SM2015 – Costa Rica

18-Month Health Facility

Data Quality Report

October 2015

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This Data Quality Report on the SM2015-Costa Rica 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 are of the highest possible quality. Its purpose is to detail summary statistics of data collected for SM2015 performance health indicators.

About IHME

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

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Chapter 1 SURVEY METHODOLOGY

1.1 Overview

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

The objectives of the SM2015 evaluation are to assess whether countries are reaching the targeted indicators set by the initiative, and to evaluate the impact of specific interventions. In Costa Rica, data collection is taking place at schools and health facilities in intervention areas. The evaluation design initiated interventions at baseline and no data was collected at that time. The first round of health facility data collection in Costa Rica is marked at 18-months.This document, the indicator summary report, describes the methods and results of the 18-month round in health facilities.

1.2 Health facility survey

The health facility survey is one of two (the other being a school survey) components of the overall data collection method employed by the initiative in Costa Rica. Twining of both surveys is a defining and innovative feature designed to most accurately capture prevalence estimates of select key indicators. In general terms, the objectives of the health facility survey are assessing facility conditions, evaluating service provision and utilization, and measuring quality of care, with a focus on adolescent care in Costa Rica. The health facility survey collects information on intervention indicators, but also gathers contextual information that helps to characterize the condition of health services and provision of care. The medical record review (MRR) was implemented in order to capture historical data on the facilities' treatment practices by asking about various adolescent care practices and medical complications that mothers and infants experienced, along with how each case was treated. It also assessed the medical practices of the facilities before, during, and after uncomplicated births. Importantly, the facility survey will capture changes made by interventions at the level of the health services access point, the health facility, and predict changes in population health outcomes. All interventions were new at baseline, so the indicator values are assumed to be 0% at that point. This report details health facility indicator values at 18-months (the first instance of health facility data collection in Costa Rica) with the aim of monitoring future changes in those indicators.

1.3 Contents and methods for data collection

1.3.1 Contents of the 2015 Costa Rica health facility survey

In total, nine health facility surveys were deployed at 18-months: an interview questionnaire, observation checklist, health area survey, Local Coordinating Unit (UCL) survey, adolescent MRR, at-risk adolescent MRR, uncomplicated pregnancy, birth and postpartum care MRR, maternal complications MRR, and neonatal complications MRR. The questionnaire captures information reported by the facility director, manager, or person in charge of the health facility; the checklist captures objective data observed by the surveyors at the time of the survey using an observation checklist, and in the case of some inputs, also reviewing administrative records to identify the presence of stock-outs in the 3 months prior to the survey. For the topics of child, adolescent, and maternal care and family planning, information is collected on the types of services provided, components of the care offered, equipment available, and quality of record keeping.

1.3.2 Methods for data collection

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

1.4 Sampling

For this evaluation, a total of 60 health units were selected from a list of facilities serving the municipalities covered by the SM2015, located in the Huetar Atlantica and Brunca regions. Twenty-two administrative offices, comprised of 11 health areas of the Costa Rican Department of Social Security (CCSS) and 11 UCL units of the Ministries of Health, were included in the sample in order to measure indicators related to administrative records and pharmacy/family planning methods stock-outs. A referral networking diagram outlined by the Ministry of Health was used to select five of the seven hospitals in the two regions. All three top-level hospitals were selected with certainty, two in the Huetar Atlantica region and one in the Brunca region. Two of the four remaining smaller hospitals, all located in the Brunca region, were selected at random. One CAIS (Centro de Atención Integral de Salud), was also selected with certainty. Furthermore, a stratified random sample of 32 Equipos Básicos de Atención Integral en Salud (EBAIS) were then selected to reach the sample size of 60 units.

The facility list contained 18 facilities (EBAIS *concentrados*) located inside of an administrative office building of CCSS or the Ministry of Health; two of these facilities were selected separately from the other EBAIS in order to ensure enough diversity was captured in the sample. The remaining 30 facilities were sampled from EBAIS not located in the administrative offices (EBAIS *desconcentrados*). Considering that interventions conducted in Costa Rica have two modalities (Group A and B), these facilities were stratified by treatment group: 10 were selected from Treatment Group A, 10 from Treatment Group B, and 10 from control areas.

For the medical record review, a systematic sampling method was used to select complications and delivery records in each facility. Records for specific conditions (adolescent care, maternal and neonatal

complications, deliveries, and antenatal and postpartum care) were selected according to a quota set considering the Essential Obstetric and Newborn Care (EONC) level that each facility provides. When available, antenatal care records pertaining to the health facilities were selected from the institutional health information system. Wherever possible, cases of maternal and neonatal complications were sampled at random from Ministry of Health registries and, if required, additional cases were sampled using a systematic sampling technique in-facility. No medical records were collected from the one basic facility (CAIS) in the sample, as this unit only has external consultants for specialties.

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 Costa Rica from June 29 to July 3, 2015. The six surveyors had medical backgrounds (physicians) and underwent two days of training. The training included an introduction to the initiative, proper conduct of the survey, in-depth review of the instrument, access to electronic records from the CCSS, and hands-on training with the CAPI software. Training was followed by a three-day pilot of all components of the survey at currently operating health facilities.

1.5.3 Data collection and management

Prior to data collection, consent was obtained from the director of the health facility to participate in the Questionnaire. Further, consent from the Health Area Director and the head of the UCL was obtained to gather information for the Health Area and UCL surveys, respectively. Moreover, the CCSS granted permission to gather antenatal care medical records from health areas. All interviewers that reviewed medical records signed a confidentiality agreement and underwent proper training. As described in Section 1.3.2, data were collected using computer netbooks equipped with CAPI software. A lead surveyor monitored the implementation of the facility survey and reported feedback. Data collection using CAPI allowed data to be transferred instantaneously once a survey was completed via a secure link to IHME. IHME monitored collected data on a continuous basis and provided feedback. Suggestions, surveyor feedback, and any modifications were incorporated into the health facility instruments and readily transmitted to the field.

1.5.4 Data analysis and report writing

Ongoing data analysis was done at IHME and new data were continuously incorporated. Analysis was done using STATA version 13.1. Performance and monitoring indicators were calculated at IHME following the indicator definitions provided by IDB. This report provides detailed information on key indicator components from the 60 facilities selected in the intervention area in Costa Rica.

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

This report refers to health facilities and administrative health offices surveyed for the 18-month evaluation in intervention areas in Costa Rica.

2.1 General description of the facility

2.1.1 Type of health facility

A total of 60 health units, 38 health facilities and 22 administrative offices, in intervention areas were surveyed for the 18-month evaluation. The 38 health facilities are further broken down by EONC level in Table 2.1.1a. All health units, including administrative offices, are detailed by facility type in Table 2.1.1b.

Table 2.1.1a Facilities by EONC level

	18-month
Ambulatory	32
Basic	1
Complete	5
Total	38

Table 2.1.1b Facilities by facility type

	18-Month
Decentralized EBAIS (not located in administrative office)	30
Centralized EBAIS (located in administrative office)	2
Peripheral Hospital	3
Regional Hospital	2
Center for Integrated Health Care (CAIS)	1
Health Area	11
Local Coordinating Units (UCL)	11
Total	60

2.1.2 Geographical representation

Health units surveyed for the 18-month evaluation were located in 11 Health Areas (Table 2.1.2).

Table 2.1.2 Geographical representation

Region	Health Area	No. of facilities
Brunca	Buenos Aires	3
	Corredores	8
	Coto Brus	7
	Golfito	3
	Osa	7
Huetar Atlántica	Cariari	8
	Guácimo	6
	Matina	3
	Siquirres	5
	Talamanca	4
	Valle la Estrella	6
Total	11	60

2.1.3 Medical record extraction

The 18-month health facility survey included a review of 1,518 medical records. The number and type of medical records reviewed varied depending on the type of facility and the services it provided. Records of antenatal care and adolescent care were evaluated in ambulatory facilities. In addition, records of delivery, postpartum care, maternal complications, and neonatal complications were reviewed at complete-level facilities.

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

Medical records	Ambulatory	Basic	Complete	Total
Antenatal care	487	0	0	487
Delivery	0	0	132	132
Postpartum	0	0	127	127
Maternal complications	0	0	100	100
Neonatal complications	0	0	123	123
Adolescents	243	0	0	243
Adolescents at-risk	306	0	0	306
Total	1036	0	482	1518

2.1.4 Referrals

In response to the question, “Do you usually receive referred patients from another health facility?” 21.9% of ambulatory facilities and 80% of complete facilities reported receiving referred patients from other facilities; the basic facility in the sample also reported receiving referred patients. Further, when asked if the facility sends or refers patients to another medical unit, the basic facility in the sample, 84.4% of ambulatory, and 80% of complete level facilities indicated doing so.

2.1.5 Governing authority

All health facilities were public institutions governed by the Ministry of Health and the Costa Rican Social Security Department (CCSS).

2.2 Basic infrastructure

2.2.1 Electricity and Water

All facilities had functional electricity. Of these facilities, central electricity supply was universal (100% for all levels). Some facilities also reported use of in-facility generators.

When reporting on source of water, the majority of ambulatory (93.8%) facilities and all basic and complete facilities had water piped into the facility, with numerous facilities having additional sources.

Table 2.2.1 details the sources of electricity and water available at facilities. Interviewers asked facility representatives to indicate all sources of electricity and water for the health unit; therefore, representatives could indicate more than one source serving the facility. Other sources of water included storage tanks, drinking wells (not specified as public or in-facility), or a pond.

Table 2.2.1 Electricity and water

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Functional electricity	32	100		1	100		5	100	
Source of electricity									
Central supply	32	100		1	100		5	100	
Private supply	32	0		1	0		5	0	
In-facility generator	32	3.1	3.1	1	0		5	20	17.9
Solar generator	32	0		1	0		5	0	
Other source	32	0		1	0		5	40	21.9
Source of water									
Piped into facility	32	93.8	4.3	1	100		5	100	
Public well	32	0		1	0		5	0	
Facility well	32	9.4	5.2	1	0		5	40	21.9
Unprotected well	32	0		1	0		5	0	
Hand pump	32	3.1	3.1	1	100		5	0	
Bottled water	32	0		1	0		5	0	
Tanker truck	32	0		1	0		5	0	
Rain water	32	0		1	0		5	0	
Other	32	21.9	7.3	1	0		5	40	21.9

2.2.2 Internet access

Overall, 79.0% of facilities had access to the internet. Specifically, 75% of ambulatory and 100% of all basic and complete facilities had internet access.

2.2.3 Access to safe blood

In the questionnaire component of the survey, health facility managers at basic and complete facilities are asked to indicate whether the facility has access to safe blood. All complete facilities reported access to safe blood, however, the basic facility in the sample did not.

2.3 Personnel

2.3.1 Personnel in ambulatory units

Table 2.3.1a details the personnel composition in ambulatory health facilities, with the mean representing the average number of personnel reported per category. On average, there were 1.2 general physicians, 1.3 auxiliary nurses, 0.3 nurses, and 1.6primary care assistant technicians.

Table 2.3.1a Personnel composition in ambulatory facilities

	Ambulatory		
Personnel type	N	Mean	SE
General physician	32	1.2	0.6
Pediatrician	32	0	
Nutritionist	32	0	
Pharmacist	32	0.8	0.7
Pharmacy technician	32	1.2	1.0
Nurse	32	0.3	0.7
Auxiliary nurse	32	1.3	1.3
Midwife	32	0	
Obstetric nurse	32	0	0.2
Social worker	32	0.1	0.3
Laboratory technician	32	0.2	0.6
Health promoter	32	0.6	3.0
Primary care assistant technician (ATAP)	32	1.6	0.9
Networks (REDES) assistant	32	1.2	0.5
Psychologist	32	0	
Security (guard)	32	0.5	1.0
Polivalent	32	0.9	0.6
Other	27	0.2	0.4

Tables 2.3.1b-c further detail personnel found in ambulatory facilities. Table 2.3.1b shows information from 30 decentralized EBAIS facilities, of which one of the EBAIS has multiple sets of personnel. Table 2.3.1c shows information from two centralized EBAIS.

Table 2.3.1b Personnel composition in ambulatory facilities (decentralized EBAIS)

	Ambulatory		
Personnel type	N	Mean	SE
General physician	30	1.2	0.6
Auxiliary nurse	30	1.2	1.3
Primary care assistant technican (ATAP)	30	1.6	1.0
Networks (REDES) assistant	30	1.2	0.5

Table 2.3.1c Personnel composition in ambulatory facilities (centralized EBAIS)

	Ambulatory		
Personnel type	N	Mean	SE
General physician	2	1	
Auxiliary nurse	2	2.5	0.7
Primary care assistant technican (ATAP)	2	1.5	0.7
Networks (REDES) assistant	2	1	

2.3.2 Personnel in basic and complete facilities

Table 2.3.2 details the personnel composition at basic and complete facilities. The mean represents the average number of personnel reported per category by facility type. On average, complete facilities had an average of 34.8 general physicians, 67.2 nurses, and 152 auxiliary nurses.

Table 2.3.2 Personnel composition in basic and complete health units

Personnel type	Basic			Complete		
	N	Mean	SE	N	Mean	SE
General physician	1	14		5	34.8	14.4
Pediatrician	1	1		5	2.8	2.5
Nutritionist	1	1		5	2	1.2
Pharmacist	1	5		5	6.8	2.2
Pharmacy technician	1	13		5	18.2	11.5
Nurse	1	5		5	67.2	51.4
Auxiliary nurse	1	13		5	152	78.8
Midwife	1	0		5	0	
Obstetric nurse	1	0		5	11	6.1
Social worker	1	1		5	3.6	1.1
Laboratory technician	1	11		5	20	9.2
Health promoter	1	0		5	0	
Primary care assistant technician (ATAP)	1	0		5	0	
Networks (REDES) assistant	1	10		5	26.4	14.6
Psychologist	1	0		5	1.8	0.8
Security (guard)	1	26		5	18	9.2
Polivalent	1	25		5	44.2	21.7
Internist	1	0		5	2.8	1.6
Gynecologist	1	0		5	3.4	2.3
Surgeon	1	0		5	2.2	1.3
Anesthesiologist	1	0		5	3.6	1.7
Emergency medical technician	1	0		5	0	
Radiology technician	1	3		5	6.6	3.0
Ambulance driver/polyvalent	1	7		5	6.6	1.1
Other specialties	1	5		4	0.3	0.5

2.4 Sociocultural services

2.4.1 Health facilities with sociocultural adaptation

Health facilities were asked questions related to the provision of socio-cultural services at delivery; only 25% of complete facilities reported that they adapt their services to the sociocultural needs of women at delivery. The basic facility in the sample reported that they did not adapt at delivery.

Chapter 3 CHILD & ADOLESCENT HEALTH

3.1 Adolescent and health services offered – a background

This chapter summarizes information related to adolescent and child health care services.

Adolescent health information was collected from various survey sources. In the observation component, interviewers observed the setting of the room in which adolescent services are provided, availability of educational materials, family planning services and time schedule of care for adolescents. In the adolescent medical record reviews, information pertaining to reporting, counseling and management of at-risk and non-at-risk adolescents was collected. Furthermore, the health area survey captured indicator-specific information regarding trained officials for sensitized care for adolescents as well as stock-outs of family planning methods (covered in chapter 5). Information on community members trained to provide adolescent health care services as well as registries of work plans and statistics reports were captured in the UCL survey.

Facility representatives were asked about service provision and logistics of ordering and receiving supplies for basic child care in the questionnaire component of the survey. 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 shows the percentage of facilities that offer child health care services and vaccinations for children under age 5, as well as the setting in which these services are provided; data were incorporated from both the observation module and the interview module.

Table 3.1 Child and adolescent health care services & provisions

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Unit offers adolescent services	32	100		1	100		5	100	
Adolescent care room									
Private room with visual and auditory privacy	32	100		1	0		5	0	
None private area, no visual privacy	32	0		1	0		5	20	17.9
Don't provide such services	32	0		1	100		5	80	17.9
Unit offers child services	32	100		1	100		5	100	
Unit vaccinates children under 5	32	96.9	3.1	1	0		5	60	21.9
Child care room									
Private room with visual and auditory privacy	32	100		1	100		5	80	17.9
Non-private room without auditory or visual privacy	32	0		1	0		5	20	17.9

3.2 Child health care equipment & medications

3.2.1 Child health care equipment

In the health facility survey observation module, interviewers checked availability and functionality of inputs needed for basic child care among children under 5 years of age. The table below (Table 3.2.1a) lists medical equipment related to child health care in ambulatory facilities. Only stethoscopes were found in all ambulatory facilities, followed by tallimeter/stadiometer in 96.9% of facilities and standing balance/scale for children in 93.8% of facilities. Pediatric stethoscopes were leave prevalent in ambulatory facilities (15.6%).

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

	Ambulatory		
	N	%	SE
Pediatric balance or scale	32	87.5	5.8
Standing balance or scale for children	32	93.8	4.3
Tallimeter or stadiometer	32	96.9	3.1
Pediatric tensiometer	32	25	7.7
Stethoscope	32	100	
Pediatric stethoscope	32	15.6	6.4
Oral/Axillary thermometer	32	84.4	6.4
Growth card (child health card or vaccination card)	32	87.5	5.8
All equipment observed on the day of the survey	32	9.4	5.2

Basic and complete facilities were well-equipped with the inputs necessary for child care, however, stethoscopes, pediatric stethoscopes, and growth cards were not found in all facilities. Table 3.2.1b details the functional equipment observed at basic and complete facilities on the day of the survey.

Table 3.2.1b Child health care equipment observed and functional in basic facilities

	Basic			Complete		
	N	%	SE	N	%	SE
Pediatric balance or scale	1	100		5	100	
Standing balance or scale for children	1	100		5	100	
Tallimeter or stadiometer	1	100		5	100	
Pediatric tensiometer	1	100		5	100	
Stethoscope	1	0		5	60	21.9
Pediatric stethoscope	1	0		5	80	17.9
Growth card (child health card or vaccination card)	1	100		5	60	21.9
All equipment observed on the day of the survey	1	0		5	80	17.9

3.2.2 Important drugs and supplements

Interviewers observed the availability of important drugs and supplements used for basic child health care in facility pharmacies, namely packets/envelopes of oral rehydration salts/oral rehydration serum (ORS), ferrous sulfate drops, albendazole/mebendazole, and antibiotics. Additionally, Ringer's lactate/Hartmann's solution/Saline solution were observed basic and complete facilities. This information is displayed in Tables 3.2.2a-b. In ambulatory facilities, ORS was observed in 78.1% of facilities, while antibiotics were observed in only 21.9% of facilities. Basic and complete facilities were all well-equipped with drugs and supplements.

Table 3.2.2a Child health care observed drugs and supplements in ambulatory facilities

	Ambulatory		
Pharmacy inputs	N	%	SE
Packets/envelopes of oral rehydration salt/ oral rehydration serum	32	78.1	7.3
Ferrous sulfate drops	32	62.5	8.6
Albendazole/Mebendazole	32	78.1	7.3
Crystalline penicillin/ampicillin/amoxicillin	32	21.9	7.3
All drugs observed on the day of the survey	32	62.5	8.6

Table 3.2.2b Child health care observed drugs and supplements in basic facilities

	Basic			Complete		
Pharmacy inputs	N	%	SE	N	%	SE
Packets/envelopes of oral rehydration salt/ oral rehydration serum	1	100		5	100	
Ferrous sulfate drops	1	100		5	80	17.9
Albendazole/Mebendazole	1	100		5	100	
Crystalline penicillin/ampicillin/amoxicillin	1	100		5	100	
Ringer's lactate/Hartmann's solution/Saline solution	1	100		5	100	
All drugs observed on the day of the survey	1	100		5	80	17.9

3.3 Educational materials

Table 3.3.
1 lists educational material important to basic child care. These materials can be observed either as cards handed to the caretaker or as an illustration of disease management hung on the unit walls.

Table 3.3.1 Child health education and awareness

Education materials	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Printed materials on child growth and child development	32	62.5	8.6	1	0	0	5	40	21.9
Printed materials on danger signs and symptoms of children at risk	32	56.3	8.8	1	0	0	5	60	21.9

3.4 EBAIS equipped with physical spaces for confidential and private care for adolescents

In the observation component of the survey, all EBAIS were observed to have a physical space for adolescents to receive confidential and private care. Table 3.4.1 illustrates the components that defined private care. These components include: arrows/signs to identify route to adolescent care area + individual consulting room + door to the consulting room + window cover (if a window is present in the room).

Table 3.4.1 Requirements for confidential and private care spaces for adolescents in ambulatory facilities

	EBAIS		
	N	%	SE
Arrows/signs to identify route to adolescent care area	32	100	
Individual consulting room	32	100	
Door for consulting room	32	100	
Window	32	93.8	4.3
Window cover (If window)	30	100	
Composite indicator value	32	100	

3.5 EBAIS that meet the norm for sexual and reproductive health counseling

EBAIS were divided into control and treatment groups in order to measure the indicator relating to sexual and reproductive health counseling. EBAIS in each treatment or control group were required to have a variety of educational materials to use for sexual and reproductive health counseling and differentiated care for adolescents. Tables 3.5.1a-d display the materials necessary for this counseling, as well as the total percentage of EBAIS that had each of the materials on the day of the survey. Table 3.5.1d shows the percentage of all EBAIS with each material. Overall, 96.9% of all EBAIS had all of the required educational materials for their treatment groups. Only one EBAIS in Treatment Group B was missing a required item (a flipchart about family planning and contraception for adolescents).

Table 3.5.1a Availability of educational materials in the Control Group

	EBAIS		
	N	%	SE
At least two blank adolescent health care registration sheets	11	100	
Abbreviated manual: activities for comprehensive individual care visit	11	100	
Abbreviated manual: referral mechanisms and monitoring of at-risk adolescents	11	100	
At least two blank adolescent health risk assessment forms	11	100	
Indicator according to the norm in control group	11	100	

Table 3.5.1b Availability of educational materials in Treatment Group A

	EBAIS		
	N	%	SE
At least two blank adolescent health care registration sheets	11	100	
Flipchart about family planning and contraception for adolescents	11	100	
"Mysterious Exploration" game	11	100	
Manual for group activities with emphasis on sexual and reproductive health for adolescents	11	100	
Abbreviated manual: activities for comprehensive individual care visit	11	100	
Abbreviated manual: referral mechanisms and monitoring of at-risk adolescents	11	100	
At least two blank adolescent health risk assessment forms	11	100	
Indicator according to the norm in Treatment Group A	11	100	

Table 3.5.1c Availability of educational materials in Treatment Group B

	EBAIS		
	N	%	SE
At least two blank adolescent health care registration sheets	10	100	
Flipchart about family planning and contraception for adolescents	10	90	9.5
"Mysterious Exploration" game	10	100	
Manual for group activities with emphasis on sexual and reproductive health for adolescents	10	100	
Manual for counseling on sexual and reproductive health for adolescents	10	100	
Abbreviated manual: activities for comprehensive individual care visit	10	100	
Abbreviated manual: referral mechanisms and monitoring of at-risk adolescents	10	100	
Indicator according to the norm in Treatment Group B	10	90	9.5

Table 3.5.1d Availability of educational materials in all EBAIS

	EBAIS		
	N	%	SE
At least two blank adolescent health care registration sheets	32	100	
Flipchart about family planning and contraception for adolescents*	21	95.2	4.6
"Mysterious Exploration" game*	21	100	
Manual for group activities with emphasis on sexual and reproductive health for adolescents*	21	100	
Manual for counseling on sexual and reproductive health for adolescents**	10	100	
Abbreviated manual: activities for comprehensive individual care visit	32	100	
Abbreviated manual: referral mechanisms and monitoring of at-risk adolescents	32	100	
At least two blank adolescent health risk assessment forms	32	100	
Composite indicator value	32	96.9	3.1

*Only applies to Treatment groups A and B

**Only applies to Treatment group B

3.6 EBAIS with norms for comprehensive care for adolescents with intercultural focus according to the philosophical framework of the project

EBAIS are required to have a copy of the national norm for comprehensive adolescent health care in the facility, as well as a technical and procedural manual for comprehensive adolescent health care, each with a focus on sexual and reproductive health. All EBAIS were able to show both documents to interviewers on the day of the survey (Table 3.6.1).

Table 3.6.1 Availability of national norms and technical manual

	EBAIS		
	N	%	SE
National norm for comprehensive adolescent health care (sexual and reproductive health component)	32	100	
Technical manual for comprehensive adolescent care (emphasis on sexual and reproductive health)	32	100	
Indicator according to the norm	32	100	

3.7 Scheduled care hours for adolescents

In order to provide appropriate schedule hours for adolescents, EBAIS were measured for the following: an adolescent schedule (either sign, poster, flyer or other informative material) visible in any part of the health facility + adolescent care hours observed in the agenda + at least one adolescent (aged 10-19) found in the previous month's agenda during the designated hours for care.

Table 3.7.1 denotes the percentage of EBAIS that possess all components of appropriate schedule hours of care for adolescents. A total of 93.8% of EBAIS met all requirements. The adolescent hours were not observed in the agenda at two EBAIS.

Table 3.7.1 Requirements for scheduled adolescent care hours

	EBAIS		
	N	%	SE
Schedule found in health facility	32	100	
Adolescent time schedule found in agenda	32	93.8	4.3
At least 1 adolescent (aged 10-19) found during the scheduled time in the agenda*	30	100	
Composite indicator value	32	93.8	4.3

*If adolescent time schedule found in agenda

3.8 Tools for early detection of risks associated with reproductive behavior among adolescents

In the medical record review survey for all adolescents, interviewers captured the completion of various sections of the adolescent record card. In order to meet country standards of record completion, the following sections should be completed appropriately:

(1) Section one is a self-administered questionnaire on "Personal data" that requires the adolescent to fill in the following: first and last name + age or date of birth + phone number or address
(2) Section two is the "Risk evaluation" section and is found in the results section of the record card. In section two, at least one of the following boxes should be checked: no risk, social risk, mental risk, sexual and reproductive health. Further, if the sexual and reproductive health risk box is checked, then one of the following risk-level boxes should be checked: low risk, medium risk, or high risk.
(3) Section three is the "Health actions taken" section and requires that the "risk evaluation" always be checked. Further, the indicator requires medical records from EBAIS in treatment groups A or B to contain checks for one of the following actions: "Yes, they [adolescent] have attended the additional group activity" or "Yes, referred for additional group activity".

Table 3.8.1 shows the number of EBAIS where all records at the facility were completed appropriately, regardless of the type of risk evaluation it contains. Overall, 56.3% of EBAIS met these standards.

Table 3.8.1 Risk evaluation for adolescents

	EBAIS		
	N	%	SE
EBAIS with 100% of MRRs having recorded First and Last Name	32	87.5	5.8
EBAIS with 100% of MRRs having recorded Age or DOB	32	96.9	3.1
EBAIS with 100% of MRRs having recorded Phone number or address	32	96.9	3.1
EBAIS with 100% of MRRs complete for Section 1	32	84.4	6.4
EBAIS with 100% of MRRs having marked risk evaluation	32	84.4	6.4
EBAIS with 100% of MRRs having marked Sexual Reproductive Health (SRH) level (if at SRH risk)	8	100	
EBAIS with 100% of MRRs complete for Section 2	32	84.4	6.4
EBAIS with 100% of MRRs having checked risk evaluation	32	100	
EBAIS with 100% of MRRs checked for attendance or referral for additional group activity*	21	61.9	10.6
EBAIS with 100% of MRRs complete for Section 3	32	75	7.7
Composite indicator value by EBAIS	32	56.3	8.8

*Only applies to EBAIS in treatment groups A and B

3.9 Mechanism for tracking adolescents at-risk

According to the country norm, proper referral for cases marked with specific conditions of social, mental and sexual reproductive health risk must be completed with the following information recorded:

(1) Social risk cases were considered managed according to the norms if:
    a. Records marked at social risk were not also marked with one of the following specific conditions: suspected neglect/adolescent under 15 years living with partner/suspected domestic violence/minors outside the school system/persons under 15 years working/suspected bullying or violence
    b. Records marked at social risk with specific conditions were also marked for "referral for

attention/standard attention given" or "referral to other institution" in the "health actions taken" section of the record

(2) Mental risk cases were considered managed according to the norms if:
   a. Records marked at mental risk were not also marked with one of the following specific conditions: suspected problematic consumption of alcohol or drugs/suspected eating disorder/suspected depression/suicidal thoughts and/or attempts
   b. Records marked at mental health risk with specific conditions were also marked for "referral for attention/standard attention given" or "referral to other institution" in the "health actions taken" section of the record

(3) Sexual reproductive health (SRH) risk cases were considered managed according to the norms if:
   a. Records marked at SRH risk were not also marked with one of the following specific conditions: adolescent under 15 years with partner 5 years or older/adolescent under 15 years with petting level 3 or 4 with or without protection/suspicion or diagnosis of STI or HIV/suspected sexual violence, abuse, or sexual exploitation

   b. Records marked at SRH risk with specific conditions were also marked for "referral for attention/standard attention given" or "referral to other institution" in the "health actions taken" section of the record

Table 3.9.1 shows results with the number of EBAIS as the denominator. In this calculation, 100% of medical records pertaining to the EBAIS must meet the standards in order for the EBAIS to meet the indicator. Overall, 71.9% of EBAIS met the indicator.

Table 3.9.1 Risk referral according to the norms for adolescents

	EBAIS		
	N	%	SE
EBAIS with at least 1 MRR marked at social risk	32	87.5	5.8
EBAIS with at least 1 MRR marked at social risk with specific conditions[1]	32	84.4	6.4
EBAIS with 100% of social risk MRRs marked as referred according to the norms	27	77.8	8
EBAIS with 100% of social risk MRRs managed according to the norms	32	81.3	6.9
EBAIS with at least 1 MRR marked at mental risk	32	59.4	8.7
EBAIS with at least 1 MRR marked at mental risk with specific conditions[2]	32	53.1	8.8
EBAIS with 100% of mental risk MRRs marked as referred according to the norms	17	88.2	7.8
EBAIS with 100% of mental risk MRRs managed according to the norms	32	93.8	4.3
EBAIS with at least 1 MRR marked at SRH risk	32	100	
EBAIS with at least 1 MRR marked at SRH risk with specific conditions[3]	32	65.6	8.4
EBAIS with 100% of SRH risk MRRs marked as referred according to the norms	21	76.2	9.3
EBAIS with 100% of SRH risk MRRs managed according to the norms	32	84.4	6.4
Composite indicator value by EBAIS	32	71.9	7.9

[1]Social risk conditions: suspected neglect, or adolescent under 15 years living with partner, or suspected domestic violence, or minors outside the school system, or persons under 15 year working, or suspected bullying or violence

[2]Mental risk conditions: suspected problematic consumption of alcohol or drugs, or suspected eating disorder, or suspected depression, or suicidal thoughts and/or attempts

[3]SRH high risk conditions: Adolescent under 15 years with partner 5 years older, or adolescent under 15 years with petting 3 and 4 with or without protection, or suspicion or diagnosis of STI/HIV, or suspected sexual violence, abuse or sexual exploitation.

Chapter 4 VACCINES

4.1 Vaccination services

When asked about vaccination services, 96.9% of ambulatory facilities and 60% of complete facilities reported that they do vaccinate children. The basic facility in the sample reported that they do not vaccinate children. Interviewers observed and recorded the setting of the room used for immunization (Table 4.1.1). When interviewers observed where vaccination services would take place, they found that most ambulatory units and complete facilities provide 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	32	96.9	3.1	1	0		5	60	21.9
Immunization room									
Private room with visual and auditory privacy	32	93.8	4.3	1	0		5	80	17.9
Non-private room without auditory or visual privacy	32	3.1	3.1	1	0		5	0	
No privacy	32	0		1	0		5	20	17.9
Don't provide such services	32	3.1	3.1	1	100		5	0	

4.2 Vaccine logistics

4.2.1 Storage

In the questionnaire component of the survey, interviewers asked facility representatives about vaccine storage. All facilities that reported providing vaccine services for children under 5 years of age also reported storing vaccines in-facility (Table 4.2.1). This table and following vaccine supply and demand tables display only facilities that vaccinate children under five.

Table 4.2.1 Vaccine storage

	Ambulatory			Complete		
	N	%	SE	N	%	SE
Storage						
Stored in facility	31	100		3	100	
Picked up from another facility	31	0		3	0	
Delivered when services are being provided	31	0		3	0	
None of the above	31	0		3	0	

4.2.2 Demand and supply

Facilities that store vaccines were asked logistical questions regarding the supply and demand of vaccines. The majority of facilities reported self-determination in ordering vaccine supplies, and ordering the same quantity each time. In 19.4% of ambulatory facilities, the ordering strategy was dependent on the vaccine that was being ordered, and in one ambulatory facility the quantity ordered was dependent on the vaccine. Responses from facility representatives about the time it takes to receive orders and whether they received the correct quantity are further detailed in Table 4.2.2.

Table 4.2.2 Vaccine supply and demand

	Ambulatory			Complete		
	N	%	SE	N	%	SE
Ordering Strategy						
Determines own needs	31	71	8.1	3	100	
Need determined elsewhere	31	9.7	5.3	3	0	
Both(differ by vaccine)	31	19.4	7.1	3	0	
Quantity to order strategy						
Order same amount	31	96.8	3.2	3	100	
Different per vaccine	31	3.2	3.2	3	0	
Time to order strategy						
Fixed time, > once/week	31	83.9	6.6	3	66.7	27.2
Fixed time, < once/week	31	3.2	3.2	3	33.3	27.2
Order when needed	31	6.5	4.4	3	0	
Time to receive supplies						
< 1 week	31	54.8	8.9	2	50	35.4
1-2 weeks	31	45.2	8.9	2	50	35.4
> 2 weeks	31	0		2	0	
DK/DR				1		
Reception of quantity ordered						
Always	31	77.4	7.5	3	100	
Almost always	31	22.6	7.5	3	0	
Almost never	31	0		3	0	

4.3 Vaccines observed

Table 4.3.1 displays the percentage of facilities at which at least one unit of a specified vaccine was observed by the surveyors at the time of the survey (if the facility routinely stores vaccines). In four ambulatory facilities, interviewers were not shown records indicating the reception of vaccines. Most health facilities had Pentavalent on the day of the survey, however, Rotavirus was not commonly observed.

Table 4.3.1 Vaccine stocks observed

	Ambulatory			Complete		
	N	%	SE	N	%	SE
Pentavalent[1]	27	88.9	6.0	5	40	21.9
MMR[2]	27	100		5	0	
Rotavirus	27	7.4	5.0	5	0	
Pneumococcal conjugate	27	100		5	20	17.9
BCG	27	3.7	3.6	5	100	
Polio	27	81.5	7.5	5	0	
Influenza	27	70.4	8.8	5	40	21.9
Tetanus	27	96.3	3.6	5	80	17.9

[1]Pentavalent = DPT + HepB + Hib

[2]MMR = Measles + Mumps + Rubella

4.4 Cold chain

Facilities responded to questions related to the cold chain if they reported storing vaccines, collecting vaccines from other health units, or having vaccines delivered to the unit to be immediately applied. Interviewers observed the type of fridges used to store vaccines. Table 4.4.1 details the percent of facilities that have each type of fridge observed and functional at the time of the survey. Electric fridges were found in every health facility. In addition, all health facilities had digital thermometers available.

Table 4.4.1 Cold chain input availability

	Ambulatory			Complete		
	N	%	SE	N	%	SE
Storage						
Electric fridge	31	100		5	100	
Kerosene fridge	31	0		5	0	
Gas fridge	31	0		5	0	
Solar fridge	31	0		5	0	

Chapter 5 FAMILY PLANNING

5.1 Service provision and storage

This chapter summarizes key information related to family planning. In the questionnaire component of the survey, facility representatives responded to questions about service provision and logistics of ordering and receiving supplies for family planning. In the observation component of the survey, interviewers observe the availability of certain family planning methods. In the health area survey, the area was evaluated for stock of certain family planning methods in the previous 3 months.

In the questionnaire, all facilities reported offering family planning services. Almost all facilities store contraceptives, with the exception of one ambulatory facility (Tables 5.1.1a-b). Interviewers recorded the setting of the room used for family planning services, finding that all ambulatory facilities offered rooms with visual and auditory privacy for patients seeking family planning services.

Table 5.1.1a Family planning (FP) services provision

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Offers FP services	32	100		1	100		5	100	
FP room									
Private room with visual and auditory privacy	32	100		1	0		5	20	17.9
Non-private room without auditory nor visual privacy	32	0		1	0		5	0	
Visual privacy only	32	0		1	0		5	0	
No privacy	32	0		1	0		5	0	
Other	32	0		1	0		5	0	
Do not provide these services	32	0		1	100		5	80	17.9

Table 5.1.1b Family planning (FP) storage

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
FP Storage									
Yes, stores contraceptives	32	96.9	3.1	1	100		5	100	
No, delivered when services are being provided	32	3.1	3.1	1	0		5	0	

5.2 Observed contraception methods and reported family planning services

Tables 5.2.1a and 5.2.1b list the percent of facilities in which the surveyor observed at least one unit of a specific contraception method at the time of the survey. The tables also show reported availability of other family planning services: 71.9% of all ambulatory units offer pregnancy tests and 84.4% of units have a doctor or nurse trained for IUD insertion.

Table 5.2.1a Observed contraception methods and reported services in ambulatory facilities

	Ambulatory		
	N	%	SE
Observed FP methods			
Any pill:	32	96.9	3.1
Combined oral pill	32	96.9	3.1
Progestin only pill	32	46.9	8.8
Any injectable:	32	96.9	3.1
Combined injectable (1 month)	32	43.8	8.8
Progestin only injectable (3 months)	32	84.4	6.4
Male condom	32	96.9	3.1
IUD*	32	96.9	3.1
IUD insertion kit	32	96.9	3.1
Spermicide	32	0	
Diaphragm	32	0	
Implant	32	0	
Other	27	3.7	3.6
Reported services			
Offers pregnancy test	32	71.9	7.9
Doctor or obstetric nurse trained for IUD insertion	32	84.4	6.4

*Intrauterine device

5.3 Composite family planning indicator

The composite family planning indicator was calculated using continuous availability of family planning methods (oral, injectable, condom, IUD) in ambulatory facilities. Each input was observed by the surveyor for availability on the day of the survey. Furthermore, no interruption in the stock of these items in the previous three months was evaluated by the interviewers in registries kept in the Health Area corresponding to the ambulatory facilities.

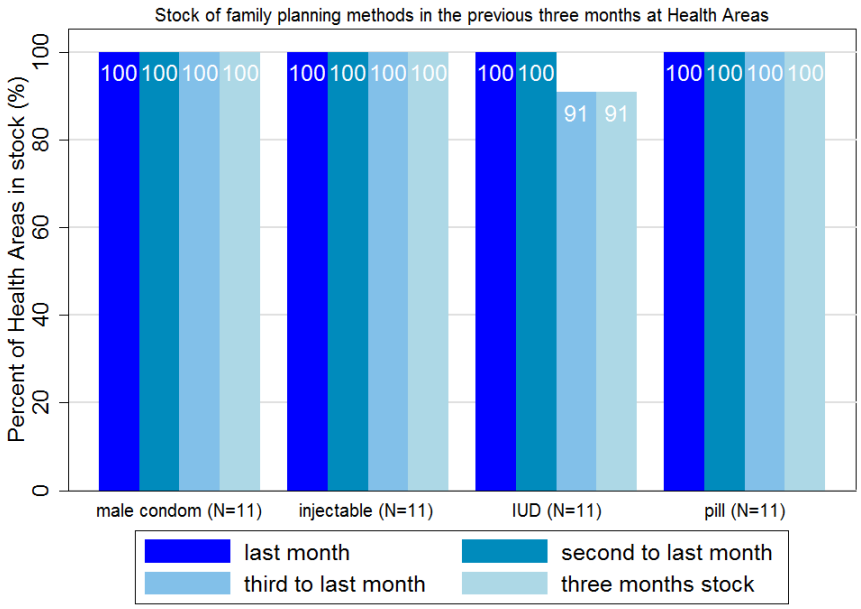
The compiled values for each component are displayed in Table 5.3.1a. Data from the observation survey in the EBAIS and from the review of registries located in the drugstore and warehouse in Health Areas were combined to evaluate the continuous stock of family planning methods for this indicator. One EBAIS facility did not have any of the required family planning methods on the day of the survey, and one Health Area did not have stock of IUDs in the three months before the survey (Table 5.3.1a and Figure 5.3.1a). Taking these into consideration, 90.6% of EBAIS met the indicator regarding family planning methods.

Table 5.3.1a Composite family planning indicator in ambulatory facilities

	Ambulatory		
	N	%	SE
Condom	32	96.9	3.1
Any pill	32	96.9	3.1
Any injectable	32	96.9	3.1
Intrauterine device	32	96.9	3.1
All above methods available on the day of the survey	32	96.9	3.1
Continous availability of all methods in the previous three months*	32	90.6	5.2

*Includes availability on the day of survey

Figure 5.3.1a Three months' stock of family planning methods at Health Areas



5.4 Teaching and awareness through counseling

Table 5.4.1 illustrates the percent of facilities that promote family planning through counseling. All facilities provided individual counseling while the majority also provided group counseling.

Table 5.4.1 Teaching and awareness on family planning and STIs

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Individual fp counseling	32	100		1	100		5	100	
Group FP counseling	32	65.6	8.4	1	100		5	80	17.9

IHME

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

6.1 Service provision

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

All ambulatory facilities reported offering antenatal care (ANC) services in a private room with both auditory and visual privacy. Questions about delivery and postpartum care (PPC) were not asked at the ambulatory level (Table 6.1.1).

Table 6.1.1 ANC service provision in ambulatory facilities

	Ambulatory		
	N	%	SE
Offers ANC services	32	100	
ANC room			
Private room with auditory and visual privacy	32	100	
Non-private room without auditory nor visual privacy	32	0	
Visual privacy only	32	0	
No privacy	32	0	

All complete-level facilities reported offering ANC/PPC and delivery services. The basic facility reported that it does not offer ANC/PPC services, but it does offer delivery services. All facilities that offer ANC/PPC and delivery care have a private room with auditory and visual privacy for the services. Details regarding services and room type for basic and complete facilities are listed in Table 6.1.2.

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

	Basic			Complete		
	N	%	SE	N	%	SE
Offers ANC services	1	0		5	100	
Offers routine delivery services (non-urgent)	1	0		5	100	
Offers PPC services	1	0		5	100	
ANC - PPC room						
Private room with auditory and visual privacy	0			5	100	
Non-private room without auditory nor visual privacy	0			5	0	
Visual privacy only	0			5	0	
No privacy	0			5	0	
Don't provide this service	1					
Delivery room						
Private room with auditory and visual privacy	1	100		5	100	
Non-private room with neither auditory nor visual privacy	1	0		5	0	
Visual privacy only	1	0		5	0	
No privacy	1	0		5	0	

6.2 ANC - PPC

Health facilities were evaluated for the availability of equipment and pharmacy inputs on the day of the survey for basic ANC-PPC.

6.2.1 ANC - PPC equipment

Table 6.2.1 details the availability of basic ANC-PPC equipment in ambulatory and complete facilities. Ambulatory facilities were well-equipped, with 100% of facilities having at least one standing scale, CLAP obstetrical tape, lamp, blood pressure apparatus, and stethoscope on the day of the survey. Complete facilities were also well-equipped, with 100% of facilities having at least one standing scale, height rod, CLAP obstetrical tape, and blood pressure apparatus on the day of the survey.

Table 6.2.1 Observed and functional ANC - PPC equipment in ambulatory & complete facilities

Equipment type	Ambulatory			Complete		
	N	%	SE	N	%	SE
Standing scales	32	100		5	100	
Height rod	32	96.9	3.1	5	100	
Gynecological exam table[1]	31	90.3	5.3	5	80	17.9
CLAP obstetrical tape/measuring tape[1]	31	100		5	100	
Gooseneck lamp/hand lamp[1]	31	100		5	80	17.9
Blood pressure apparatus[1]	31	100		5	100	
Stethoscope	32	100		5	60	21.9
IUD insertion kit[1]	31	80.6	7.1	5	60	21.9
Perinatal maternal medical history[1]	31	96.8	3.2	5	80	17.9
Perinatal maternal card[1]	31	93.5	4.4	5	80	17.9
All equipment observed and functional	31	80.6	7.1	5	60	21.9

[1]Data missing from one ambulatory facility

6.2.2 ANC - PPC laboratory inputs

Table 6.2.1 details the percentage of health facilities with the necessary laboratory inputs for basic ANC and PPC. These inputs are only observed by the surveyors at complete facilities that have a laboratory. Only rapid HIV/AIDS tests, fluorescence microscopes, and blood glucose meters were missing from facilities.

Table 6.2.2 Laboratory inputs in basic & complete facilities

Laboratory inputs	Complete		
	N	%	SE
Rapid syphilis test kit/dark field microscope/ equipment for enzyme immunoassay	5	100	
Rapid HIV/AIDS test/fluorescence microscope	5	40	21.9
Urine protein strips/urinalysis equipment	5	100	
HemoCue/automated cell counter	5	100	
Blood glucose meter	5	80	17.9
Pregnancy test	5	100	
Availability of lab inputs on the day of the survey	5	40	21.9

6.2.3 ANC - PPC medications

Health facilities were checked for the availability of pharmacy inputs on the day of the survey for basic ANC-PPC. Interviewers checked for multivitamins/(iron + folic acid), Ayre's spatula/swabs, microscope slides, nitrofurantoin, and tetanus vaccine/tetanus-diphtheria toxoid (if the facility stores vaccines) on the day of the survey). Additionally, antibiotics (erythromycin/ampicillin/penicillin benzathine/ceftriaxone) were checked at ambulatory facilities and cephalexin was checked at complete

facilities. There was a lack of antibiotics and nitrofurantoin on the day of the survey in ambulatory facilities, leaving only 31.3% of ambulatory facilities with the availability of all listed inputs on the day of the survey. Of the various antibiotic alternatives, only penicillin benzathine and ceftriaxone were found in ambulatory facilities. Table 6.2.3 details stock of all drugs at all facilities.

Table 6.2.3 ANC - PPC pharmacy inputs in ambulatory facilities

	Ambulatory			Complete		
Pharmacy inputs	N	%	SE	N	%	SE
(Iron + Folic acid)/multivitamin	32	75	7.7	5	100	
Erythromycin/ampicillin/penicillin benzathine/ceftriaxone[1]	32	59.4	8.7	n/a	n/a	n/a
Ayre's spatula/swabs	32	78.1	7.3	5	100	
Microscope slides	32	75	7.7	5	100	
Nitrofurantoin	32	46.9	8.8	5	80	17.9
Cephalexin[2]	n/a	n/a	n/a	5	100	
Tetanus vaccine/tetanus-diphtheria toxoid [3]	27	96.3	3.6	5	80	17.9
All inputs observed on the day of the survey	32	31.3	8.2	5	60	21.9

[1]Only measured in ambulatory facilities

[2]Only measured in basic & complete facilities

[3]Only applicable if facility stores vaccines

6.3 ANC medical record review

Records of women who received ANC in health facilities in the last two years were selected systematically and reviewed.

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

Ambulatory medical records of women were reviewed to determine whether their first ANC visit was with a doctor or nurse within the first trimester of pregnancy (12 weeks gestation). Gestational age was calculated by subtracting the date of the woman's last menstrual period from the date of her first ANC visit in order to determine if her visit was within 12 weeks' gestation.

Table 6.3.1a displays a medical record review of only adolescent women, ages 10-19, who met these standards. While all adolescent women had their first ANC visit with a doctor or nurse, only 67.4% of visits were within the first trimester of pregnancy.

Table 6.3.1a First ANC visit for adolescent women, ages 10-19

First ANC visit	Ambulatory		
	N	%	SE
First ANC visit with a doctor/nurse within 12 weeks of gestation	184	67.4	3.5
First ANC visit with a doctor/nurse	184	100	
First ANC visit during first trimester of pregnancy (gestational age <= 12 weeks)	184	67.4	3.5
First ANC visit during second trimester of pregnancy (gestational age > 12 weeks & <= 26 weeks)	184	28.3	3.3
First ANC visit during third trimester of pregnancy (gestational age > 26 weeks)	184	4.3	1.5

Table 6.3.1b displays a medical record review of all women of a reproductive age, ages 15-49, who met these standards. While all women had their first ANC visit with a doctor or nurse, only 69% of visits were within the first trimester of pregnancy.

Table 6.3.1b First ANC visit for women of a reproductive age, ages 15-49

First ANC visit	Ambulatory		
	N	%	SE
First ANC visit with a doctor/nurse within 12 weeks of gestation	284	69	2.7
First ANC visit with a doctor/nurse	284	100	
First ANC visit during first trimester of pregnancy (gestational age <= 12 weeks)	284	69.0	2.7
First ANC visit during second trimester of pregnancy (gestational age > 12 weeks & <= 26 weeks)	284	27.5	2.7
First ANC visit during third trimester of pregnancy (gestational age > 26 weeks)	284	3.5	1.1

Figure 6.3.1a and Table 6.3.1c detail the proportion and distribution of ANC records that indicate the adolescent woman, ages 10-19, had her first ANC visit with a doctor/nurse within the appropriate time frame (first trimester of pregnancy).

Figure 6.3.1a First adolescent woman (ages 10-19) ANC visit with a doctor/nurse before 12 weeks of gestation by quarter

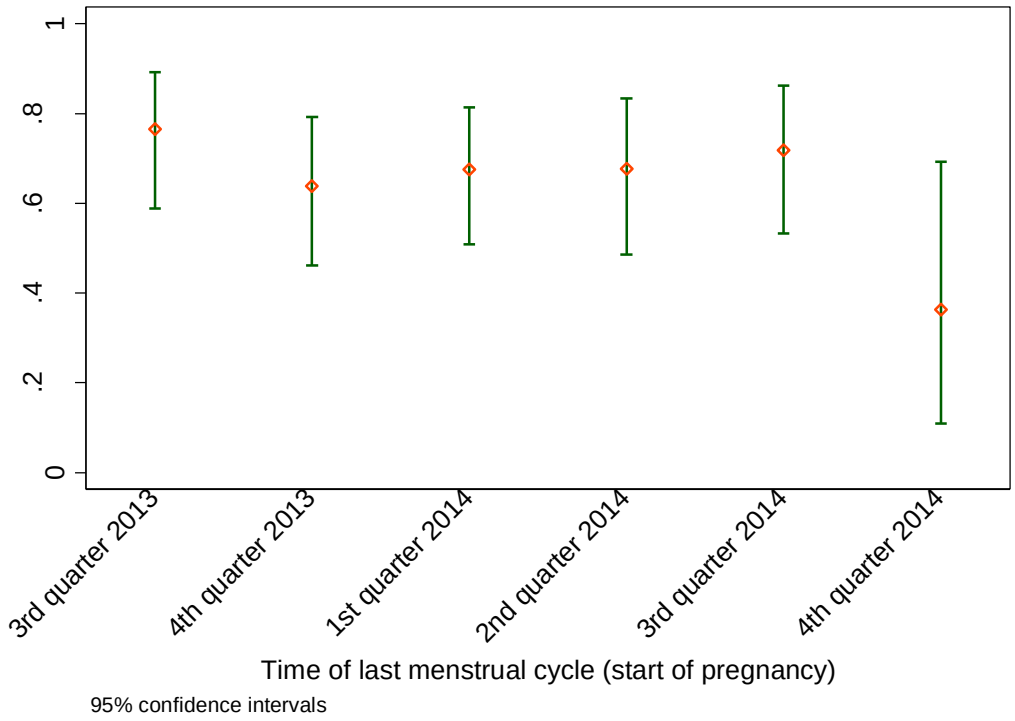


Table 6.3.1c First adolescent woman (ages 10-19) ANC visit with a doctor/nurse before 12 weeks of gestation by quarter

Quarter	ANC records		
	N	%	SE
3rd quarter 2013	34	76.5	7.3
4th quarter 2013	36	63.9	8.0
1st quarter 2014	40	67.5	7.4
2nd quarter 2014	31	67.7	8.4
3rd quarter 2014	32	71.9	7.9
4th quarter 2014	11	36.4	14.5

Figure 6.3.1b and Table 6.3.1d detail the proportion and distribution of ANC records that indicate the woman of a reproductive age (15-49), had her first ANC visit with a doctor/nurse within the appropriate time frame (first trimester of pregnancy).

Figure 6.3.1b First woman (ages 15-49) ANC visit with a doctor/nurse before 12 weeks of gestation by quarter

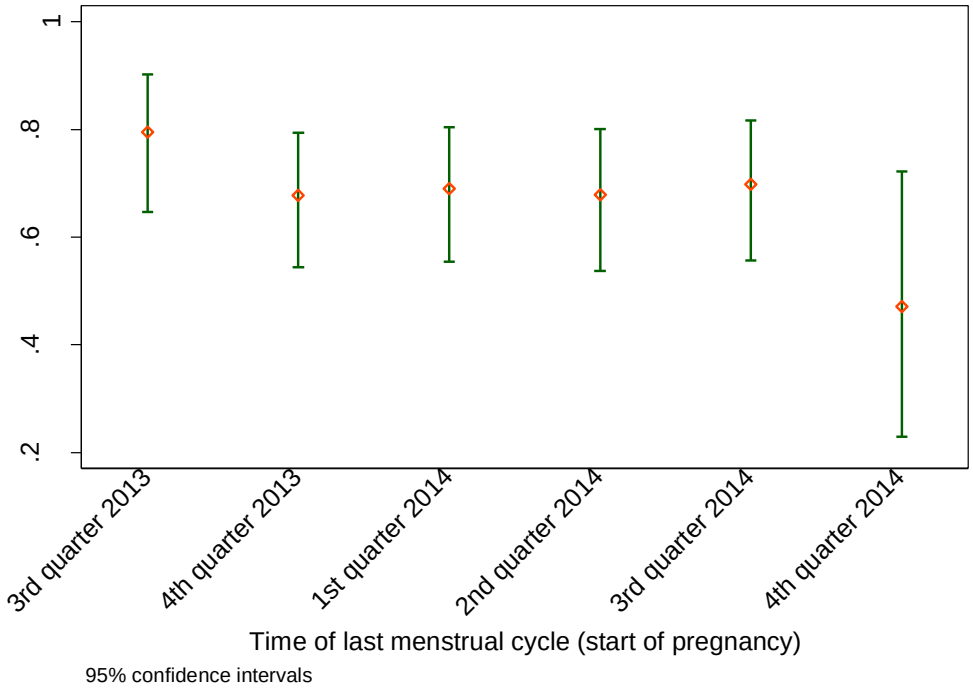


Table 6.3.1d First woman (ages 15-49) ANC visit with a doctor/nurse before 12 weeks of gestation by quarter

Quarter	ANC records		
	N	%	SE
3rd quarter 2013	44	79.6	6.1
4th quarter 2013	59	67.8	6.1
1st quarter 2014	58	69.0	6.1
2nd quarter 2014	53	67.9	6.4
3rd quarter 2014	53	69.8	6.3
4th quarter 2014	17	47.1	12.1

6.3.2 Adolescent women (10-19) who received at least 5 ANC visits by qualified personnel

Records of antenatal care were reviewed in all applicable facilities. In order to demonstrate ANC according to the country norm, an adolescent woman, ages 10-19, should have at least five visits with a doctor or nurse during her pregnancy with the appropriate physical and fetal checkups performed. The appropriate physical and fetal checkups are defined as the following:

(1) Weight, blood pressure, and fundal height checked at each visit
(2) After 20 weeks gestation: fetal heart rate and fetal movement checked at each visit

The adolescent woman must also have certain laboratory tests performed at least once throughout the pregnancy. These laboratory tests include blood type, blood glucose level, hb level, urinalysis, VDRL, and

HIV test. This is detailed in Table 6.3.2b.

Figure 6.3.2a displays the total number of antenatal care visits attended for all adolescent women who gave birth in the past two years, excluding any physical/fetal checkup or laboratory test requirements. Figures 6.3.2b displays the total number of antenatal care visits for all adolescent women where the proper physical/fetal checkups were performed at each visit; laboratory test requirements are excluded from this figure as well since they are not performed at each visit.

Figure 6.3.2a Total number of antenatal care visits for adolescent women

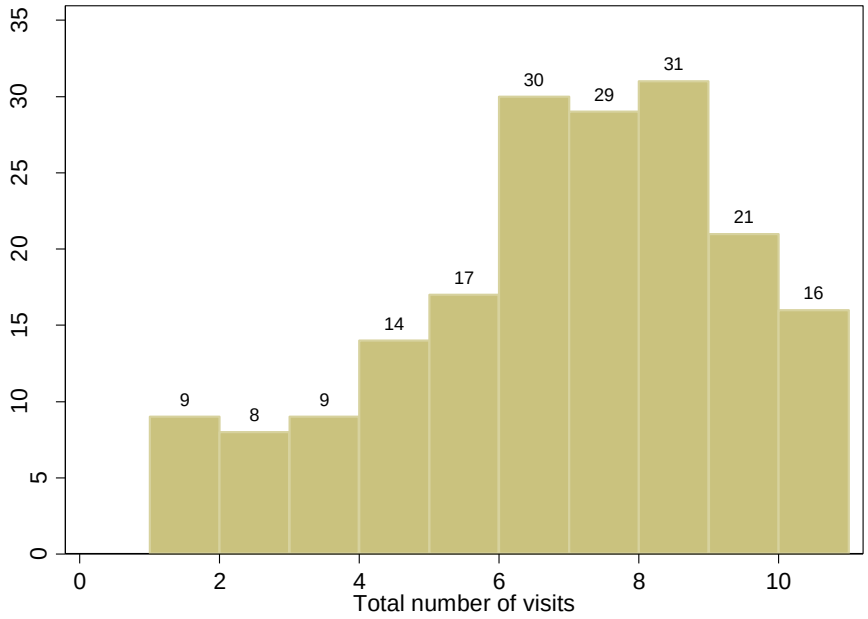
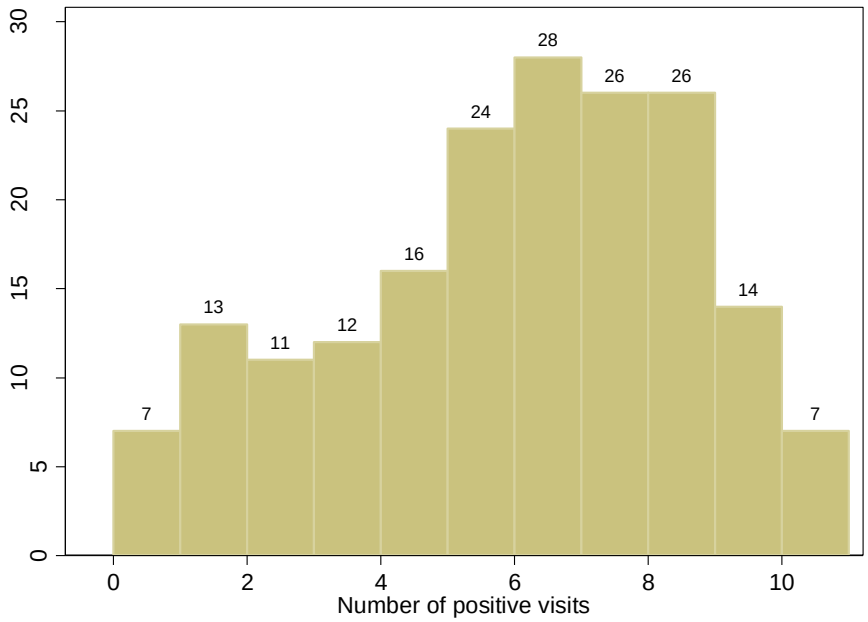


Figure 6.3.2b Number of ANC visits for adolescent women according to the norm (excluding lab tests)



The majority of adolescent women (78.3%) had a minimum of five antenatal care visits, as displayed in Table 6.3.2a. While 93.5% of women had the proper laboratory tests performed at least once, only 71.7% had the proper physical checkups and 71.2% of women had the proper fetal checkups. This resulted in only 65.2% of adolescent women who received the correct ANC treatment according to the medical record review.

Table 6.3.2a Adolescent women of a reproductive age (10-19) who received at least five ANC visits according to best practices

	Ambulatory		
ANC visit	N	%	SE
At least 5 recorded antenatal care (ANC) visits	184	78.3	3.0
At least 5 ANC visits with a doctor/nurse	184	78.3	3.0
At least 5 ANC visits with physical checkups[1]	184	71.7	3.3
At least 5 ANC visits with fetal checkups[2]	184	71.2	3.3
Lab tests performed at least once[3]	184	93.5	1.8
Adolescent women (10-19) who received at least 5 ANC visits by doctor/nurse according to the best practices in the last 2 years	184	65.2	3.5

[1]Physical checkups = weight + blood pressure + fundal height

[2]Fetal checkups = fetal heart rate + fetal movement only if the gestational age is >20 and <=42 weeks at the time of the visit

[3]Lab tests = blood-type + blood glucose level (gylcemia) + hemoglobin level + urinalysis + VDRL + HIV test

Table 6.3.2b Laboratory tests performed at least once during an ANC visit for adolescent women (10-19)

	Ambulatory		
Lab tests	N	%	SE
Blood type	184	96.7	1.3
Blood glucose level	184	98.4	0.9
Hb level	184	97.3	1.2
Urinalysis (general)	184	97.3	1.2
VDRL test	184	95.7	1.5
HIV test	184	96.7	1.3
All lab tests performed	184	93.5	1.8

6.3.3 Women of a reproductive age (15-49) who received at least 5 ANC visits by qualified personnel

Records of antenatal care were reviewed in all applicable facilities. In order to demonstrate ANC according to the country norm, a woman of a reproductive age, 15-49, should have at least five visits with a doctor or nurse during her pregnancy with the appropriate physical and fetal checkups performed. The appropriate physical and fetal checkups are defined as the following:

(1) Weight, blood pressure, and fundal height checked at each visit
(2) After 20 weeks gestation: fetal heart rate and fetal movement checked at each visit

The woman must also have certain laboratory tests performed at least once throughout the pregnancy. These laboratory tests include blood type, blood glucose level, hb level, urinalysis, VDRL, and HIV test. This is detailed in Table 6.3.3b.

Figure 6.3.3a displays the total number of antenatal care visits attended for all women of a reproductive age who gave birth in the past two years, excluding any physical/fetal checkup or laboratory test requirements. Figures 6.3.3b displays the total number of antenatal care visits for all women of a reproductive age where the proper physical/fetal checkups were performed at each visit; laboratory test requirements are excluded from this figure as well since they are not performed at each visit.

Figure 6.3.3a Total number of antenatal care visits for women of a reproductive age (15-49)

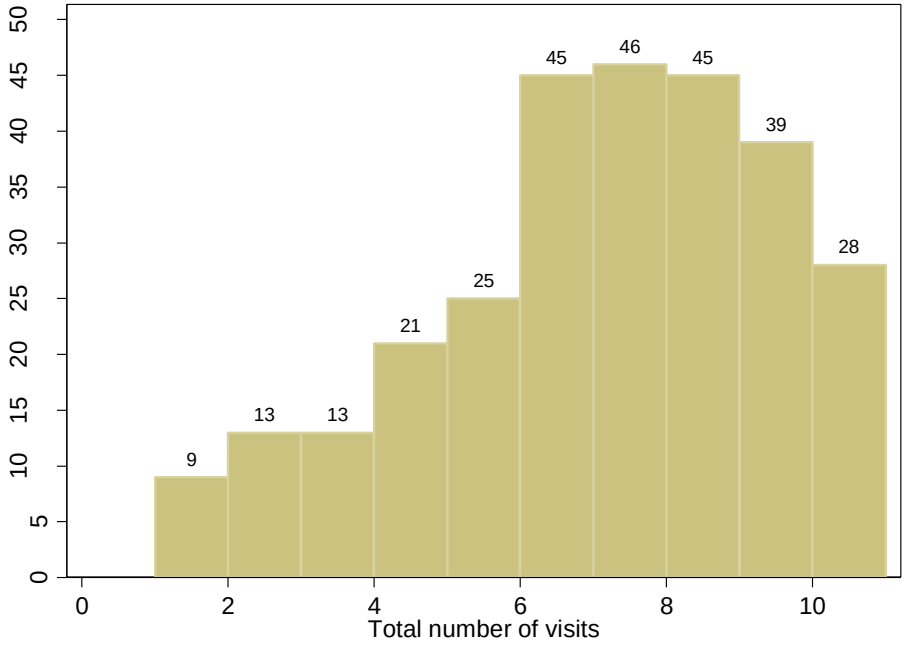
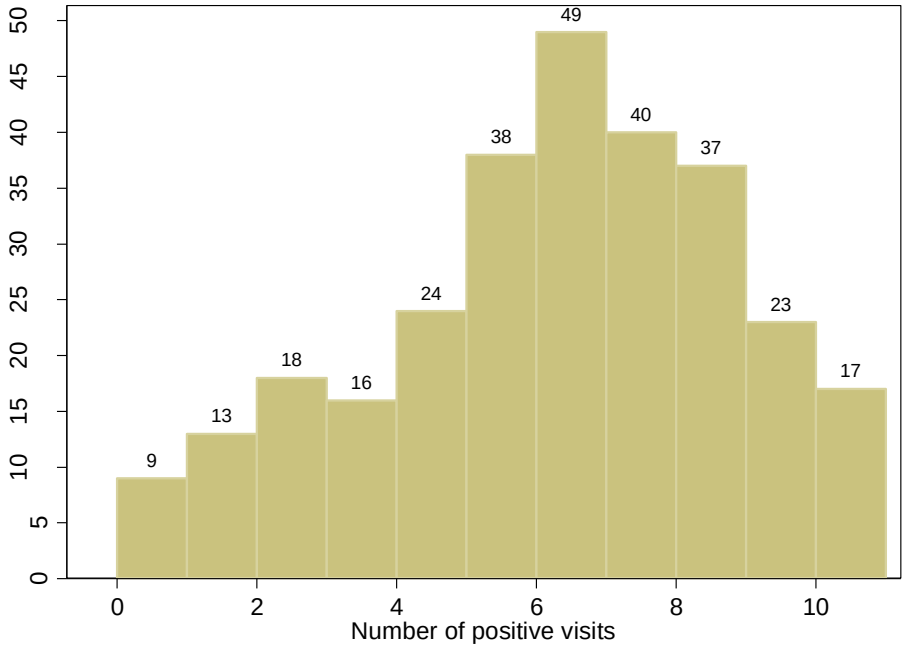


Figure 6.3.3b Number of ANC visits for women of a reproductive age (15-49) according to the norm (excluding lab tests)



The majority of women (80.3%) had a minimum of five antenatal care visits, as displayed in Table 6.3.3a. While 94% of women had the proper laboratory tests performed at least once, only 75% had the proper physical and fetal checkups. This resulted in only 69.7% of women who received the correct ANC treatment according to the medical record review.

Table 6.3.3a Women of a reproductive age (15-49) who received at least five ANC visits according to best practices

	Ambulatory		
ANC visit	N	%	SE
At least 5 recorded antenatal care (ANC) visits	284	80.3	2.4
At least 5 ANC visits with a doctor/nurse	284	80.3	2.4
At least 5 ANC visits with physical checkups[1]	284	75	2.6
At least 5 ANC visits with fetal checkups[2]	284	75	2.6
Lab tests performed at least once[3]	284	94	1.4
Women of a reproductive age (15-49) who received at least 5 ANC visits by doctor/nurse according to the best practices in the last 2 years	284	69.7	2.7

[1]Physical checkups = weight + blood pressure + fundal height

[2]Fetal checkups = fetal heart rate + fetal movement only if the gestational age is >20 and <=42 weeks at the time of the visit

[3]Lab tests = blood-type + blood glucose level (gylcemia) + hemoglobin level + urinalysis + VDRL + HIV test

Table 6.3.3b Laboratory tests performed at least once during an ANC visit for women of a reproductive age (15-49)

Lab tests	Ambulatory		
	N	%	SE
Blood type	284	96.8	1.04
Blood glucose level	284	98.6	0.7
Hb level	284	98.2	0.78
Urinalysis (general)	284	98.2	0.78
VDRL test	284	97.2	0.98
HIV test	284	97.5	0.92
All lab tests performed	284	94	1.41

6.4 Delivery care

In the observation component of the health facility survey, interviewers checked for supplies and equipment necessary for delivery and newborn care.

6.4.1 Delivery care equipment

Basic and complete facilities were measured for availability of the following delivery and newborn care equipment on the day of the survey: intravenous catheters sterile N°18, metallic/plastic clamps/umbilical tape, equipment p/serum c/macro drip and microdrip, nasogastric tubes, suction bulbs, and sterile fields/sheltering for a baby. Table 6.4.1 displays the percentage of basic and complete facilities that possess at least one piece of functional equipment. All facilities had at least one intravenous catheters sterile N°18, suction bulb, and sterile field/shelter for a baby on the day of the survey.

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

Equipment type	Basic			Complete		
	N	%	SE	N	%	SE
Intravenous catheter sterile N ° 18	1	100		5	100	
Metallic Clamp or umbilical tape	1	100		5	80	17.9
Equipment p/serum c/macrodrip and microdrip	1	100		5	80	17.9
Nasogastric tube	1	100		5	80	17.9
Suction bulb	1	100		5	100	
Sterile fields or sheltering for a baby	1	100		5	100	
All equipment observed and functional	1	100		5	60	21.9

6.4.2 Delivery care pharmacy inputs

Table 6.4.2 displays the percentage of basic and complete facilities that have the proper pharmacy inputs used for delivery care on the day of the survey. Povidone-iodine and C syringe/insulin syringe

were the only pharmacy inputs that were not in stock at all facilities on the day of the survey.

Table 6.4.2 Pharmacy inputs needed for delivery care in basic facilities

Pharmacy inputs	Basic			Complete		
	N	%	SE	N	%	SE
Methylbromide/butylscopolamine	1	100		5	100	
Silver nitrate/oxytetracycline ophthalmic	1	100		5	100	
Epinephrine	1	100		5	100	
Ergonovine maleate/ergometrine ampoules/oxytocin	1	100		5	100	
Povidone-iodine	1	100		5	60	21.9
Ringer's lactate/Hartmann's solution/Saline solution	1	100		5	100	
C syringe/insulin syringe	1	100		5	80	17.9
Vitamin K	1	100		5	100	
All pharmacy inputs available on the day of the survey	1	100		5	40	21.9

6.5 Delivery medical record review

6.5.1 Oxytocin administration

During the review of delivery medical records in basic and complete facilities, interviewers reported the administration of oxytocin/other uterotonic after deliveries.

Table 6.5.1a displays records only for adolescent women, ages 10-19. Only 20.6% of adolescent records reported the date/time of administration after delivery. Of the 20 cases where oxytocin was administered after birth, 20% reported that the form of oxytocin delivery was intramuscular, 50% were intravenous, and 30% did not register the form of administration.

Table 6.5.1a Oxytocin administration records after delivery for adolescent women (ages 10-19)

	Complete		
	N	%	SE
Oxytocin/other uterotonic was administered after birth	68	32.4	5.7
Date/hour of oxytocin/other uterotonic was registered	22	63.6	10.3
Oxytocin/other uterotonic was administered & the date/hour of administration was recorded	68	20.6	4.9

Table 6.5.1b displays records for all women of reproductive age, ages 15-49. Only 16.4% of records reported the date/time of administration after delivery. Of the 40 cases where oxytocin was administered after birth, 10% reported that the form of oxytocin delivery was intramuscular, 60% were intravenous, 2.5% were both intramuscular and intravenous, and 27.5% did not register the form of

administration.

Table 6.5.1b Oxytocin administration records after delivery for women of a reproductive age (15-49)

	Complete		
	N	%	SE
Oxytocin/other uterotonic was administered after birth	128	32.8	4.2
Date/hour of oxytocin/other uterotonic was registered	42	50	7.7
Oxytocin/other uterotonic was administered & the date/hour of administration was recorded	128	16.4	3.3

6.6 Postpartum care medical record review

6.6.1 Women who received contraception in post-obstetric events

Records of women who gave birth in the previous two years were reviewed. Excluding those who were referred to another facility, the percentage of women who received contraception in post-obstetric events was reviewed.

Table 6.6.1a displays only medical records of adolescent women, ages 10-19, who gave birth in the previous two years. Only 24.2% of adolescents received contraception while 33.9% did not receive anything and 41.9% of records did not indicate whether or not she received contraception. Table 6.6.1a details the specific types of contraception given to adolescent women at facilities.

Table 6.6.1a Type of contraception received in post-obstetric events for adolescent women, ages 10-19

	Complete		
	N	%	SE
Received contraceptives (PPM)	62	24.2	5.4
Method type received:			
Natural/rhythm	15	0	
Condom/barrier	15	46.7	12.9
IUD	15	0	
Hormonal	15	60	12.6
Oral pill	15	13.3	8.8
Tubal ligation	15	0	
Other	15	0	
Not informed	15	0	
Referred	15	0	
Not recorded[1]	15	13.3	8.8

[1]2 complete records noted that the women received contraceptives but the type was not recorded

Table 6.6.1b displays medical records of all women of a reproductive age (15-49) who gave birth in the previous two years. Only 18.9% of women received contraception while 43.4% did not receive anything

and 37.7% of records did not indicate whether or not she received contraception. Table 6.6.1b details the specific types of contraception given to women of a reproductive age at facilities.

Table 6.6.1b Type of contraception received in post-obstetric events for women of a reproductive age (15-49)

	Complete		
	N	%	SE
Received contraceptives (PPM)	122	18.9	3.5
Method type received:			
Natural/rhythm	23	0	
Condom/barrier	23	34.8	9.9
IUD	23	0	
Hormonal	23	60.9	10.2
Oral pill	23	8.7	5.9
Tubal ligation	23	0	
Other	23	0	
Not informed	23	0	
Referred	23	0	
Not recorded[1]	23	13	7.0

[1]3 complete records noted that the women received contraceptives but the type was not recorded

6.6.2 Women who received postpartum care by trained personnel within 8 days

Records of women who gave birth in the previous two years were reviewed. A woman was given proper care if she was attended by a doctor or nurse and the following tasks were performed: physical exam + vital signs checked + lactation information was provided + family planning methods information was provided + alarm signs in the mother or neonate were checked + additional services were offered.

Table 6.6.2a displays records of only adolescent women, ages 10-19, who received postpartum care by trained personnel within 8 days. While 100% of adolescent women were attended by doctor or nurse, only 17.5% of records showed that all tasks were performed.

Table 6.6.2a Postpartum care for adolescent women (10-19) according to standards

	Complete		
	N	%	SE
Attended by doctor or nurse	63	100	
All checks complete	63	17.5	4.8
Physical exam	63	100	
Vital signs	63	68.3	5.9
Lactation information provided	63	85.7	4.4
Family planning methods information provided	63	50.8	6.3
Alarm signs in mother or newborn	63	92.1	3.4
Other services offered to adolescent	63	19	4.9
Adolescent was attended by a doctor/nurse and all checks were completed	63	17.5	4.8

Table 6.6.2b displays records of all women of a reproductive age (15-49) who received postpartum care by trained personnel within 8 days. All women were attended by doctor or nurse, however, only 8.3% of records showed that the appropriate checks were performed.

Table 6.6.2b Postpartum care for women of a reproductive age (15-49) according to standards

	Complete		
	N	%	SE
Attended by doctor or nurse	121	100	
All checks complete:	121	8.3	2.5
Physical exam	121	99.2	0.8
Vital signs	121	75.2	3.9
Lactation information provided	121	84.3	3.3
Family planning methods information provided	121	50.4	4.5
Alarm signs in mother or newborn	121	92.6	2.4
Other services offered to woman	121	9.1	2.6
Woman was attended by a doctor/nurse and all checks were completed	121	8.3	2.5

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 basic and complete level facilities. Interviewers observed equipment in the room designated for emergency obstetric and neonatal care and certain related drugs in the pharmacy. In addition, interviewers reviewed medical records of women and neonates with one or more complication.

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

	Basic			Complete		
	N	%	SE	N	%	SE
Emergency room						
Private room with auditory and visual privacy	1	100		5	60	21.9
Non-private room without auditory nor visual privacy	1	0		5	0	
Visual privacy only	1	0		5	0	
No privacy	1	0		5	0	
Don't provide this service	1	0		5	40	21.9

7.2 Supplies and equipment needed for emergency obstetric and neonatal care

In the health facility survey observation module, interviewers checked availability and functionality of inputs in the emergency obstetric and neonatal care room. Table 7.2.1 details some key equipment and supplies that were checked during the observation.

As detailed in Table 7.2.1, resuscitation bags for both neonates and adults and laryngoscopes were observed in 100% of basic and complete facilities. However, autoclaves or dry heat sterilizers were not observed in either basic or complete facilities.

Table 7.2.1 Observed and functional equipment for emergency care

Equipment type	Basic			Complete		
	N	%	SE	N	%	SE
Blood pressure apparatus	1	0		3	100	
Stethoscope	1	0		3	66.7	27.2
Portable doppler (or pinard)	1	0		3	66.7	27.2
Autoclave (or dry heat)	1	0		3	0	
Oxygen tank	1	100		3	66.7	27.2
Reanimation resuscitation bag for adult	1	100		3	100	
Neonatal resuscitation bag	1	100		3	100	
Laryngoscope	1	100		3	100	
MVA kit	1	0		3	33.3	27.2
Neonatal/ pediatric stethoscope	1	0		3	33.3	27.2
Anesthesia equipment	1	100		3	33.3	27.2
Kit for C-sections	1	100		3	33.3	27.2

7.3 Important drugs needed for emergency obstetric and neonatal care

In the health facility survey observation module, interviewers checked for the availability of certain drugs related to emergency obstetric and neonatal care. Tables 7.3.1-2 detail key drugs that were checked during the observation. All drugs are the same in both tables, with the exception of Nifidipine which is only evaluated at the complete level.

Table 7.3.1 details the percentage of basic facilities that had emergency-care-related drugs observed on the day of the survey. Sevoflurane and amikacin were the least prevalent (0%) and antibiotics, while all remaining drugs were observed in the basic facility.

Table 7.3.1 Drugs needed for emergency and neonatal care in basic-level facilities

Drug availability	Basic		
	N	%	SE
Amikacin sulfate	1	0	
Antibiotic (Penicillin crystals/IV ampicillin/amoxicillin)	1	100	
Ceftriaxone	1	100	
Chloramphenicol/ Metronidazole	1	100	
Dexamethasone / Betamethasone	1	100	
Diazepam / Midazolam Chlorhydrate	1	100	
Furosemide	1	100	
Gentamicin	1	100	
Hydralazine ampoules	1	100	
Hydralazine / Hydrazaline hydrochloride	1	100	
Magnesium sulfate	1	100	
Oxytocin / Ergometrine	1	100	
Sevoflurane	1	0	
Succinylcholine chloride	1	100	

Table 7.3.2 details the percentage of complete facilities that had various emergency-care-related drugs observed on the day of the survey. In general, the complete facilities were well-stocked on the day of the survey for all drugs except ceftriaxone (66.7%) and nifidipine (0%).

Table 7.3.2 Drugs needed for emergency obstetric and neonatal care in complete-level facilities

	Complete		
Drug availability	N	%	SE
Amikacin sulfate	3	100	
Antibiotic (Penicillin crystals/IV ampicillin/amoxicillin)	3	100	
Ceftriaxone	3	66.7	27.2
Chloramphenicol/ Metronidazole	3	100	
Dexamethasone / Betamethasone	3	100	
Diazepam / Midazolam Chlorhydrate	3	100	
Furosemide	3	100	
Gentamicin	3	100	
Hydralazine ampoules	3	100	
Hydralazine / Hydrazaline hydrochloride	3	100	
Magnesium sulfate	3	100	
Nifedipine	3	0	
Oxytocin / Ergometrine	3	100	
Sevoflurane	3	100	
Succinylcholine chloride	3	100	

7.4 Distribution of obstetric and neonatal complications

This section summarizes the management of maternal and neonatal complications in complete- level facilities. No medical records were collected from the one basic facility (CAIS) in the sample, as this unit only has external consultants for specialties. 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 or more complication of interest in the last two years were selected systematically and reviewed. In total, interviewers reviewed the records of 100 women and 114 infants with one or more complications (Tables 7.4.1-7.4.2). Since a woman or child could have experienced more than one complication, the total number of records below may exceed the number of women or children with complications.

Table 7.4.1 Distribution of obstetric complications by facility classification

	Complete
Women with sepsis	20
Women with hemorrhage	59
Women with pre-eclampsia	13
Women with eclampsia	8
Total	100

Figure 7.4.1 details the distribution of the woman's age if she experienced one or more obstetric complication.

Figure 7.4.1 Distribution of obstetric complications by woman age at all facilities

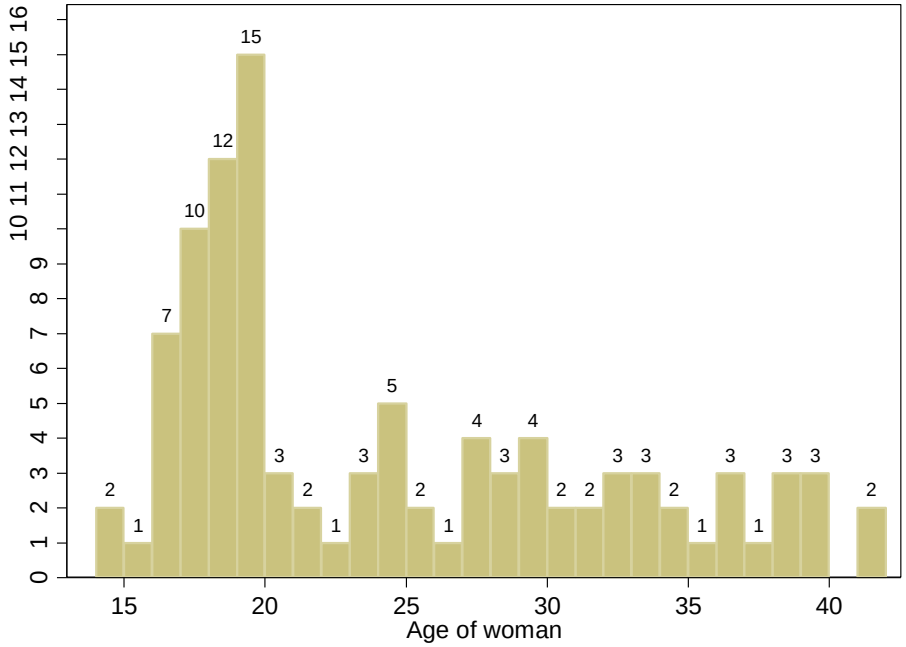
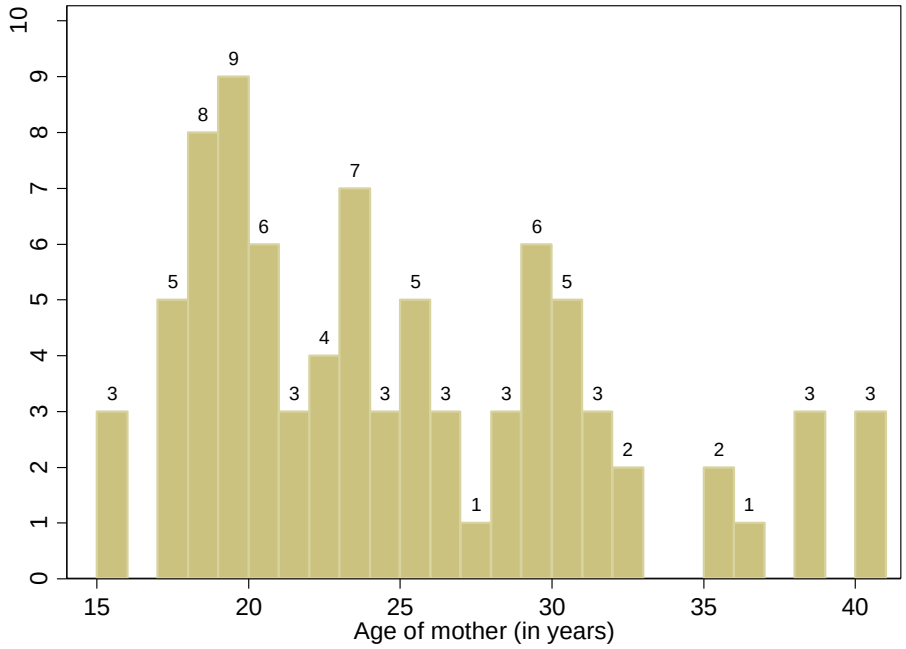


Table 7.4.2 Distribution of neonatal complications by facility classification

	Complete
Neonates with sepsis	51
Neonates with low birth weight	11
Neonates with prematurity	47
Neonates with asphyxia	32
Total	141

Table 7.4.2 displays the distribution of all neonatal complications by facility classification. Figure 7.4.2 displays the distribution of neonatal complication records by the mother's age, excluding 29 records where the mother's age was not recorded.

Figure 7.4.2 Distribution of neonatal complications by age of mother at all facilities



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

7.5.1 Sepsis in complete facilities

According to the country norm, maternal sepsis is managed correctly at complete facilities if vital signs are checked (temperature + pulse + systolic blood pressure + diastolic blood pressure), lab tests are performed (leukocyte count + complete blood count), antibiotics are administered and the appropriate actions are taken for the specified maternal complications:

- If the cause of sepsis is a septic abortion: MVA/instrumental curettage
- If the cause of sepsis is uterine perforation: hysterectomy
- If the cause of sepsis is pelvic abscess: laparotomy

There were 20 records of maternal sepsis at complete facilities (Table 7.5.1), of which 75% were managed according to the norm. As shown in the table below, all women were administered antibiotics and 95% had their vitals check; no women experienced any of the three specified complications: septic abortion, uterine perforation, or pelvic abscess.

Table 7.5.1 Medical record review at complete level facilities: sepsis

	Complete		
	N	%	SE
All vital signs were checked:	20	95	4.9
Temperature	20	95	4.9
Pulse	20	100	
Blood pressure (systolic + diastolic blood pressure)	20	100	
Lab tests performed (complete blood count & leukocyte count)	20	80	8.9
Antibiotics administered[1]	20	100	
Appropriate actions taken for the specified maternal complication[2]	0		
Sepsis managed according to the norm (meets all above criteria)	20	75	6.7

[1]Antibiotics = amikacin or clindamycin or gentamicin or ampicillin or metronidazole or other antibiotic

[2](1) If the cause of sepsis is a septic abortion: MVA/instrumental curettage
(2) If the cause of sepsis is a uterine perforation: hysterectomy
(3) If the cause of sepsis is a pelvic abscess: laparotomy

7.5.2 Hemorrhage in complete facilities

According to the country norm, women with hemorrhage complications are managed correctly at complete facilities if vital signs are checked, medications are administered, laboratory tests are performed, and the appropriate actions are taken to manage complications correctly at specified times during the pregnancy. Details regarding the types of checks, tests, and medications necessary for proper management are found in Table 7.5.2. The complications and their appropriate procedures are listed below:

- During first half of pregnancy (21 weeks or less):
  - If the cause of the hemorrhage is a complicated abortion: MVA/ instrumental curettage
  - If the cause of the hemorrhage is ectopic pregnancy: laparotomy

- During second half of pregnancy (more than 21 weeks):
  - If the cause of the hemorrhage is placenta previa or placental abruption: vaginal birth/cesarean section

- At any point during the pregnancy:
  - If the cause of the hemorrhage is uterine rupture: laparotomy/cesarean section

- Postpartum hemhorrage:
  - If the cause of the hemorrhage is uterine atony: uterine packing/hysterectomy/oxytocin or other uterotonic administered
  - If the cause of the hemorrhage is cervical lacerations or vaginal tearing or vulva tearing: surgical repair
  - If the cause of the hemorrhage is uterine inversion: resetting the uterus under general anesthesia with no surgical techniques (Johnson Maneuver)/resetting the uterus under general anesthesia with surgical techniques (Huntington or Haultaim Maneuvers

Among the 59 records of maternal hemorrhaging at complete facilities (Table 7.5.2), no women were managed according to the country norm. While 98.3% of women had vital signs checked, none were administered the proper medications and laboratory tests were not performed the majority of the time.

Table 7.5.2 Medical record review at complete level facilities: hemorrhage

	Complete		
	N	%	SE
All vital signs were checked:	59	98.3	1.7
Pulse	59	98.3	1.7
Blood pressure (systolic blood pressure + diastolic blood pressure)	59	98.3	1.7
All medications administered:	59	0	
Ringer's lactate/Hartmann solution	59	0	
Oxytocin/ other uterotonic[1]	12	33.3	13.6
All lab tests were performed:	13	23.1	11.7
Hematocrit	13	84.6	10.0
Hemoglobin	13	84.6	10.0
PT	13	23.1	11.7
PTT	13	23.1	11.7
Platelet count	13	84.6	10.0
Appropriate actions were taken to manage complications correctly at specified times during the pregnancy[2]	13	46.2	13.8
Complications during first half of pregnancy (complication abortion/ectopic pregnancy)	4	75	21.6
Complications during second half of pregnancy (placenta previa/placental abruption)	6	50	20.4
Complications at any point during the pregnancy (uterine rupture)	0		
Postpartum complications (uterine atony/cervical lacerations/vaginal tearing/vulva tearing/uterine inversion)	3	33.3	27.2
Hemorrhage managed according to the norm (meets all above criteria)	59	0	

[1]Oxytocin/other uterotonic only checked if women was not referred from basic facility. 47 records are missing data on question asking for referral from basic facility due to facilities reclassified from basic to complete EONC

[2]See description of complications and their respective procedures/treatments in section 7.5.2; only 13 of the 59 records indicated that a woman experienced one of these complications

7.5.3 Pre-eclampsia & eclampsia in complete facilities

According to the country norm, women with pre-eclampsia and eclampsia are managed correctly at complete facilities if vital signs are checked, lab tests are performed, and the appropriate medication is administered. Details regarding these tests and medications necessary for proper care of pre-eclampsia and eclampsia can be found in Tables 7.5.3a-b.

Among the 13 records of women with pre-eclampsia (Table 7.5.3a), no women were managed according to the norm. This is due to a lack of glutamic pyruvic transaminase and patellar reflex testing, as well as a lack of magnesium sulfate administration. No women were administered dexamethasone/betamethasone if the gestational age was between 24-35 weeks and no women had a diastolic blood pressure of over 110, therefore, no women were measured for the administration of hydralazine, labetalol, or nifedipine.

Table 7.5.3a Medical record review at complete level facilities: pre-eclampsia

	Complete		
	N	%	SE
All vitals were checked:	13	30.8	12.8
Pulse	13	100	
Blood pressure (systolic + diastolic)	13	100	
Respiratory rate	13	46.2	13.8
Patellar reflex[1]	4	0	
All lab tests were performed:	13	38.5	13.5
Urine in protein checked	13	61.5	13.5
Platelet count[1]	4	100	
Creatinine[1]	4	50	25.0
Uric acid[1]	4	100	
Alanine aminotransferase[1]	4	100	
Glutamic pyruvic transaminase[1]	4	0	
Lactate dehydrogenase[1]	4	50	25.0
Aspartate aminotransferase or glutamic-oxaloacetic transaminase[1]	4	100	
Correct medications administered:	13	30.8	12.8
Magnesium sulfate	13	38.5	13.5
Hydralazine or labetalol or nifedipine if diastolic blood pressure > 110	0		
Dexamethasone or betamethasone if gestational age between 24-35 weeks[2]	2	0	
Pre-eclampsia managed according to the norm (meets all above criteria)	13	0	

[1]Missing data in 9 facilities (originally classified as basic EONC)

[2]Missing drug data in 2 date-eligibile facilities (originally classified as basic EONC)

Among the eight records of women with eclampsia (Table 7.5.3b), 12.5% of the women were managed according to the norm. The least prevalent tests in the records were for patellar reflex, glutamic pyruvic transaminase, and lactate dehydrogenase.

Table 7.5.3b Medical record review at complete level facilities: eclampsia

	Complete		
	N	%	SE
All vitals were checked:	8	37.5	17.1
Pulse	8	100	
Blood pressure (systolic + diastolic)	8	100	
Respiratory rate	8	62.5	17.1
Patellar reflex[1]	6	33.3	19.3
All lab tests were performed:	8	37.5	17.1
Urine in protein checked	8	62.5	17.1
Platelet count[1]	6	66.7	19.3
Creatinine[1]	6	83.3	15.2
Uric acid[1]	6	66.7	19.3
Alanine aminotransferase[1]	6	66.7	19.3
Glutamic pyruvic transaminase[1]	6	33.3	19.3
Lactate dehydrogenase[1]	6	50	20.4
Aspartate aminotransferase or glutamic-oxaloacetic transaminase[1]	6	66.7	19.3
Correct medications administered:	8	50	17.7
Magnesium sulfate	8	87.5	11.7
Hydralazine or labetalol or nifedipine if diastolic blood pressure > 110	4	75	21.7
Dexamethasone or betamethasone if gestational age between 24-35 weeks	2	0	
Eclampsia managed according to the norm (meets all above criteria)	8	12.5	11.7

[1]Missing data in 2 facilities (originally classified as basic EONC)

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) in complete facilities

According to the country norm, low-birth weight neonates are managed correctly at complete facilities if they are evaluated by a specialist, gestational age is recorded, vitals are checked, the neonate was fed, and the complications were treated appropriately. The neonatal complications and treatments include:

- If neonate has pneumonia, then treat with antibiotics
- If neonate has diarrhea, then treat with oral or intravenous liquids (maternal milk or oral rehydration salts)
- If neonate has convulsions, then treat with anticonvulsants
- If neonate has hypoglycemia, then treat with a glucose IV

Table 7.6.1 displays the number of records that meet the qualifications for proper care for low birth weight. There were 11 complete records of neonates with low birth weight at complete facilities. None were managed according to the norm; this is mainly attributed to the lack of Silverman-

Anderson/Downes scores when checking for vital signs.

Table 7.6.1 Medical record review in complete level facilities: low birth weight

	Complete		
	N	%	SE
Neonate was evaluated by appropriate personnel[1]	11	81.8	11.6
Gestational age recorded	11	100	
All vitals were checked:	11	0	
Weight	11	90.9	8.7
Weight classification	11	100	
Heart rate	11	63.6	14.5
Respiratory rate	11	63.6	14.5
Silverman-Anderson/Downes score	11	0	
Height	11	100	
Head circumference	11	90.9	8.7
Skin evaluation	11	72.7	13.4
Neonate was fed (early feeding/breastfeeding/liquid glucose (oral or IV)	11	72.7	13.4
Neonate was treated appropriately (only if neonate experienced pneumonia, diarrhea, convulsions, or neonatal hypoglycemia)	0		
Low birth weight was managed according to the norm	11	0	

[1]Due to a change in facility classification, 5 records were not asked if the neonate was evaluated by a specialist. Instead, they met the standards of prematurity management if the neonate was evaluated by a doctor; 66.7% of records that reported on evaluation by a specialist indicated that this requirement was met

7.6.2 Prematurity in complete facilities

According to the country norm, premature neonates are managed correctly at complete facilities if they are evaluated by a specialist, gestational age is calculated using the Capurro or Ballard method, the gestational age classification is recorded, vitals are checked, lab tests are performed, and the neonate is fed. Details regarding specific tests and requirements needed to manage prematurity are found in Table 7.6.2.

There were 47 complete records of premature neonates at complete facilities (Table 7.6.2). None were managed according to the norm; this is due to a lack of Silverman-Anderson/Downes scores, the use of Ballard/Capurro to calculate gestation age, and lack of feeding neonates with IV fluids if they're under 34 weeks gestation.

Table 7.6.2 Medical record review in complete level facilities: prematurity

	Complete		
	N	%	SE
Neonate was evaluated by appropriate personnel[1]	47	91.5	4.1
Method used to calculate gestation age was Ballard/Capurro	47	34	6.9
Gestational age classification recorded (small/large/suitable)	47	100	
All vitals were checked:	47	0	
Weight	47	95.7	2.9
Heart rate	47	76.6	6.2
Respiratory rate	47	59.6	7.2
Silverman-Anderson/Downes score	47	0	
Head circumference	47	97.9	2.1
Skin evaluation/APGAR score	47	100	
All lab tests were performed:	47	66	6.9
Glucose (reactive or test strip)	47	68.1	6.8
Oxygen saturation	47	89.4	4.5
Neonate was fed (breastfed/glucose/IV feeding)	47	76.6	6.2
Neonate was fed with IV fluids (if gestational age <34 weeks)	23	43.5	10.3
Prematurity was managed according to the norm	47	0	

[1]Due to a change in facility classification, 15 records were not asked if the neonate was evaluated by a specialist. Instead, they met the standards of prematurity management if the neonate was evaluated by a doctor; 87.5% of records that reported on evaluation by a specialist indicated that this requirement was met

7.6.3 Sepsis in complete facilities

According to the country norm, neonates with sepsis are managed correctly at complete facilities if they are evaluated by a specialist, vitals are checked, lab tests are performed, and antibiotics are administered. Details regarding necessary vital checks and lab tests are found in Table 7.6.3. The majority of checks and tests necessary to treat sepsis were performed, however, there was a lack of band neutrophil testing, complete blood counts, and blood cultures.

There were 48 complete records of neonates with sepsis at complete facilities (Table 7.6.3). None were managed according to the norm.

Table 7.6.3 Medical record review in complete level facilities: infants with sepsis

	Complete		
	N	%	SE
Neonate was evaluated by appropriate personnel[1]	50	82	5.4
All vitals were checked:	51	19.6	5.6
Pulse	51	58.8	6.9
Temperature	51	94.1	3.3
Heart rate	51	56.9	6.9
Respiratory rate	51	62.7	6.8
Abdominal examination	51	86.3	4.8
All lab tests were performed:	49	26.5	6.3
Complete blood count (leukocytes, hemoglobin & hematocrit)	51	60.8	6.8
Platelet count[2]	50	92	3.8
Blood culture	51	66.7	6.6
Blood glucose test	51	72.5	6.3
C-reactive protein[2]	50	70	6.5
Band neutrophils[3]	22	0	
Oxygen saturation[3]	22	86.4	7.3
Antibiotics (ampicillin/gentamicin/other antibiotic) administered	51	98	1.9
Sepsis was managed according to the norm	48	0	

[1]Due to a change in facility classification, 29 records were not asked if the neonate was evaluated by a specialist. Instead, they met the standards of sepsis management if the neonate was evaluated by a pediatrician; excluding 1 record that reported 'not registered', 100% of records that reported on evaluation by a specialist indicated that this requirement was met

[2]Data missing from one facility

[3]Due to a change in facility classification, 29 records were not asked for this laboratory input

7.6.4 Asphyxia in complete facilities

According to the country norm, neonates with an asphyxia complication are managed correctly at complete facilities if they are evaluated by a specialist, vitals are checked, and the following procedures are performed: neonate is dried off + stimulated + heat is applied + oxygen is given + positive pressure ventilation (AMBU).

There were 32 records of neonates with an asphyxia complication at complete facilities (Table 7.6.4). Only 6.3% were managed according to the norm; this is due to a lack of positive pressure ventilation, stimulation, and applied heat to the neonate.

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

	Complete		
	N	%	SE
Neonate was evaluated by appropriate personnel[1]	32	100	
All vitals were checked:	32	43.8	8.8
APGAR score was 0-7 at 1 minute	32	71.9	7.9
APGAR score checked at 5 minutes	32	93.8	4.3
Heart rate	32	68.8	8.2
Respiratory rate	32	68.8	8.2
Skin color	32	90.6	5.2
All procedures were performed:	32	6.3	4.3
Dried off	32	18.8	6.9
Stimulated	32	21.9	7.3
Applied heat	32	28.1	7.9
Oxygen application	32	62.5	8.6
Positive pressure ventilation (AMBU)	32	15.6	6.4
Asphyxia was managed according to the norm[2]	32	6.3	4.3

[1]Due to a change in facility classification, 17 records were not asked if the neonate was evaluated by a specialist. Instead, they met the standards of asphyxia management if the neonate was evaluated by a doctor.

[2]Adjusting only for cases where the neonate had the following qualifications (pre-term, amniotic fluid with meconium, hypotonia, not-breathing, not crying), 7.7% of records were managed according to the norm

Chapter 8 INFECTION CONTROL

8.1 Equipment for disposal and disposal methods

8.1.1 Equipment for disposal

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

Table 8.1.1 Equipment for disposal

	Ambulatory				Basic			Complete			
	N	%	SE	DK/DR	N	%	SE	N	%	SE	DK/DR
Incinerator at facility	32	0			1	0		5	20	17.9	
Contract with other facility for biohazard disposal*	32	59.4	8.7		1	0		3	66.7	27.2	1
Manual for decontamination	31	48.4	9.0	1	1	100		5	100		

* One hospital had an incinerator and was not asked this question

8.2 Decontamination and sterilization

Table 8.2.1 lists the different techniques used for decontaminating and sterilizing equipment.

Table 8.2.1 Decontamination and sterilization

	Ambulatory			Basic			Complete		
	N	%	SE	N	%	SE	N	%	SE
Decontamination methods									
Submerged in disinfectant, then scrubbed with a brush, soap and water	32	71.9	7.9	1	100		5	40	21.9
Scrubbed with a brush, soap and water, then submerged in disinfectant	32	21.9	7.3	1	0		5	60	21.9
Scrubbed with a brush, soap and water	32	3.1	3.1	1	0		5	0	
Submerged in disinfectant, without scrubbing with brush	32	0		1	0		5	20	17.9
Cleaned with water and soap, without scrubbing with a brush	32	3.1	3.1	1	0		5	0	
Equipment never reused	32	0		1	0		5	0	
Facility doesn't decontaminate	32	0		1	0		5	0	
Other	32	31.3	8.2	1	0		5	60	21.9
Sterilization methods									
Dry heat	32	0		1	0		5	0	
Autoclave	32	78.1	7.3	1	100		5	100	
Boiling	32	0		1	0		5	0	
Steam	32	0		1	0		5	0	
Chemical sterilization	32	3.1	3.1	1	0		5	20	17.9
Processed away from facility	32	12.5	5.8	1	0		5	0	
Facility doesn't sterilize	32	0		1	0		5	0	
Other	32	12.5	5.8	1	0		5	0	

Chapter 9 ADMINISTRATIVE HEALTH UNITS

9.1 EBAIS officials sensitized to provide differentiated friendly and quality comprehensive care to adolescents

This chapter summarizes key indicators related to Local Coordination Units (UCLs) and Health Areas. For the surveys administered in each of these locations, data collectors reviewed forms and records pertaining to trainings, personnel, facility administration, and adolescent monitoring.

In each Health Area, records were reviewed to determine how many officials per EBAIS (Physician, Nurse Assistant, Primary Care Assistant Technician (ATAP), and Medical Records Assistant) have attended training on adolescent care. Each official must have completed two days of training, and their name should be found on both the training list and on the human resources list in the Health Area and their signature must be verified on the roster for both days of training. As shown in Table 9.1.1, more officials than required to meet the indicator were trained in some Health Areas; in Health Areas 5 and 10, especially, many EBAIS officials were trained in adolescent care. In total, 566 officials were trained (114.1% of the number expected).

Table 9.1.1 Number of EBAIS officials sensitized to provide care to adolescents

Health Area			
	Target	Total number of officials sensitized	%
Health Area 1	32	26	81.3
Health Area 2	72	62	86.1
Health Area 3	36	40	111.1
Health Area 4	52	57	109.6
Health Area 5	32	89	278.1
Health Area 6	48	41	85.4
Health Area 7	36	37	102.8
Health Area 8	40	48	120.0
Health Area 9	76	65	85.5
Health Area 10	52	79	151.9
Health Area 11	20	22	110.0
Total	496	566	114.1

9.2 Community leaders trained to promote health, detect high risk cases, and bring health services to communities

Records were evaluated in each Health Area to determine how many individuals have been trained voluntarily as health promoters to young people in their own communities. These community leaders should have been trained to promote the use of health services to other adolescents who are at high risk. These community leaders must have attended at least 32 hours of training, verified by a signature on all days of training, and be 10 to 19 years of age. As shown in Table 9.2.1, all Health Areas had at least

10 adolescents trained and registered, and most had more than 10 registered. In Health Area 3, two additional leaders were trained who were outside of the specified age range. In total, 110 community leaders were expected to have been trained, while records of 147 adolescents trained were found (133.6% of the number expected).

Table 3.3.1 Number of community leaders trained

	Health Area	
	Total number signed	Total number of adolescents signed
Health Area 1	11	11
Health Area 2	14	14
Health Area 3	12	10
Health Area 4	13	13
Health Area 5	14	14
Health Area 6	18	18
Health Area 7	13	13
Health Area 8	15	15
Health Area 9	15	15
Health Area 10	12	12
Health Area 11	12	12
Total	149	147

9.3 EBAIS implementing local plans

UCLs were evaluated on their recordkeeping and the presence of the following documents: a copy of the act forming the UCL, the operative plan for the UCL, and at least one report on the execution of activities in each Health Area. All UCLs had a copy of each of these items on the day of the survey (Table 9.3.1).

Table 9.3.1 Availability of documents for implementing local plans

	UCLs		
	N	%	SE
Act that forms the UCL, with representation from the Ministry of Health as coordinator, and a representative from each of the following institutions: CEN-CINAI, PANI, MEP and CCSS	11	100	
Operative plan for the UCL, including objectives, activities, goals, indicators, and schedules	11	100	
At least one report on implementation of activities in each Health Area	11	100	
Indicator according to the norm	11	100	

9.4 EBAIS with availability of records and generating statistical reports on adolescents for the UCL

Documents were reviewed in each UCL in order to determine whether EBAIS under that UCL had been generating the appropriate reports on adolescents. Each EBAIS was evaluated for the following reports submitted to the UCL:

- Number of adolescents who were beneficiaries of the Health Area in 2015
- Number of adolescent consultations regarding sex
- Number of pregnant adolescents with antenatal and postnatal care
- Number of adolescents attended in the EBAIS
- Number of adolescents with comprehensive care for the first time this year
- Number of adolescents evaluated for risk
- Number of adolescents identified at medium or high risk
- Number of adolescents who received family planning counseling
- Number of new users of family planning, by age

Almost all EBAIS in all UCLs had submitted each of the above reports; this data was only absent in one EBAIS in UCL 1, and in all EBAIS in UCL 10 (Table 9.4.1).

Table 9.4.1 Availability of documents for implementing local plans

	UCL		
	Target number of EBAIS	Total number of EBAIS with all reports	%
UCL 1	8	7	87.5
UCL 2	18	18	100
UCL 3	9	9	100
UCL 4	13	13	100
UCL 5	8	8	100
UCL 6	12	12	100
UCL 7	9	9	100
UCL 8	10	10	100
UCL 9	19	19	100
UCL 10	13	0	0
UCL 11	5	5	100
Total	124	110	88.7

Appendix A: SM2015 Health Facility Indicators

In total, 17 health facility indicators were measured at the 18-month evaluation in Costa Rica. Table A.1 provides indicator values for performance and monitoring indicators.

Specifics regarding the indicators have been detailed in the corresponding chapters of this report, where the components of these indicators are disaggregated, providing a more comprehensive assessment of progress. All indicator definitions are listed in the Appendix in section A.2.

Table A.1 Indicator Values

	18-MONTH EVALUATION		
Indicator	N	n	Percent (95% CI)
Adolescents served by the EBAIS and recorded as having received SSR counseling in the last year	243	232	95.5% (92.0 - 97.7%)
EBAIS officials sensitized to provide differentiated, friendly, and quality comprehensive care to adolescents[1]	496	566	114.1%
Community leaders trained to promote health, detect high risk cases, and bring health services to communities[2]	110	147	133.6%
EBAIS equipped with physical spaces for confidential and private care for adolescents	32	32	100% (89.1 - 100%)
EBAIS with permanent availability of modern family planning methods (injectables, condoms, pills, and IUDs)	32	29	90.6% (75.0 - 98.0%)
EBAIS that meet the norm for sexual and reproductive health counseling, with educational material for counseling and differentiated care for adolescents	32	31	96.9% (83.8 - 99.9%)
EBAIS with norms for comprehensive care for adolescents with intercultural focus according to the philosophical framework of the project	32	32	100% (89.1 - 100%)
Local Coordination Units (UCLs) formed and implementing local plans	11	11	100% (71.5 - 100%)
Scheduled care hours for adolescents	32	30	93.8% (79.2 - 99.2%)
Tools for early detection of risks associated with reproductive behavior among adolescents	32	18	56.3% (39.1 - 73.4%)
Risk referral according to the norms for adolescents	32	23	71.9% (53.3 - 86.3%)
EBAIS with availability of records and generating statistical reports on adolescents for the UCL	124	110	88.7% (81.8 - 93.7%)
Postpartum women who received (or left with) some method of contraception	62	15	24.2% (14.2 - 36.7%)
Adolescent women (10-19 years) who received at least 5 prenatal visits by qualified personnel (doctor or nurse) according to norms for their most recent delivery in the last 2 years	184	120	65.2% (57.9 - 72.1%)
Adolescent women (10-19 years) who received postpartum care by trained personnel (doctor or nurse) within 8 days of the most recent birth, in the last 2 years	63	11	17.5% (0.9 - 29.1%)
Women with obstetric complications (sepsis, hemorrhage, severe pre-eclampsia and eclampsia) managed according to the norm in the last two years	100	16	16% (9.4 - 24.7%)
Neonates with complications (low birth weight, prematurity, birth asphyxia and sepsis) managed according to standards in the last two years	112	2	1.8% (0.2 - 6.3%)

[1] Per indicator manual, Indicator 12 has a denominator of 496. Thus, the value reported is not based on a binomial calculation and a binomial confidence interval and z-test is not applicable

[2] Per indicator manual, Indicator 13 has a denominator of 110. Thus, the value reported is not based on a binomial calculation and a binomial confidence interval and z-test is not applicable

Table A.1a Health Facility Indicators

A.2 Indicator Definitions for 18-month data collection

1. Adolescents served by the EBAIS and recorded as having received sexual reproductive health (SSR) counseling in the last year

Denominator:

Total number of adolescents who attended the EBAIS in the last year.

Formula:

EBAIS: Adolescent received at least one of the following types of SSR counseling: information about sexual or reproductive health + contraception consultation + complementary group activity/counseling

2. EBAIS officials sensitized to provide differentiated, friendly, and quality comprehensive care to adolescents

Denominator:

Total number of officials scheduled to be trained in all intervention-area EBAIS. This is a predetermined denominator of 496 officials.

Formula:

EBAIS: An official is considered to be trained based on the following criteria: official was found on both the training and human resources lists + attended 2 days of training verified by a signature on both days

3. Community leaders trained to promote health, detect high risk cases, and bring health services to communities

Denominator:

This is a predetermined denominator of 110 community leaders.

Formula:

Health Area: A community leader is considered to be trained based on the following criteria: official is 10-19 years old + official was found on both the training and HR lists + attended at least 4 days (32 hours) of training verified by a signature on all days

4. EBAIS equipped with physical spaces for confidential and private care for adolescents

Denominator:

Total number of EBAIS that offer adolescent services in the sample.

Formula:

EBAIS: Observed on the day of the survey in the adolescent care room: signs/arrows to identify route to adolescent care area + individual consultation room + consultation room has a door + there is a window cover (curtain/blind/other material/glass of another color or texture) if a window exists in the room

5. EBAIS with permanent availability of modern family planning methods (injectables, condoms, pills, and IUDs)

Denominator:

Total number of EBAIS in the sample that offer family planning services and contraception methods.

Formula:

EBAIS: 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 + intrauterine device

6. EBAIS that meet the norm for sexual and reproductive health counseling, with educational material for counseling and differentiated care for adolescents

Denominator:

Total number of EBAIS in the sample.

Formula:

EBAIS (designated control group): Observed educational materials on the day of the survey in physical form: at least two blank adolescent health care registration sheets + at least two blank adolescent health risk assessment forms. Observed educational materials on the day of the survey in physical or digital form: abbreviated manual: “Activities for a comprehensive individual care visit” + abbreviated manual: “Referral mechanisms and monitoring of at-risk adolescents”

EBAIS (designated treatment A group): Observed educational materials on the day of the survey in physical form: at least two blank adolescent health care registration sheets + at least two blank adolescent health risk assessment forms +“Mysterious Exploration” game + “Know, Decide, Self-care. For Responsible, Safe, and Enjoyable Sex” – a flipchart about sexual protection and contraceptives for adolescents. Observed educational materials on the day of the survey in physical or digital form: manual for group activities with emphasis on sexual and reproductive health for adolescents + abbreviated manual: “Activities for a comprehensive individual care visit” + abbreviated manual: “Referral mechanisms and monitoring of at-risk adolescents”

EBAIS (designated treatment B group): Observed educational materials on the day of the survey in physical form: at least two blank adolescent health care registration sheets + at least two blank adolescent health risk assessment forms + “Mysterious Exploration” game + “Know, Decide, Self-care. For Responsible, Safe, and Enjoyable Sex” – a flipchart about sexual protection and contraceptives for adolescents. Observed educational materials on the day of the survey in physical or digital form: manual for group activities with emphasis on sexual and reproductive health for adolescents + abbreviated manual: “Activities for a comprehensive individual care visit” + abbreviated manual: “Referral mechanisms and monitoring of at-risk adolescents” + manual for counseling on sexual and reproductive health for adolescents

7. EBAIS with norms for comprehensive care for adolescents with intercultural focus according to the philosophical framework of the project

Denominator:

Total number of EBAIS in the sample.

Formula:

EBAIS: Observed national norm/technical manuals on the day of the survey: national norm for comprehensive adolescent health care (sexual and reproductive health component) + technical manual for comprehensive adolescent care (emphasis on sexual and reproductive health)

8. Local Coordination Units (UCLs) formed and implementing local plans

Denominator:

Total number of UCLs in the sample.

Formula:

UCL: Observed forms on the day of the survey: act that forms the UCL, with representation from the Ministry of Health as coordinator, and a representative from each of the following institutions: CEN-CINAI, PANI, MEP and CCSS + operative plan for the UCL, including objectives, activities, goals, indicators, and schedules + at least one report on implementation of activities in each Health Area

9. Scheduled care hours for adolescents

Denominator:

Total number of EBAIS in our sample.

Formula:

EBAIS: Observed on the day of the survey: schedule regarding adolescent service hours (sign/poster/flyer/other informative material) + adolescent care hours observed in the previous month's schedule (in electronic or physical format) + at least 1 adolescent (aged 10-19) was found in the scheduled time agenda in the previous month

10. Tools for early detection of risks associated with reproductive behavior among adolescents

Denominator:

Total number of EBAIS risk assessment forms in the sample.

Formula:

EBAIS (Control Group): All risk assessment forms at the facility must be marked in the appropriate sections with the following: first & last name + date of birth/age + telephone number/address + type of risk (no risk/social health risk/mental health risk/sexual reproductive health risk) + level of risk

(low/medium/high) (only if sexual reproductive health risk was selected previously) + 'risk evaluation' was selected on the form

EBAIS (Treatment A Group): All risk assessment forms at the facility must be marked in the appropriate sections with the following: first & last name + date of birth/age + telephone number/address + type of risk (no risk/social health risk/mental health risk/sexual reproductive health risk) + level of risk (low/medium/high) (only if sexual reproductive health risk was selected previously) + 'risk evaluation' was selected on the form + adolescent attended or was referred to additional group activity

EBAIS (Treatment B Group): All risk assessment forms at the facility must be marked in the appropriate sections with the following: first & last name + date of birth/age + telephone number/address + type of risk (no risk/social health risk/mental health risk/sexual reproductive health risk) + level of risk (low/medium/high) (only if sexual reproductive health risk was selected previously) + 'risk evaluation' was selected on the form + adolescent attended or was referred to additional group activity

11. Risk referral according to the norms for adolescents

Denominator:

Total number of EBAIS in the sample.

Formula:

EBAIS facilities that contain risk assessment records with 'social health risk' marked on the record: All risk assessment forms at the facility must be marked with the following: the type of social risk (suspected neglect/adolescent under 15 years living with a partner/suspected domestic violence/minors outside of the school system/persons under 15 years working/suspected bullying or violence) + actions taken (referral for attention or standard attention given/referred to another facility). If the record is not marked with the previously listed types of social risk, the record is not evaluated in this manner.

EBAIS facilities that contain risk assessment records with 'mental health risk' marked on the record: All risk assessment forms at the facility must be marked with the following: the type of mental health risk (suspected problematic consumption of alcohol or drugs/suspected eating disorder/suspected depression/suicidal thoughts and/or attempts) + actions taken (referral for attention or standard attention given/referred to another facility). If the record is not marked with the previously listed types of mental health risk, the record is not evaluated in this manner.

EBAIS facilities that contain risk assessment records with 'sexual health risk' marked on the record: All risk assessment forms at the facility must be marked with the following: the type of sexual health risk: (adolescent under 15 years with a partner at least 5 years older/adolescent under 15 years with petting level 3 or 4 with or without protection/suspicion or diagnosis of an STI or HIV/suspected sexual violence, abuse, or sexual exploitation) + actions taken (referral for attention or standard attention given/referred to another facility). If the record is not marked with the previously listed types of sexual health risk, the record is not evaluated in this manner.

12. EBAIS with availability of records and generating statistical reports on adolescents for the UCS

Denominator:

Total number of EBAIS facilities under management of the UCLs in the sample.

Formula:

All EBAIS facilities must have submitted each of the following reports to the managing UCL: number of adolescents who were beneficiaries of the Health Area in 2015 + number of adolescent consultations regarding sex + number of pregnant adolescents with antenatal and postnatal care + number of adolescents attended in the EBAIS + number of adolescents with comprehensive care for the first time this year + number of adolescents evaluated for risk + number of adolescents identified at medium or high risk + number of adolescents who received family planning counseling + number of new users of family planning, by age

13. Postpartum adolescent women who received a method of contraception

Denominator:

Records of adolescent women, ages 10-19, who gave birth in the previous two years at basic or complete facilities.

Formula:

Basic: adolescent woman received contraception in post-obstetric events (excluding those who were referred)

Complete: adolescent woman received contraception in post-obstetric events (excluding those who were referred)

14. Adolescent women who received at least 5 ANC visits by qualified personnel

Denominator:

Records of ANC visits by adolescent women, ages 10-19, in the previous two years.

Formula:

Ambulatory: At least 5 ANC visits with the following: doctor/nurse + physical checkups (weight + blood pressure + fundal height) + fetal checkups if gestational age is >20 weeks (fetal heart rate + fetal movement). Lab tests performed at least once: blood type + blood glucose level + hb level + urinalysis (general) + VDRL test + HIV test.

Basic: At least 5 ANC visits with the following: doctor/nurse + physical checkups (weight + blood pressure + fundal height) + fetal checkups if gestational age is >20 weeks (fetal heart rate + fetal movement). Lab tests performed at least once: blood type + blood glucose level + hb level + urinalysis (general) + VDRL test + HIV test.

Complete: At least 5 ANC visits with the following: doctor/nurse + physical checkups (weight + blood pressure + fundal height) + fetal checkups if gestational age is >20 weeks (fetal heart rate + fetal

movement). Lab tests performed at least once: blood type + blood glucose level + hb level + urinalysis (general) + VDRL test + HIV test.

15. Adolescent women who received PPC by trained personnel within 8 days of the most recent birth

Denominator:

PPC records of adolescent women, ages 10-19, in the previous two years at basic or complete facilities.

Formula:

Basic: adolescent woman was attended by a doctor/nurse + all checks were completed at the visit (physical exam + vital signs + lactation information provided + family planning methods information provided + alarm signs in mother/newborn checked + additional services offered to the adolescent)

Complete: adolescent woman was attended by a doctor/nurse + all checks were completed at the visit (physical exam + vital signs + lactation information provided + family planning methods information provided + alarm signs in mother/newborn checked + additional services offered to the adolescent)

16. Women with obstetric complications (sepsis, hemorrhage, severe pre-eclampsia and eclampsia) managed according to the norm in the last two years for monitoring purposes:

Denominator:

Total number of maternal complications records in basic & complete facilities in the sample.

Formula:

Hemorrhage:

Basic: Observe the following in the record: vital signs checked (pulse + diastolic blood pressure + systolic blood pressure) + medication administered (oxytocin/other uterotonic (misoprostol, methylergometrine, etc.) + Ringer's lactate/Hartmann's solution). The appropriate actions must also be taken, all scenarios are listed below:

- *During the 1st half of pregnancy*:
  - If the cause of the hemorrhage is a complicated abortion: MVA/ instrumental curettage/woman was transferred to another facility
  - If the cause of the hemorrhage is ectopic pregnancy: laparotomy/woman was transferred to another facility
- *During the 2nd half of pregnancy*:
  - If the cause of the hemorrhage is placenta previa or placental abruption: vaginal birth/cesarean section/woman was transferred to another facility
- *At any point during the pregnancy:*
  - If the cause of the hemorrhage is uterine rupture: laparotomy/cesarean section/woman was transferred to another facility
- *Postpartum hemorrhage:*
  - If the cause of the hemorrhage is uterine atony: uterine packing/hysterectomy/woman was transferred to another facility
  - If the cause of the hemorrhage is cervical lacerations or vaginal tearing or vulva tearing:

surgical repair/woman was transferred to another facility
- If the cause of the hemorrhage is uterine inversion: resetting the uterus under general anesthesia with no surgical techniques (Johnson Maneuver)/resetting the uterus under general anesthesia with surgical techniques (Huntington or Haultaim Maneuvers/woman was transferred to another facility

Complete: Observe the following in the record: vital signs checked (pulse + diastolic blood pressure + systolic blood pressure) + oxytocin/other uterotonic administered if the woman was NOT referred from a basic facility (misoprostol, methylergometrine, etc.) + Ringer's lactate/Hartmann's solution + lab tests performed (hematocrit + hb + pt + ptt + platelet count). The appropriate actions must also be taken, all scenarios are listed below:

- *During the 1st half of pregnancy*:
  - If the cause of the hemorrhage is a complicated abortion: MVA/ instrumental curettage
  - If the cause of the hemorrhage is ectopic pregnancy: laparotomy
- *During the 2nd half of pregnancy*:
  - If the cause of the hemorrhage is placenta previa or placental abruption: vaginal birth/cesarean section
- *At any point during the pregnancy:*
  - If the cause of the hemorrhage is uterine rupture: laparotomy/cesarean section
- *Postpartum hemorrhage:*
  - If the cause of the hemorrhage is uterine atony: uterine packing/hysterectomy/oxytocin or other uterotonic administered
  - If the cause of the hemorrhage is cervical lacerations or vaginal tearing or vulva tearing: surgical repair
  - If the cause of the hemorrhage is uterine inversion: resetting the uterus under general anesthesia with no surgical techniques (Johnson Maneuver)/resetting the uterus under general anesthesia with surgical techniques (Huntington or Haultaim Maneuvers

Pre-eclampsia or Eclampsia:

Basic: Observe the following in the record: vital signs checked (diastolic blood pressure + systolic blood pressure) + urine protein test + hydralazine/labetalol/nifedipine administered (if diastolic blood pressure > 110) + magnesium sulfate administered

Complete: Observe the following in the record: vital signs checked (diastolic blood pressure + systolic blood pressure + pulse + respiratory rate + patellar reflex) + hydralazine/labetalol/nifedipine administered (if diastolic blood pressure > 110) + magnesium sulfate administered + dexamethasone/betamethasone administered (if gestational age is between 24-35 weeks) + laboratory tests performed (urine protein + platelet count + creatinine test + uric acid test + aspartate aminotransferase/glutamic-oxaloacetic transaminase (SGOT or GOT) + alanine aminotransferase + glutamic-pyruvic transaminase (SGPT or GPT) + lactate dehydrogenase (LDH))

Sepsis:

Basic: Observe the following in the record: vital signs checked (diastolic blood pressure + systolic blood pressure + temperature + pulse) + complete blood count/leukocyte count + antibiotics administered (amikacin/clindamycin/gentamicin/ampicillin/metronidazole/other antibiotic). The appropriate actions must also be taken, all scenarios are listed below:

- If the cause of sepsis is a septic abortion: MVA/instrumental curettage/woman was transferred to another facility
- If the cause of sepsis is a uterine perforation: hysterectomy/woman was transferred to another facility
- If the cause of sepsis is pelvic abscess: laparotomy/woman was transferred to another facility

Complete: Observe the following in the record: vital signs checked (diastolic blood pressure + systolic

blood pressure + temperature + pulse) + complete blood count + platelet count + antibiotics administered (amikacin/clindamycin/gentamicin/ampicillin/metronidazole/other antibiotic). The appropriate actions must also be taken, all scenarios are listed below:

- If the cause of sepsis is a septic abortion: MVA/instrumental curettage
- If the cause of sepsis is a uterine perforation: hysterectomy
- If the cause of sepsis is pelvic abscess: laparotomy

17. Neonates with complications (low birth weight, prematurity, birth asphyxia and sepsis) managed according to standards in hospitals in the last two years for monitoring purposes:

Denominator:

Total number of neonatal complication records in basic & complete facilities in the sample.

Formula:

Asphyxia:

Basic: Observe the following in the record: neonate was evaluated by a doctor + the listed procedures were performed on the neonate (dried off + stimulated + positive pressure ventilation (AMBU) + applied heat) + vital signs checked (APGAR score is 0-7 at 1 minute + APGAR score at 5 minutes + heart rate + respiratory rate + skin color) + neonate is transferred to a complete facility if APGAR score > 7 at 5 minutes
Complete: Observe the following in the record: neonate was evaluated by a specialist + the listed procedures were performed on the neonate (dried off + stimulated + positive pressure ventilation (AMBU) + applied heat + oxygen application) + vital signs checked (APGAR score is 0-7 at 1 minute + APGAR score at 5 minutes + heart rate + respiratory rate + skin color)

Sepsis:

Basic: Observe the following in the record: neonate was evaluated by a doctor + vital signs checked (pulse + temperature + heart rate + respiratory rate + abdominal examination) + antibiotics administered (ampicillin/gentamicin/other antibiotic) + lab tests performed (complete blood count (leukocytes, hemoglobin and hematocrit) + platelet count). The appropriate actions must also be taken, all scenarios are listed below:

- If there is no pediatrician at the facility: neonate must be transferred
- If there is a pediatrician at the facility: the neonate can either be treated at the facility or transferred
- If hemodynamic failure or shock occurs: neonate must be transferred

Complete: Observe the following in the record: neonate was evaluated by a specialist + vital signs checked (pulse + temperature + heart rate + respiratory rate + abdominal examination) + lab tests performed (complete blood count (leukocytes, hemoglobin and hematocrit) + platelet count + oxygen saturation + blood culture + blood glucose test + c-reactive protein + band neutrophils) + antibiotics administered (ampicillin/gentamicin/other antibiotic)

Prematurity:

Basic: Observe the following in the record: neonate was evaluated by a doctor + method used to calculate gestational age (Ballard score / Capurro test) + gestational age classification (small/large/suitable for EG) + vital signs checked (weight + heart rate + respiratory rate + Silverman-Anderson/Downes score + head circumference + skin color/APGAR score) + glucose (reactive or test strip) performed + heat was applied to neonate + neonate was fed (breastfeeding/glucose (oral glucose serum/IV glucose serum)/IV feeding) + neonate was fed (glucose serum/Hartmann's solution/Ringer's lactate/Saline solution) with IV fluids if

gestational age < 34 weeks) + neonate was transferred to another facility

Complete: Observe the following in the record: neonate was evaluated by a specialist + method used to calculate gestational age (Ballard score / Capurro test) + gestational age classification (small/large/suitable for EG) + vital signs checked (weight + heart rate + respiratory rate + Silverman-Anderson/Downes score + head circumference + skin color/APGAR score) + lab tests performed (glucose (reactive or test strip) + oxygen saturation) + neonate stayed in an incubator + neonate was fed (breastfeeding/glucose (oral glucose serum/IV glucose serum)/IV feeding) + neonate was fed (glucose serum/Hartmann's solution/Ringer's lactate/Saline solution) with IV fluids if gestational age < 34 weeks)

Low birth weight:

Basic: Observe the following in the record: neonate was evaluated by a doctor + gestational age + vital signs checked (weight + weight classification + heart rate + respiratory rate + Silverman-Anderson/Downes score + height + head circumference + skin evaluation/APGAR score) + neonate was fed (early feeding/breastfeeding/liquid glucose (oral or IV)) + neonate was transferred to another facility if it had any of the following:

- Neonate was < 1500gr
- Respiratory complications (pneumonia)
- Digestive complications (diarrhea)
- Neurological complications (convulsions, lethargic, not nursing)
- Metabolic complications

Complete: Observe the following in the record: neonate was evaluated by a specialist + gestational age + vital signs checked (weight + weight classification + heart rate + respiratory rate + Silverman-Anderson/Downes score + height + head circumference + skin evaluation) + neonate was fed (early feeding/breastfeeding/liquid glucose (oral or IV)). The appropriate actions must also be taken, all scenarios are listed below:

- If neonate has pneumonia: antibiotics
- If neonate has diarrhea: liquids (maternal milk or oral rehydration salts) by oral or intravenous routes
- If convulsions: anticonvulsants
- If neonatal hypoglycemia: glucose IV