol/Mebendazol	6	100		14	100	
Zinc sulfate/Zinc gluconate	6	66.7	19.3	14	92.9	6.9
Antibiotics*	6	100		14	85.7	9.4
All drugs observed on day of the survey	6	66.7	19.3	14	71.4	12.1
All drugs available at survey and in past 3 months	6	66.7	19.3	14	71.4	12.1

\*Baseline antibiotics = Amoxicillin//Benzatinic penicillin//Erythromycin//Azithromycin

\*18 month antibiotics = Amoxicillin//Benzatinic penicillin//Erythromycin//Azithromycin//Trimetropin Sulfa

\*\*Pharmacy data missing for 9 facilities at baseline

**Table B.3.3.3** Child health care observed drugs and supplements in basic facilities

Basic						
	Baseline			18-Month		
	N	%	SE	N	%	SE
Packets/envelopes of oral rehydration salt	2	100		2	100	
Ferrous sulfate drops or multivitamins	2	50	35.4	2	50	35.4
Zinc sulfate/Zinc gluconate	2	50	35.4	2	100	
Albendazol/Mebendazol	2	100		2	50	35.4
Antibiotics*	2	100		2	100	
Ringer lactate/Hartman solution/Saline solution	2	100		2	100	
IV Set**	2	50	35.4	2	100	
All drugs observed on day of the survey	2	50	35.4	2	0	
All drugs available at survey and in past 3 months	2	50	35.4	2	0	

\*Baseline antibiotics = Amoxicillin/Benzatinic penicillin/Erythromycin/Azithromycin

\*18 month antibiotics = Benzatinic penicillin/Erythromycin/Azithromycin/Trimetropin Sulfa

\*\* Scalp vein set at baseline, stockout not checked

**Table B.3.3.4** Child health care observed drugs and supplements in complete facilities

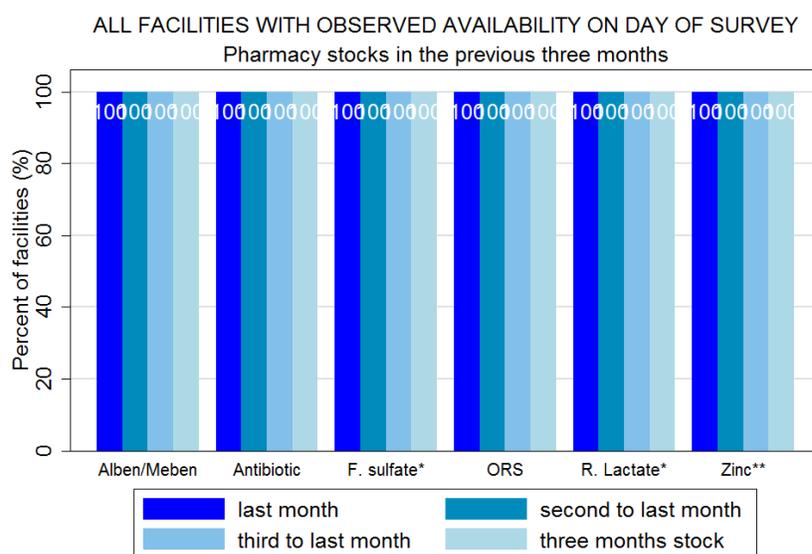
	Complete					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Packets/envelopes of oral rehydration salt	2	100		2	100	
Ferrous sulfate drops/multivitamins	2	100		2	50	35.4
Albendazol/Mebendazol	2	100		2	100	
Zinc sulfate/Zinc gluconate	2	100		2	100	
Antibiotics*	2	100		2	100	
IV Set**	2	50	35.4	2	100	
Ringer lactate/Hartman/Saline solution	2	100		2	100	
All drugs observed on the day of survey	2	100		2	50	35.4
All drugs available at survey and in past 3 months	2	100		2	50	35.4

\*Baseline antibiotics = Amoxicillin/Benzatinic penicillin/Erythromycin/Azithromycin

\*18 month antibiotics = Benzatinic penicillin/Erythromycin/Azithromycin/Trimetropin Sulfa

\*\*Scalp vein set at baseline, stockout not checked

**Figure B.3.3.5** Availability of pharmacy inputs in the previous three months (if the drug was observed on the day of the survey)



\*Ferrous Sulfate; \*\*Ringer lactate/Hartman solution/Saline Solution

**Table B.3.4.1** Child health education and awareness at all facilities

Education material	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Materials on child growth and child development	12	91.7	8.0	1	100	0	2	50.0	35.4
Materials on danger signs and symptoms of children	12	75.0	12.5	1	100	0	2	50.0	35.4

\*Missing data for one basic facility

### B.3.5 Diarrhea management

During the medical record reviews, interviewers systematically selected records of diarrhea cases in children (0–59 months) that were treated with oral rehydration solution and zinc in the last two weeks. 0% of children in complete facilities were treated with the appropriate solutions and only 2.9% of children in basic facilities were treated with the appropriate solutions in the last two weeks.

**Table B.3.6.1** Medical record review in basic & complete facilities: Deworming

	Ambulatory		
	N	%	SE
First dose received	65	33.8	5.9
Second dose received	50	16.0	5.2
Child received both doses of deworming treatment	50	8.0	3.8

**Table B.3.7.1** LBW Medical record review in all facilities

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Weight checked at each visit	51	80.4	5.6	10	80.0	12.6	10	90.0	9.5
Height / length checked at each visit	51	64.7	6.7	10	20.0	12.6	10	40.0	15.5
Charting of weight & height on take home cards	51	100		10	70.0	14.5	10	10.0	9.5
Supplements provided	51	49.0	7.0	10	50.0	15.8	10	30.0	14.5
Assess feeding practices of children at risk or with under nutrition	51	90.2	4.2	10	100		10	100	
Information about referral*	n/a	n/a	n/a	10	50.0	15.8	10	10.0	9.5
Information about breastfeeding*	n/a	n/a	n/a	10	100		10	100	
Vitamin A prescribed*	n/a	n/a	n/a	10	10.0	9.5	10	20.0	12.6
Dose of vitamin A 200,000 IU* **	n/a	n/a	n/a	1	0		2	0	
Iron prescribed*	n/a	n/a	n/a	10	0		10	10.0	9.5
Dose of iron 2-4 mg/kg/day* **	n/a	n/a	n/a	0			1	0	
Multivitamin prescribed*	n/a	n/a	n/a	10	50.0	15.8	10	30.0	14.5

\*Only measured at basic & complete facilities

\*\*Only measured if the drug was prescribed

**Table B.4.1.1** Vaccination services

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Unit vaccinates children under 5	14	100		2	100		2	100	
Immunization room*									
Private room with visual and auditory privacy	13	92.3	7.4	1	100		2	100	
No privacy	13	7.7	7.4	1	0		2	0	

\*Due to an error in skip logic, data is missing for one ambulatory & one basic facility regarding the type of immunization room

**Table B.4.2.1** Vaccine supply and demand

Vaccine Information	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
<b>Storage</b>									
Stored in facility	14	100		2	100		2	100	
Picked up from another facility	14	0		2	0		2	0	
Delivered when services are being provided	14	0		2	0		2	0	
None of the above	14	0		2	0		2	0	
<b>Ordering Strategy</b>									
Determines own needs	14	100		2	100		2	100	
Need determined elsewhere	14	0		2	0		2	0	
Both(differ by vaccine)	14	0		2	0		2	0	
<b>Quantity to order strategy</b>									
Order same amount	14	100		2	100		2	100	
Different per vaccine	14	0		2	0		2	0	
<b>Time to order strategy</b>									
Fixed time, > once/week	14	85.7	9.4	2	50.0	35.4	2	100	
Fixed time, < once/week	14	0		2	50.0	35.4	2	0	
Order when needed	14	7.1	6.9	2	0		2	0	
<b>Time to receive supplies</b>									
< 1 week	14	100		2	100		2	100	
1-2 weeks	14	0		2	0		2	0	
> 2 weeks	14	0		2	0		2	0	
<b>Reception of quantity ordered</b>									
Always	14	28.6	12.1	2	0		2	0	
Almost always	14	71.4	12.1	2	100		2	100	
Almost never	14	0		2	0		2	0	

**Table B.4.3.1** Vaccine stocks observed in ambulatory facilities

Ambulatory						
	Baseline			18-Month		
	N	%	SE	N	%	SE
Pentavalent	6	100		13	100	
MMR	6	100		13	100	
Polio	6	100		13	100	
Influenza	6	100		13	61.5	13.5
BCG	6	100		13	100	
All vaccines available on day of survey	6	100		13	61.5	13.5

\* Pentavalent = DPT + HepB + Hib; MMR = Measles + Mumps + Rubella

**Table B.4.3.2** Vaccine stocks observed in basic facilities

Basic						
	Baseline			18-Month		
	N	%	SE	N	%	SE
Pentavalent	2	100		2	100	
MMR	2	100		2	100	
Polio	2	100		2	100	
Influenza	2	50	35.4	2	0	
BCG	2	100		2	100	
All vaccines available on day of survey	2	50	35.4	2	0	

\* Pentavalent = DPT + HepB + Hib; MMR = Measles + Mumps + Rubella

**Table B.4.3.3** Vaccine stocks observed in complete facilities

Complete						
	Baseline			18-Month		
	N	%	SE	N	%	SE
Pentavalent	2	100		2	100	
MMR	2	100		2	100	
Polio	2	100		2	100	
Influenza	2	100		2	50	35.4
BCG	2	100		2	100	
All vaccines available on day of survey	2	100		2	50	35.4

\* Pentavalent = DPT + HepB + Hib; MMR = Measles + Mumps + Rubella

**Table B.4.4.1** Fridge availability

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Storage									
Electric fridge	13	100		2	100		2	100	
Kerosene fridge	13	0		2	0		2	0	
Gas fridge	13	0		2	0		2	0	
Solar fridge	13	0		2	0		2	0	
Any of the above	13	100		2	100		2	100	

**Table B.5.1.1** Family planning (FP) services provision

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Offers FP services	14	100		2	100		2	100	
FP room*									
Private room with visual and auditory privacy	13	92.3	7.4	1	100		2	100	
Non-private room without auditory or visual privacy	13	0		1	0		2	0	
Visual privacy only	13	0		1	0		2	0	
No privacy	13	7.7	7.4	1	0		2	0	
Other	13	0		1	0		2	0	

\*Due to an error in skip logic, data is missing for one ambulatory & one basic facility regarding the type of fp room

**Table B.5.1.2** Family planning (FP) storage

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
FP Storage									
Yes, stores contraceptives	14	100		2	100		2	100	
No, delivered when services are being provided	14	0		2	0		2	0	
None provided	14	0		2	0		2	0	

**Table B.5.2.1** Observed contraception methods and reported services

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
<b>Observed FP methods</b>									
Any pill	14	100		2	100		2	100	
Combined oral pill	14	100		2	100		2	100	
Progestin only pill	14	78.6	11.0	2	100		2	100	
Any injectable	14	100		2	100		2	100	
Combined injectable (1 month)	14	100		2	100		2	100	
Progestin only injectable (3 months)	14	100		2	100		2	100	
Male condom	14	100		2	100		2	100	
Female condom	14	92.9	6.9	2	100		2	100	
Intrauterine device	14	92.9	6.9	2	100		2	100	
Spermicide	14	7.1	6.9	2	0		2	0	
Diaphragm	14	7.1	6.9	2	0		2	0	
Emergency contraception pill	14	92.9	6.9	2	100		2	50	35.4
<b>Reported Services*</b>									
Offers pregnancy tests	14	100		2	100		2	100	
Trained doctor to perform IUD insertion	14	50.0	13.4	2	100		2	100	
Trained doctor to perform tubal ligation**	n/a	n/a	n/a	2	0		2	100	
Trained doctor to perform vasectomy**	n/a	n/a	n/a	2	50	35.36	2	100	

\*Asked only if facility reported providing FP services in the questionnaire

\*\*Only applicable to basic & complete facilities

**Table B.5.3.1** Composite family planning performance indicator in ambulatory facilities

	Ambulatory					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Male condom	12	100		14	100	
Any pill	12	100		14	100	
Any injectable	12	83.3	11.2	14	100	
Availability of all above methods on the day of the survey	12	83.3	11.8	14	100	
Continuous availability of all methods in the previous three months*	12	75	13.1	14	92.9	6.9

\*Includes availability on the day of the survey

**Table B.5.3.2** Composite family planning performance indicator in basic facilities

	Basic					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Male condom	2	100		2	100	
Any pill	2	100		2	100	
Any injectable	2	100		2	100	
IUD	2	100		2	100	
Availability of all above methods on the day of the survey	2	100		2	100	
Continuous availability of all methods in the previous three months*	2	100		2	100	

\* Includes availability on the day of the survey

**Table B.5.3.3** Composite family planning performance indicator in complete facilities

	Complete					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Male condom	2	100		2	100	
Any pill	2	100		2	100	
Any injectable	2	100		2	100	
IUD	2	100		2	100	
Availability of all above methods on the day of the survey	2	100		2	100	
Continuous availability of all methods in the previous three months*	2	100		2	100	
Doctor trained to perform tubal ligation & vasectomy**	1	100		2	100	

\* Includes availability on the day of the survey

\*\*At baseline, one hospital responded "Don't know" when asked about staff trained to perform vasectomy. This case was considered missing, resulting in denominator of 1.

**Table B.5.4.1** FP educational materials for ambulatory facilities

	Health post / Mobile Unit			Ambulatory		
	N	%	SE	N	%	SE
Flip charts	0			14	92.9	6.9
Brochures	0			14	85.7	9.4
Tapes* **	0			13	0	
Videos* **	0			13	7.7	7.4

\*Not required for a health post / mobile unit

\*\*One ambulatory facility selected 'decline to show' & was excluded from analysis

**Table B.5.4.2** FP educational materials for basic & complete facilities

	Basic			Complete		
	N	%	SE	N	%	SE
Flip charts	2	100		2	100	
Brochures	2	100		2	100	
Tapes	2	50.0	35.4	2	0	
Videos	2	50.0	35.4	2	0	

**Table B.5.4.3** FP counseling in ambulatory facilities

	Ambulatory		
	N	%	SE
Family planning counseling was given	74	23.0	4.9
Family planning method was given	74	94.6	2.6
Reason for refusal of family planning was recorded*	1	0	

\*Reason for refusal was only asked if family planning method was not given

**Table B.5.5.1** Quality of Care job aid tools for ambulatory facilities

Quality of Care job aid tools for reproductive health	Ambulatory		
	N	%	SE
5 P Checklist	14	7.1	6.9
COC Fact Sheet	14	64.3	12.8
Checklist for Contraception	14	78.6	11.0
DEPO Fact Sheet	14	28.6	12.1
Dual Protection	14	85.7	9.4
What you need to Know about Birth Control - Preventing unwanted pregnancies (Brochure)	14	92.9	6.9
Use a condom the right way every time you have sex (Poster)/Protect yourself	14	85.7	9.4
STI's- Herpes	14	92.9	6.9
STI's- Gonorrhea*	14	92.9	6.9
STI's- Genital Warts	14	92.9	6.9
HIV/AIDS	14	92.9	6.9
Abstain or use a modern contraceptive method (Poster)	14	85.7	9.4
Observed at least 5 items listed above	14	92.9	6.9

\*An additional alternative exists called, "Use a condom the right way," however, this was not measured during data collection

**Table B.5.5.2** Quality of Care job aid tools for basic facilities

Quality of Care job aid tools for reproductive health	Basic		
	N	%	SE
5 P checklist	2	0	
COC fact sheet	2	100	
Checklist for contraception	2	100	
DEPO fact sheet	2	50.0	35.4
Dual protection	2	50.0	35.4
What you need to know about birth control - Preventing unwanted pregnancies (Brochure)	2	100	
Use a condom the right way every time you have sex (Poster) /Protect yourself	2	100	
STI's- Herpes	2	100	
STI's- Gonorrhea	2	100	
STI's- Genital Warts	2	100	
HIV/AIDS	2	100	
Abstain or use a modern contraceptive method (Poster)	2	100	
Observed at least 5 items listed above	2	100	

\*An additional alternative exists called, "Use a condom the right way," however, this was not measured during data collection

**Table B.5.5.3** Quality of Care job aid tools for complete facilities

Quality of Care job aid tools for reproductive health	Complete		
	N	%	SE
5 P checklist	2	0	
COC fact sheet	2	50.0	35.4
Checklist for contraception	2	100	
DEPO fact sheet	2	50.0	35.4
Dual protection	2	100	
What you need to know about birth control - Preventing unwanted pregnancies (Brochure)	2	100	
Use a condom the right way every time you have sex (Poster) /Protect yourself	2	100	
STI's- Herpes	2	100	
STI's- Gonorrhea	2	100	
STI's- Genital Warts	2	100	
HIV/AIDS	2	100	
Abstain or use a modern contraceptive method (Poster)	2	100	
Observed at least 5 items listed above	2	100	

\*An additional alternative exists called, "Use a condom the right way," however, this was not measured during data collection

**Table B.5.6.1** Educational materials at all facilities

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Reproductive life-plan worksheet	14	0		2	50.0	35.4	2	0	
Contraceptives for adolescents flip-chart	14	92.9	6.9	2	50.0	35.4	2	100	
Thinking of having a baby? - 10 reasons not to. Adolescents from those who know (brochure)	14	85.7	9.4	2	100		2	100	
Community - based adolescent sexual and reproductive health programme (brochure)	14	78.6	11.0	2	100		2	100	
S & R H - Don't want to get pregnant right now? Birth control (flyer)	14	85.7	9.4	2	100		2	100	
Having sex? Things you need to know (flyer)	14	92.9	6.9	2	100		2	100	
Growing up? It's a normal part of life! (puberty - flyer)	14	92.9	6.9	2	100		2	100	
Seek help from your CHW (poster)	14	85.7	9.4	2	100		2	100	
At least 3 items (listed above) are observed	14	92.9	6.9	2	100		2	100	

**Table B.6.1.1** ANC service provision in ambulatory facilities

	Ambulatory without doctor			Ambulatory with doctor		
	N	%	SE	N	%	SE
Offers ANC services	4	100		10	100	
ANC room*						
Private room with auditory and visual privacy	4	100		8	100	
Non-private room without auditory nor visual privacy	4	0		8	0	
Visual privacy only	4	0		8	0	
No privacy	4	0		8	0	

\*Due to an error in skip logic, data is missing for two ambulatory facilities with a doctor regarding the type of ANC room

**Table B.6.1.2** ANC, delivery, and PPC service provision in basic facilities

	Basic			Complete		
	N	%	SE	N	%	SE
Offers ANC services	2	100		2	100	
Offers routine delivery services (non-urgent)	2	100		2	100	
Offers PPC services	2	100		2	100	
ANC - PPC room*						
Private room with auditory and visual privacy	1	100		2	100	
Non-private room without auditory nor visual privacy	1	0		2	0	
Visual privacy only	1	0		2	0	
No privacy	1	0		2	0	
Delivery room						
Private room with auditory and visual privacy	1	100		2	50.0	35.4
Non-private room without auditory nor visual privacy	1	0		2	0	
Visual privacy only	1	0		2	50.0	35.4
No privacy	1	0		2	0	

\*Due to an error in skip logic, data is missing for one basic facility regarding the type of ANC-PPC & Delivery room

**Table B.6.2.1a** Observed and functional ANC – PPC equipment in ambulatory facilities

	Ambulatory					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Scale with measuring rod	12	91.7	8.0	14	92.9	6.9
Gynecological exam table	12	75.0	12.5	14	100	
CLAP obstetrical tape	12	100		14	100	
Gestogram	12	75.0	12.5	14	100	
Lamp	12	83.3	10.8	14	100	
Sphygmomanometer*	12	75.0	12.5	13	100	
Stethoscope	12	83.3	10.8	14	100	
Fetoscope	12	58.3	14.2	14	100	
Thermometer	12	75.0	12.5	14	100	
Reflex hammer	12	16.7	10.8	14	92.9	6.9
Perinatal maternal medical history	12	100		14	100	
Perinatal maternal card	12	100		14	100	
Referral forms	12	83.3	10.8	14	100	
Robes or sheets for patients	12	83.3	10.8	14	100	
All equipment observed and functional	12	8.3	8.0	13	84.6	10.0

\* Missing data on sphygmomanometer for one ambulatory facility

**Table B.6.2.1b** Observed and functional ANC – PPC equipment in basic facilities

	Basic					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Scale with measuring rod	2	100		2	100	
Gynecological exam table	2	100		2	100	
CLAP obstetrical tape	2	50.0	35.4	2	100	
Equipment cart	2	0		2	100	
Gestogram	2	0		2	100	
Lamp	2	100		2	100	
Sphygmomanometer	2	100		2	100	
Stethoscope	2	50.0	35.4	2	100	
Set for IUD insertion	2	0		2	100	
Fetoscope	2	0		2	100	
Thermometer	2	0		2	100	
Reflex hammer	2	0		2	100	
Perinatal maternal medical history	2	100		2	100	
Perinatal maternal card	2	100		2	100	
Referral forms	2	0		2	100	
Robes or sheets for patients	2	0		2	100	
All equipment observed and functional	2	0		2	100	

**Table B.6.2.1c** Observed and functional ANC – PPC equipment in complete facilities

	Complete					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Scale with measuring rod	2	100		2	100	
Gynecological exam table	2	100		2	100	
CLAP obstetrical tape	2	100		2	100	
Equipment cart	2	0		2	100	
Gestogram	2	0		2	100	
Lamp	2	100		2	100	
Sphygmomanometer	2	100		2	100	
Stethoscope	2	100		2	100	
Set for IUD insertion	2	50.0	35.4	2	100	
Fetoscope	2	0		2	100	
Thermometer	2	0		2	100	
Reflex hammer	2	50.0	35.4	2	50.0	35.4
Perinatal maternal medical history	2	100		2	100	
Perinatal maternal card	2	100		2	100	
Referral forms	2	50.0	35.4	2	100	
Robes or sheets for patients	2	50.0	35.4	2	100	
All equipment observed and functional	2	0	0	2	50.0	35.4

**Table B.6.2.2a** ANC – PPC pharmacy inputs for ambulatory facilities

	Ambulatory					
	Baseline			18-Month		
	N	%	SE	N	%	SE
(Iron + Folic acid) or Multivitamin	6	100		14	92.9	6.9
Nitrofurantoin	6	50.0	20.4	14	85.7	9.4
Cephalexin	6	100		14	78.6	11
Tetanus vaccine	6	100		14	100	
Ayre palettes / swabs	6	83.3	15.2	14	50.0	13.4
Pap smear slides **	N/A	N/A		14	64.3	12.8
All inputs observed on the day of the survey	6	50.0	20.4	14	42.9	13.2
Continuous availability of all drugs in the previous three months***	6	50.0	20.4	14	35.7	12.8

\* Missing data at baseline for 6 ambulatory facilities

\*\* Due to a mistranslation at the baseline, PAP smear slides were not observed and could not be included in the baseline value.

\*\*\*Overall drug availability including availability of all inputs on the day of the survey and no stock out of multivitamin/ iron +folic acid, tetanus (if facility stores vaccines), cephalixin, nitrofurantoin and ayre palletes or swabs in the previous three months

**Table B.6.2.2b** ANC – PPC pharmacy inputs for basic facilities

	Basic					
	Baseline			18-Month		
	N	%	SE	N	%	SE
(Iron + Folic acid) or Multivitamin	2	100		2	100	
Nitrofurantoin	2	100		2	50.0	35.4
Cephalexin	2	100		2	100	
Tetanus vaccine	2	0		2	100	
Ayre palettes / swabs	2	0		2	100	
PAP smear slides*	n/a	n/a	n/a	2	100	
All inputs observed on the day of the survey	2	0		2	50.0	35.4
Continuous availability of all drugs in the previous three months**	2	0		2	50.0	35.4

\* Due to a mistranslation at the baseline, PAP smear slides were not observed and could not be included in the baseline value.

\*\*Overall drug availability including availability of all inputs on the day of the survey and no stock out of multivitamin/ iron +folic acid, tetanus (if facility stores vaccines), cephalixin, nitrofurantoin and ayre palletes or swabs in the previous three months. ayre dstock out data is missing for 1 basic facility.

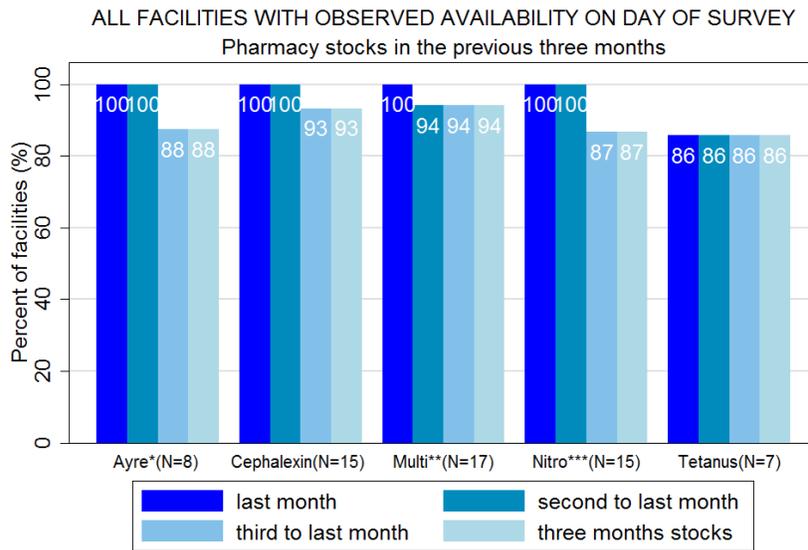
**Table B.6.2.2c** ANC – PPC pharmacy inputs for complete facilities

	Complete					
	Baseline			18-Month		
	N	%	SE	N	%	SE
(Iron + Folic acid) or Multivitamin	2	50.0	35.4	2	100	
Nitrofurantoin	2	100		2	100	
Cephalexin	2	50.0	35.4	2	100	
Tetanus vaccine	2	50.0	35.4	2	100	
Ayre palletes / swabs	2	0		2	100	
PAP smear slides*	n/a	n/a	n/a	2	100	
All inputs observed on the day of the survey	2	0		2	100	
Continuous availability of all drugs in the previous three months**	2	0		2	0	

\*Due to a mistranslation at the baseline, PAP smear slides were not observed and could not be included in the baseline value.

\*\*Overall drug availability including availability of all inputs on the day of the survey and no stock out of multivitamin/ iron +folic acid, tetanus (if facility stores vaccines), cephalaxin, and nitrofurantoin in the previous three months. Ayre stock out data is missing for both complete facilities.

**Figure B.6.2.2d** Availability of pharmacy inputs in the previous three months (if the drug was observed on the day of the survey)



\*Ayre palletes or swabs; \*\*Multivitamin or iron+folic acid; \*\*\*Nitrofurantoin

\*Missing ayre stock out data for 1 basic & 2 complete facilities

**Table B.6.2.3a** ANC – PPC lab inputs and lab reagents at basic facilities

Laboratory inputs	Basic					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Rapid syphilis test / dark field microscope / equipment for enzyme immunoassay	2	100		2	100	
Rapid HIV/AIDS test / fluorescence microscope	2	100		2	100	
Urine protein strips / urinalysis equipment	2	100		2	100	
Blood glucose strips / glucose meter	2	0		2	100	
Hemocue / automated cell counter	2	100		2	100	
Microcuvettes	2	100		2	50.0	35.4
Pregnancy test kit	2	100		2	100	
All lab reagents observed on day of survey and continuous availability in previous three months*	n/a	n/a	n/a	2	100	
Availability of all lab inputs	2	0		2	50.0	35.4

\* Lab reagents not captured at baseline. Lab reagents include: Blood type antibody, RH factor antibody, Syphilis antigen and HIV/AIDS antigen (if equipment for enzyme immunoassay is observed).

**Table B.6.2.3b** ANC – PPC lab inputs and lab reagents at complete facilities

Laboratory inputs	COMPLETE EONC LEVEL					
	BASELINE*			18-MONTH		
	N	%	SE	N	%	SE
Rapid syphilis test / dark field microscope / equipment for enzyme immunoassay	2	50.0	35.4	2	100	
Rapid HIV/AIDS test / fluorescence microscope	2	0		2	100	
Urine protein strips / urinalysis equipment	2	100		2	100	
Blood glucose strips / glucose meter	2	0		2	50.0	35.4
Hemocue / automated cell counter	2	0		2	100	
All lab reagents observed on day of survey and continuous availability in previous three months**	n/a	n/a	n/a	2	100	
Availability of all lab inputs	2	0		2	50.0	35.4

\* Rapid tests not asked at complete facilities at the baseline. Baseline values only represent availability of lab equipment, not considering rapid tests as alternative.

\*\* Lab reagents not captured at baseline. Lab reagents include: Blood type antibody, RH factor antibody, Syphilis antigen and HIV/AIDS antigen (if equipment for enzyme immunoassay is observed).

**Table B.6.3.1** ANC during the first trimester

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Doctor or nurse attended first ANC visit	61	100		44	77.3	6.3	29	62.1	9.0
First ANC visit before 12 weeks gestation	61	31.1	5.9	44	15.9	5.5	29	34.5	8.8
First ANC visit according to the norm*	61	31.1	5.9	44	13.6	5.2	29	24.1	7.95

\*The gestational age was also reported in the med records. If the indicator was calculated using the stated gestational age, 25.5% ambulatory, 12.2% basic, and 16.1% of complete facilities had their first ANC visit before 12 weeks gestation.

**Table B.6.3.2** Immediate neonatal care in basic & complete facilities

	Basic			Complete		
	N	%	SE	N	%	SE
Newborn attended by a doctor / nurse / midwife	35	100		33	100	
Procedures and checkups recorded						
Vitamin K	35	97.1	2.8	33	100	
Application oxitetraciline ophthalmic prophylaxis / chloramphenicol	35	94.3	3.9	33	100	
Evaluation of malformations presence	35	97.1	2.8	33	93.9	4.2
Apgar score (1 + 5)	35	100		33	100	
Pulse	35	94.3	3.9	33	100	
Respiratory rate	35	88.6	5.4	33	100	
Weight	35	100		33	93.9	4.2
Height	35	91.4	4.7	33	97.0	3.0
Head circumference	35	91.4	4.7	33	97.0	3.0
Newborn attended + all procedures and checkups recorded	35	82.9	6.4	33	87.9	5.7

**Table B.6.4.1** Equipment needed for delivery care in basic and complete facilities

Equipment type	Basic			Complete		
	N	%	SE	N	%	SE
Metallic clamp / umbilical tape	2	50.0	35.4	2	100	
Intravenous catheter sterile N ° 18	2	100		2	100	
IV administration kit	2	100		2	100	
Nasogastric tube	2	100		2	50.0	35.4
Sterile fields or sheltering for a baby	2	50.0	35.4	2	100	
All equipment observed and functional*	2	50.0	35.4	2	50.0	35.4

\*Data for functionality only applicable for iv administration kit & sterile fields

**Table B.6.4.2** Pharmacy inputs needed for delivery care in basic and complete facilities

Pharmacy inputs	Basic			Complete		
	N	%	SE	N	%	SE
Chloramphenicol / gentamicin ampules 80 mg*	2	100		2	100	
Epinefrina	2	50.0	35.4	2	100	
Ergmetrine / Oxytocin	2	100		2	100	
Ringer lactate / Hartmann solution / Saline solution	2	100		2	100	
All pharmacy inputs available on the day of the survey	2	50.0	35.4	2	100	

\*Gentamicin ampules 80mg was only measured at basic facilities

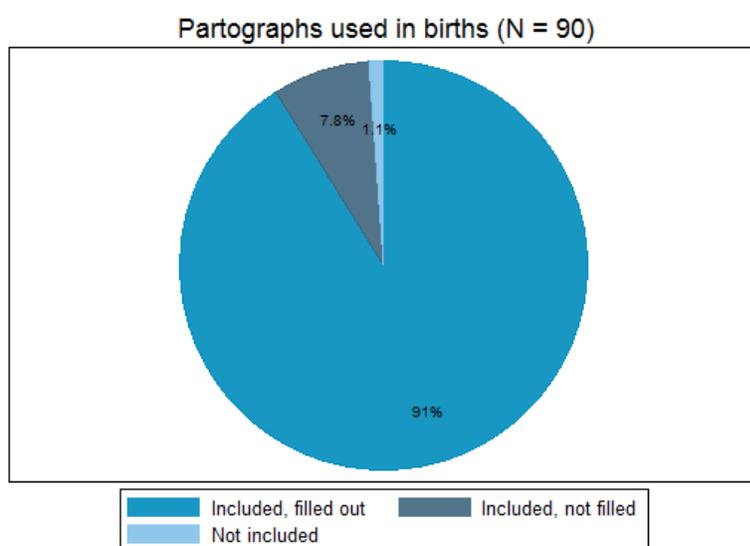
### B.6.4.3 Prevalence of C-sections

In the health facility questionnaire module, the number of C-sections in the last 2 years is asked to the managers of complete health facilities. This data was only collected from two complete health facilities. Of the 4,165 total deliveries performed by the two health facilities, 49.1% were carried out as C-sections.

**Table B.6.5.1** Administration of oxytocin/other uterotonic in basic & complete facilities

	Basic			Complete		
	N	%	SE	N	%	SE
Administration of oxytocin / other uterotonic	57	89.5	4.1	33	63.6	8.4

**Table B.6.5.2a** Percent of partographs used during births in basic and complete facilities



**Table B.6.5.2b** Partograph revision in basic and complete facilities

Partograph revision in basic facilities	Basic			Complete		
	N	%	SE	N	%	SE
Partograph included and filled out	57	91.2	3.8	33	90.9	5.1
Women with dilation > 4.5 cm	52	69.2	6.5	30	83.3	6.9
Fetal heart rate and alert curve are recorded if dilation > 4.5 cm	36	63.9	8.1	25	96.0	4.0
Women with alert curve surpassed	52	26.9	6.2	30	3.3	3.3
There exists a note within 30 minutes if alert curve surpassed	14	85.7	9.7	1	100	
Fetal heart rate < 120 bpm	52	1.9	1.9	30	0	
There exists a note within 30 minutes if FHR < 120 bpm	1	0		0		
Partograph according to the norm	57	75.4	5.8	33	97.0	3.0

**Table B.7.2.1** Observed and functional equipment for emergency care in basic facilities

Basic						
	Baseline			18-Month		
	N	%	SE	N	%	SE
Blood pressure apparatus	2	100		2	100	
Stethoscope	2	100		2	100	
Pinard stethoscope/portable Doppler	2	50.0	35.4	2	50.0	35.4
Autoclave/Dry heat sterilizer	2	0		2	100	
Tank of oxygen/Central oxygen supply	2	100		2	100	
Reanimation resuscitation bag for adult	2	100		2	100	
Neonatal resuscitation bag	2	100		2	100	
Laryngoscope	2	0		2	100	
Uterine curettage kit	2	0		2	0	
All equipment observed and functional	2	0		2	0	

**Table B.7.2.2** Observed and functional equipment for emergency care in complete facilities

Complete						
	Baseline			18-Month		
	N	%	SE	N	%	SE
Blood pressure apparatus	2	100		2	100	
Stethoscope	2	100		2	100	
Pinard stethoscope/Portable Doppler	2	100		2	50.0	35.4
Autoclave/Dry heat sterilizer	2	0		2	100	
Tank of oxygen/Central oxygen supply	2	100		2	100	
Reanimation resuscitation bag for adult	2	100		2	100	
Neonatal resuscitation bag	2	100		2	50.0	35.4
Laryngoscope	2	50.0	35.4	2	100	
MVA kit	2	0		2	100	
Neonatal/pediatric stethoscope	2	50.0	35.4	2	0	
Anesthesia equipment	2	0		2	100	
Equipment for C-sections	2	0		2	100	
All equipment observed and functional	2	0		2	0	

**Table B.7.3.1** Pharmacy inputs needed for emergency care in basic facilities

	Basic					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Dexamethasone / Betamethasone	2	100		2	100	
Magnesium sulfate	2	100		2	100	
Antibiotic*	2	100		2	100	
Amikacin	2	50.0	35.4	2	100	
Chloramphenicol	2	100		2	100	
Hydralazine ampoule	2	50.0	35.4	2	100	
Diazepam	2	100		2	100	
Oxytocin / Ergometrine	2	100		2	100	
Benzympenicillin G Procainic	2	100		2	100	
Doxycycline	2	50.0	35.4	2	100	
Clindamycin	2	0		2	50.0	35.4
Cefotaxime/ceftriaxone**	2	0		2	100	
Gentamicin	2	100		2	100	
Calcium gluconate	2	50.0	35.4	2	100	
Atropine / Epinephrine	2	100		2	100	
All drugs available on the day of the survey	2	0		2	50.0	35.4
Continuous availability in the previous three months***	2	0		2	50.0	35.4

\* Penicillin crystals or IV ampicillin or amoxicillin

\*\*Only cefotaxime checked at baseline.

**Table B.7.3.2** Pharmacy inputs needed for emergency care in complete facilities

	Complete					
	Baseline			18-Month		
	N	%	SE	N	%	SE
Dexamethasone / Betamethasone	2	100		2	100	
Magnesium sulfate	2	100		2	100	
Antibiotic*	2	100		2	100	
Amikacin sulfate	2	50.0	35.4	2	100	
Chloramphenicol / Metronidazole	2	100		2	100	
Hydralazine ampoule/Hydralazine chlorhydrate	2	100		2	100	
Diazepam / Midazolam Chlorhydrate***	2	100		2	100	
Oxytocin / Ergometrine	2	100		2	100	
Suxamethonium chloride	2	50.0	35.4	2	100	
Sevoflurane/Isoflurane**	2	50.0	35.4	2	100	
Nifedipine	2	50.0	35.4	2	100	
Ceftriaxone	2	50.0	35.4	2	100	
Furosemide	2	100		2	100	
Atropine / Epinephrine	N/A	N/A		2	100	
All drugs available on the day of the survey	2	0		2	100	
Continuous availability in the previous three months	2	0		2	100	

\*IV ampicillin or penicillin crystals or amoxicillin

\*\*Only sevoflurane checked at baseline

\*\*\*stock out of midazolam chlorhydrate not evaluated

**Table B.7.4.1** Distribution of obstetric complications by facility classification

	Basic	Complete
Women with sepsis	1	1
Women with hemorrhage	2	11
Women with pre-eclampsia	14	16
Women with eclampsia	7	10
Total	24	38

**Table B.7.4.2** Distribution of neonatal complications by facility classification

	Basic	Complete
Neonates with low birth weight	1	1
Neonates with prematurity	0	8
Neonates with sepsis	6	21
Neonates with asphyxia	2	4
Total	9	34

**Table B.7.5.1** Medical record review: Sepsis

	Basic			Complete		
	N	%	SE	N	%	SE
Temperature + pulse + blood pressure checked	1	100		1	100	
Antibiotics administered*	1	100		1	100	
Sepsis managed according to the norm (meets all above criteria)	1	100		1	100	

\*Antibiotics = amikacin / clindamicin / gentamicin / ampicillin / metranidazol / other antibiotics

**Table B.7.5.2a** Medical record review in basic facilities: Hemorrhage

	Basic		
	N	%	SE
Vital Signs			
Pulse	2	100	
Temperature	2	100	
Respiratory rate	2	100	
Blood pressure	2	100	
Oxytocin / other uterotonics administered	2	50.0	35.4
Hemorrhage managed according to the norm (meets all criteria above)	2	50.0	35.4

**Table B.7.5.2b** Medical record review in complete facilities: Hemorrhage

	Complete		
	N	%	SE
Vital Signs			
Blood pressure	11	100	
Laboratory tests			
Hb	11	81.8	11.6
Ht	11	100	
Pt	11	36.4	14.5
Ptt	11	36.4	14.5
Platelet count	11	27.3	13.4
Oxytocin /other uterotonics administered	11	81.8	11.6
Hemorrhage managed according to the norm (meets all criteria above)	11	9.1	8.7

**Table B.7.5.3a** Medical record review in basic facilities: Pre-eclampsia

	Basic		
	N	%	SE
Vital signs checked			
Blood pressure	14	100	
Pulse	14	85.7	9.4
Respiratory rate	14	85.7	9.4
Laboratory inputs			
Hydralazine / nifedipine (if diastolic BP > 110)	14	92.9	6.9
Magnesium sulfate*	12	58.3	14.2
Urine protein	14	64.3	12.8
Pre-eclampsia managed according to the norm (meets all above criteria)	12	25.0	12.5

\*Data is missing for two basic records

**Table B.7.5.3b** Medical record review in complete facilities: Pre-eclampsia

	Complete		
	N	%	SE
Vital signs checked			
Blood pressure	16	100	
Pulse	16	100	
Patellar reflex	16	0	
Respiratory rate	16	100	
Laboratory inputs			
Alanine aminotransferase	16	37.5	12.1
Aspartate aminotransferase	16	43.8	12.4
Dexamethasone / betamethasone (if gestational age 26 - 34 weeks)	16	100	
Hydralazine / nifedipine (if diastolic BP > 110)	16	100	
Lactate dehydrogenase	16	12.5	8.3
Magnesium sulfate	16	81.3	9.8
Platelet count	16	56.3	12.4
Urine protein	16	75.0	10.8
Outcome of pregnancy recorded*	16	100	
Pre-eclampsia managed according to the norm (meets all above criteria)	16	0	

**Table B.7.5.4a** Medical record review in basic facilities: Eclampsia

	Basic		
	N	%	SE
Vital signs checked			
Blood pressure	7	100	
Pulse	7	100	
Respiratory rate	7	100	
Laboratory inputs			
Hydralazine / nifedipine (if diastolic BP > 110)	7	85.7	13.2
Magnesium sulfate	7	57.1	18.7
Urine protein	7	71.4	17.1
Eclampsia managed according to the norm (meets all above criteria)	7	28.6	17.1

**Table B.7.5.4b** Medical record review in complete facilities: Eclampsia

	Complete		
	N	%	SE
Vital signs checked			
Blood pressure	10	100	
Pulse	10	100	
Patellar reflex	10	0	
Respiratory rate	10	100	
Laboratory inputs			
Alanine aminotransferase	10	10.0	9.5
Aspartate aminotransferase	10	10.0	9.5
Dexamethasone / betamethasone (if gestational age 26 - 34 weeks)	10	100	
Hydralazine / nifedipine (if diastolic BP > 110)	10	100	
Lactate dehydrogenase	10	0	
Magnesium sulfate	10	50.0	15.8
Platelet count	10	50.0	15.8
Urine protein	10	70.0	14.5
Outcome of pregnancy recorded	10	100	
Eclampsia managed according to the norm (meets all above criteria)	10	0	

**Table B.7.6.1** Medical record review in basic & complete facilities: Low birth weight

	Basic			Complete		
	N	%	SE	N	%	SE
Pulse	1	100		1	100	
Respiratory rate	1	100		1	100	
Oxygen saturation	1	0		1	100	
Silverman score	1	100		1	0	
Glycemia	1	0		1	100	
Baby was evaluated by a doctor at admission	1	100		1	100	
Low birth weight managed according to the norm (meets all above criteria)	1	0		1	0	

**Table B.7.6.2** Medical record review in complete facilities: Prematurity

	Complete		
	N	%	SE
Pulse	8	100	
Respiratory rate	8	87.5	11.7
Oxygen saturation	8	75	15.3
Silverman score	8	12.5	11.7
Glycemia	8	12.5	11.7
Baby was evaluated by a doctor at admission	8	100	
Prematurity managed according to the norm (meets all above criteria)	8	0	

**Table B.7.6.3a** Medical record review in basic facilities: Asphyxia

	Basic		
	N	%	SE
Apgar score (1 minute + 5 minutes)	2	50.0	35.4
Pulse	2	100	
Respiratory rate	2	50.0	35.4
Temperature	2	50.0	35.4
Glycemia	2	50.0	35.4
Hb	2	50.0	35.4
Antibiotic treatment	2	50.0	35.4
Baby was evaluated by a doctor at admission	2	100	
Asphyxia managed according to the norm (meets all above criteria)	2	50.0	35.4

**Table B.7.6.3b** Medical record review in complete facilities: Asphyxia

	Complete		
	N	%	SE
Pulse	4	100	
Respiratory rate	4	100	
Silverman score	4	0	
Temperature	4	100	
C-reactive protein	4	25.0	21.6
Chest radiograph	4	50.0	25.0
Erythrocyte sedimentation rate	4	0	
Glycemia	4	75.0	21.6
Hb	4	50.0	25.0
Oxygen saturation	4	50.0	25.0
Antibiotic treatment	4	75.0	21.6
Baby was evaluated by a doctor at admission	4	100	
Asphyxia managed according to the norm (meets all above criteria)	4	0	

**Table B.7.6.4** Medical record review in basic & complete facilities: Sepsis

	Basic			Complete		
	N	%	SE	N	%	SE
Pulse	6	100		21	100	
Temperature	6	100		21	95.2	4.7
C-reactive protein*	n/a	n/a	n/a	21	33.3	10.3
Erythrocyte sedimentation rate*	n/a	n/a	n/a	21	0	
Leukocyte count	6	83.3	15.2	21	90.5	6.4
Antibiotic treatment	6	50.0	20.4	21	100	
Baby was evaluated by a doctor at admission	6	83.3	15.2	21	95.2	4.7
Asphyxia managed according to the norm (meets all above criteria)	6	33.3	19.3	21	0	

\*Measured only at complete facilities

**Table B.8.1.1** Equipment for disposal

	Ambulatory				Basic				Complete			
	N	%	SE	DK/DR	N	%	SE	DK/DR	N	%	SE	DK/DR
Incinerator at facility	13	0		1	2	0		0	2	0		0
Contract with other facility for biohazard disposal*	13	53.8	13.8	1	2	50.0	35.4	0	2	100		0
Manual for decontamination	14	42.9	13.2	0	2	50.0	35.4	0	2	100		0

\*Only asked if they did not answer 'yes' when asked if the facility had an incinerator

**Table B.8.2.1** Decontamination and sterilization

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
<b>Decontamination methods</b>									
Submerged in disinfectant, then scrubbed with a brush, soap and water	14	14.3	9.4	2	0		2	50.0	35.4
Scrubbed with a brush, soap and water, then submerged in disinfectant	14	92.9	6.9	2	100		2	100	
Scrubbed with a brush, soap and water only	14	0		2	0		2	0	
Submerged in disinfectant, without scrubbing with brush	14	0		2	0		2	0	
Cleaned with water and soap, without scrubbing with a brush	14	0		2	0		2	0	
Equipment never reused	14	0		2	0		2	0	
Facility doesn't decontaminate	14	0		2	0		2	0	
Other	14	50.0	13.4	2	50.0	35.4	2	50.0	35.4
<b>Sterilization methods</b>									
Dry heat	14	0		2	0		2	0	
Autoclave	14	92.9	6.9	2	100		2	100	
Boiling	14	0		2	0		2	0	
Steam	14	0		2	50.0	35.4	2	100	
Chemical sterilization	14	7.1	6.9	2	50.0	35.4	2	100	
Processed away from facility	14	0		2	0		2	0	
Facility doesn't sterilize	14	0		2	0		2	0	
Other	14	21.4	11.0	2	0		2	0	

**Table B.9.1** QIF facility performance indicators matrix

Indicator	BASELINE EVALUATION			18-MONTH EVALUATION		
	N	n	Percent (95% CI)	N	n	Percent (95% CI)
Health facilities that have the necessary inputs for providing emergency obstetric and neonatal care according to the norms <sup>1</sup>	4	0	0% (0 - 60.2%)	4	0	0%(0-60.2%)
Health facilities that have the necessary inputs for providing pre- and post natal care according to the norms <sup>2</sup>	16	1	6.3% (0.2 - 30.2%)	17	5	29.4% (10.3-56.0%)
Health facilities that have the necessary inputs to provide child health care according to the norms <sup>3</sup>	16	0	0% (0 - 20.6%)	18	0	0% (0 - 18.5%)
Health facilities that have permanent availability of all 5 types of modern family planning methods (injectable, barrier, oral, IUD, permanent) according to the norms	16	13	81.3%(54.4 - 96.0%)	18	17	94.4% (72.7 - 99.9%)
Health facilities with a mechanism in place for carrying out patient satisfaction surveys	n/a	n/a	0%*	18	18	100% (81.5 - 100%)
Health facilities that have implemented Quality of Care job aid tools for reproductive health	n/a	n/a	0%*	18	17	94.4% (72.7 - 99.9%)
Health facilities that can submit and receive data from the Belize Health Information System (BHIS)	n/a	n/a	0%*	10	3	30% (6.7-65.2%)
Health facilities that have sexual and reproductive health (SRH) educational materials specifically targeted at adolescents	n/a	n/a	0%*	18	17	94.4% (72.7 - 99.9%)

\* New intervention: baseline assumed to be 0%

<sup>1</sup> Baseline calculation only checks cefotaxime at basic level and sevoflurane at complete level. Follow-up indicator value remains same when re-calculated with this baseline definition

<sup>2</sup> Baseline calculation does not check PAP smear slides and does not check Rapid Tests as alternatives at complete level. Follow-up indicator value remains same when re-calculated with this baseline definition

<sup>3</sup> Baseline calculation does not include Trimetropin Sulfa as an antibiotic alternative; does not include stock-outs of: ferrous sulfate/multivitamins, Amoxicillin/Benzatinic penicillin/Erythromycin/Azithromycin (basic & complete levels), Ringer lactate solutions (basic & complete levels), and trimetropin sulfa; does not include oto-ophthalmoscope as an alternative to pantascop (basic & complete levels). Follow-up indicator value remains same when re-calculated with this baseline definition.

**Table B.9.2** QIF monitoring indicators matrix

Monitoring indicators	18-MONTH EVALUATION		
	N	n	Percent (95% CI)
*Women of reproductive age (15-49) who received their 1st prenatal visit by a doctor/nurse before 12 weeks gestation in the last 2 years	134	32	23.9% (16.9 - 32.0%)
Number of deliveries for which partograph was used and correctly interpreted according to the norms in the last 2 years	90	75	83.3% (74.0 - 90.4%)
Neonatal complications managed according to norms in the last 2 years	40	3	7.5% (1.6 - 20.4%)
Obstetric complications managed according to the norms in the last 2 years	59	8	13.6% (6.0 - 25.0%)
Number of institutional deliveries for which oxytocin/other uterotonic was administered immediately after birth	61	43	70.5% (57.4 - 81.5%)
Neonates who received care from medical personnel within the first 48 hours after birth in the last 2 years	68	58	85.3% (74.6 - 92.7%)
C-sections as proportion of childbirths in the last 2 years	4165	-	49.1% (-)
Children 0-23 months with LBW managed according to norms in the last 2 years	71	17	23.9% (14.6 - 35.5%)
Newborns enrolled for child health services within seven days of birth in the last two years	63	7	11.1% (4.6 - 21.6%)
Children (12-59 months) who received two doses of de-worming treatment in the last year	50	4	8.0% (2.2 - 19.2%)
Diarrhea cases in children 0-59 months that were treated with ORS and zinc during their last visit	73	2	2.7% (0.3 - 9.5%)

\*Using the reported gestation age at follow-up, only 18.9% of facilities meet the indicator