Health Facility Assessment on Availability of the 13 Reproductive, Maternal, Newborn, and Child Health Commodities Prioritized by the UN Commission on Life-Saving Commodities for Women and Children

March 2016

USAID
FROM THE AMERICAN PEOPLE

SIAPS
Systems for Improved Access to Pharmaceuticals and Services

Health Facility Assessment on Availability of the 13 Reproductive, Maternal, Newborn, and Child Health Commodities Prioritized by the UN Commission on Life-Saving Commodities for Women and Children

Workineh Getahun
Hailu Tadeg
Edmealem Ejigu
Antenane Korra

March 2016

This report is made possible by the generous support of the American people through the US Agency for International Development (USAID), under the terms of cooperative agreement number AID-OAA-A-11-00021. The contents are the responsibility of Management Sciences for Health and do not necessarily reflect the views of USAID or the United States Government.

About SIAPS

The goal of the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program is to assure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve desired health outcomes. Toward this end, the SIAPS result areas include improving governance, building capacity for pharmaceutical management and services, addressing information needed for decision-making in the pharmaceutical sector, strengthening financing strategies and mechanisms to improve access to medicines, and increasing quality pharmaceutical services.

Recommended Citation

This report may be reproduced if credit is given to SIAPS. Please use the following citation.

Getahun, W., H. Tadeg, E. Ejigu, and A. Korra. 2015. *Health Facility Assessment on Availability of the 13 Reproductive, Maternal, Newborn, and Child Health Commodities Prioritized by the UN Commission on Life-Saving Commodities for Women and Children*. Submitted to the US Agency for International Development by the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program. Arlington, VA: Management Sciences for Health.

Key Words

reproductive health, maternal health, child health, newborn health, medicines, availability, stock out, health facility Drug and Therapeutics Committee

Systems for Improved Access to Pharmaceuticals and Services
Center for Pharmaceutical Management
Management Sciences for Health
4301 North Fairfax Drive, Suite 400
Arlington, VA 22203 USA
Telephone: 703.524.6575
Fax: 703.524.7898
E-mail: siaps@msh.org
Web: www.siapsprogram.org

CONTENTS

ACRONYMS AND ABBREVIATIONS

ANC	antenatal care
CEO	chief executive officer
DTC	Drug and Therapeutics Committee
FMHACA	Food, Medicine and Healthcare Administration and Control Authority
FP	family planning
MNCH	maternal, newborn, and child health
PFSA	Pharmaceuticals Fund and Supply Agency
RMNCH	reproductive, maternal, newborn, and child health
ORS	oral rehydration salts
RTA	Regional Technical Adviser
SDP	service delivery point
SIAPS	Systems for Improved Access to Pharmaceuticals and Services
SNNP	Southern Nations, Nationalities, and Peoples
SPSS	Statistical Package for Social Science
UN	United Nations
UNCoLSC	UN Commission on Life-Saving Commodities
UNICEF	The United Nations Children's Fund
USAID	US Agency for International Development
WHO	World Health Organization

ACKNOWLEDGMENTS

We would like to acknowledge the hospital CEOs and Drug and Therapeutics Committee members for their cooperation and facilitation of the assessment conducted in their respective hospitals. We would also like to extend our gratitude to Pharmacy and Medical staff who were key informants during the data collection for providing the necessary information.

Furthermore, we would like to acknowledge with much appreciation to the crucial role of USAID/SIAPS's regional technical staff (RTAs), for their dedication in collecting the data and reporting of the assessment results.

Last but not least, many thanks go to Eskinder Worku, Monitoring and Evaluation associate, who invested his full effort in the data entry and analysis.

EXECUTIVE SUMMARY

Introduction

Every day, about 800 women die from preventable causes related to pregnancy and childbirth. Although great strides have been made in reducing global child mortality, newborns now account for 44% of all childhood deaths. Ethiopia contributes to more than 4% of all global maternal deaths, which were estimated at 1,300 in 2013. In 2010, the UN Secretary-General's *Global Strategy for Women's and Children's Health* highlighted the suffering of women and children around the world caused by lack of access to life-saving commodities. With a strong focus on the reproductive, maternal, newborn, and child health (RMNCH) continuum of care, the UN Commission on Life-Saving Commodities for Women and Children (UNCoLSC), identified and endorsed an initial list of 13 life-saving commodities[1] that, if more widely accessed and properly used, could save the lives of more than 6 million women and children.

As part of examining the current status and empowering Drug and Therapeutics Committees (DTCs) to continually monitor availability of priority RMNCH (UN life-saving) medicines, a baseline assessment was conducted July 27–31, 2015, at selected health facilities in Ethiopia. The information generated from this assessment is expected to help guide future interventions needed in relation to strengthening health facility DTCs to monitor and ensure availability of these life-saving medicines on a continuous basis.

Methods

A descriptive, cross-sectional design was used for the study. The study subjects included hospitals that provide RMNCH services in all regions of Ethiopia. Thirty-three (16 general, 11 referral, and 6 primary) public hospitals from five regions and two city administrations, identified as model sites by the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program, were purposively taken as study sites. Using a structured data collection tool, information on the characteristics of each health facility, availability of RMNCH medicines and guidelines and job aids, stock-outs in the last three months and one-year prior to the assessment, and reasons for stock-outs at both hospitals and stores were collected and analyzed using the Statistical Package for Social Science (SPSS) 17.0 software package.

Results

Availability of priority life-saving RMNCH medicines and commodities ranges from 0% to 100%. Three priority life-saving RMNCH medicines, female condoms, amoxicillin dispersible tablets, and chlorhexidine 7.1% gel, were not available at all hospitals. Two priority life-saving medicines, contraceptive implants, and benzylpenicillin or gentamicin injections were available in all hospitals.

Stock-out durations varied widely among RMNCH medicines and commodities, with average stock-out periods ranging from 7 days for implants in one hospital to 365 days for female

condoms, amoxicillin dispersible tablets, and chlorhexidine gel in all hospitals. Delays on the part of main sources to resupply, delay by the hospitals to request resupply, nonavailability of the medicines from source of supply, low or no demand for some of the medicines, lack of information on availability at the supplier, and expiry were the main reasons mentioned for the nonavailability of priority life-saving RMNCH medicines at the time of survey.

Only 54.6% of hospital DTCs closely follow the availability of priority life-saving RMNCH medicines and commodities. RMNCH guidelines and job aids were available in more than half the hospitals. Current editions of national formulary and standard treatment guidelines were available only in 27.3% of the Family Planning (FP) or Maternal, Newborn, and Child Health (MNCH) units of the surveyed hospitals.

Conclusions

This survey elucidated that three priority life-saving medicines (female condom, amoxicillin dispersible tablets, and chlorhexidine) are not available: this situation needs rigorous advocacy and collaboration with key players. “Lack of information on availability from source of supply” was the most frequent response forwarded for unavailability of female condoms and amoxicillin dispersible tablets, which can be easily fixed if a coordinated effort is made. Special emphasis should be given to the availability of chlorhexidine 7.1% gel.

Because ensuring availability and rational use of medicines is one of the main duties of health facility DTCs, their involvement in securing the availability of priority life-saving medicines and commodities should be recognized. Moreover, DTCs should be sensitized about priority RMNCH medicines so they give the products due attention while making supply chain decisions and in ensuring their appropriate use.

BACKGROUND

Every day about 800 women die from preventable causes related to pregnancy and childbirth. Almost all of these deaths occur in low-income settings because of conditions that include severe bleeding, infection, high blood pressure, and complications during delivery.[2] Although great progress has been made in reducing global child mortality, newborns now account for 44% of all childhood deaths.[3] In Ethiopia, the maternal mortality ratio remains among the highest in the world. Ethiopia contributes more than 4% of all global maternal deaths, which were estimated at 1,300 in 2013.[4,5] More than 90% of deaths in infants and children under five are caused by pneumonia, diarrhea, malaria, neonatal problems, malnutrition, and HIV/AIDS, and often a combination of these conditions.[6]

In 2010, the UN Secretary-General's *Global Strategy for Women's and Children's Health* highlighted the suffering of women and children around the world caused by lack of access to life-saving commodities. The strategy called on the global community to work together to save 16 million lives by 2015 by increasing access to and appropriate use of essential medicines, medical devices, and health supplies that effectively address leading avoidable causes of death during pregnancy, childbirth, and childhood. The UN Commission on Life-Saving Commodities for Women and Children, which is a part of the Every Woman, Every Child movement, identified and endorsed an initial list of 13 overlooked life-saving commodities that, if more widely accessed and properly used, could save the lives of more than 6 million women and children.[1]

Although institutional delivery is increasing, quality of care at birth remains a major challenge. Skilled health workers often lack access to critical supplies and medicines. Most maternal and newborn deaths could have been averted with improved access to quality services, including access and appropriate use of the life-saving medicines and supplies: antibiotics, cord care, drugs that prevent and treat postpartum hemorrhage, and resuscitation. Increasing the coverage of FP services can also reduce maternal and newborn mortality**.**

"Strengthening pharmaceutical systems to ensure access to quality pharmacy services that will lead to improved health outcomes," is the goal of SIAPS/Ethiopia, which complements the strategic priority of the US Agency for International Development (USAID) to "ending preventable child and maternal deaths." Supporting DTCs to monitor availability of priority RMNCH (UNCoLSC) medicines and supplies at health facilities is one of the strategies that SIAPS/Ethiopia plans to implement in attaining this goal.

The purpose of this assessment was to examine the availability of priority life-saving RMNCH medicines and commodities at health facilities in Ethiopia. This assessment provides baseline information that enables SIAPS/Ethiopia to identify key bottlenecks and define interventions in support of respective health facility DTCs to continually monitor availability of priority RMNCH medicines and ensure their rational use.

Methods

A descriptive, cross-sectional design was used to gather information on the availability of priority life-saving RMNCH medicines (Annex A), guides, and job aids with a structured questionnaire. The selection of the study subjects was purposive and included 33 (16 general,

11 referral, and 6 primary) hospitals from five administrative regions and two city administrations (Annex C). Factors considered in the selection of these sites included availability of a strong and functional DTC (has multidisciplinary membership; has established place in the organizational structure; developed its own terms of reference; develops, monitors, and reviews annual plan; conducts meetings regularly at least six times in a year; establishes subcommittees to manage and follow formulary list development and review; performs antimicrobial resistance containment activities and monitors adverse drug events; undertakes indicator-based medicine use reviews; and designs intervention strategies, facilitate provision of drug information and clinical pharmacy services etc.),[8] the availability of a supportive work environment for change (management interest and support), the availability of committed pharmacy professionals, proximity to regional offices, and antiretroviral therapy patient load.[9]

Individual interviews with key informants and direct observation during the visit to the warehouse were conducted for data collection. The key informants were RMNCH service providers and pharmacists. In addition to the key informants' responses, interviewers verified the availability or nonavailability of items at both service delivery points (SDPs) and stores and recorded the findings (Annex B).

Nine SIAPS Regional Technical Advisers (RTAs) were deployed to collect data. Consent was obtained from the respective hospital chief executive officers (CEOs) and respective key informants before initiating the interviews. Data entry and analysis was performed using an SPSS 17.0 Software Package. Results of the assessment are presented in the form of tables and graphs.

Before concluding the assessment, SIAPS RTAs conducted analysis and provided feedback on findings and discussed the need for DTCs' involvement in ensuring availability of RMNCH medicines with CEOs, DTC chairs, and secretaries of affected hospitals.

RESULTS

Availability of Priority Life-Saving RMNCH Medicines in the Ethiopian Medicines List and Their Registration Status

All priority life-saving medicines are included in the latest (5th) edition of the Essential Medicines List of Ethiopia, published in 2015.[10] Furthermore, the third editions of the standard treatment guidelines for primary hospitals and general hospitals, issued in 2014,[11,12] address RMNCH services and priority life-saving medicines.

Regarding registration, the survey could not find updated data on the registered medicines list at the Food, Medicine and Health Care Administration and Control Authority (FMHACA) because updating is in progress. However, as of January 2015, seven of the priority life-saving RMNCH medicines (amoxicillin, oral rehydration salts [ORS], oxytocin, gentamicin, dexamethasone, misoprostol, and betamethasone) have been registered by FMHACA. While reviewing the registration status of these medicines and supplies, the survey team noted the following:

- Amoxicillin is registered in a number of dosage forms and strengths, but none of them are dispersible.
- Although FP commodities and medicines are available in the market, the list did not include any of the FP medicines and supplies. However, FMHACA has registered female condoms very recently and the Federal Ministry of Health now has a plan to make them available in most of the public FP service delivery points in parallel with carefully designed public communication activities for demand creation.[13]
- Plain ORS is registered. However, ORS packed with zinc is available in the market.
- Another priority life-saving commodity, a resuscitation device, may be treated as medical device. Hence, it did not require registration as an individual medicine.
- Registration of chlorhexidine, amoxicillin dispersible tablets, and gentamicin 20 mg/2 ml is in progress.
- Procurement, shipment, and distribution of female condoms, emergency contraceptives, and essential newborn and child health commodities for public outlets are among the interventions of the implementation plan for prioritized life-saving commodities for women and children.[13]

Availability of Guidelines, Checklists, and Job Aids

Treatment guidelines, checklists, and job aids are important tools to guide health providers on how to diagnose and treat patients in a safe and cost-effective manner. As shown in table 1, FP checklists, job aids, or both were available in 81.8% of hospitals. Family planning guidelines (national or World Health Organization [WHO]) were available in more than two-thirds (69.7%) of hospitals. Antenatal care (ANC) checklists, job aids, or both, and ANC

guidelines (national or WHO) were available in 75.8% and 45.5% of hospitals, respectively. Unlike RMNCH guidelines and job aids, which are available in more than half of hospitals, current editions of national formulary and standard treatment guidelines at the FP or MNCH units were available only in 27.3% of the surveyed hospitals.

Because ensuring availability and rational use of medicines is one of the main duties of health facility DTCs, the involvement of hospitals' DTCs in securing the availability of priority life-saving medicines and commodities was assessed. More than half (54.6%) of hospital DTCs closely follow the availability of priority life-saving RMNCH medicines and commodities.

Table 1. Availability of Guidelines, Checklists, and Job Aids

	Guidelines, checklists, and job aids (n = 33)	Number of hospitals	Percent
1	This facility has any family planning guidelines (national or WHO)	23	69.7
2	This facility has any family planning checklists and/or job aids	27	81.8
3	This facility has any ANC guidelines (national or WHO)	15	45.5
4	This facility has any ANC checklists and/or job aids	25	75.8
5	This facility has copy of current standard treatment guideline/national formulary at the FP or MNCH units	9	27.3

Profile of Health Facilities

Thirty-three hospitals from five regions and two city administrations participated in this assessment. A majority (87.9%) of the surveyed hospitals were drawn from the four big regions (table 2): Amhara (36.4%), Oromia (18.2%), Southern Nations, Nationalities, and Peoples (SNNP) (18.2%), and Tigray (15.2%).

Table 2. Regional Distribution of Health Facilities

Region	Number of hospitals	Percent
Addis Ababa	2	6.1
Oromia	6	18.2
SNNP	6	18.2
Amhara	12	36.4
Tigray	5	15.2
Harari	1	3.0
Dire dawa	1	3.0
Total	33	100.0

The country has a three-tier health care delivery system, which is characterized by a first level *woreda* (district) health system comprising a primary hospital (with population coverage 1 per 100,000 people), health centers (25,000 population), and their satellite health posts (5,000 population). The second level in the tier is made up of a general hospital with population coverage of 1 million to 1.5 million people; and the third is a specialized hospital that covers a population of 3.5 million to 5 million.[13] Although the health care delivery system categorizes hospitals into three levels, the types and range of RMNCH services offered by these facilities do not show significant differences. The basic RMNCH services provided by primary hospitals, which include nonemergency maternal health services, comprehensive FP services, essential newborn care and newborn resuscitation care, routine

examination for detection of congenital anomalies, comprehensive abortion care, comprehensive essential obstetric care, and basic essential gynecologic care services,[14] are also provided by general and specialized or referral hospitals with additional specialized such as management of minor and major gynecological conditions such as uterine pathology, endometriosis, ovarian pathology, gynecological cancers, and cervical cytology[15] (Annex D).

Hospitals are distributed among general hospitals, which form the highest proportion (48.5%), referral hospitals (33.3%), and primary hospitals (18.2%) (figure1).

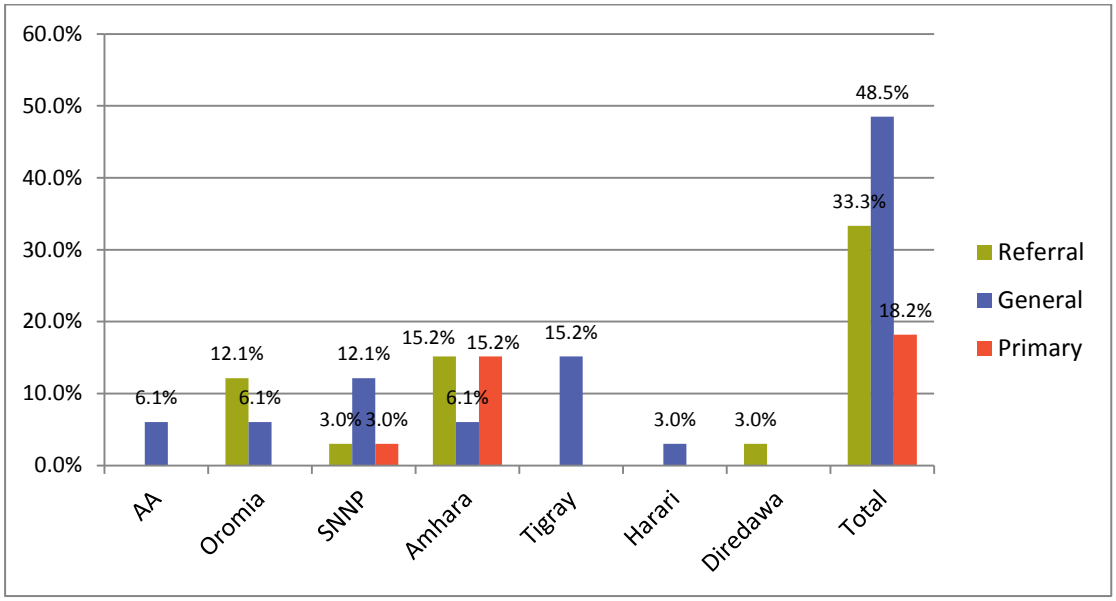

Figure 1. Health facilities assessed to monitor availability of priority RMNCH medicines by type of facility

Availability of Priority RMNCH Medicines at the Time of Survey

The Government of Ethiopia has renewed its commitment to address RMNCH in a more comprehensive manner. The recent launch of the road map for accelerating reduction of maternal and newborn mortality and morbidity in Ethiopia for the years 2012–2015, community case management of common childhood illness, and the Community-Based Newborn Care program can notably be mentioned.[16] The aim is to focus on access and availability of six prioritized life-saving medicines and supplies (female condoms, emergency contraceptives, oral and injectable antibiotics, antenatal corticosteroid, chlorhexidine, and resuscitation equipment) that will save the lives of women and newborns at all levels. Increasing access to female condoms by 60% and making emergency contraceptives available in 80% of public health facilities, increasing the public demand and awareness for female condoms and emergency contraception, and making newborn health commodities available to support the initiation and rollout of Community-Based Newborn Care by 2015 were targets of this plan.

Availability of priority life-saving RMNCH medicines and commodities (Annex A) ranges from 0% to 100%. Three priority life-saving RMNCH medicines (female condoms, amoxicillin dispersible tablets, and chlorhexidine 7.1% gel) were not available at both SDPs and stores of all hospitals visited. In contrast, implants and benzylpenicillin or gentamicin

injections, were available in all hospitals. Overall, nine priority life-saving RMNCH medicines and commodities were available in more than 80% of SDPs at the time of survey. Oxytocin, ORS, and a resuscitation device (Ambu bag) were each found in (96.9%) of hospitals. Emergency contraceptives, magnesium sulfate 500 mg/ml injection, and either betamethasone injection 6 mg/ml or dexamethasone injection 4 mg, or both, were available in 93.9%, 90.9%, and 84.9%, respectively, of the surveyed hospitals. Zinc 20 mg scored dispersible tablets, however, were available only in one-third (33.3%) of hospitals (table 3).

Table 3. Availability of Priority Life-Saving RMNCH Medicines and Commodities at the Time of Survey, July 2015 (n = 33)

	Availability at the time of visit			
	SDP/Dispensary		Store	
Priority life-saving RMNCH medicine and commodity	Number of hospitals	Percent	Number of hospitals	Percent
Female condoms	0	0.00	0	0.00
Implants	33	100.00	33	100.00
Emergency contraception	31	93.94	31	93.94
Amoxicillin 250 mg scored dispersible tablets	0	0.00	0	0.00
Oxytocin injection10 IU	32	96.97	31	93.94
Benzylpenicillin or Gentamicin injection	33	100.00	32	96.97
Betamethasone injection 6 mg/ml or Dexamethasone injection 4 mg or both	28	84.85	26	78.79
Magnesium sulfate injection 500 mg/ml	30	90.91	25	75.76
Misoprostol tablet 200 mcg	27	81.82	27	81.82
ORS	32	96.97	31	93.94
Zinc tablets 20 mg scored dispersible	11	33.33	12	36.36
Chlorhexidine gluconate 7.1% gel (25 g)	0	0.00	0	0.00
Resuscitation device (Ambu bag)	32	96.97	27	81.82

Stock-Outs of Priority Life-Saving RMNCH Medicines and Commodities in Three Months Preceding the Survey

Stock-out times varied widely among RMNCH medicines and commodities, with average stock-out times between 7 days in the last three months for implants in one hospital and 90 days for female condoms, amoxicillin dispersible tablets, and chlorhexidine gel in all hospitals. Zinc 20 mg scored dispersible tablets were the most frequently unavailable product, on average 58 days before the day of visit, in approximately 57.6% of hospitals. The three medicines—misoprostol, oxytocin, and magnesium sulfate—that prevent and treat excessive bleeding after childbirth and high blood pressure during pregnancy were also out of stock during the three months before the day of the visit. Misoprostol 200 mcg tablets were out of stock for more than two months in 27.3% of hospitals. Magnesium sulfate 500 mg/ml injection was not in stock for more than a month in 24.2% of hospitals. Oxytocin was unavailable in 15.2% of hospitals, which experienced 25 stock-out days on average preceding the day of visit (table 4).

Table 4. Average Number of Days That Health Facilities Were Out of Stock in the Previous Three Months, July 2015

Priority life-saving RMNCH medicine and commodity	Number of health facilities reporting stock-out (n)	Average number of stock-out days
Female condoms	33	90
Implants	1	7
Emergency contraception	2	66
Amoxicillin 250 mg scored dispersible tablets	33	90
Oxytocin injection 10 IU	5	25
Benzylpenicillin or Gentamicin injection	1	15
Betamethasone 6 mg/ml or Dexamethasone 4 mg injection or both	5	59
Magnesium sulfate injection 500 mg/ml	8	34
Misoprostol 200 mcg tablets	9	65
ORS	3	24
Zinc 20 mg scored dispersible tablets	19	58
Chlorhexidine gluconate 7.1% gel (25 g)	33	90

Stock-Out of Priority Life-Saving RMNCH Medicines in the One Year Preceding the Survey

All SDPs that provide reproductive, maternal, and child health services have reported stock-outs of three priority life-saving RMNCH medicines and commodities (female condoms, amoxicillin dispersible tablets, and chlorhexidine gel) throughout the year preceding this survey. Stock-outs of three life-saving RMNCH medicines (misoprostol, zinc, and emergency contraceptives) ranged from four-and-a-half months to six months. In 30.3% of the surveyed hospitals, misoprostol was out of stock for six months. Zinc was out of stock for approximately five months in 63.6% of facilities. Emergency contraceptives were not available for more than four months in 9.1% of hospitals. Magnesium sulfate and oxytocin were out of stock for an average of two months in 36.4% and 18.2% of hospitals, respectively (table 5).

Table 5. Average Number of Days That Health Facilities Were Out of Stock in the One Year Preceding the Survey, July 2015

Priority life-saving RMNCH medicine and commodity	Number of health facilities reporting stock-out	Average number of stock-out days
Female condoms	33	365
Implants	2	4
Emergency contraception	3	136
Amoxicillin 250 mg scored dispersible tablets	33	365
Oxytocin injection 10 IU	6	63
Benzylpenicillin or Gentamicin injection	1	0
Betamethasone injection 6 mg/ml or Dexamethasone injection 4 mg or both	6	71
Magnesium sulfate injection 500 mg/ml	12	58
Misoprostol 200 mcg tablets	10	180
ORS	6	27
Zinc 20 mg scored dispersible tablets	21	146
Chlorhexidine gluconate 7.1% gel (25 g)	33	365

Reasons for Stock-Outs of Priority Life-Saving RMNCH Medicines

Pharmaceutical supply to public health facilities is being managed by the Pharmaceuticals Fund and Supply Agency (PFSA) in Ethiopia. PFSA was reestablished in 2007 to handle forecasting, procurement, storage, distribution, and rational use of medicines in all public health facilities, with minimal support to private outlets. Accordingly, hospitals and health centers are expected to get their medicines from PFSA.[13] However, delay in delivering medicines from PFSA was identified as one of the main reasons for stock-outs. In addition, delay by the hospitals to request resupply on time, nonavailability of the medicines from PFSA, low or no demand for some of the medicines, lack of information on availability at the supplier, and short expiry date were the main reasons mentioned for the nonavailability of maternal and reproductive health medicines at the time of the survey.

Delay from the main source (PFSA) was the main cause for nonavailability of benzylpenicillin and gentamicin. Nonavailability of the medicine from the source of supply, low demand, and lack of information on the availability of the item were most commonly cited causes for female condoms, amoxicillin, and chlorhexidine. Expiry was one of the causes for stock-outs of implants (100%), zinc (36.4%), and magnesium sulfate (8.3%). Lack of awareness about the medicine and use of chlorhexidine + cetrimide (Savlon) and iodine tincture for umbilical cord disinfection were the other reasons noted for chlorhexidine gel nonavailability (table 7).

Table 7. Reasons for Stock-Out of Priority Life-Saving RMNCH Medicines at the Time of the Survey, July 2015

	Reason for stock-out at the time of survey (n = 33)					
Priority life-saving RMNCH medicine	**Delays on the part of main source to resupply this SDP**	**Delays by this SDP to request supply**	**Item not available from source of supply**	**Low or no client demand / lack of information on availability**	**Expired**	**Other reason**
Female condoms	0%	0%	27%	67%	0%	6%
Implants	0%	0%	0%	0%	100%	0%
Emergency contraceptive	0%	0%	50%	50%	0%	0%
Amoxicillin 250 mg scored tablets	0%	0%	66%	28%	0%	6%
Oxytocin injection 10 IU	20%	0%	80%	0%	0%	0%
Benzylpenicillin or Gentamicin	100%	0%	0%	0%	0%	0%
Betamethasone or Dexamethasone or both	29%	29%	29%	0%	0%	14%
Magnesium sulfate injection 500 mg/ml	8%	0%	67%	0%	8%	17%
Misoprostol 200 mcg tablets	33%	0%	17%	0%	50%	0%
ORS	0%	0%	67%	0%	0%	33%
Zinc 20 mg scored dispersible tablets	0%	14%	46%	5%	36%	0%
Chlorhexidine	0%	0%	63%	16%	0%	22%

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

- Three priority life-saving medicines and commodities (female condoms, amoxicillin dispersible tablets, and chlorhexidine gel) were not available in any of the hospitals visited. Main reasons for nonavailability of these products include low demand (female condoms), lack of information on the availability of the item at the source of supply (amoxicillin dispersible tablets), and no supplier for the item (chlorhexidine).

- An analysis on the availability of RMNCH medicines and commodities in the PFSA's procurement list revealed that almost all priority life-saving medicines and commodities except female condoms are available in the list. Furthermore, availability of amoxicillin dispersible tablets and female condoms at PFSA Hubs was noted through informal communication with PFSA staff.

- Although three life-saving maternal medicines (oxytocin, misoprostol, and magnesium sulfate) were available at the time of visit in more than 90% of hospitals, they were out of stock for a significant number of days both in the last three months (from 25–65 days) and past one year (58–180 days) preceding this survey, which is a significant gap.

- The current editions of both general and primary hospitals standard treatment guidelines recommend amoxicillin as first-line treatment for childhood pneumonia, and use of dispersible dosage form amoxicillin is highly recommended.[3,4] However, none of the hospitals received this dosage form.

- The percentage of ORS availability at the time of visit was encouraging even though ORS was out of stock at three hospitals for an average of 24 days and in six hospitals for nearly a month in the past three months and in the past one year, respectively.

- Zinc tablets were available in nearly one-third of hospitals at the time of visit. However, zinc was out of stock in more than half (57.6%) of hospitals for 58 days on average in the last three months and in nearly two-thirds (63.6%) of hospitals for an average of 146 days in the one year before the survey.

- Approximately two-thirds of hospitals reported availability of three or more of the guidelines, checklists, and job aids. However, a third of hospitals claimed availability of four of the guidelines, whereas only four (12%) hospitals reported availability of all guidelines, checklists, and job aids. None of the guidelines, checklists, and jobaaids were found in two hospitals (Asella and Nigist Eleni).

- DTCs are expected to monitor availability and, proper use of medicines and to minimize the incidence of stock-outs of RMNCH medicines and commodities, but only about half of hospital DTCs doing this in the hospitals visited.

Recommendations

Based on findings of this survey, the survey team recommends the following:

- This survey elucidated that three priority life-saving medicines and commodities (female condoms, amoxicillin dispersible tablets, and chlorhexidine) are not available, and this needs rigorous advocacy and collaboration with key players such as FMHACA, PFSA, and RMNCH Program implementers.

- "Lack of information on availability from suppliers" was the most frequent response forwarded for unavailability of female condoms and amoxicillin dispersible tablets, which can be easily fixed with a coordinated effort. Special emphasis should be given to the availability of chlorhexidine 7.1% gel.

- Strengthening and sustaining promotion activities to popularize life-saving RMNCH medicines and commodities such as female condoms and to widen awareness of their availability and use should be done through organization of popularization sessions, trainings, and the like.

- The need to make available and prevent stock-outs of the three life-saving maternal medicines (oxytocin, misoprostol, and magnesium sulfate) essential for maternal health should be emphasized because pre-eclampsia and post-partum hemorrhage are known common causes of maternal deaths.

- Sensitization on the role of DTCs should be part of the technical support to health facilities so that DTCs consider monitoring availability and rational use of RMNCH medicines as one of their priority activities.

- A forum should be established or strengthened to support PFSA to provide special emphasis on continuous supply of essential life-saving RMNCH medicines to save the lives of Ethiopian women and children who are dying of preventable or treatable causes.

- Existing platforms at different levels such as DTCs, technical working group for supply chain management, and others, should be sensitized about priority RMNCH medicines so that due attention is given while making supply chain decisions and their appropriate use is ensured.

ANNEX A. PRIORITY LIST OF 13 OVERLOOKED LIFE-SAVING COMMODITIES ACROSS RMNCH

- **Reproductive Health**
    - Female Condoms: Prevent HIV and unintended pregnancy
    - Contraceptive Implants: Prevent unintended pregnancy
    - Emergency Contraception: Prevents unintended pregnancy

- **Maternal Health**
    - Oxytocin: Post-partum hemorrhage
    - Misoprostol: Post-partum hemorrhage
    - Magnesium Sulfate: Eclampsia and severe pre-eclampsia

- **Child Health**
    - Amoxicillin**:** Pneumonia
    - Oral Rehydration Salts: Diarrhea
    - Zinc: Diarrhea

- **Newborn Health**
    - Injectable Antibiotics (benzylpenicillin and gentamicin): Prevent newborn sepsis
    - Antenatal Corticosteroids (dexamethasone for injection or injectable Betamethasone): Prevent pre-term respiratory distress syndrome
    - Chlorhexidine: Prevent umbilical cord infection
    - Resuscitation device (Ambu bag): Treat asphyxia

ANNEX B. HEALTH FACILITY ASSESSMENT TO MONITOR AVAILABILITY OF PRIORITY RMNCH MEDICINES

A. Facility Identification

Date ……

Facility Name_____ Region: [_____]

Facility Type 1 = Referral/Specialized hospital, 2 = General hospital, 3 = Primary hospital,

Name of Principal Person Being Interviewed: [_____] Telephone #_____

B. Availability of 13 Priority Life-Saving Maternal/RH Medicines and Commodities

SN	Medicine Description	At the time of visit				Stock-out duration (in days) at store		Reason for stock-out at the time of survey*
		SDP/ Dispensary		Store				
		Yes	No	Yes	No	Past 3 months	Past one year	
1	Female condoms							
2	Implants							
3	Emergency contraception							
4	Amoxicillin 250 mg dispersible scored tabs							
5	Oxytocin inj 10 IU							
6	Benzylpenicillin/ Gentamicin							
7	*Either Betamethasone injec* 6 mg/ml *Or Dexamethasone injec* 4 mg *Or Both*							
8	Magnesium sulfate inj 500 mg/ml							
9	Misoprostol 200 mcg tabs							
10	ORS							
11	Zinc 20 mg scored dispersible tabs							
12	Chlorhexidine 7.1% gel 25gm							
13	Resuscitation device							

* Select one reason below for stock-out at the time of survey and insert the number at the space

1. Delays on the part of main source institution to resupply this SDP	5. Low or no client demand
2. Delays on the part of warehouse to re-supply this SDP	6. Lack of information about the item
3. Delays by this SDP to request for supply	7. Expired
4. The item is not available from source of supply	8. Any other reason (please specify)

C. Availability of Guidelines, Checklists, and Job Aids

		Yes	No
1	Does the DTC closely follow the availability of priority life-saving Maternal/RH medicines and commodities?		
2	This facility has available any family planning guidelines (national or WHO)?		
3	This facility has available any family planning checklists and/or job aids**?**		
4	This facility has available any ANC guidelines (national or WHO)?		
5	This facility has available any ANC checklists and/or job aids		
6	This facility has available copy current Standard Treatment Guideline/National Formulary at the FP or MNCH units?		

ANNEX C. HOSPITALS WHERE ASSESSMENT ON AVAILABILITY OF PRIORITY LIFE-SAVING RMNCH MEDICINES WAS CONDUCTED

Ser. No.	Name of Ethiopian Hospital Reform Implementation Guideline Site	Region
1	Mekelle Hospital	Tigray
2	Axum Hospital	Tigray
3	Wukro Hospital	Tigray
4	Adwa Hospital	Tigray
5	Kahsay Hospital	Tigray
6	Debremarkos Hospital	Amhara
7	Felegehiwot Hospital	Amhara
8	Debretabor Hospital	Amhara
9	Gondar University Hospital	Amhara
10	Debark Hospital	Amhara
11	Finotselam Hospital	Amhara
12	Motta Hospital	Amhara
13	Debrebrahan Hospital	Amhara
14	Woldia Hospital	Amhara
15	Dessie Hospital	Amhara
16	Enat Hospital	Amhara
17	Boru Meda Hospital	Amhara
18	Asella Hospital (Adama University)	Oromia
19	Bishoftu Hospital	Oromia
20	Shashemene Hospital	Oromia
21	Nekemte Hospital	Oromia
22	Ambo Hospital	Oromia
23	Metu Karl Hospital	Oromia
24	Amman Hospital	SNNPR
25	Hossana Hospital	SNNPR
26	Dilla Hospital	SNNPR
27	Butagirra Hospital	SNNPR
28	Tercha Hospital	SNNPR
29	Adare Hospital	SNNPR
30	Zewditu Hospital	Addis Ababa
31	Tirunesh-Bejing Hospital	Addis Ababa
32	Dil Chora Hospital	Dire Dawa
33	Jugel Hospital	Harar

ANNEX D. RMNCH SERVICES AND PRIORITY LIFE-SAVING MEDICINES AND SUPPLIES BY LEVEL OF CARE

Level of facility	RMNCH services[13–16]	Priority life-saving[10–13,16] medicines and supplies
Primary hospital	• Nonemergency maternal health services • ANC and PMTCT, PNC, Immunization, Growth monitoring, Sick baby clinic/under-five clinic • Comprehensive family planning services (counseling and provision of oral contraceptives, injectables and implants, insertion of IUCD, mini-laparotomy for tubal ligation) • Essential newborn care: (a) Newborn resuscitation care • Routine examination for detection of congenital anomalies • Comprehensive abortion care (manual vacuum aspiration, evacuation and curettage) and basic emergency obstetric care • Comprehensive essential obstetric care including (a) Administration of parenteral sedatives for eclampsia, parenteral oxytocin, antibiotics, anticonvulsants, and anesthesia service. (b) Manual removal of placenta and retained products following miscarriage or abortion. (c) Assisted deliveries: forceps delivery, vacuum delivery, destructive delivery and emergency Caesarean section. (d) Basic neonatal life support. (e) Blood transfusion. (f) Repair to perineal tears. • Basic essential gynecologic care services: (a) Vaginal bleeding management. (b) Emergency surgical intervention/laparotomy for ectopic pregnancy, pelvic peritonitis and abscess, ruptured uterus, ovarian cyst torsion and uterine perforation. (c) Pelvic infection or abscess management.	• Female condoms • Implants • Emergency contraception • Amoxicillin 250 mg scored dispersible tablets* • Oxytocin injection 10 IU • Benzylpenicillin/ Gentamicin injection • Betamethasone injection 6 mg/ml or Dexamethasone injection 4 mg or both • Magnesium sulfate injection 500 mg/ml • Misoprostol 200 mcg tablets** • Oral Rehydration Salts (ORS) • Zinc 20 mg scored dispersible tablets • Chlorhexidine gluconate 7.1% gel (25 g) • Resuscitation device (Ambu bag)

Level of facility	RMNCH services[13–16]	Priority life-saving[10–13,16] medicines and supplies
General and referral hospitals	• Nonemergency maternal health services; Antenatal care (b) Post-natal care (c) Tetanus immunization • Family planning services including counseling and the provision of • Barrier contraceptives, oral contraceptives, injectables, Implants, intra-uterine contraceptive devices, sterilization • Normal delivery and comprehensive emergency obstetric care (a) Administration of antibiotics, oxytocics and anticonvulsants, (b) Manual removal of the placenta, (c) Removal of retained products following miscarriage or abortion, (d) Assisted vaginal delivery, preferably with vacuum extractor, (e) Blood transfusion, (f) Caesarean section • Essential newborn care and newborn resuscitation care • Routine examination for detection of congenital hip dysplasia and other congenital anomalies • Emergency gynecological services for the medical and/or surgical management of (a) Bleeding in early pregnancy, (b) Ectopic pregnancy, (c) Acute pelvic inflammatory disease, (d) Ruptured or torsion of ovarian cyst • Management of minor and major gynecological conditions: (a) Vaginal bleeding, (b) Pelvic infection or abscess, (c) Uterine pathology (fibroids, polyps, etc.), (d) Endometriosis, (e) Ovarian pathology (cyst, torsion), (f) Gynecological cancers, (g) Cervical cytology, (h) treatment of cervical intraepithelial neoplasia	• Female condoms • Implants • Emergency contraception • Amoxicillin 250 mg scored dispersible tablets* • Oxytocin injection 10 IU • Benzylpenicillin/ Gentamicin injection • Betamethasone injection 6 mg/ml or Dexamethasone injection 4 mg or both • Magnesium sulfate injection 500 mg/ml • Misoprostol 200 mcg tablets** • ORS • Zinc 20 mg scored dispersible tablets • Chlorhexidine gluconate 7.1% gel (25 g) • Resuscitation device (Ambu bag)

* Introduced only at primary level care units (health posts and health centers)
** Alternative to oxytocin

REFERENCES

1. UN Commission on Life-Saving Commodities for Women and Children, Every Woman, Every Child website. http://www.everywomaneverychild.org/resources/publications

2. World Health Organization. Saving mothers' lives. WHO infographic; 2016. http://www.who.int/reproductivehealth/publications/monitoring/infographic/en/

3. Bill and Melinda Gates Foundation. Maternal, Newborn & Child Health, Strategy Overview. In: What We Do; 1999–2015. http://www.gatesfoundation.org/What-We-Do/Global-Development/Maternal-Newborn-and-Child-Health

4. Countdown to 2015: Maternal, Newborn and Child Survival website. Fulfilling the Health Agenda for Women and Children: The 2014 Report, Ethiopia. Available at http://www.countdown2015mnch.org/country-profiles/ethiopia

5. MCH Directorate. Federal Ministry of Health 16th National Annual Review Meeting Group Discussion: Saving More Lives Improving the Quality and Removing the Inequality of MCH Services in Ethiopia. ARM 16-Doc 05/14, October 2014. http://www.moh.gov.et/documents/26765/0/Saving%2BMore%2BLives/0298a19c-2a3d-45e2-b11c-f5c458eff967

6. USAID/Ethiopia website, Ethiopia Urban Health Extension Program (USAID/UHEP). Country information. http://www.uhep.jsi.com/About/country_info.htm

7. Purposely omitted.

8. PFSA. National Assessment on Functional Status and Perceived Effectiveness of Drug and Therapeutics Committees at Public Health Facilities, January 2014. Addis Ababa, Ethiopia.

9. Systems for Improved Access to Pharmaceuticals and Services. *Assessment on Pre-Selected EHRIG Hospitals to Identify Graduating Sites, September, 2014. USAID/SIAPS-Ethiopia.* Submitted to the US Agency for International Development by the Systems for Improved Access to pharmaceuticals and Services (SIAPS) Program. Arlington, VA: Management Sciences for Health.

10. Food, Medicine and Healthcare Administration and Control Authority of Ethiopia (FMHACA). *National Essential Medicines List, Fifth Edition Addis*. N. Addis Ababa, Ethiopia: FMHACA; 2014. http://www.fmhaca.gov.et/documents/Essential%20Medicine%20List%20Fifth%20Edition.pdf

11. Food Medicine and Healthcare Administration and Control Authority of Ethiopia (FMHACA). *Standard Treatment Guidelines for Primary Hospitals.* 3rd ed. Addis Ababa, Ethiopia: FMHACA; 2014. Available at http://apps.who.int/medicinedocs/en/m/abstract/Js21693en/

12. Food, Medicine and Healthcare Administration and Control Authority of Ethiopia (FMHACA). *Standard Treatment Guidelines for General Hospitals*. 3rd ed. Addis Ababa, Ethiopia: FMHACA; 2014. Available at http://apps.who.int/medicinedocs/en/m/abstract/Js21694en/

13. Federal Democratic Republic of Ethiopia, Ministry of Health. *Country Implementation Plan for Prioritized Life-Saving Commodities for Women and Children*. Addis Ababa, Ethiopia: Federal Ministry of Health; 2013. http://supplypromises.org/wp-content/uploads/2014/09/ETHIOPIA-UNCoLSC-.pdf

14. Ethiopian Standard Agency (ESA). *Ethiopian Standard: Primary Hospital – Requirements.* 1st ed. ES3617:2012. Addis Ababa: ESA; 2012. http://www.amhara.gov.et/documents/27176/294325/Primary+Hospital.pdf

15. Ethiopian Standard Agency (ESA). *Ethiopian Standard: General Hospital – Requirements*. 1st ed. ES3614:2012. Addis Ababa: ESA; 2012. http://www.amhara.gov.et/documents/27176/294325/General+Hospita.pdf

16. Federal Democratic Republic of Ethiopia, Ministry of Health. *Road Map for Accelerating the Reduction of Maternal and Newborn Morbidity and Mortality in Ethiopia, 2012–2015*. Addis Ababa: FMOH; 2012.