Assessing Sub-National Procurement Practices of Maternal, Newborn, and Child Health Commodities in Kenya

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Assessing Sub-National Procurement Practices of Maternal, Newborn, and Child Health Commodities in Kenya

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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.

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Key Words

maternal, newborn, and child health; sub-national procurement; Kenya; availability

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ACRONYMS

CHD	county health department
CRH	county referral hospital
DHS	demographic health survey
HC	health center
HCSM	Health Commodities and Services Management
KEMSA	Kenya Medical Supplies Authority
MDG	Millennium Development Goal
MEDS	Mission for Essential Drugs and Supplies
MMR	maternal mortality rate
MNCH	maternal, newborn, and child health
MOH	Ministry of Health
PPB	Pharmacy and Poisons Board
PPOA	Public Procurement Oversight Authority
PTC	Procurement and Tender Committee
RMHSU	Reproductive and Maternal Health Services Unit
RMNCH	reproductive, maternal, newborn, and child health
SDP	service delivery point
SCH	sub-county hospital
SIAPS	Systems for Improved Access to Pharmaceuticals and Services
SOP	standard operating procedure

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EXECUTIVE SUMMARY

Access to essential maternal, newborn, and child health (MNCH) commodities is often limited, especially at the facility level, and this may affect countries efforts to end preventable child and maternal deaths. Some major challenges to increasing access to such medicines include inaccurate forecasting and quantification, weak distribution channels, inadequate storage, poor inventory management, and lack of quality data for supply-chain decision-making. There has been increasing awareness that, in many settings, essential MNCH commodities are procured and distributed, not only at the central level, but also at the sub-national level.

Despite progress made over the last decade, Kenya has failed to achieve the Millennium Development Goals (MDGs) for maternal and child mortality and in the decentralized system, there are disparities in mortalities between counties. With devolution, counties assumed the responsibility for procurement of commodities.

The SIAPS Program works at both the global and country levels to improve pharmaceutical management systems that increase access to quality medicines. SIAPS has developed a methodology to assess sub-national procurement practices. This methodology was used in Kenya to assess county-level procurement practices for essential MNCH commodities and to study the availability of essential MNCH commodities. The information gathered was used to generate recommendations to strengthen local procurement practices and overall procurement strategies.

One key finding was that county pharmacists were often not aware of stock-outs of MNCH commodities, particularly at the sub-county level. Information on availability and stock-outs at health facilities was not collected and not used at the county level. The main source of medicines was, not surprisingly, the Kenya Medical Supplies Authority (KEMSA), which has lower prices than the Mission for Essential Drugs and Supplies (MEDS) or the commercial sector; however some local procurement was conducted by county hospitals, and medicines were also redistributed between facilities. Although procurement followed national guidelines, no county guidelines existed, and local procurement committees are not capacitated in procurement. Quantification at the county level is not standardized, does not include facility data, and is based on old data.

Recommendations from the assessment are to:

- Strengthen pharmaceutical information systems and reporting procedures to provide the data needed for robust forecasting and supply planning

- Improve the capacity of staff members at the local level to manage procurement processes

- Improve coordination between the national and county levels—and even between counties

INTRODUCTION

Although maternal and child survival have improved since 1990 and great progress has been made, the final Countdown to 2015 report found that of the 75 countdown countries, only 6 met MDG 5 (which aims to reduce the maternal mortality rate [MMR] by three-quarters between 1990 and 2015) and 25 met MDG 4 for child health to reduce the under-five mortality rate by two-thirds. These lapses have led to increased attention to improving access to essential maternal health medicines and services that could end preventable child and maternal deaths.

A review of existing information about essential MNCH commodities showed that access is often limited, especially at the facility level. Some major challenges to increasing access to such medicines include inaccurate forecasting and quantification, weak distribution channels, inadequate storage, poor inventory management, and lack of quality data for supply chain decision making.

There has been increasing awareness that, in many settings, essential maternal health commodities are procured and distributed, not only at the central level, but also at the sub-national level. However, there is little documentation that describes how those medicines are procured below the central/national level. Some key questions that merit exploration include the following:

- Are sub-national procurement procedures in line with national policies?
- How are medicine needs estimated at the sub-national level?
- What quality assurance mechanisms are in place?
- What are the cost implications of sub-national procurement?

As implementing partners work to assess unmet needs for these commodities, improving access to them, and ensuring their quality, one of the major issues that must be addressed is the practice of sub-national procurement of medicines and supplies.

The SIAPS Program works at both the global and country levels to improve pharmaceutical management systems that increase access to quality medicines. SIAPS developed a methodology and a set of tools to assess the effect of local procurement on the availability of maternal health medicines. Those tools were implemented in Bangladesh at the district level and used to assess and give recommendations to strengthen local procurement practices. USAID as a partner to the UNCoLSC requested that SIAPS gather RMNCH information, using a tool developed by the commission, in five of its MNCH priority countries: Ghana, Kenya, Mozambique, Nepal, and Rwanda. SIAPS collaborated with the Health Commodities and Services Management (HCSM) Program in Kenya to undertake this assessment. A major finding from the data collection in Kenya was that local procurement of RMNCH commodities is a concern because there is little information as to how medicines are procured at the county level.

BACKGROUND

Maternal, Newborn, and Child Health in Kenya

The 2014 Kenya demographic health survey (DHS) found that while Kenya has made progress over the last decade to reduce maternal and child mortality, it was not sufficient to meet the country's MDGs for reducing mortality rates for mothers (MDG 5) and children (MDG 4). According to the 2014 DHS, there have been considerable increases in the utilization of maternal and child health services. About 60% of women received four or more antenatal care visits, 61% delivered in a health facility, and 62% of deliveries were attended by a skilled birth attendant.[1] Decreases in child and infant mortality rates were attributed largely to enhanced use of mosquito nets, increases in antenatal care, skilled attendance at childbirth, postnatal care, contraceptive use, exclusive breastfeeding practices, and a decrease in unmet family planning needs, as well as overall improvements in other social indicators such as education and access to water.[1,2]

Despite the increase in the utilization of MNCH services, Kenya was unable to meet its target for both MDG 4 and 5. The 2014 Kenya DHS found MMR to be 362 per 100,000 live births, stating that there is no evidence that the MMR has declined in recent years.[1,3] Estimates from the 2015 WHO MDG report placed the MMR at 510 maternal deaths per 100,000. Infant and child mortality rates declined from 2009 to 2014: 52 to 39 per 1,000 live births and 74 to 52 per 1,000 live births, respectively.[4] Neonatal mortality exhibited the slowest decline from 31 to 22 deaths per 1,000 live births; steeper declines in the neonatal mortality rate will require improved maternal health services.

There are also considerable geographic variations in maternal and child mortality rates when comparing counties, and as such, disparities to access to MNCH services. For example, the MMR in counties ranges from as high as 3,795 in Mandera County to 187 in Elgeyo Marakwet County.[5] The percentage of births attended by a skilled birth attendant ranged from 39% in Mandera County to over 80% in other counties.[4] Challenges to improving access to MNCH services include inequitable coverage and demand-side barriers that limit access to essential services, such as geographic barriers, out-of-pocket expenses, religious and sociocultural beliefs and practices, education, and the low status of women.[2]

Availability of essential MNCH commodities is also an issue. The 2013 Kenya Service Availability and Readiness Assessment Mapping report found that medicines for maternal and

[1] National Bureau of Statistics-Kenya and ICF International. 2015. 2014 KDHS Key Findings. Rockville, Maryland, USA: KNBS and ICF International; https://dhsprogram.com/pubs/pdf/fr308/fr308.pdf
[2] Kenya Ministry of Health. Kenya Reproductive, Maternal, Newborn, Child, and Adolescent Health (RMNCAH) Investment Framework. Government of Kenya. January 2016; https://www.globalfinancingfacility.org/sites/gff_new/files/Kenya-Investment-Case.pdf
[3] World Health Organization. Trends in maternal mortality: 1990 to 2015: Estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division. Geneva: WHO. 2015
[4] National Bureau of Statistics-Kenya and ICF International. 2015. 2014 KDHS Key Findings. Rockville, Maryland, USA: KNBS and ICF International; https://dhsprogram.com/pubs/pdf/fr308/fr308.pdf
[5] Policy Brief No. 38, October 2013. Differential Maternal Mortality in Kenya: the Need to Prioritize Interventions. Population Studies and Research Institute, National Council for Population and Development and UNFPA

child health were among the least available; the mean availability of maternal health commodities at primary care facilities and hospitals was 24% and 29%, respectively, and of child health medicines, 35% and 49%, respectively.[6] Specifically, among all health facilities that were assessed, only 51%, 26%, and 10% had oxytocin, magnesium sulfate, and misoprostol available, respectively.[6] When comparing counties, the mean availability of tracer medicines among all health facilities ranged from 18% to 39%.[6] Major supply-side barriers that hamper the availability of essential MNCH commodities include funding gaps and weak supply-chain management; poor health-information systems that limit evidence-based decision making; and ineffective use of resources, both domestic resources and from partners, due to capacity challenges; and weak coordination at national and county levels.[2]

Devolution of the Health Care System

In 2010, the majority of Kenyans (67%) voted and approved a new constitution that was based on the concept of devolution of political and economic power to 47 newly formed counties to bring more ownership and decision-making power to the local level.[7] For health service delivery, primary and secondary health services were devolved to the counties and the Ministry of Health (MOH) would provide policy support and technical guidance for national programs and be responsible for human resources for health, such as teaching hospitals, public universities, and medical schools. The purpose of the devolution was to enhance equity in resource allocation and improve service delivery, especially for those in rural areas.

Besides the creation of the new counties, devolution also included the creation of new administrative systems that absorbed some, if not all, of the previous systems of local, district, and provincial-level administrations. Under this devolved system, counties are responsible for county legislation, executive functions, responsibilities transferred from the national government and those agreed upon with other counties, and the establishment and staffing of public service.[7]

The Kenya Health Policy, 2014-2030, provides guidance to the health sector in identifying and outlining activities needed to meet the country's health goals. It is not only aligned with the 2010 constitution and Kenya's Vision 2030 (Kenya's national development agenda), but also with global commitments for health, such as the Sustainable Development Goals.[8] The policy further delineates the roles and responsibilities of the national and county governments and provides guidance in implementing activities and achieving the health goals under the devolved system.

Service Delivery

Under the devolved health care system there are clear distinctions in the roles and responsibilities of the MOH and the county health departments (CHDs). Figure 1 illustrates the devolved service

[6] Government of Kenya, 2014: Kenya Service Availability and Readiness Assessment Mapping (SARAM). Ministry of Health, Nairobi, Kenya.
[7] Barker C, et al. Devolution of Healthcare in Kenya: Assessing County Health System Readiness in Kenya: A Review of Selected Health Inputs. Health Policy Project, Futures Group. July 2014
[8] Ministry of Health. Kenya Health Policy, 2014-2030; https://www.afidep.org/?wpfb_dl=80

delivery system and the relationship between the national and county-level governments and service delivery points (SDPs).

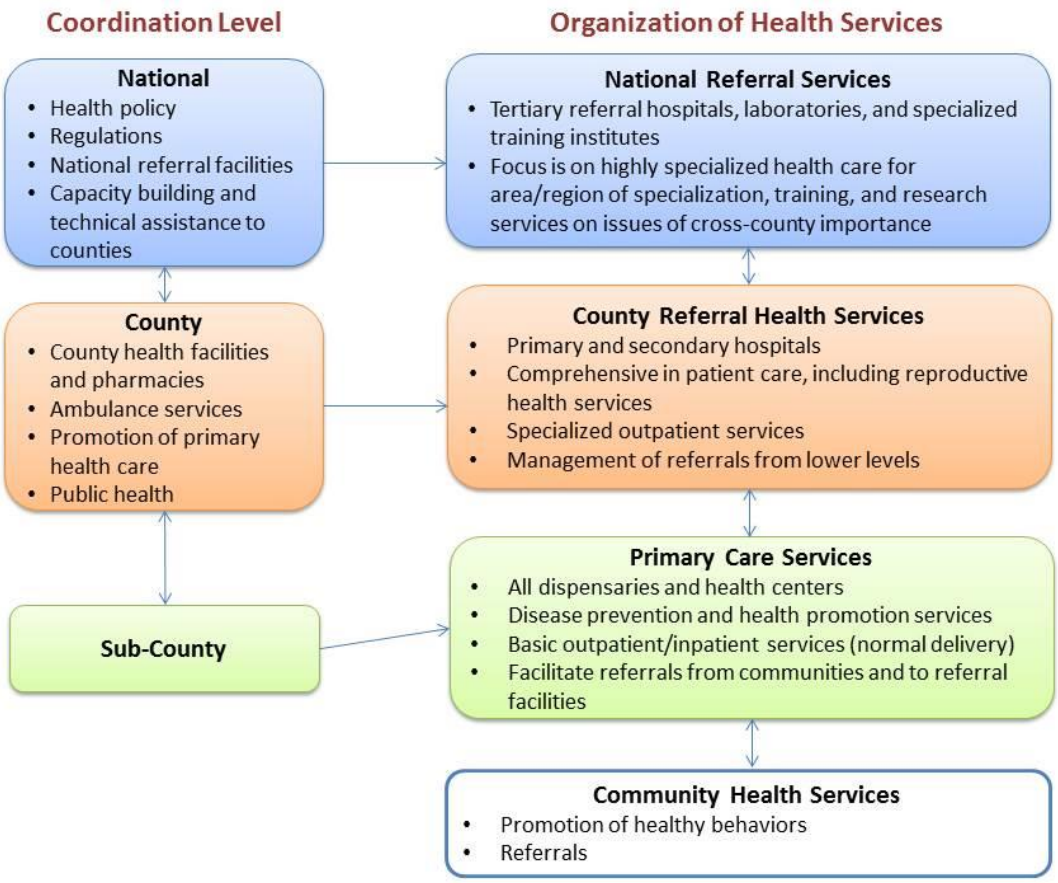

Figure 1. Organization of Kenya's health delivery system (adapted from reference 8)

At the national level, in addition to managing service delivery at the tertiary referral hospitals and institutions, the MOH primarily has a leadership role and is responsible for:

- Developing national policy and legislation, such as standards setting, national reporting, sector coordination, and resource mobilization
- Offering technical support with an emphasis on planning, development, and monitoring of health service delivery quality and standards throughout the country
- Providing guidelines on tariffs for health services
- Promoting mechanisms for improving administrative and management systems, including conducting appropriate studies
- Capacity building of county governments to effectively deliver high-quality and culturally responsive health services[8]

In addition to these, the MOH is further in charge of financing, mobilizing resources, health information, communication and technology, public-private partnerships, and planning and budgeting for national health services as well as services provided by KEMSA, the National Hospital Insurance Fund, Kenya Medical Training College, Kenya Medical Research Institute, and national health programs for major diseases, such as HIV/AIDS, malaria, and tuberculosis.[8]

The county government is responsible for managing services at county health facilities and pharmacies, ambulatory services, disease surveillance and response, disaster management, and other public health and sanitation-related services.[7] The CHD is also responsible for three levels of care:

- Community health services: Includes all community-based demand-creation activities, including the identification of cases that need to be managed at higher levels of care

- Primary care services: Includes all dispensaries, health centers (HCs), and maternity homes for both public and private providers

- County referral services: Comprises county referral hospitals (CRHs) comprised of the former level 4 and district hospitals in the county; includes public and private facilities

Supply Chain System

Prior to devolution, the supply chain system in Kenya was centralized and was a combination of a kit-based push system and an inventory-based ordering pull system. Gradually, the pull model was scaled up, and medicines were supplied based on requisitions that were being received by the health facilities. Procurement, warehousing, and distribution of medicines were done at the national level, specifically by KEMSA, which procures medicines for the public sector. KEMSA was established in 2001 as a state corporation to improve availability of medicines and supplies. The agency is mandated to manage procurement, warehousing, and distribution for the public sector health care supply chain. It is the largest purchaser of medicines in the country and distributes them to public medical institutions.

After devolution, the pull system remained, however procurement of medicines was decentralized to the newly formed counties with KEMSA becoming the primary supplier of medicines in the public health sector. According to the Kenya National Pharmaceutical Policy, medicines must be procured from KEMSA as the primary supplier. If KEMSA cannot supply the medicine, then counties can procure from MEDS, the primary supplier in the faith-based sector, and the commercial sector, the latter being the last option. All suppliers distribute medicines directly to health facilities; some counties have a regional warehouse where medicines can be stored and then delivered to health facilities.

METHODOLOGY

The Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program developed a methodology and a set of tools to assess the effect of local procurement on the availability of maternal health medicines and validated the tools in Bangladesh. After the strategy and coordination team conducted the RMNCH landscape synthesis, developed by the United Nations Commission on Life-Saving Commodities (UNCoLSC) for Women and Children, SIAPS collaborated with the Health Commodities and Services Management (HCSM) Program in Kenya to undertake this assessment of sub-national procurement. A major finding from the data collection in Kenya was that local procurement of RMNCH commodities is a concern because there is little information as to how medicines are procured at the county level.

Purpose and Objectives

The purpose of this assessment is to provide a snapshot of the practices employed at sub-national levels to ensure the availability of MNCH commodities and identify options for the government to increase access to these commodities through improved procurement practices and more efficient use of existing funds. Specifically, the assessment sought to:

- Understand the procurement practices employed at the county level for essential MNCH commodities
- Measure the availability of essential MNCH commodities
- Develop recommendations and options for strengthening local procurement practices and overall procurement strategies

Tracer Medicines

In conjunction with the Kenya MOH and the Reproductive and Maternal Health Services Unit (RMHSU), seven essential MNCH commodities were selected for investigation (table 1). These commodities prevent and treat the leading causes of maternal, newborn, and child deaths: post-partum hemorrhage, pre-eclampsia/eclampsia, newborn sepsis, pneumonia, and diarrhea.

Table 1. Tracer list of essential maternal, newborn, and child health commodities

Category	Medicine and formulation	Medical condition
Maternal health	Oxytocin 10 IU injection	Post-partum hemorrhage
	Misoprostol 200 microgram tablets	
	Magnesium sulfate 500 mg/ml (50%) in 10 ml amp	Pre-eclampsia and eclampsia
Newborn health	Gentamicin 10 mg/ml in 2 ml vial Gentamicin 40 mg/ml in 2 ml vial	Newborn sepsis
	Dexamethasone 4 mg/ml in 1 ml amp	Complications of preterm birth: severe

Category	Medicine and formulation	Medical condition
	(phosphate disodium salt)	respiratory distress syndrome, intra-ventricular hemorrhage, perinatal death
Child health	Amoxicillin 125 mg/5 ml (powder for oral liquid)	Pneumonia
	Zinc sulfate 20 mg dispersible tablet	Diarrhea

Site Selection

The assessment was carried out in three counties: Elgeyo-Marakwet, Kakamega, and Kwale. These counties were selected in conjunction with the Kenya MOH and Division of Reproductive Health because they best represent the diverse capacity levels and health demographics found in the country. They are also priority counties for MNCH in Kenya.

Within each county, data were collected from the county Procurement and Tender Committee (PTC), sub-county pharmacist, and SDPs at the county and sub-county levels. The SDPs that targeted were the CRHs, sub-county hospitals (SCHs), and HCs. Table 2 summarizes the data collection sites and the personnel at each site that were to be interviewed per county.

Table 2. Data collection sites and participants at the county and sub-county levels

Level	Site/facility	Quantity/ county	Total quantity	Personnel to interview	Data collection form
County	PTC	1	3	• PTC members involved in the quantification and procurement of medicines • Health department representative of the PTC • County pharmacist	A-1 A-2 D
	CRH	1	3	• Facility pharmacist • Personnel responsible for ordering medicines (if different from pharmacist) • Personnel responsible for managing the storage facility/ room for medicines	C-1 C-2 D
Sub-county	Sub-county pharmacist	1	3	• Sub-county pharmacist	B D
	SCH	1	3	• Facility pharmacist • Personnel responsible for ordering medicines (if different from pharmacist) • Personnel responsible for managing the storage facility/ room for medicines	C-1 C-2 D
	HC	1	3		C-1 C-2 D

Data Collection

County-Level Data Collection Tools

Four data-collection tools were developed for the assessment based on the procurement and supply chain structure found in Kenya post-devolution. The tools aim to give a comprehensive understanding of not only the local procurement practices for MNCH medicines at the county level, but also a snapshot of the processes and decisions made at the sub-county levels that feed

into the county-level procurement process as well as ensure the availability of quality MNCH commodities.

Form A: County Procurement Assessment Tool

Form A, County Procurement Assessment Tool, is used to collect data at the county level from PTC members responsible for the quantification and procurement of MNCH medicines. The tool is split into two parts. Form A-1, Procurement Practices, is used to collect data related to the process for quantification, procurement, and financing. For each component, documents, such as bidding documents, invoices, requisition forms, and budgets, are collected.

The second part of the data collection tool is Form A-2, Commodity Data. This tool is used to collect data on the sources of medicines and availability of tracer MNCH medicines; it is also used to collect information, such as estimated need and total amounts of each medicine procured from KEMSA, MEDS, and/or commercial suppliers. Table 2 summarizes the data to be collected from the PTC from forms A-1 and A-2.

Form B: Sub-County Pharmacist Tool

Although the sub-county pharmacist does not procure medicines for the facilities within their purview, he or she may be part of the overall county procurement process as they are responsible for a number of SDPs at the sub-county level. Form B is used to collect data related to quantification, sources of medicines, and supplier performance and quality assurance from the sub-county pharmacist.

Form C: Service Delivery Point Assessment Tool

The SDP assessment tool has two forms. Form C-1, Facility Questionnaire, is used to collect data from the CRHs, SCHs, and HCs. Although the SDPs do not procure medicines, they perform tasks that may influence the procurement of medicines done by the PTC. Additionally, suppliers deliver medicines directly to the SDPs. As such, the SDP tool is used to collect data on quantification processes, supplier performance, quality assurance, and availability of MNCH commodities.

Form C-2, Stock Status**,** is used to collect data on availability, including stock levels and stock-outs over the past 12 months, as well as data on observed storage conditions of MNCH commodities at the county and sub-county SDPs. The first section of the tool collects data about formulation, product brand, number of days of stock-outs within the past 12 months, availability on day of the visit, physical inventory count, quantity of expired product, and average monthly consumption. The second section of the tools is used to collect data on storage conditions that are observed for tracer medicines.

Form D: Documentation Checklist

A key part of this assessment is collecting documentation for the processes being assessed. This includes processes related to not just procurement, but also quantification, budgeting/financing,

ordering medicines, delivery and receipt of medicines, supplier performance, stock management, and quality assurance mechanisms.

Copies of relevant forms, documents, tools, guidelines, SOPs or any other supporting documentation were also collected, such as:

- Tender documents
- Procurement guidelines/manuals/SOPs
- Quantification guidelines/manuals/SOPs
- Quantification/forecasting tool
- Budget information
- Requisition forms, delivery receipts
- Forms used for any given donations
- Stock registers
- Supplier performance reporting forms/reports
- Quality assurance reporting forms/reports

Data Collection Period

May–June 2016 and follow-up, October 3–14, 2016

Data Analysis

The data were entered and analyzed in Microsoft Excel and disaggregated according to (a) county (b) tracer medicine, and (c) SDP. SIAPS and HCSM staff members also sought clarifications when data were inconsistent or unclear.

Limitations

This assessment had two limitations. First, because of budget restrictions and practicality, the sample size of three counties was insufficient to assess the statistical significance of the results, but was only intended to be illustrative. Second, on the day of data collection, some data were not readily available, and although every effort was made to collect the data or documentation afterward, sometimes it was not feasible or practical. All information collected was according to the respondent.

RESULTS

Management of MNCH Medicines

Various national policy documents and guidelines were reviewed to determine the level of use for each of the tracer MNCH medicines. These include the 2016 national essential medicines list, the Kenya Essential Package of Health Services, and the National Guidelines for Quality Obstetrics and Perinatal Care. With the exception of misoprostol and dexamethasone, all the tracer MNCH medicines should be stocked up to the HC level; misoprostol and dexamethasone should only be stocked at the CRHs (level 4 facilities).

Overall, MNCH medicines were indicated to be stocked according to the national guidelines and policies. Although the majority of health facilities indicated holding the tracer medicines according to the national essential medicines list and other guidelines, some discrepancy was found in the carrying of misoprostol and dexamethasone, specifically at the SCHs. Two SCHs indicated managing misoprostol and all three indicated managing dexamethasone, when in fact it is not expected to be carried at that level. .

Availability of MNCH Medicines

The availability of MNCH medicines was assessed both at the county level (for the whole county) and at SDPs. Availability was assessed (a) on the day of the visit, (b) through direct observation, and (c) within the last 12 months (FY 2014-2015) through stock record review. Additionally, during the follow-up visit, two counties submitted availability and procurement data for FY 2015-2016, the most recent fiscal year. Availability was assessed only at sites that indicated they had managed the particular medicine.

Availability on the Day of the Visit

The tracer medicines were mostly found to be available at the SDPs with some sites experiencing stock-outs on the day of the visit. For example, one CRH did not have amoxicillin available the day of the visit and one SCH did not have oxytocin and amoxicillin available, both first line, life-saving treatments for pneumonia and post-partum hemorrhage. Stock-outs of MNCH medicines were also common at the HCs. In the case of gentamicin, where two formulations are recommended, it should be noted in cases where one formulation was not available, the second formulation was used for neonatal sepsis. Table 3 indicates the availability of MNCH medicines on the day of the visit, aggregated by SDP.

Table 3. Percentage of sites that had MNCH medicines available on the day of the visit, 2016, by facility type

Tracer medicine	CRH	SCH	HC
Oxytocin 10 IU	3/3; 100%	2/3; 67%	3/3; 100%
Misoprostol 200 mcg	1/3; 33%	2/2; 100%	NA
Magnesium sulfate, 500 mg/ml (50%) in 10 ml amp	3/3; 100%	3/3; 100%	2/3; 67%
Gentamicin, 10 mg/ml in 2 ml vial	2/3; 67%	2/3; 67%	3/3; 100%

Tracer medicine	CRH	SCH	HC
Gentamicin, 40 mg/ml in 2 ml vial	3/3; 100%	3/3; 100%	2/3; 67%
Dexamethasone, 4 mg/ml in 1 ml amp	3/3; 100%	3/3; 100%	NA
Amoxicillin 125 mg/5 ml (powder for oral liquid)	2/3; 67%	2/3; 67%	2/3; 67%
Zinc sulfate 20 mg dispersible tablet or ORS/zinc co-pack	3/3; 100%	3/3; 100%	3/3; 100%

When the data were aggregated by county, it was found that most of the health facilities in each of the counties had the tracer medicines available on the day of the visit, however there were slight differences between the counties. For example, health facilities in Elgeyo-Marakwet, particularly the HC, did not have magnesium sulfate available on the day of the visit and throughout the year. Similarly, both the SCH and HC in Elgeyo-Marakwet did not have amoxicillin available on the day of the visit and, in fact, the SCH also did not have oxytocin available. Table 4 indicates the availability of tracer medicines at SDPs by county.

Table 4. Percentage of sites that had MNCH medicines available on the day of the visit, 2016, by county

Tracer medicine	Elgeyo-Marakwet	Kakamega	Kwale	Total
Oxytocin 10 IU	2/3; 67%	3/3; 100%	3/3; 100%	8/9; 89%
Misoprostol 200 mcg tab	2/2; 100%	1/1; 100%	2/2; 100%	5/5; 100%
Magnesium sulfate	2/3; 67%	3/3; 100%	3/3; 100%	8/9; 89%
Gentamicin 20 mg/2 ml	3/3; 100	3/3; 100%	1/3; 33%	7/9; 78%
Gentamicin 80 mg/2 ml	2/3; 67%	3/3; 100%	3/3; 100%	8/9; 89%
Dexamethasone 4 mg/ml	2/2; 100%	2/2; 100%	2/2; 100%	6/6; 100%
Amoxicillin 125 mg/5 ml bottle	1/3; 33%	3/3; 100%	2/3; 67%	7/9; 78%
Zinc sulfate 20 mg dispensable tablet or ORS/zinc co-pack	3/3; 100%	3/3; 100%	3/3; 100%	9/9; 100%

Availability of MNCH Commodities in the Last 12-24 Months

Data were collected on the stock status of MNCH commodities during FY 2014-2015 at the SDPs in all three counties. Availability was assessed based on whether the facility indicated managing the medicine. Additionally, during the follow-up visit, Kakamega and Kwale Counties were able to submit additional availability and procurement data from the most recent fiscal year, FY 2015-2016.

During FY 2014-15, the majority of the health facility sites had the tracer medicines available throughout the fiscal year. However, of concern are stock-outs that occurred at the tertiary care facilities. One CRH had a stock-out of oxytocin lasting up to 60 days and one SCH experienced a stock-out of the medicine for up to 240 days (about 8 months). Although stock-outs were not common at the HC level, it should be noted that one HC indicated receiving significant amounts of medicines from the CRH, particularly oxytocin (400 ampoules), gentamicin 10 mg (400 ampoules), and amoxicillin (25 bottles) to avoid having stock-outs. Table 5 indicates the number of facilities that indicated managing an MNCH medicine that experienced a stock-out and the average number of days of the stock-out during FY 2014-15.

Table 5. Stock-outs of MNCH medicines at SDPs during FY 2014-2015, by facility type

	Number of facilities that experienced stock-outs and average number of days of stock-out			
Drug	**CRH**	**SCH**	**HC**	**Total**
Oxytocin	1/3; 60[a]	1/3; 240	None	2/9; 150
Gentamicin, 10 mg	None	1/3; 365	None	1/9; 365
Gentamicin, 40 mg	None	None	1/3; 60	1/9; 60
Zinc sulfate[b]	None	None	1/3; 5	1/9; 5
Magnesium sulfate, misoprostol, dexamethasone, and amoxicillin	All facilities that indicated managing these 4 drugs had the medicine available throughout the year			

[a]Facility pharmacist indicated that while the store may be out of stock, the dispensing center may have it available.
[b]Dispersible tablet or ORS co-pack

Data from Kakamega and Kwale for the following year 2015-2016 were analyzed, and similarly, stock-outs of MNCH medicines were experienced, particularly at the SCH and HCs in Kwale and Kakamega, respectively, with some commodities experiencing stock-outs of up to 90 days at the HC level. Major reasons for stock-outs the medicine was not supplied or was under supplied by the supplier or delays in receiving the supply.

Information was also collected from the county pharmacist and sub-county pharmacist on their impressions of availability of MNCH medicines within the county overall, and the selected sub-county. It is expected that the availability data collected at the SDPs (within the selected sub-county) should generally be reflected in the availability data monitored at the sub-county and county levels. However, it was found that the availability data collected for the whole county does not reflect what is actually happening at the health-facility level. Additionally, none of the county pharmacists or sub-county pharmacists indicated regularly monitoring availability of MNCH medicines or routinely collecting availability data (for example information on stock-outs of essential medicines) from the health facilities.

According to the county pharmacist in Elgeyo-Marakwet, there were no stock-outs of any of the tracer MNCH medicines in the county during FY 2014-2015; however, the sub-county pharmacist interviewed reported a stock-out of up to 120 days of oxytocin within the sub-county under his purview. Yet, data collected from the three SDPs in that county indicated that the average number of days of stock-out for the three sites is 150 days. Similar cases were found in Kakamega and Kwale for some of the other tracer medicines. Table 6 indicates the average number of days of stock-out for each tracer medicine as reported by the county pharmacist and sub-county pharmacist and recorded at the SDPs.

Table 6. Average number of days of stock-out for MNCH medicines, by county, FY 2014-2015

					Gentamicin				
		Oxytocin	**Miso-prostol**	**Magnesium sulfate**	10 mg	40 mg	**Dexameth-asone**	**Amoxi-cillin**	**Zinc sulfate[a]**
Elgeyo-Marakwet	County	0	0	0	0	0	0	0	0
	Sub-county	120	0	0	0	0	0	0	0
	SDPs	150	0	0	0	60	0	0	0
Kakamega	County	0	0	0	0	0	0	0	0

		Oxytocin	Miso-prostol	Magnesium sulfate	Gentamicin 10 mg	Gentamicin 40 mg	Dexameth-asone	Amoxi-cillin	Zinc sulfate[a]
	Sub-county	5	0	0	0	0	0	12	0
	SDPs	0	0	0	0	0	0	0	0
Kwale	County	0	0	0	0	0	0	0	0
	Sub-county	0	0	0	0	0	0	0	0
	SDPs	0	0	0	365	0	0	0	5

[a]Dispersible tablet or ORS co-pack

These discrepancies in the reality of the availability of medicines in the county demonstrate a problem in actual information and indicate that the information system has certain weaknesses that do not permit the county level to be aware of the situation in health facilities. This is critical as the data from the county level is what is utilized in the quantification and budgeting process. If the county data does not include the stock-outs from the periphery, errors will be introduced into the quantification and budgeting.

Sources of Medicines

MNCH medicines are procured at the county level on behalf of health facilities and directly distributed to the facilities by the supplier. Procurement data were collected from the county pharmacist who is responsible for submitting procurement requests for medicines to the county procurement department. These data included the medicine quantities ordered, amount received and the source of the medicine (KEMSA, MEDS, commercial sector, prequalified supplier, donations) for FY 2014-2015. Data were also collected from the SDPs on the quantities of MNCH medicines ordered, received, and the source of the medicines.

As previously mentioned, when procuring medicines and selecting the supplier, preference must be given to KEMSA. If KEMSA is unable to supply the medicine either because of outstanding balances owed by the county or limited supply, MEDS should be the second option. Each county also has a list of prequalified suppliers in cases where both KEMSA and MEDS are unable to fulfill the order. Data collected from the county pharmacist for FY 2014-2015 found that, for all tracer MNCH medicines (with the exception of misoprostol), KEMSA is, as expected, the primary source of the medicine. Figure 2 shows the percentage of MNCH tracer medicines that were supplied by KEMSA and MEDS from 2014-2015, aggregated by medicine and by county, respectively.

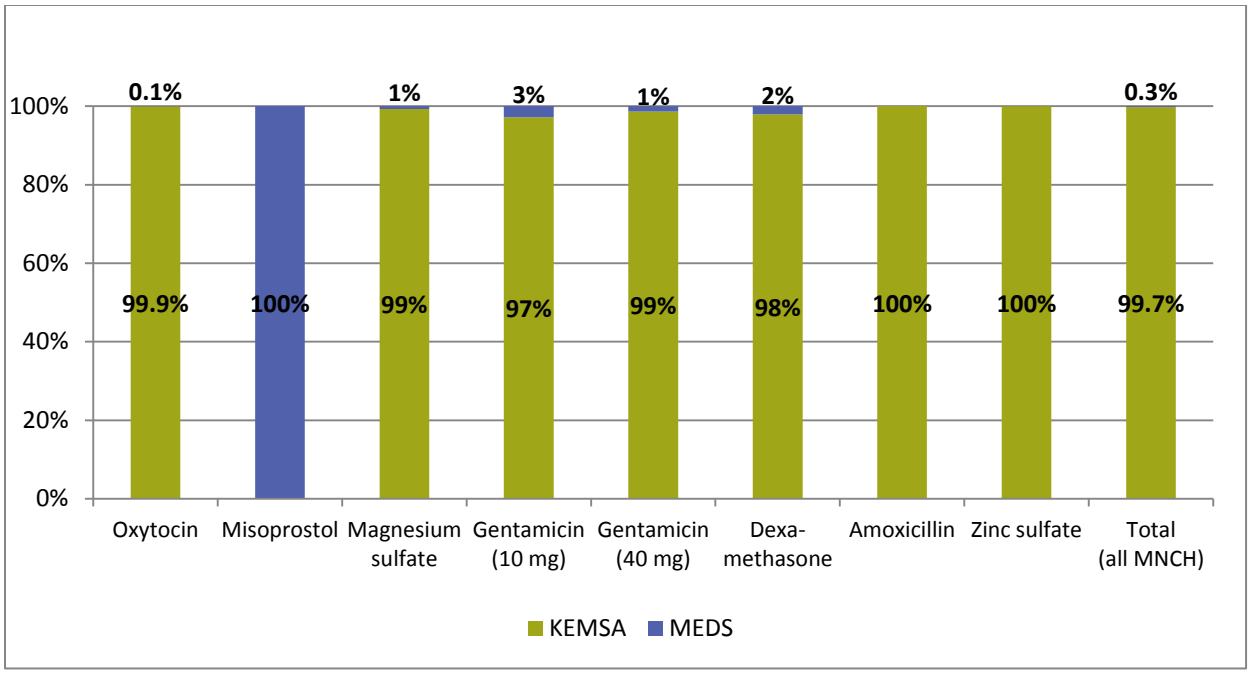

Figure 2. Percentage of MNCH tracer medicines that were supplied by KEMSA and MEDS to Elgeyo-Marakwet, Kakamega, and Kwale Counties during FY 2014-2015

Almost 100% of all the MNCH tracer medicines that were supplied to all three counties were supplied by KEMSA. Aggregated by medicine, only a small percentage of some of the tracer medicines (less than 5%) were being supplied by MEDS (i.e., gentamicin and dexamethasone). Data from the county pharmacists suggests that none of the medicines were procured from a prequalified supplier or the commercial sector. Aggregating the data by county showed that while two counties only procured medicines from KEMSA, 4% of all the MNCH medicines supplied in Kwale County were procured from MEDS.

Data on the sources of medicines were also collected from the SDPs: CRHs, SCHs, and HCs. At the SDP level, as expected, KEMSA is the primary source for medicines, although a significant portion of MNCH medicines are also supplied by MEDS and prequalified suppliers as well as some medicines that are redistributed between health facilities. For example, MEDS supplies 100% of the misoprostol and 27% and 60% of the child-health medicines amoxicillin and zinc sulfate, respectively. Additionally, SDPs indicated that when medicines are out of stock, they receive medicines from other health facilities, primarily the CRHs; 25% of the magnesium sulfate supplied during FY 2014-2015 was supplied or redistributed by another health facility. Third party, prequalified suppliers accounted only for 1-3% of MNCH medicines, depending on the medicine. Figure 3 indicates the sources of each tracer MNCH medicine at SDPs. The source "Other" in the figure accounts for the redistribution of medicines from other facilities, primarily the CRH.

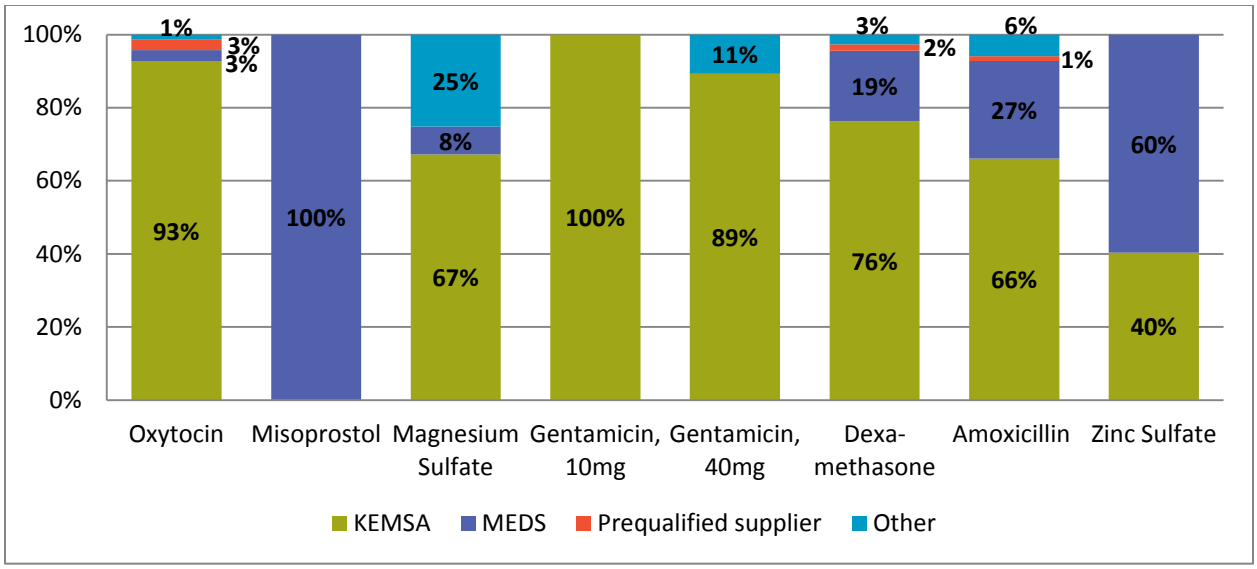

Figure 3. Sources of MNCH medicines at selected SDPs, FY 2014-2015

Aggregating the SDP level data by health facility type revealed that KEMSA accounted for 61-71% of all the MNCH medicines supplied, depending on the type of facility. Figure 4 indicates the sources of medicines aggregated by health facility type. While all facilities receive medicines from MEDS, HCs receive more compared to the CRHs and SCHs: 37% compared to 27% and 16%. A small percentage of medicines are also redistributed from the CRHs to lower-level health facilities (indicated as "Other" in figure 4): 18% at the SCHs and 2% at the HCs visited.

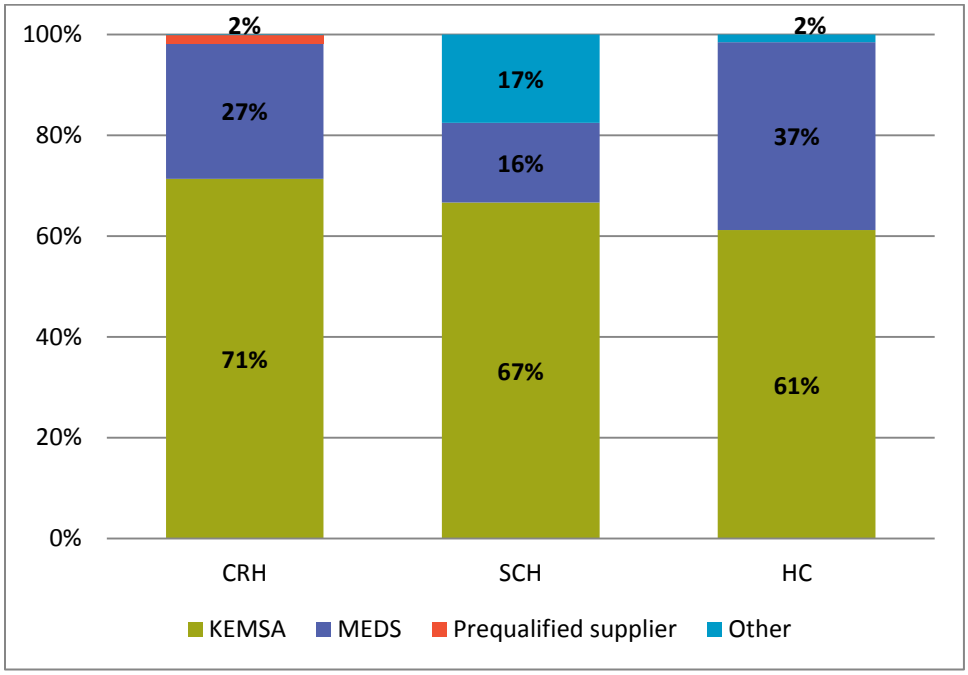

Figure 4. Sources of MNCH medicines aggregated by health facility type at SDPs, FY 2014-2015

Finally, it should be noted that as mentioned earlier, there is some local procurement at the CRHs, as they are the only type of facility that has funds for emergency procurement. However this is not reflected in the overall county data and it was not possible to disaggregate this information from the data collected by the SDPs. Hence, it was not possible to determine the proportion of the medicines received by KEMSA, MEDS, or a prequalified supplier that were procured at the county level versus that procured by the CRH directly.

County Procurement Practices

Procurement of MNCH medicines is done almost exclusively at the county level by the PTCs. The PTC, in fact, is responsible for all public procurement of goods and services, including medicines. For medicines, procurement is done in close coordination with the county pharmacist and county health management team (CHMT), of which the county pharmacist is a part.

Interviews were held with the county pharmacist and relevant members of the PTC/CHMTs, specifically the procurement officers to assess whether procurement practices are in line with national policies, specifically the Public Procurement Oversight Authority (PPOA), as well as international recommended practices. This section discusses results related to procurement practices at the district level—specifically quantification, requisition, tender process, product specification, supplier selection, procurement price, and quality assurance.

Guidance

Informants indicated that procurement is done in accordance with the guidelines set by the PPOA and the Public Procurement and Asset Disposal Act which was amended in 2005 (updated in 2015). The PPOA also has a procurement manual for all departments, including health, although it has not been updated since 2009. Standard procurement and tender documents are also included on the PPOA website; however, there is nothing specific for health or medicines. None of the respondents indicated specific county-level guidelines for forms/tools for the procurement of health commodities issued either by the MOH or the relevant national agency.

Some respondents further indicated county-level guidelines, SOPs, and tools for e-procurement, ordering medicines, and determining medicine needs that are either developed by KEMSA and/or the CHD, which are not standardized across counties. These guidelines are tailored for the county pharmacist or to the health-facility levels and include:

- SOPs for ordering medicines from KEMSA (Kwale)
- Quantifying facility medicine needs (Kwale, CRH)
- E-procurement guide/job aid (Elgeyo-Marakwet)
- SOPs for ordering medicines and medical supplies from KEMSA and other suppliers (issued by Kakamega)

None of the counties indicated using the same county-level guidelines or SOPs, however, medicine order forms, particularly for KEMSA and MEDS, were found to be standardized across counties.

Procurement Committee

All three counties visited have PTCs responsible for procurement of public goods and services for all the county departments, including health. The PTC includes the county director, members of the CHD, county accountant, procurement officer, county pharmacist, and other relevant stakeholders from other county departments. In regards to health commodity procurement, the committee is responsible for the procurement process, including medicine selection and quantification; preparation of tender documents; supplier selection (evaluation of bids and final selection); and approval of specifications, such as product description, packaging and labeling, and quality assurance standards. The PTCs in each county indicated that they met on a quarterly basis and when the need arises (i.e., during the procurement process, they may meet multiple times a quarter).

Training of the PTC members is not done regularly, and not all members receive training. In Elgeyo-Marakwet, the last training was conducted in 2015 and was a general training on the health system management that included a component on the PPOA procurement guidelines; in Kwale, it was only the procurement officer and the county administrative officer that received training on procurement. Kakamega, however, indicated that training on procurement procedures is done quarterly by the PPOA. Finally, none of the informants indicated attending any specific training for the procurement of medicines and health supplies.

Quantification

The assessment collected data from county pharmacists on how medicine needs are quantified across three counties (Elgeyo-Marakwet, Kakamega, and Kwale). Respondents indicated that quantification of medicine needs is done annually and under the supervision of the CHD with the county pharmacist taking the lead. Guidelines for quantifying medicine needs exist at the county level, but they are not standardized across the counties. Additionally, one county indicated guidelines specifically on quantification of MNCH commodities, but SIAPS was unable to find a copy of these guidelines. It should also be noted that the last quantification that was conducted in the three counties was during the 2014-2015 fiscal year with the assistance of the HCSM Project. Since the project stopped supporting the counties, none of the selected counties have undergone a formal quantification to determine medicine needs and have been referring back to the last quantification that was done.

Determining medicine needs for the county and submitting the final medicine quantities for procurement to the CHD is the responsibility of the county pharmacist. Although the process differs in each county, the respondents indicated that the primary data used are past consumption, past distribution, stock data (i.e., stock on hand, stock-outs, and buffer stock), and/or the last year's expenditure on medicines with a standard percentage increase. Although all the county pharmacists indicated collecting medicines need data from the SDPs and using DHIS data to inform the quantification, upon further investigation, it was found that availability data is neither

submitted to the CHD by the county pharmacist nor is it being tracked, especially for MNCH commodities.

Medicine needs are also determined at the health-facility level. As mentioned earlier, one county has health-facility level guidelines for determining this, and some SDPs indicated having guidelines as well. Medicine needs are submitted quarterly to the county pharmacists and, in turn, aggregated during the quantification process. The assessment collected information from the SDPs on the data used in forecasting medicine needs. Table 7 shows the number of counties and SDPs that indicated using specific types of data to inform medicine forecasts.

Table 7. Data used for the quantification of medicine needs at the county and SDP levels

Data used for forecasting	Counties (n=3)	SDPs (n=9)
Past consumption/past distribution data	3	9
Health facility data/service data	1	1
Morbidity data	1	1
Demographic data	0	0
Stock data:		
Stock on hand	3	9
Adjustments for stock-outs	3	9
Buffer/safety stock	3	9

In the end, however, despite the final quantification, the final numbers are rationalized based on the available funds (budget for medicines), which is often less than the medicine needs that are forecasted at both the county and SDP levels.

Medicine Requisition

KEMSA has an online portal where health facilities can order medicines pending the review and approval by the county pharmacist who must ensure that each health facility remain under a certain budget. Similarly, MEDS also has a specific ordering form that must be submitted to the county pharmacist who then approves it and sends it to MEDS to fulfill the order. Medicines are then supplied directly to the health facility.

Each health facility is subject to “drawing rights” or a medicines budget that is tracked by the sub-county pharmacist and county pharmacist to ensure that expenditures for medicines do not exceed what is allocated. Discussions with the county pharmacists found that there are no standard guidelines or procedures on how this is done and, as a result, it is left up to the county pharmacist to determine how to proceed.

One county pharmacist indicated that he determines the health facility drawing rights based on the work load data (i.e., number of patients per facility) plus a standard increase across all facilities and divided the medicine budget between the facilities proportionally. He indicated that he adds a standard of 3,000 patients per facility to ensure that the smaller facilities have enough budget for ordering medicines.

The second county visited indicated that the needs for each facility are estimated and used to determine the drawing rights. Procurement data is further reviewed to ensure that essential medicines are being procured. Also, within this county, there is a policy that allows health facilities to have a small budget (about 5-10%) to conduct emergency procurement if there is a stock-out.

Procurement Procedures

Procurement practices were compared to the procurement practices and the supplier selection criteria recommended and outlined in *MDS-3: Managing Access to Medicines and Health Technologies* (hereafter referred to as MDS)—a leading reference about managing essential medicines in developing countries—as the standard for evaluation.[9] The assessment also compared reported practices to the national regulations and guidelines, notably the PPOA guidelines.[10] Each site was assessed according to how many of the 13 recommended good procurement practices were reportedly used at their site.

As mentioned earlier, the policy in Kenya states that medicines must first be procured from KEMSA. In cases where KEMSA cannot supply the medicines, then counties and health facilities can procure from the private sector (MEDS) or the commercial sector as the third option. Each county has a list of prequalified suppliers that meet specific criteria to ensure the quality of medicines. Each county indicated that they have a one-year memorandum of understanding with KEMSA and MEDS as well as other prequalified suppliers where medicine prices may already be negotiated.

Counties first began procuring medicines for the 2014-2015 fiscal year with only a small amount of medicines being procured from prequalified suppliers. However, the tender process is used only when counties need to procure medicines from a third tier supplier (other than KEMSA and MEDS).

The PTC in each county indicated following all 13 of the recommended good procurement practices. While some of the procurement practices were verified through documentation, for others, there was either no documentation available or the information was contradicted during further in-depth interviews. Differences in responses could also be due to the respondents' understanding and definition of technical terms. For example, although all the PTCs indicated procuring quantities of medicines based on reliable estimates of need, upon further investigation, it was found that the quantification is mostly done using past consumption data. Table 8 indicated the number of county PTCs that indicated following good procurement practices versus what was verified through in-depth interviews and documentation.

[9] Management Sciences for Health. MDS-3: Managing Access to Medicines and Health Technology, 3rd ed. Sterling, VA: Kumarian Press, 2013.
[10] Public Procurement Oversight Authority (PPOA). Public Procurement Manual for Health Sector. July 2009 http://www.ppoa.go.ke/images/downloads/manuals/procurement_manual_health.pdf

Table 8. Number of county PTCs reportedly following good procurement practices

Good procurement practices	Indicated by PTC (n=3)	Verified in county (n=3)
Procurement by generic name	3	3
Procurement limited to essential medicines list or formulary list (if not, uses formal approval procedures)	3	3
Procurement in bulk	3	3
Formal supplier qualification and monitoring	3	3
Competitive procurement	3	Unable to verify
Sole-source commitment	3	3 (with KEMSA and MEDS)
Quantities ordered on the basis of a reliable estimate of need	3	0
Reliable payment and good financial management	3	Unable to verify
Transparency and written procedures	3	3; all 3 indicated referring to national guidelines but only 1 county had county-level procurement guidelines
Separation of key functions	3	3
Product quality assurance program	3	3 (PPB reporting)
Annual audit with published records	3	Unable to verify
Regular reporting on procurement performance	3	Unable to verify

Respondents from the CRHs further indicated that medicines are also procured by the hospitals, however this data is not submitted to or collected by the county pharmacist. Whether hospitals are allowed to procure medicines or are given a budget for local procurement varies by county. For example, in one county, the county pharmacist was not aware that the CRH had indicated that they procure medicines even though hospitals are not allowed to procure medicines themselves. Another county, however, has a policy that allows health facilities to have a small budget (about 5-10%) to conduct emergency procurement if there is a stock-out.

The fact that hospitals, and perhaps lower level SDPs, may be locally procuring medicines and the fact that there is a lack of monitoring and reporting of local procurement warrants concern as to whether these practices are in line with national policy and international recommendations and whether affordable, quality medicines are being procured.

Product Specifications

Although all PTCs indicated referring to MOH guidelines, such as drug formularies and essential medicines lists, for guidance on product specifications for MNCH medicines, product specifications indicated on tender documents are not standardized across the counties. While the PTCs in each county reported including the formulation, quantity, and packaging specifications, shelf-life was not specified for every medicine across the counties, and only one county indicated specifying storage conditions for all tracer medicines. For example, only respondents from Kakamega County indicated including storage conditions, although they did specify the shelf-life for only half the tracer medicines. For medicines like oxytocin that require cold-chain storage, it is essential that this be specified in tender documents to ensure the quality of the medicine.

Supplier Selection

Similar to procurement practices, the practices related to supplier selection were compared to the supplier selection criteria recommended by MDS. There are five supplier selection criteria and nine past performance subcriteria. Table 9 indicates the supplier selection criteria as recommended by MDS.

Only one county indicated general challenges in finding suppliers for some commodities and during some seasons, although not for any of the tracer medicines. Other issues indicated are delays in suppling medicines either due to national stock-outs or outstanding balances with the supplier. All three counties indicated paying suppliers in a timely manner is a challenge due to delayed disbursement of funds to county level from the national level and weaknesses in the integrated financial management information system (IFMIS) that is used for budget formulation and execution and public procurement, among other functions.

Table 9. Recommended criteria for selecting suppliers for medicine procurement

Supplier selection criteria
Supplier that uses good manufacturing practices
Certification documents from regulatory agency regarding supplier status and compliance with good manufacturing practices
References from other local or foreign public procurement offices or hospitals regarding supplier's quality and service
Financial status of supplier
Past performance subcriteria • Participation record (whether supplier has previously failed to deliver products or has dropped bids) • Response to inquiries (whether supplier has responded to all inquiries or provided regular information about status of outstanding orders) • Delivery time • Adherence to delivery instructions • Provision of all documents at time of delivery • Packaging and labeling • Product shelf-life • Compliance with financial terms • Quality standards (whether supplier has met specifications and packaging standards, whether batch analysis was provided, and whether product exhibited high quality)

Quality Assurance

Although health commodities are supplied directly to the SDPs by the suppliers, the county-level PTC does monitor supplier performance and quality assurance mechanisms. The PTC conducts supervisory checks and reviews documentation (such as delivery notes), supplier discrepancy forms, and feedback sent by the health facility. In cases where there are quality concerns, the PTC, specifically the county pharmacist, facilitates the communication with the supplier and reports the issue to the Pharmacy and Poisons Board (PPB) to take further regulatory action as well as alert other health facilities. The PPB additionally has an e-reporting system that counties and health facilities can use to report quality issues. The PTC further re-evaluates the supplier,

disqualifies the supplier from future procurements, withholds payments, and works to replace the supplies.

Interviews were also held with pharmacists and personnel responsible for the management of medicines at the SDPs since they are the first to inspect medicines and identify quality assurance issues. All the informants indicated visually inspecting supplies upon receipt to ensure the supplier has met the specifications. They check for correct quantities, formulation, packaging and expiry dates. If the product does not meet quality standards, they are not included as inventory and quarantined, and samples may be sent to the sub-county or county pharmacist for further action. The respondents also confirmed the processes indicated by the PTCs: they report quality issues to the county by making comments on delivery notes and by submitting a discrepancy form and the PPB form.

None of the sites indicated experiencing any quality issues with tracer MNCH medicines; however, one county reported that the PPB issued a recall on heat-stable oxytocin due to efficacy concerns. Additionally, the medicine was not replaced and was reported as being out of stock for two to four months at the CRH and SCH during this time period.

Procurement Prices

Data on the procurement prices of tracer MNCH medicines were collected from the county pharmacist and PTCs at the county level. The county pharmacist from Elgeyo-Marakwet provided documentation on the orders placed to KEMSA and MEDS for the last two fiscal years; procurement prices from the most recent fiscal year, 2016, were used for comparison. Procurement prices indicated for the commercial sector were taken from the 2015 Market Price Index list developed by the PPOA for all commercial goods; for the medicines not found in the Market Price Index, the procurement price was provided by the county that procured the medicine.[11]

As expected, procurement prices found in the commercial sector are comparable, if not higher, than the prices of medicines at KEMSA or MEDS, depending on the medicine. For the majority of MNCH medicines, KEMSA prices are the lowest and less than the international median price for the medicine. Procurement prices for MEDS, however, can be higher than the international median price and sometimes even higher than the median prices found in the commercial sector, such as for misoprostol and dexamethasone. Table 10 shows the procurement prices of MNCH medicines at KEMSA, MEDS, and the commercial sector as compared to the international median price.

[11] PPOA. Market Price Index. June 2015; http://www.ppoa.go.ke/images/downloads/procurement-journal/Market%20Price%20Index%20June%202015.pdf

Table 10. Procurement prices for MNCH medicines by source of medicine and international median price

Tracer medicine	Unit	Medicine procurement price, per unit (USD)			
		KEMSA	MEDS	Commercial sector	International median price
Oxytocin 10 IU	Amp	0.17	0.25	0.24	0.17
Magnesium sulfate 500 mg/ml	Per ml	0.12	0.18	0.45	0.12
Misoprostol 200 mcg	Pack (30 tab)	Not supplied by KEMSA	4.69 (0.16/tab)	4.54 (0.15/tab)	6.00 (0.20/tab)
Gentamicin 10 mg/ml	Amp	0.09	0.10	0.07	0.09
Gentamicin 40 mg/ml	Amp	0.09	0.13	Not available	0.06
Dexamethasone	Amp	0.13	0.15	0.10	0.10
Amoxicillin	Bottle	0.34	0.31	0.45	0.94
Zinc sulfate 20 mg DT	100 tabs	1.28 (0.013/tab)	1.05 (0.011/tab)	4.62 (0.046/tab)	9.00 (0.09/tab)
ORS-zinc co-pack	Co-pack	0.29	0.39	Not available	0.54

DISCUSSION

The primary goal of devolution in Kenya is to enhance equity in resource allocation and improve service delivery, especially for those in rural areas, through the formation of 47 autonomous counties. This shifted the responsibility for provision of health services to the county, specifically the CHDs. With regard to pharmaceutical management, although the national level continues to be responsible for procuring medicines for vertical health programs, such as malaria, TB, and HIV/AIDS, the county governments procure all other medicines. County health systems can better allocate resources and geographically target interventions and thereby be more responsive to the health needs within their county, especially if it is different than the national health situation.

However, despite some advancement, challenges continue to inhibit progress in achieving the country's goal of reducing maternal and child deaths. Maternal and child mortality rates remain too high in many counties, and access to essential MNCH medicines is limited. While the country has invested heavily in improving the supply chain for medicines, disparities continue to exist between counties. The purpose of this assessment was to understand the challenges counties are facing in procuring health commodities and identify key recommendations to strengthen local procurement practices, specifically focusing on MNCH commodities.

Overall, the assessment found that availability of MNCH medicines varies depending on the county and is limited at not only at the lower levels of the system, but also at tertiary-care hospitals. For example, one CRH did not have amoxicillin available the day of the visit and one SCH did not have oxytocin and amoxicillin available.

Weak or no monitoring and reporting on the availability of MNCH medicines further complicates quantifying medicine needs and ensuring that enough medicines are being procured. None of the county pharmacists and sub-county pharmacists regularly monitor and report on the availability of MNCH medicines. Discrepancies were found between the availability data collected at the county level versus the data collected at the SDPs. According to one county pharmacist, there were no stock-outs of any of the tracer MNCH medicines during FY 2014-2015; however, according to the sub-county pharmacist and SDPs within the same county, there was a stock-out of up to 120 days of oxytocin within the sub-county under his purview, and the average number of days of stock was found to be150 days at the three SDPs visited.

The primary sources of medicines are KEMSA and MEDS, which was expected, however, there is a small amount of procurement from prequalified suppliers as well as local procurement by the CRHs. However, procurement done at the facility level is not communicated to the county pharmacist, and it is unclear if this lack of communication is being reported. Similarly, redistribution of MNCH commodities was common in all the counties, but this is also not communicated or reported to the county pharmacist.

The lack of reporting on availability, local procurement by health facilities, and redistribution of commodities also has an impact on quantification, particularly forecasting medicine needs, and thereby the procurement of MNCH medicines, which is done at the county level. Quantification

is based primarily on past consumption, distribution, and expenditures on health. In fact, forecasts from 2014 are being used as counties have not been formally quantifying medicine needs. Even though the HCSM Program supported development of quantification handbooks at the national level, and public health programs, such as HIV/AIDS, malaria, and FP, have developed their own national-level guidelines, there is no specific guidance or SOP on how medicines should be forecasted at the county level. Although the handbooks have been disseminated to counties (and counties can adapt the handbooks for their own quantification), each county has its own methods and procedures; there is no standardization across the counties for quantification, which ultimately has an impact on the budget cap placed on health facilities when ordering medicines from KEMSA or MEDS.

Counties enter into a memorandum of understanding with KEMSA and MEDS for medicine procurement and have a list of prequalified suppliers, which is updated annually. When procuring medicines from the commercial sector, only prequalified suppliers can be used. Procurement, from the tendering process to supplier selection, is done when procuring medicines from this group. Overall, procurement practices, as indicated by the PTCs, are mostly in line with national policies and internationally recommended good practices; however, the challenge is related to quantification and guidelines. Also, because hospitals, and perhaps other lower-tier health facilities, are procuring medicines, it is crucial that these practices be assessed as this is not being monitored by the county government or CHD.

Additionally, product specifications are not standardized across the counties or even between medicines. For example, storage conditions for oxytocin are often not indicated and for many medicines, neither is the shelf-life. If not specified, suppliers cannot be held accountable, and the quality of the medicine becomes questionable.

Requiring counties to procure medicines primarily from KEMSA and MEDS is a strategy to ensure that affordable and quality medicines are being procured. A review of procurement prices indicates that medicines procured from KEMSA are often cheaper than procuring from MEDS or the commercial sector, and are also less than the international median price. Although procurement practices at the health-facility level is of concern, the major challenge in ensuring continuous availability and equitable access to quality MNCH medicines is ensuring the appropriate amounts are budgeted for and procured, processes and practices are standardized across counties, and pharmaceutical management information systems are providing the necessary data for decision making.

RECOMMENDATIONS

Strengthen pharmaceutical information systems and reporting procedures to provide the data needed for robust forecasting and supply planning. Availability of quality data on MNCH medicines is essential to ensuring that the supply management system is efficient and responsive to the needs at the SDPs. Strengthening the Logistics Information Management System (LMIS) will ensure that procurement and budgeting decisions are made based on evidence and actual need versus financial resources. In fact, this data can be used to advocate for additional resources and the equitable distribution of resources among health facilities.

DHIS-2 in Kenya has recently included an LMIS module to reflect logistics data at the health-facility level. This could be expanded to include MNCH medicines and key data points that can be used to appropriately quantify medicine needs as well as respond to any stock-outs. Strengthening information systems also requires ensuring the reporting SOPs and processes are institutionalized and regularly monitored, roles and responsibilities are clearly defined, and data is actually used for decision making.

Improve the capacity of staff members at the local level to manage procurement processes. Improving the capacity of personnel to manage procurement processes, including quantification, requires developing county and facility-level guidelines and tools and ensuring that staff are trained regularly. The guidelines and SOPs must further be standardized across the counties and monitored not only by the county governments, but also by the national level.

After devolution, the role of the MOH is mostly that of leadership to provide guidelines, SOPs, and tools to the CHDs. The MOH can work with counties in standardizing processes and tools not only for quantification but also for budgeting health commodities and determining health-facility medicine budgets, which directly impact procurement and ordering medicines.

Improve coordination between the national and county levels—and even between counties. Since devolution, there is an apparent lack of coordination between entities at the national level, such as the MOH, MNCH Commodity Working Group, the Health and Biotechnology Subgroup of the Council of Governors (COG), and the CHDs. While the MOH and the CHD have clear and distinct roles under the devolved system, coordination between the two is limited, especially with regard to commodities. Similarly, because the MNCH Commodity Working Group and the COG's Health and Biotechnology Subgroup are newly formed, it is unclear as to what their respective roles are and how the groups can be utilized to strengthen local procurement practices, LMIS, and generally, the availability of MNCH medicines. Also, challenges vary across counties, and how these challenges are addressed or circumvented is left entirely up to the county governments. Counties should coordinate and share experiences on what mechanisms have been instituted to ensure medicines are continuously available.

ANNEX A. LIST OF ALL INFORMANTS INTERVIEWED

- Dr. Jonah Maina, FP Program Manager and Commodity Manager, Reproductive and Maternal Health Services Unit, MOH
- Dr. Kiprop Gideon, County Pharmacist, Elgeyo Marakwet County
- Jacob Kimutai, Supplies Officer, Elgeyo Marakwet County
- Mercy Chumo, Matron, Elgeyo Marakwet County
- Dr. Brian Kipketer, Sub-County Pharmacist, Elgeyo Marakwet County
- Daniel Bett, Registered Clinical Officer, Kapteren Health Center, Elgeyo Marakwet County
- Dr. Ayub Misiani, County Pharmacist, Kakamega County
- Dr. Sikwata Sarafina, Senior Pharmacist/Sub-County Pharmacist, Kakamega County
- Vincent Munana, Pharmacist in Charge, County Referral Hospital, Kakamega County
- Dr. Johnson Masese; Pharm Technologist, County Referral Hospital, Kakamega County
- Vincent Odiga, Pharmaceutical Technologist, Elwesero Health Center, Kakamega County
- Dr. Benard Makenzi, County Pharmacist, Kwale County
- Dr. Noreen Zecha, Sub-County Pharmacist, Kwale County
- Dr. S. Panchal, Pharmacist, Msambweni County Referral Hospital, Kwale County
- Mr. John Cephas Ndugi, Pharmaceutical Technologist, Sub-County Hospital, Kwale County
- Mr. Joseph A Mache, Pharmaceutical Technologist, Tiwi Rural Health Training Center, Kwale County

ANNEX B. PROCUREMENT ASSESSMENT TOOL−FORM A-1

Form A-1: Procurement Practices Tool

Data Collection Tool for County Procurement and Tender Committee:

- **Procurement and Tender Committee members responsible for the quantification and procurement of medicines**
- **Health Department representative**
- **County Pharmacist**

Purpose and Objectives:

A methodology and set of tools have been developed to facilitate the investigation of the sources of essential maternal, newborn and child health (MNCH) commodities at the sub-national level, and where relevant, the practices employed to procure these commodities. The purpose of this assessment is **to provide a snapshot as to the practices employed at sub-national levels to ensure the availability of MNCH commodities and identify options for the government to increase access to these commodities through improved procurement practices and more efficient use of existing funds.**

Specifically, the objectives of this assessment are:

- To understand the procurement practices being employed at the county levels for essential MNCH commodities and compare those practices to national and international standards and guidelines;
- To measure the availability of essential MNCH commodities at select storage and health care facilities and the source(s) of those commodities; and
- To develop recommendations and options for strengthening local procurement practices and overall procurement strategies in order to improve access to quality maternal health commodities.

Tracer Medicines:

In conjunction with the Kenya Ministry of Health and Division of Reproductive Health, a total of seven essential MNCH commodities have been selected for investigation. These commodities prevent and treat the leading causes of maternal, newborn and child deaths: post-partum hemorrhage, pre-eclampsia/ eclampsia, newborn sepsis, pneumonia and diarrhea.

Table 3: Tracer list of essential Maternal, Newborn and Child Health Commodities

Category	Medicine and Formulation	Medical Condition
Maternal Health	Oxytocin, 10 IU	Post-partum hemorrhage
	Misoprostol 200 micrograms	
	Magnesium Sulphate, 500mg/ml (50%) in 10ml amp	Pre-eclampsia and eclampsia
Newborn Health	Gentamicin, 10mg/ml in 2ml vial Gentamicin, 40mg/ml in 2ml vial	Newborn sepsis
	Dexamethasone, 4mg/ml in 1ml amp (phosphate disodium salt)	Complications of preterm birth: severe respiratory distress syndrome, intra-ventricular hemorrhage, perinatal death)
Child Health	Amoxicillin 125 mg/ 5 ml (PFOL)	Pneumonia
	Zinc Sulphate 20 mg dispersible tablet	Diarrhea

Data Collection:

Data collection tool:

Data will be collected in the following areas:

- **Section 1**: General Information
- **Section 2**: Quantification
- **Section 3**: Procurement
  - 3.1: Guidelines
  - 3.2: Product Specifications
  - 3.3: Tender Process and Supplier Selection
  - 3.4: Supplier Performance and Quality Assurance
- **Section 4**: Financing
- **Section 5**: Challenges and Recommendations

Documentation:

Copies of relevant forms, documents, tools or any other supporting documentation will be collected such as:

- Tender documents
- Procurement guidelines/manuals/SOPs
- Quantification guidelines/manuals/SOPs
- Quantification/ forecasting tool
- Budget information
- Requisition forms, delivery receipts
- Forms used for any given donations
- Stock registers
- Supplier performance reporting forms/ reports
- Quality assurance reporting forms/ reports

Section 1: General Information

1.	Date:	
2.	Interviewer:	
3.	County:	
4.	Name of Entity/Department:	☐ Procurement and Tender Committee ☐ County Health Department ☐ County Pharmacist ☐ Other:_____
5.	Respondent Name (s):	
6.	Respondent title (s):	
7.	Number of years/ months working in this department or position:	
8.	How long has the Procurement and Tender Committee been procuring maternal, newborn and child health medicines for the county?	

Section 2: Quantification

1.	**Do you calculate maternal, newborn and child health medicines needs?** **Mark each medicine for which medicine forecasting is done*	☐ Oxytocin ☐ Misoprostol ☐ Magnesium sulfate ☐ Gentamicin ☐ Dexamethasone ☐ Amoxicillin ☐ Zinc sulphate ☐ All medicines
2.	**If yes, how often are needs estimated?**	☐ Quarterly ☐ Semi-annually ☐ Annually ☐ Other, indicate how often: _____
3.	**Who is responsible for estimating needs?**	
	a. Department: *b. Name and title of lead person (s):*	
4.	**Is there a standardized process for estimating medicine needs?**	☐ Yes ☐ No
	a. If yes, is this process documented? If so, collect a copy.	☐ Yes, collect a copy ☐ No
5.	**Are there guidelines or SOPs for estimating medicine needs?** *If yes, collect a copy*	☐ Yes, collect a copy ☐ No
6.	**Are there guidelines or SOPs for estimating, specifically, MNCH medicine needs?** *If yes, collect a copy*	☐ Yes, collect a copy ☐ No

7.	**Can you provide me with a copy of the tool or calculation sheet that was used for the quantification of MNCH medicines for FY 2014-2015?** **Mark yes if copy of Tool or calculation sheet is provided. If unable to provide, indicate why.*	☐ Yes ☐ No Reason:_____
8.	**Have you received any training in quantification?**	☐ Yes ☐ No
	a. If yes, how often?	☐ Quarterly ☐ Semi-annually ☐ Annually ☐ Other, indicate how often: - _____
	b. When was the last training?	

Medicine Forecasting Process:

9.	When do you begin estimating medicine needs for MNCH medicines? *Ask for FY 2014-2015, when did you begin determining medicine needs for MNCH? *Indicate month.*	
10.	Do you collect information on medicines from the county and sub-county level facilities to inform the forecasting process?	☐ Yes ☐ No *If yes continue to next question. If no, skip to question
11.	Who is responsible for collecting this information?	
12.	Is this information submitted regularly? If so, how often?	☐ Yes, how often: _____ ☐ No
13.	Who is responsible for submitting this data at the facility levels?	
14.	What do you do once you receive the data from the facilities? Please describe the process on how the data is used to estimate medicine needs, how the data is consolidated, and how they arrive at the final estimate for each medicine.	
15.	Is this the final number that you procure?	☐ Yes ☐ No
16.	**If not**, what changes do you make to the estimated need and why? **For example, the county may not procure the complete amount that is needed because of budget constriction, expectations for donations, etc.*	

17.	Do you take into account stock data in your calculations?	☐ Yes ☐ No
	a. Do you consider stock on hand when estimating needs?	☐ Yes ☐ No
	b. Do you account for/make adjustments for any stock outs that occurred in the previous year?	☐ Yes ☐ No
	c. Do you consider buffer/ safety stock?	☐ Yes ☐ No

18. **At what levels and facilities are data collected for estimating medicine need? What types of data are collected and who is responsible for collecting it?**

**Indicate the level, type of facility and type of data*

Health system level	Facility type	Data type
County		
Sub-county		
Community		

19. **What are the medicine specific data used to determine your county's MNCH medicine needs?**
*Instructions: First ask each question for Oxytocin and proceed by asking "Is this the same for misoprostol" and "Is this the same for magnesium sulfate", and so forth.

	Oxytocin (Y/N)	**Misoprostol (Y/N)**	**Magnesium sulfate (Y/N)**	**Gentamicin (Y/N)**	**Dexamethas-one (Y/N)**	**Amoxicillin (Y/N)**	**Zinc sulphate (Y/N)**
Past Consumption/ Distribution Data							
a. Did you request quantities based on how much was consumed the prior year?							
b. Did you request quantities based on past distribution?							
Health Facility Data/ Service Data							
c. Hospital/ health facility data on cases of PPH or PE/E? **For MH medicines only*							
d. Number of beds in the facility							
e. Number of registered patients							
f. Other							
Morbidity Data							
g. Maternal morbidity data based on national or district level health data							
h. Maternal mortality data based on national or district level health data							
i. Other							
Demographic Data							
j. Population							
k. Population growth rate							
l. Birth rate							
m. Other							

19. **What are the medicine specific data used to determine your county's MNCH medicine <u>needs</u>?**
*Instructions: First ask each question for Oxytocin and proceed by asking "Is this the same for misoprostol" and "Is this the same for magnesium sulfate", and so forth.

	Oxytocin (Y/N)	**Misoprostol (Y/N)**	**Magnesium sulfate (Y/N)**	**Gentamicin (Y/N)**	**Dexamethas-one (Y/N)**	**Amoxicillin (Y/N)**	**Zinc sulphate (Y/N)**
Stock Data							
n. **Do you consider stock on hand when estimating needs?**							
o. **Do you account for/make adjustments for any stock outs that occurred in the previous year?**							
p. **Do you consider buffer/ safety stock?**							

Section 3: Procurement

3.1. Guidelines

1.	Within the Procurement and Tender Committee, who are responsible for procuring medicines?	
	a. Department: b. *Name and title of lead person (s):*	
2.	In regards to medicines, what are the responsibilities of the committee? *Mark all that apply.*	☐ Drug selection ☐ Quantification/ forecasting of needs ☐ Determining procurement quantity ☐ Preparing tender documents ☐ Supplier selection (evaluating bids and final selection) ☐ Approval of specifications (product description, packaging and labeling and quality assurance standards)
3.	*a. How often does the committee meet?*	- Quarterly - Semi-annually - Annually - Other, indicate how often: - _____
	b. When did the committee meet last?	
4.	Have you received any training on procurement procedures?	☐ Yes ☐ No
	a. If yes, how often are the trainings?	- Quarterly - Semi-annually - Annually - Other, indicate how often: - _____
	a. When was the last training?	
5.	Are there standard operating procedures or guidelines for procuring medicines?	☐ Yes ☐ No
	a. If yes, ask the respondent to show you a copy of the guidelines. Is the copy of the guidelines available?	☐ Yes ☐ No, why: _____

6.	**Details for the SOPs/ guidelines** **If there is a copy on hand, record each of the following. If not, only ask about the source.*	
	a. Title:	
	b. Year:	
	c. Source: **For other, indicate,* for example, Save the Children, EngenderHealth, WHO, UNFPA, etc.	☐ MoH ☐ Other: _____
7.	**Contents of the guidelines.** **If you have a copy of the guidelines then mark all that apply. If they are unable to show or give you the guidelines or able to refer to guidelines you are unable to obtain a copy of, then ask what topics are covered in the SOPs or guidelines*	☐ Estimating needs ☐ Bidding ☐ Tendering ☐ Evaluating and selecting suppliers ☐ Other topics:

3.2. Product Specifications

We will now ask questions related to the technical specifications of the tracer MNCH medicines- oxytocin, misoprostol, magnesium sulfate, gentamicin, dexamethasone, amoxicillin and zinc sulphate. **Ask for a copy of the tender documents for the tracer medicines.**		
1.	Copy of the tender specifications received for:	☐ Oxytocin ☐ Misoprostol ☐ Magnesium sulfate ☐ Gentamicin ☐ Dexamethasone ☐ Amoxicillin ☐ Zinc sulphate
2.	Do the tender documents contain specifications for the MNCH commodities?	☐ Yes ☐ No
	a. If yes, what are they based on?	☐ MoH agency: _____ ☐ International guidelines ○ *WHO* ○ *US Pharmacopeia* ☐ Recommendations/criteria determined by lead pharmacist/medical officer in the facility ☐ Other: _____
3.	Do the tender documents contain product specifications?	☐ Yes ☐ No

4.	If yes, what types of information is included in the product specifications? Mark all that apply:	☐ Quantity ☐ Formulation ☐ Storage conditions ☐ Shelf-life ☐ Packaging ☐ Pre-shipping and shipping

5. Indicate the product specification used for each of the tracer medicines.
*****_If the formulation that is procured different from the tracer medicines (indicated in table below) then indicate the formulation that is procured by the county for MNCH use and why it is different than what is on the National Essential Medicines List._

Medicine	Specification
Oxytocin	
Formulation	10 IU
Storage	
Shelf-life	
Packaging	
Pre-shipping and shipping	
Misoprostol	
Formulation	200 micrograms
Storage	
Shelf-life	
Packaging	
Shipping and pre-shipping	
Magnesium sulfate	
Formulation	500mg/ml (50%) in 10ml amp
Storage	
Shelf-life	
Packaging	
Pre-shipping and shipping	
Gentamicin	
Formulation	• 10mg/ml in 2ml vial • 40mg/ml in 2ml vial
Storage	
Shelf-life	
Packaging	
Pre-shipping and shipping	
Dexamethasone	
Formulation	4mg/ml in 1ml amp (phosphate disodium salt)
Storage	
Shelf-life	
Packaging	
Pre-shipping and shipping	

5. Indicate the product specification used for each of the tracer medicines.
******If the formulation that is procured different from the tracer medicines (indicated in table below) then indicate the formulation that is procured by the county for MNCH use and why it is different than what is on the National Essential Medicines List.*

Medicine	Specification
Amoxicillin	
Formulation	• 125 mg/ 5 ml (PFOL) • 250 mg cap/ tablet
Storage	
Shelf-life	
Packaging	
Pre-shipping and shipping	
Zinc Sulfate	
Formulation	20 mg dispersible tablet
Storage	
Shelf-life	
Packaging	
Pre-shipping and shipping	

3.3. Tender Process and Supplier Selection

1.	Are there SOPs or guidelines for bidding and evaluating suppliers either in general or specifically for MNCH health medicines?	☐ Yes ☐ No
	a. If yes, please provide a copy if different than the procurement guidelines already given.	☐ Yes ☐ No
2.	Are there standard bidding documents either in general or for MNCH commodities?	☐ Yes ☐ No
	If yes, list out all documents used for tender/ bidding process and collect examples of each: a. b. c. d. e.	
3.	Within the Procurement and Tender Committee, who is responsible for the bidding/ tender process for medicines?	
	a. Department: *b. Name and title of lead person (s):*	
4.	How often is procurement of medicines done?	☐ Monthly ☐ Quarterly ☐ Annually ☐ Other:_____

Tender Process:

5.	When the procurement committee meets, what is done to prepare for the tender process?	
6.	How do you determine the quantities of each MNCH medicine to procure? For example, is there a standardized process for this or any guidelines?	
7.	When you have determined how much is needed for direct procurement, what do you do next?	
	a. Do you issue a Request for Quotes (RFQ)? *If so, please give us a copy / example of the RFQ that was done for Oxytocin or any other tracer medicine.*	☐ Yes, *collect a copy*. ☐ No
	b. Please describe the Tender. bidding process, step-by-step, and who is responsible for each step:	
	c. Generally, when is the RFQ issued?	

8. Do local procurement procedures follow good pharmaceutical procurement practices? Indicate all that apply (Y/N) and NA for those not applicable:	
Procurement Practices	**(Y/N)**
Procurement by generic name (INN, specifies quality standards not specific brands)	
Procurement limited to EML or formulary list (selects safe, effective and cost effective drugs; if not, uses formal approval procedures)	
Procurement in bulk	
Formal supplier qualification and monitoring (based on drug quality, reliability of services etc.; approve suppliers before tendering [prequalification] or after [post-qualification])	
Competitive procurement (i.e. competitive bidding, use only selected supplies for restrictive tenders and evaluate suppliers if open tenders)	
Sole-source commitment (i.e. all contracted goods come from selected suppliers)	
Orders quantities based on reliable estimate of need	
Reliable payment and good financial management (prompt payments made)	
Transparency and written procedures	
Separation of key functions	
Product quality assurance program(sending samples to laboratory)	
Annual audit with published records (i.e. to show compliance with procurement procedures)	
Regular reporting on procurement performance	

Supplier Selection Process:

9.	In general, what is the time frame for when you have sent an RFQ/ advertisement and received the quotes and documents from the suppliers? *Indicate number of months.*	
10.	How do you decide which suppliers to select?	
11.	Is there a pre-selected list of suppliers?	☐ Yes ☐ No
12.	If yes, who gave you the pre-selected list of suppliers? *Collect a copy of this list.*	
13.	Do you do a competitive assessment for suppliers?	☐ Yes ☐ No
	a. What is the criteria you use for this? *Collect a copy of the competitive statement for the last procurement*	
14.	In general, how long does it take to select the supplier?	

15. What are the criteria by which suppliers are evaluated and selected? *Mark 'NA' for those procedures that are not applicable for Kenya.	
Criteria	**(Y/N)**
Supplier uses Good Manufacturing Practices (GMPs)	
Certification documents from regulatory agency regarding supplier status and compliance with GMPs	
References from other local or foreign public procurement offices or hospitals regarding supplier's quality and service	
Financial status of the supplier (i.e. financial stability, will the supplier remain in existence for the entire procurement period?)	
Reputation of the supplier (i.e. among knowledgeable physicians/ pharmacists; information from public sources concerning supplier's performance locally or in other countries)	
Past performance:	
Participation record (has the supplier previously failed to deliver product or dropped bids?)	
Response to inquiries (supplier responds to all inquiries and provides regular information on status of outstanding orders)	
Delivery time (delivers on time, lead time for last procurement, % of late shipments and additional costs incurred)	
Adherence to deliver instructions	
Provision of all documents at the time of delivery	
Packaging and labeling (correct dosage form, correct quantity and package size, labeling complete and adequate for proper use, language)	

15. What are the criteria by which suppliers are evaluated and selected? *Mark 'NA' for those procedures that are not applicable for Kenya.	
Criteria	**(Y/N)**
Product shelf-life (meets contractual terms, replaced products or returned credit for those that did not meet specifications)	
Compliance with financial terms	
Quality standards (meets specifications, batch analysis provided, product quality, meets packaging standards)	

16. Generally, and for the tracer medicines, have you had the following issues identifying a supplier?		
Medicine	**Issues with Supplier Selection**	
	Have you ever encountered problems identifying a supplier with sufficient quantities? (Y/N)	Have there been any issues with supplier performance? (Y/N) *If yes, please describe:*
General (for any medicines)		
Oxytocin		
Misoprostol		
Magnesium Sulphate		
Gentamicin		
Dexamethasone		
Amoxicillin		
Zinc Sulphate		

17.	When do you pay the supplier?	
18.	How long does it take for you to make the payment to the supplier?	
19.	Are there any procedures done prior to payment to the supplier?	☐ Yes ☐ No
	a. If yes, what are the procedures for making payment to the supplier?	
	b. Are payments generally made on time to the supplier?	☐ Yes ☐ No
	c. Have you ever encountered a situation where the payment was not made on time? *If so, please describe this instance.*	☐ Yes, please describe:_____ ☐ No

3.4. Supplier Performance and Quality Assurance

1.	Does the supplier deliver directly to the service delivery points?	☐ Yes ☐ No
	a. If yes, how do you track delivery of the medicines to the service delivery points?	
2.	What is the mechanism for facilities to report issues with suppliers such as late delivery, insufficient quantity, etc? *Describe the reporting process from the facility level, to the county level and if relevant, national level.*	
3.	What action is taken when a supplier issue is reported?	
	a. Is a report or form filled out? *If so, collect a copy or example.*	
4.	What is the mechanism for facilities to report **quality issues** with the medicines that were supplied? These include poor storage conditions or packaging, expired products, broken vials, etc. *Describe the reporting process from the facility level, to the county level and if relevant, national level.*	
5.	What action is taken when quality issues have been identified by facilities?	
	a. What procedures are done at the facility level?	
	b. Is a report or form filled out? *If so, collect a copy or example.*	
	c. What does the Procurement and Tender Committee do? What actions are taken?	
	d. Is this reported to the national level? If so, to who?	
	e. Within the county Procurement and Tender Committee, who is responsible for this process?	
6.	Are the availability of commodities tracked at the county level?	☐ Yes ☐ No
7.	If yes, who is responsible tracking health commodities?	
	a. Department: *b. Name and title of lead person (s):*	

8.	Are MNCH commodities specific ally tracked?	☐ Yes ☐ No
9.	When tracking the availability of medicines in your county, how do you account for medicines considered as of "bad quality" delivered by the supplier?	
10.	For any of the tracer medicines, have you ever encountered quality issues reported by the facilities? If so, please describe	

11. Price of medicines procured locally.
**Ask to see the invoices from FY 2014-2015 and record the formulation, unit (amp/ vial, tablet) and procurement price per unit.*
**Ask if the costs include CIF* (cost, insurance and freight); note that "freight" in regards to local procurement is similar to any transportation costs.

Medicine	Formulation	Unit	PROCUREMENT PRICE PER UNIT FY 2014-2015				
			KEMSA	MEDS	Commercial sector	CIF (Y/N)	International median price
Oxytocin	*10 IU*						
Misoprostol	*200 micrograms*						
Magnesium sulfate	*500mg/ml (50%) in 10ml amp*						
Gentamicin	*10mg/ml in 2ml vial*						
	40mg/ml in 2ml vial						
Dexamathasone	*4mg/ml in 1ml amp (phosphate disodium salt)*						
Amoxicillin	125 mg/ 5 ml (PFOL)						
Zinc Sulphate	*20 mg dispersible tablet*						

Section 4: Financing

1.	Is the county budget developed at the county level or national level?	
2.	Who develops the budget?	
3.	How often is the budget developed?	☐ Monthly ☐ Quarterly ☐ Annually ☐ Other:_____
4.	What is the role of the Procurement and Tender committee in the county budget development process?	
5.	How do you develop the budget specifically for medicines?	
6.	Describe the approval process for the budget: - Record details from the all levels of the system, including any county level approvals to national level approvals. - Who needs to approve	
7.	What are the major challenges in developing the budget for medicines and getting approvals?	

8. Collect a copy of the FY 2014-2015 Budget and fill out the below budget information table:

	County: _____
Budget Period	**FY 2014-2015**
Total Budget	
Total budget for all medicines, only	
Total budget allocated for medicines ordered from KEMSA (if applicable)	
Total budget allocated for medicines ordered from MEDS (if applicable)	
Total budget allocated for medicines ordered from other suppliers (if applicable)	
Total budget allocated for the tracer MNCH medicines	
Of this, how much was allocated for the tracer medicines:	

Oxytocin	
Misoprostol	
Magnesium Sulphate	
Gentamicin	**10 mg:** **40 mg:**
Dexamethasone	
Amoxicillin	
Zinc Sulphate	
Total budget for local procurement of medicines	
How much was spent on the procurement for:	
Oxytocin	
Misoprostol	
Magnesium Sulphate	
Gentamicin	**10 mg:** **40 mg:**
Dexamethasone	
Amoxicillin	
Zinc Sulphate	

Section 5: Challenges and Recommendations

1.	**Do you prefer to handle procurement of MNCH commodities at local level? Why?**	
2.	**What have been the greatest challenges in procuring MNCH commodities at the local level?**	
3.	**Would you prefer more MNCH commodities to be supplied from central level? Why?**	
4.	**What can be done to improve the procurement process?**	
5.	**What can be done to improve availability of MNCH commodities?**	

ANNEX C. PROCUREMENT ASSESSMENT TOOL−FORM A-2

Form A-2: Commodity Data

Data Collection Tool for County Procurement and Tender Committee:

- **Procurement and Tender Committee members responsible for the quantification and procurement of medicines**
- **Health Department**
- **County Pharmacist**

Tracer Medicines:

Table 4: Tracer list of essential Maternal, Newborn and Child Health Commodities

Category	Medicine and Formulation	Medical Condition
Maternal Health	Oxytocin, 10 IU	Post-partum hemorrhage
	Misoprostol 200 micrograms	
	Magnesium Sulphate, 500mg/ml (50%) in 10ml amp	Pre-eclampsia and eclampsia
Newborn Health	Gentamicin, 10mg/ml in 2ml vial Gentamicin, 40mg/ml in 2ml vial	Treatment of newborn sepsis
	Dexamethasone, 4mg/ml in 1ml amp (phosphate disodium salt)	Complications of preterm birth: severe respiratory distress syndrome, intra-ventricular hemorrhage, perinatal death)
Child Health	125 mg/ 5 ml (PFOL)	Pneumonia
	Zinc Sulphate 20 mg dispersible tablet	Diarrhea

Data Collection:

Data collection tool:

Data will be collected in the following areas:

- **Section 1**: General Information
- **Section 2**: Sources of Medicines and Availability

Documentation:

Copies of relevant forms, documents, tools or any other supporting documentation will be collected such as:

- Quantification/ forecasting tool
- Requisition forms, delivery receipts
- Forms used for any given donations
- Stock registers

Section 1: General Information

9.	Date:	
10.	Interviewer:	
11.	County:	
12.	Name of Entity/Department:	☐ Procurement and Tender Committee ☐ County Health Department ☐ County Pharmacist ☐ Other:_____
13.	Respondent Name (s):	
14.	Respondent title (s):	
15.	Number of years/ months working in this department or position:	
16.	How long has the Procurement and Tender Committee been procuring maternal, newborn and child health medicines for the county?	

Section 2: Sources of Medicines and Availability

1. **During the 2014-2015 fiscal year (July 2014- June 2015), did the procurement and tender committee procure <u>maternal health medicines</u> from the following sources:**

	Oxytocin (10 IU)	**Misoprostol** (200 micrograms)	**Magnesium sulfate** (500mg/ml (50%) in 10ml amp)
	FY 2014-2015	**FY 2014-2015**	**FY 2014-2015**
Total actual estimated need:			
Did you procure medicines from the Kenya Medical Supplies Authority (KEMSA) within the last fiscal year? (Y/N)			
If yes, how much did you procure?			
How much did you receive?			
Did you procure medicines from the Mission for Essential Drugs and Supplies (MEDS) within the last fiscal year? (Y/N)			
If yes, how much did you procure?			
How much did you receive?			

	Oxytocin (10 IU)	**Misoprostol** (200 micrograms)	**Magnesium sulfate** (500mg/ml (50%) in 10ml amp)
	FY 2014-2015	**FY 2014-2015**	**FY 2014-2015**
Did you procure medicines from the commercial sector within the last fiscal year? (Y/N)			
If yes, how much did you procure?			
How much did you receive?			
Did you receive any donations directly from donors at the county level within the fiscal year? (Y/N)			
If yes, how much did you receive?			
Total amount received [Total received from KEMSA + Total received from MEDS + Total received from commercial supplier + Total received from Donations]			
Percent of medicines received of the estimated need [(Total amount received/ Total estimated need)*100]			

2. **During the 2014-2015 fiscal year (July 2014- June 2015), did the procurement and tender committee procure <u>newborn health medicines</u> from the following sources:**

	Gentamicin (10mg/ml in 2ml vial)	**Gentamicin** (40mg/ml in 2ml vial)	**Dexamethasone** (4mg/ml in 1ml amp)
	FY 2014-2015	**FY 2014-2015**	**FY 2014-2015**
Total actual estimated need:			
Did you procure medicines from the Kenya Medical Supplies Authority (KEMSA) within the last fiscal year? (Y/N)			
If yes, how much did you procure?			
How much did you receive?			
Did you procure medicines from the Mission for Essential Drugs and Supplies (MEDS) within the last fiscal year? (Y/N)			
If yes, how much did you procure?			
How much did you receive?			
Did you procure medicines from the commercial sector within the last fiscal year? (Y/N)			

	Gentamicin (10mg/ml in 2ml vial)	**Gentamicin** (40mg/ml in 2ml vial)	**Dexamethasone** (4mg/ml in 1ml amp)
	FY 2014-2015	**FY 2014-2015**	**FY 2014-2015**
If yes, how much did you procure?			
How much did you receive?			
Did you receive any donations directly from donors at the county level within the fiscal year? (Y/N)			
If yes, how much did you receive?			
Total amount received [Total received from KEMSA + Total received from MEDS + Total received from commercial supplier + Total received from Donations]			
Percent of medicines received of the estimated need [(Total amount received/ Total estimated need)*100]			

3. **During the 2014-2015 fiscal year (July 2014- June 2015), did the procurement and tender committee procure <u>child health medicines</u> from the following sources:**

	Amoxicillin 125 mg/ 5 ml (PFOL)	**Zinc sulphate** 20 mg dispersible tablet
	FY 2014-2015	**FY 2014-2015**
Total actual estimated need:		
Did you procure medicines from the Kenya Medical Supplies Authority (KEMSA) within the last fiscal year? (Y/N)		
If yes, how much did you procure?		
How much did you receive?		
Did you procure medicines from the Mission for Essential Drugs and Supplies (MEDS) within the last fiscal year? (Y/N)		
If yes, how much did you procure?		
How much did you receive?		
Did you procure medicines from the commercial sector within the last fiscal year? (Y/N)		
If yes, how much did you procure?		
How much did you receive?		
Did you receive any donations directly from donors at the county level within the fiscal year? (Y/N)		
If yes, how much did you receive?		
Total amount received		

[Total received from KEMSA + Total received from MEDS + Total received from commercial supplier + Total received from Donations]		
Percent of medicines received of the estimated need [(Total amount received/ Total estimated need)*100]		

4.	**What do you do when there is a stock out of maternal, newborn and child health medicines in your county?**	
	a. Do you order more medicines from the central level?	
	b. Do you procure the needed commodities/quantities?	
	c. Make adjustments in the next forecast	
	d. Nothing	
	e. Other, please indicate:	

5. Within the last fiscal year (2014-2015), did you have to request or procure emergency stock to address a stock out of any of the MNCH tracer commodities at any facility within your county? This information can be found in stock registers

***In the NOTES section: If there is a recorded stock out then ask:** What was the reason for the stock out? Why did you not procure additional medicines to avoid the stock out? If there is a pattern in stock outs (i.e. consecutive stock out of the same medicine), then ask why more the forecasting of the medicine was not adjusted for the next year.

	Oxytocin	**Misoprostol**	**Magnesium sulphate**	**Gentamicin**	**Dexametha-sone**	**Amoxicillin**	**Zinc sulphate**
Was there a stock out? (Y/N)							
If yes, how many days/ months was the stock out?							
Did you request emergency stock from the central level? (Y/N)							
Did you procure emergency stock? (Y/N)							
Was stock shifted to your county from another county?							

(Y/N)							
Was stock shifted between sub-counties? (Y/N)							

Notes:

Medicine	**Reason(s) for stock outs:**
Oxytocin	
Misoprostol	
Magnesium Sulphate	
Gentamicin	
Dexamethasone	
Amoxicillin	
Zinc Sulphate	

ANNEX D. SUB-COUNTY PHARMACIST−FORM B

Form B: Sub-County Pharmacist Questionnaire

Data Collection Tool for Sub-County Pharmacist:

- ***Sub-County Pharmacist***

Purpose and Objectives:

A methodology and set of tools have been developed to facilitate the investigation of the sources of essential maternal, newborn and child health (MNCH) commodities at the sub-national level, and where relevant, the practices employed to procure these commodities. The purpose of this assessment is **to provide a snapshot as to the practices employed at sub-national levels to ensure the availability of MNCH commodities and identify options for the government to increase access to these commodities through improved procurement practices and more efficient use of existing funds.**

Specifically, the objectives of this assessment are:

- To understand the procurement practices being employed at the county levels for essential MNCH commodities and compare those practices to national and international standards and guidelines;
- To measure the availability of essential MNCH commodities at select storage and health care facilities and the source(s) of those commodities; and
- To develop recommendations and options for strengthening local procurement practices and overall procurement strategies in order to improve access to quality maternal health commodities.

Tracer Medicines:

In conjunction with the Kenya Ministry of Health and Division of Reproductive Health, a total of seven essential MNCH commodities have been selected for investigation. These commodities prevent and treat the leading causes of maternal, newborn and child deaths: post-partum hemorrhage, pre-eclampsia/ eclampsia, newborn sepsis, pneumonia and diarrhea.

Table 5: Tracer list of essential Maternal, Newborn and Child Health Commodities

Category	Medicine and Formulation	Medical Condition
Maternal Health	Oxytocin, 10 IU	Post-partum hemorrhage
	Misoprostol 200 micrograms	
	Magnesium Sulphate, 500mg/ml (50%) in 10ml amp	Pre-eclampsia and eclampsia
Newborn Health	Gentamicin, 10mg/ml in 2ml vial Gentamicin, 40mg/ml in 2ml vial	Treatment of newborn sepsis
	Dexamethasone, 4mg/ml in 1ml amp (phosphate disodium salt)	Complications of preterm birth: severe respiratory distress syndrome, intra-ventricular hemorrhage, perinatal death)
Child Health	125 mg/ 5 ml (PFOL)	Pneumonia
	Zinc Sulphate 20 mg dispersible tablet	Diarrhea

Data Collection:

Data collection tool:

Data will be collected in the following areas:

- **Section 1**: General Information
- **Section 2**: Quantification
- **Section 3**: Sources of Medicines
- **Section 4:** Supplier Performance and Quality Assurance
- **Section 5:** Availability
- **Section 6**: Challenges and Recommendations

Documentation:

Copies of relevant forms, documents, tools or any other supporting documentation will be collected such as:

- Quantification guidelines/manuals/SOPs
- Quantification/ forecasting tool
- Supplier performance reporting forms/ reports
- Quality assurance reporting forms/ reports

Section 1: General Information

17.	Date:	
18.	Interviewer:	
19.	County:	
20.	Sub-county:	
21.	Type of Facility:	☐ Sub-county Pharmacist
22.	Name of the facility:	
23.	Respondent Name (s):	
24.	Respondent title (s):	
25.	Number of years/ months working at the facility:	
26.	How many facilities are under your purview?	☐ Sub-county Hospital ☐ Health Centers: _____ ☐ Other *(facility type and quantity)*:

Section 2: Quantification

20.	**Do you calculate maternal, newborn and child health medicines needs for your sub-county?** *Mark each medicine for which medicine forecasting is done	☐ Oxytocin ☐ Misoprostol ☐ Magnesium sulfate ☐ Gentamicin ☐ Dexamethasone ☐ Amoxicillin ☐ Zinc sulphate ☐ All medicines
21.	**If yes, how often are needs estimated?**	☐ Quarterly ☐ Semi-annually ☐ Annually ☐ Other, indicate how often: _____
22.	**Who is responsible for estimating needs?**	
	c. Department: d. Name and title of lead person (s):	
23.	**Is there a standardized process for estimating medicine needs?**	☐ Yes ☐ No
	b. If yes, is this process documented? If so, collect a copy.	☐ Yes, collect a copy ☐ No
24.	**Are there guidelines or SOPs for estimating medicine needs?** If yes, collect a copy	☐ Yes, collect a copy ☐ No
25.	**Are there guidelines or SOPs for estimating, specifically, MNCH medicine needs?** If yes, collect a copy	☐ Yes, collect a copy ☐ No

26.	**Can you provide me with a copy of the tool or calculation sheet that was used for the quantification of MNCH medicines for FY 2014-2015?** *Mark yes if copy of Tool or calculation sheet is provided. If unable to provide, indicate why.	☐ Yes ☐ No Reason:_____
27.	**Have you received any training in quantification?**	☐ Yes ☐ No
	c. If yes, how often?	☐ Quarterly ☐ Semi-annually ☐ Annually ☐ Other, indicate how often: - _____
	d. When was the last training?	

Medicine Forecasting Process:

28.	For FY 2014-2015, when did you begin determining medicine needs for MNCH? Indicate month.	
29.	Do you collect information on medicines from the facilities in your sub-county for determining medicine needs? For MNCH medicines, indicate which departments.	☐ Yes, which departments: _____ ☐ No
30.	Who is responsible for collecting this information?	
31.	Is this information submitted regularly? If so, how often?	☐ Yes, how often: _____ ☐ No
32.	Who is responsible for submitting this data?	
33.	What do you do once you receive the data from the departments? How do you consolidate this data? Please describe the process on how the data is used to estimate medicine needs.	
34.	Once the data is consolidated, what do you do next? Who do you submit this information to?	
35.	Is this the final number that you request from the county?	☐ Yes ☐ No
36.	**If not**, what changes do you make to the estimated need and why? *For example, t budget constrictions, expectations for donations, etc.	

37.	Do you take into account stock data in your calculations?	☐ Yes ☐ No
	d. Do you consider stock on hand at the facilities when estimating needs?	☐ Yes ☐ No
	e. Do you account for/make adjustments for any stock outs that occurred in the previous year?	☐ Yes ☐ No
	f. Do you consider buffer/ safety stock?	☐ Yes ☐ No
38.	Do you provide inputs to the Procurement and Tender Committee on how much medicine to procure?	☐ Yes ☐ No
	If so, what inputs to you provide?	
	Does the PTC collect any information from you? If so, what types of information do they collect?	
39.	What role do you have in the procurement and tender process for medicines?	
40.	How do you track the availability of medicines in your sub-county? Please describe.	

41. **What are the medicine specific data used to determine your facility's MNCH medicine needs?**
*Instructions: First ask each question for Oxytocin and proceed by asking "Is this the same for misoprostol" and "Is this the same for magnesium sulfate", and so forth.

	Oxytocin (Y/N)	Misoprostol (Y/N)	Magnesium sulfate (Y/N)	Gentamicin (Y/N)	Dexametha-sone (Y/N)	Amoxicillin (Y/N)	Zinc sulphate (Y/N)
Past Consumption/ Distribution Data							
q. Did you request quantities based on how much was consumed the prior year?							
r. Did you request quantities based on past distribution?							
Health Facility Data/ Service Data							
s. Hospital/ health facility data on cases of PPH or PE/E? *For MH medicines only							
t. Number of beds in the facility							
u. Number of registered patients							
v. Other							
Morbidity Data							
w. Maternal morbidity data based on national or district level health data							
x. Maternal mortality data based on national or district level health data							
y. Other							
Demographic Data							
z. Population							
aa. Population growth rate							
bb. Birth rate							
cc. Other							

41. **What are the medicine specific data used to determine your facility's MNCH medicine <u>needs</u>?**
*Instructions: First ask each question for Oxytocin and proceed by asking "Is this the same for misoprostol" and "Is this the same for magnesium sulfate", and so forth.

	Oxytocin (Y/N)	**Misoprostol (Y/N)**	**Magnesium sulfate (Y/N)**	**Gentamicin (Y/N)**	**Dexametha-sone (Y/N)**	**Amoxicillin (Y/N)**	**Zinc sulphate (Y/N)**
Stock Data							
dd. Do you consider stock on hand at the facilities when estimating needs?							
ee. Do you account for/make adjustments for any stock outs that occurred in the previous year?							
ff. Do you consider buffer/ safety stock?							

Section 3: Sources of Medicines

1. Sources of Medicines at the Sub-county Level

For FY 2014 – 2015, record: (1) the estimated need for each medicine based on the quantification/ forecasting done by the facility, (2) the total amount of each medicine that was ordered, and (3) the total amount of each medicine that was received.

	Oxytocin	Misoprostol	Magnesium sulfate	Gentamicin	Dexamethas-one	Amoxicillin	Zinc sulphate
Estimated Need							
Total amount ordered							
Total amount received from KEMSA							
Total amount received from MEDS							
Total amount received from commercial supplier							
Total amount received from donations							
Total amount received [Total received from KEMSA+ MEDS + Commercial supplier + Donations]							
Order fill rate [(Total amount received/ Total amount ordered)*100]							
Percent of medicines received of the estimated need [(Total amount received/ Total estimated need)*100]							

Section 4: Supplier Performance and Quality Assurance

1.	Does the supplier deliver directly to the service delivery points?	☐ Yes ☐ No
2.	What is the mechanism to report issues with suppliers such as late delivery, insufficient quantity, etc? Describe the reporting process from the facility level, to the sub-county level and county level and if relevant, national level.	
3.	What action is taken when a supplier issue is reported?	
	b. Is a report or form filled out? If so, collect a copy or example.	
4.	Have you experienced any quality issues with any of the MNCH medicines within your sub-county?	☐ Yes ☐ No
5.	If the quality of the product is bad, is it still considered as "available"? For example, how do you differentiate the medicines that are not of good quality? Available or not available?	☐ Yes ☐ No
6.	What do you do when a facility in your sub-county receives stock of bad quality?	
7.	What is the mechanism to report **quality issues** with the medicines that were supplied to the facilities in your sub-county? These include poor storage conditions or packaging, expired products, broken vials, etc. Describe the reporting process from the facility level to the sub-county level to county level and if relevant, national level.	
8.	What action is taken when quality issues have been identified?	
	f. What procedures are done at the sub-county and facility level?	
	g. Is a report or form filled out? If so, collect a copy or example.	
9.	For any of the tracer medicines, have any facilities in your sub-county ever encountered quality issues detected at the time of delivery? If so, please describe. *Ask specifically about each tracer medicine.	

Section 5: Availability

6.	**What do you do when there is a stock out of maternal, newborn and child health medicines in your sub-county?**	
	f. Do you order more medicines from the county or central level?	
	g. Do you procure the needed commodities/quantities?	
	h. Make adjustments in the next forecast	
	i. Nothing	
	j. Other, please indicate:	

7. Within the last fiscal year (2014-2015), did you have to request or procure emergency stock to address a stock out of any of the MNCH tracer commodities? **Ask the respondent to show you where he/ she is getting the data from (i.e. this information can be found in stock registers)*

****In the NOTES section: If there is a recorded stock out then ask:***
- What was the reason for the stock out?
- If there is a pattern in stock outs (i.e. consecutive stock out of the same medicine), then ask why more the forecasting of the medicine was not adjusted for the next year.

	Oxytocin	**Misoprostol**	**Magnesium sulphate**	**Gentamicin** *(indicate formulation)*	**Dexamethasone**	**Amoxicillin**	**Zinc Sulphate**
Was there a stock out? (Y/N)							
If yes, how many days/ months was the stock out?							
Did you request emergency stock from the county or central level? (Y/N)							
Did you procure emergency stock? (Y/N)							
Was stock shifted from one facility to another district? (Y/N)							

Notes:

Medicine	Reason (s) for stock outs:
Oxytocin	
Misoprostol	
Magnesium Sulphate	
Gentamicin	
Dexamethasone	
Amoxicillin	
Zinc Sulphate	

Section 6: Challenges and Recommendations

6.	**Would you prefer to handle procurement of MNCH commodities or have the county procure on your behalf? Why?**	
7.	**Would you prefer more MNCH commodities to be supplied from national level (push system)? Why?**	
8.	**What can be done to improve the procurement or ordering process?**	
9.	**What have been the greatest challenges in ensuring availability of MNCH commodities?**	
10.	**What can be done to improve availability of MNCH commodities in your sub-county?**	

ANNEX E. SERVICE DELIVERY POINTS−FORM C-1

Form C-1:

Data Collection Tool for Service Delivery Points:

- **County Referral Hospital**
- **Sub-County Hospital or busiest health center,**
- ***Health Center***
- ***Facility Pharmacist***
- ***Personnel responsible for the storage and management of medicine***

Purpose and Objectives:

A methodology and set of tools have been developed to facilitate the investigation of the sources of essential maternal, newborn and child health (MNCH) commodities at the sub-national level, and where relevant, the practices employed to procure these commodities. The purpose of this assessment is **to provide a snapshot as to the practices employed at sub-national levels to ensure the availability of MNCH commodities and identify options for the government to increase access to these commodities through improved procurement practices and more efficient use of existing funds.**

Specifically, the objectives of this assessment are:

- To understand the procurement practices being employed at the county levels for essential MNCH commodities and compare those practices to national and international standards and guidelines;
- To measure the availability of essential MNCH commodities at select storage and health care facilities and the source(s) of those commodities; and
- To develop recommendations and options for strengthening local procurement practices and overall procurement strategies in order to improve access to quality maternal health commodities.

Tracer Medicines:

In conjunction with the Kenya Ministry of Health and Division of Reproductive Health, a total of seven essential MNCH commodities have been selected for investigation. These commodities

prevent and treat the leading causes of maternal, newborn and child deaths: post-partum hemorrhage, pre-eclampsia/ eclampsia, newborn sepsis, pneumonia and diarrhea.

Table 6: Tracer list of essential Maternal, Newborn and Child Health Commodities

Category	Medicine and Formulation	Medical Condition
Maternal Health	Oxytocin, 10 IU	Post-partum hemorrhage
	Misoprostol 200 micrograms	
	Magnesium Sulphate, 500mg/ml (50%) in 10ml amp	Pre-eclampsia and eclampsia
Newborn Health	Gentamicin, 10mg/ml in 2ml vial Gentamicin, 40mg/ml in 2ml vial	Treatment of newborn sepsis
	Dexamethasone, 4mg/ml in 1ml amp (phosphate disodium salt)	Complications of preterm birth: severe respiratory distress syndrome, intra-ventricular hemorrhage, perinatal death)
Child Health	125 mg/ 5 ml (PFOL)	Pneumonia
	Zinc Sulphate 20 mg dispersible tablet	Diarrhea

Data Collection:

Data collection tool:

Data will be collected in the following areas:

- **Section 1**: General Information
- **Section 2**: Quantification
- **Section 3**: Sources of Medicines
- **Section 4:** Supplier Performance and Quality Assurance
- **Section 5:** Availability
- **Section 6**: Challenges and Recommendations

Documentation:

Copies of relevant forms, documents, tools or any other supporting documentation will be collected such as:

- Quantification guidelines/manuals/SOPs
- Quantification/ forecasting tool
- Supplier performance reporting forms/ reports
- Quality assurance reporting forms/ reports

Section 1: General Information

27.	Date:	
28.	Interviewer:	
29.	County:	
30.	Sub-county:	
31.	Type of Facility:	☐ Sub-county hospital ☐ Busiest Health Center in sub-county ☐ Health Center
32.	Name of the facility:	
33.	Respondent Name (s):	
34.	Respondent title (s):	
35.	Number of years/ months working at the facility:	

Section 2: Quantification

42.	**Do you calculate maternal, newborn and child health medicines needs?** *Mark each medicine for which medicine forecasting is done	☐ Oxytocin ☐ Misoprostol ☐ Magnesium sulfate ☐ Gentamicin ☐ Dexamethasone ☐ Amoxicillin ☐ Zinc sulphate ☐ All medicines
43.	**If yes, how often are needs estimated?**	☐ Quarterly ☐ Semi-annually ☐ Annually ☐ Other, indicate how often: _____
44.	**Who is responsible for estimating needs?**	
	e. Department: f. Name and title of lead person (s):	
45.	**Is there a standardized process for estimating medicine needs?**	☐ Yes ☐ No
	c. If yes, is this process documented? If so, collect a copy.	☐ Yes, collect a copy ☐ No
46.	**Are there guidelines or SOPs for estimating medicine needs?** If yes, collect a copy	☐ Yes, collect a copy ☐ No
47.	**Are there guidelines or SOPs for estimating, specifically, MNCH medicine needs?** If yes, collect a copy	☐ Yes, collect a copy ☐ No
48.	**Can you provide me with a copy of the tool or calculation sheet that was used for the quantification of MNCH medicines for FY 2014-2015? ***Mark yes if copy of Tool or calculation sheet is provided. If unable to provide, indicate why.	☐ Yes ☐ No Reason:_____
49.	**Have you received any training in quantification?**	☐ Yes ☐ No

	e. If yes, how often?	☐ Quarterly ☐ Semi-annually ☐ Annually ☐ Other, indicate how often: - _____
	f. When was the last training?	

Medicine Forecasting Process:

50.	When do you begin estimating medicine needs for MNCH medicines?	
51.	For FY 2014-2015, when did you begin determining medicine needs for MNCH? Indicate month.	
52.	Do you collect information on medicines from the other departments for determining medicine needs? For MNCH medicines, indicate which departments.	☐ Yes, which departments: _____ ☐ No
53.	Who is responsible for collecting this information?	
54.	Is this information submitted regularly? If so, how often?	☐ Yes, how often: _____ ☐ No
55.	Who is responsible for submitting this data?	
56.	What do you do once you receive the data from the departments? How do you consolidate this data? Please describe the process on how the data is used to estimate medicine needs.	
57.	Once the data is consolidated, what do you do next? Who do you submit this in formation to?	
58.	Is this the final number that you request from the county?	☐ Yes ☐ No
59.	**If not**, what changes do you make to the estimated need and why? *For example, the county may not procure the complete amount that is needed because of budget constriction, expectations for donations, etc.	
60.	Do you take into account stock data in your calculations?	☐ Yes ☐ No
	g. Do you consider stock on hand when estimating needs?	☐ Yes ☐ No
	h. Do you account for/make adjustments for any stock outs that occurred in the previous year?	☐ Yes ☐ No
	i. Do you consider buffer/ safety stock?	☐ Yes ☐ No

61. **What are the medicine specific data used to determine your facility's MNCH medicine needs?**
*Instructions: First ask each question for Oxytocin and proceed by asking "Is this the same for misoprostol" and "Is this the same for magnesium sulfate", and so forth.

	Oxytocin (Y/N)	Misoprostol (Y/N)	Magnesium sulfate (Y/N)	Gentamicin (Y/N)	Dexametha-sone (Y/N)	Amoxicillin (Y/N)	Zinc sulphate (Y/N)
Past Consumption/ Distribution Data							
gg. Did you request quantities based on how much was consumed the prior year?							
hh. Did you request quantities based on past distribution?							
Health Facility Data/ Service Data							
ii. Hospital/ health facility data on cases of PPH or PE/E? *For MH medicines only							
jj. Number of beds in the facility							
kk. Number of registered patients							
ll. Other							
Morbidity Data							
mm. Maternal morbidity data based on national or district level health data							
nn. Maternal mortality data based on national or district level health data							
oo. Other							
Demographic Data							
pp. Population							
qq. Population growth rate							
rr. Birth rate							
ss. Other							

61. **What are the medicine specific data used to determine your facility's MNCH medicine needs?**
*Instructions: First ask each question for Oxytocin and proceed by asking "Is this the same for misoprostol" and "Is this the same for magnesium sulfate", and so forth.

	Oxytocin (Y/N)	**Misoprostol (Y/N)**	**Magnesium sulfate (Y/N)**	**Gentamicin (Y/N)**	**Dexametha-sone (Y/N)**	**Amoxicillin (Y/N)**	**Zinc sulphate (Y/N)**
Stock Data							
tt. Do you consider stock on hand when estimating needs?							
uu. Do you account for/make adjustments for any stock outs that occurred in the previous year?							
vv. Do you consider buffer/ safety stock?							

Section 3: Sources of Medicines

1. Sources of Medicines

For FY 2014 – 2015, record: (1) the estimated need for each medicine based on the quantification/ forecasting done by the facility, (2) the total amount of each medicine that was ordered, and (3) the total amount of each medicine that was received.

	Oxytocin	**Misoprostol**	**Magnesium sulfate**	**Gentamicin**	**Dexametha-sone**	**Amoxicillin**	**Zinc sulphate**
Estimated Need							
Total amount ordered							
Total amount received from KEMSA							
Total amount received from MEDS							
Total amount received from commercial supplier							
Total amount received from donations							
Total amount received [Total received from KEMSA+ MEDS + Commercial supplier + Donations]							
Order fill rate [(Total amount received/ Total amount ordered)*100]							
Percent of medicines received of the estimated need [(Total amount received/ Total estimated need)*100]							

Section 4: Supplier Performance and Quality Assurance

10.	Does the supplier deliver directly to the service delivery points?	☐ Yes ☐ No
11.	What is the mechanism to report issues with suppliers such as late delivery, insufficient quantity, etc? Describe the reporting process from the facility level, to the county level and if relevant, national level.	
12.	What action is taken when a supplier issue is reported?	
	c. Is a report or form filled out? If so, collect a copy or example.	
13.	Are the shipments visually inspected upon arrival to check if they meet specifications?	☐ Yes ☐ No
14.	Have you experienced any quality issues with any of the maternal health commodities?	☐ Yes ☐ No
15.	If the quality of the product is bad, is it still considered as "available"? For example, how do you differentiate the medicines that are not of good quality? Available or not available?	☐ Yes ☐ No
16.	What do you do when you receive stock of bad quality?	
17.	What is the mechanism to report **quality issues** with the medicines that were supplied? These include poor storage conditions or packaging, expired products, broken vials, etc. Describe the reporting process from the facility level to the county level and if relevant, national level.	
18.	What action is taken when quality issues have been identified?	
	h. What procedures are done at the facility level?	
	i. Is a report or form filled out? If so, collect a copy or example.	
19.	For any of the tracer medicines, have you ever encountered quality issues detected at the time of delivery? If so, please describe. *Ask specifically about each tracer medicine.	

Section 5: Availability

8.	**What do you do when there is a stock out of maternal, newborn and child health medicines in your sub-county?**	
	k. Do you order more medicines from the county or central level?	
	l. Do you procure the needed commodities/quantities?	
	m. Make adjustments in the next forecast	
	n. Nothing	
	o. Other, please indicate:	

9. Within the last fiscal year (2014-2015), did you have to request or procure emergency stock to address a stock out of any of the MNCH tracer commodities? *Ask the respondent to show you where he/ she is getting the data from (i.e. this information can be found in stock registers)

***In the NOTES section: If there is a recorded stock out then ask:**
- What was the reason for the stock out?
- If there is a pattern in stock outs (i.e. consecutive stock out of the same medicine), then ask why more the forecasting of the medicine was not adjusted for the next year.

	Oxytocin	**Misoprostol**	**Magnesium sulphate**	**Gentamicin** (indicate formulation)	**Dexamethasone**	**Amoxicillin**	**Zinc Sulphate**
Was there a stock out? (Y/N)							
If yes, how many days/ months was the stock out?							
Did you request emergency stock from the county or central level? (Y/N)							
Was stock shifted from another facility to yours? (Y/N)							

Notes:

Medicine	Reason (s) for stock outs:
Oxytocin	
Misoprostol	
Magnesium Sulphate	
Gentamicin	
Dexamethasone	
Amoxicillin	
Zinc Sulphate	

Section 6: Challenges and Recommendations

11.	**Do you prefer to handle procurement of MNCH commodities or have the county procure on your behalf? Why?**	
12.	**Would you prefer more MNCH commodities to be supplied from national level? Why?**	
13.	**What can be done to improve the procurement process?**	
14.	**What have been the greatest challenges in ensuring availability of MNCH commodities?**	
15.	**What can be done to improve availability of MNCH commodities at your facility?**	

ANNEX F. SERVICE DELIVERY POINTS, STOCK STATUS TOOL−FORM C-2

Form C-2: Stock Status Data Collection Form

Facility Name: _____ Date: _____

County: _____ Interviewer: _____

Sub-county: _____ Type of Facility: _____

Product	Unit of count	Managed at this facility? (Y/ N)	Formulation (s)	Product Brand	(Days)Stock-outs for FY June 2014-July 2015	Physical inventory (Quantity)	Stock-out today (on physical count) (Y/ N)	Quantity of expired product	Avg. monthly consumption (if they have it)
1	2	3	4	5	6	7	8	9	10
Misoprostol	Tab								
Oxytocin	Amp								
Magnesium Sulfate	Amp								

Product	Unit of count	Managed at this facility? (Y/ N)	Formulation (s)	Product Brand	(Days)Stock-outs for FY June 2014-July 2015	Physical inventory (Quantity)	Stock-out today (on physical count) (Y/ N)	Quantity of expired product	Avg. monthly consumption (if they have it)
Gentamicin									
Dexameth-asone									
Amoxicillin (for child health)									
Zinc Sulphate									

Storage conditions	Oxytocin	Misoprostol	Magnesium sulfate	Gentamicin	Dexamethasone	Amoxicillin	Zinc Sulphate
1. Are products stored and organized according to first expiry first out (FEFO) procedures? (Y/N)							
2. Are boxes and products in good condition? (Y/N) *(*i.e. are there any torn, stained, waterlogged, leaking products, etc.)							
3. Are boxes and products protected from water and moisture? (Y/N) (i.e. is there any shelving or pallets to keep products off the floors)							
4. Are products protected from direct light and the sun at all times? (Y/N)							
5. Are there thermom-eters and/or temperature records within the facility to record/ monitor the temperature? (Y/N)							

Storage conditions	Oxytocin	Misoprostol	Magnesium sulfate	Gentamicin	Dexamethasone	Amoxicillin	Zinc Sulphate
If yes, record the current temperature of the storage facility.							
6. Is oxytocin stored in cold chain between 2 and 8°C? (Y/N)							
If yes, indicate how it is stored (i.e. in a refrigerator, cool box, in the shade)							
If yes, record the temperature that it is stored.							
7. Have there been any product quality issues with the commodities? (Y/N)							
If yes, please describe.							