Ethiopia Landscaping Assessment

Synthesis Report

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Acronyms

AMC	Average Monthly Consumption
DHA	Ethiopia Digital Health Activity
DHIS2	Distinct Health Information Software 2
EPI	Expanded Program on Immunization
EPSS	Ethiopian Pharmaceuticals Supply Services
FP	Family Planning
GHSC - PSM	Global Health Supply Chain- Procurement and Supply Chain Management
HC	Health Centre
HMIS	Health Management Information System
HP	Health Post
KII	Key Informant Interview
LQAS	Lot Quality Assurance Sampling
M&E	Monitoring and Evaluation
PMD LEO	Pharmaceutical and Medical Device Lead Executive Office
PMT	Performance Monitoring Team
SA	Strategic Affairs
SC	Supply Chain
SOH	Stock on Hand
SWOT	Strength Weakness Opportunities Threats
RCA	Root Cause Analysis
RDQA	Routine Data Quality Assessment
RHB	Regional Health Bureau
RMNCH	Reproductive, Maternal, Neonatal & Child Health
WoHO	Woreda Health Office
WD	Workforce Development Project
ZHD	Zonal Health Department

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Executive Summary

Background The purpose of the landscaping assessment was to identify opportunities for strengthening the existing data use culture and processes at different levels of the public sector supply chain. The assessment was conducted jointly across inSupply and JSI projects.

Methods The assessment used a mixed method approach where both quantitative and qualitative data were collected using ODK and KII guide. Stock status was assessed by conducting physical inventory on the day of visit. Months of Stock, Inventory accuracy and stock out rates were calculated using different formulas. Qualitative data was transcribed and analysed using excel to enable identification of themes.

Results A total of 8 key areas were assessed. Some of the findings include: a concerted effort by the MOH to foster a culture of data use and demand across all levels by preparing a national data use training manual, having HMIS systems, 177 KPIs and establishing PMTs.

The PMTs are available at all levels national, regional, woreda and health facility. The most functional PMTs are at Woreda and health facility level. There is a poor engagement of pharmacy department in PMT meetings.

From the facilities visited and stock inventory observed, all the 8 RMNH products had 100% inventory accuracy. From all the facilities that were visited, availability of RMNCH commodities was at 78% with one facility having 100% stock availability of all the 8 RMNCH commodities observed. The stockout occurrences are mostly due to supply shipment delays, especially for certain vaccines, and are not common. For Dire Dawa all facilities receive commodities through direct delivery and facilities in Jarso are directly supplied through the Woreda.

Recommendations It is recommended that in order to enhance the impact of PMT, we should revitalize its coordination, build the capacity of members in data analysis and establish robust monitoring and evaluation systems.

Acknowledgement

The Landscaping assessment is a collaborative effort between two projects, Workforce Development Project implemented by inSupply Health and funded by Bill and Melinda Gates Foundation (BMGF) and Digital Health Activity (DHA project) implemented by JSI Ethiopia and funded by USAID.

Special thanks to the Federal Ministry of Health Ethiopia and the SA, PMED and RMNCH Departments for their leadership, guidance and support for the assessment.

We extend our gratitude to implementing partners, particularly the JSI-DHA, GHSC - PSM project, and R4D,for providing information, time, and expertise to this assessment

We are particularly grateful to the Regional Health Bureaus (RHBs), Woredas, Health Care Facility Managers, and Heads of Department who are the main implementers of the Performance Monitoring Teams (PMTs) and are responsible for the many achievements.

We are grateful to all the participants who sacrificed their time and provided key insights for this assessment.

The landscaping assessment was conducted by Kennedy Danielson, Janet Makena, Happiness Mberesero, Anthony Kabarita, Lucy Kerubo, Wanjiru Munene, Nejash Abdu and Sami Tewfik.

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Background

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Introduction

Ethiopia has achieved a remarkable transformation in its digital health systems. The Federal Ministry of Health (FMOH) has developed national documents and policies that focus on health information systems and data use. Additionally, Ethiopia has made significant advancements in its supply chain digital infrastructure as well as the use of data for decision making. For example, Dagu, a stock management tool for health facilities allows program officers at the Woreda level to assess the stock status at health facilities.

Building on the remarkable progress already achieved Ethiopia has a unique opportunity to address and reduce barriers to data use that prevent managers from using supply chain data to monitor, manage and continuously improve Supply Chain performance.

InSupply Health through the Workforce Development Project partnered with JSI Ethiopia through the DHA project to build on existing work and co-create data use approaches, practices and review tools for the regional level, with a focus on enhancing performance and management of RMNCH supplies by regional supply chain managers. The landscaping assessment conducted jointly by inSupply health and JSI Ethiopia is the first step before implementing the revised approach with existing performance monitoring teams and structures.

Overview of the projects

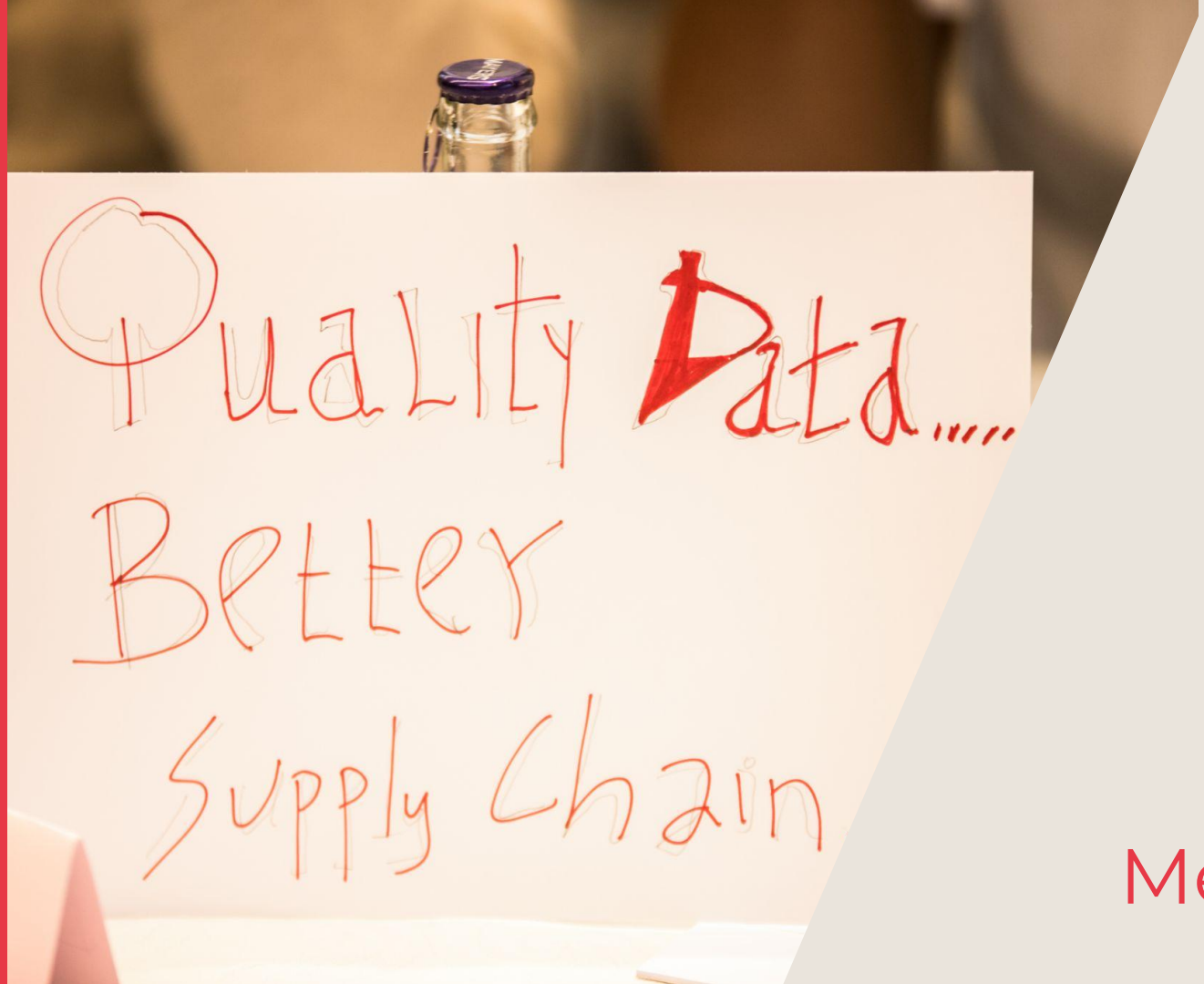
Workforce Development Project

- The Workforce Development (WD) project is implemented by inSupply Health and its main goal is to improve the effectiveness, sustainability, and resilience of public health supply chains for essential medicines and supplies in East Africa through professionalization, shaping of workforce culture for more robust supply and demand planning and supply chain visibility.
- The WD project is a five year project and has 5 overall objectives. This assessment was conducted as part of the deliverable for Objective 4 which aims to enable inSupply to expand geography and partner reach, share and promote uptake of global goods, and shape how supply chains are conceived and implemented, and technical assistance delivered in East Africa to improve the performance of public health supply chains for essential medicines and supplies.
- Objective 4 has a sub-objective that focuses on Ethiopia, looking at how to reduce barriers to Reproductive Maternal Neonatal and Child Health (RMNCH) supplies through data use.

* Source: JSI project website https://dha.jsi.com/
* Source: inSupply health Workforce Development project slide deck

DHA project

- The USAID-funded Digital Health Activity (DHA) is a five-year project that supports Ethiopia in improving the quality and availability of healthcare services through the deployment of data-driven and patient-centered digital tools.
- The DHA project has three main objectives
    - Digitization
        - Deployment of various digital tools that enable health workers to provide standardized services
    - Data Use
        - Make informed decisions through data driven analysis
        - Empower patients to control their care through digital health solutions.
    - Governance and Capacity Building
        - Improve service delivery by empowering competent and caring health care providers.



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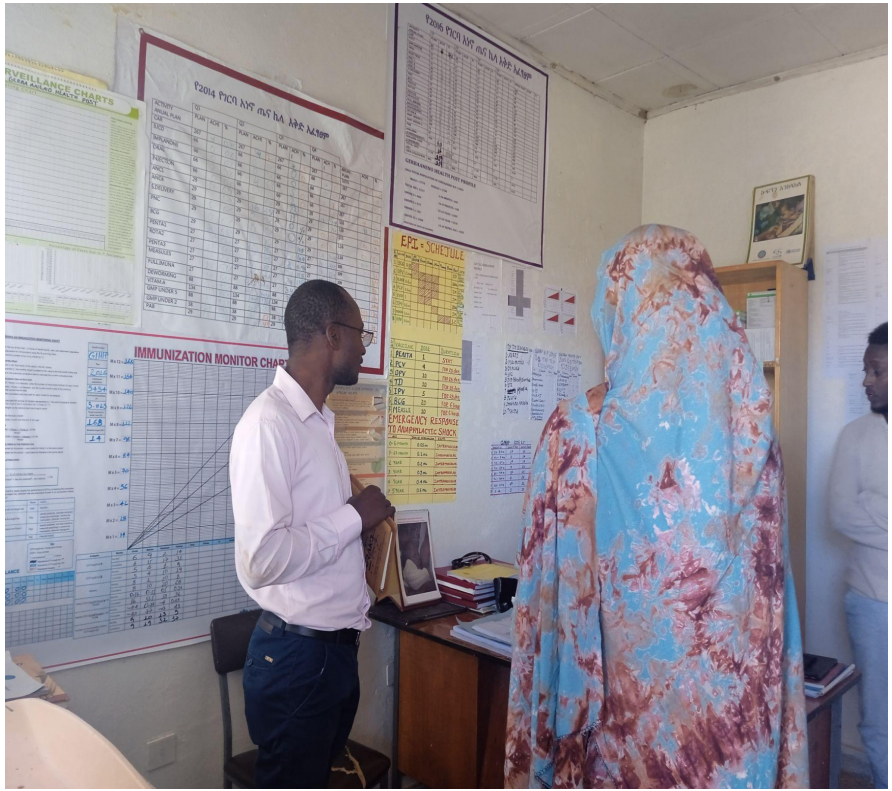
Methodology

Study Design & Setting

Study design. This assessment used a mixed method design, both qualitative and quantitative data was collected.

Study setting.
This assessment was conducted in Ethiopia, a country with a population of over 110 million people. It is composed of 12 regional states and two city administrations. The Ethiopian health system is three tiered service delivery structure with primary and secondary level health care. There are a total of 17,569 community health posts, 3826 health centres and 379 hospitals in the country.

* Source: Health and health related indicators 2015 EFY.
*Source: Ethiopia Service Provision Assessment 2021-2022



Sample size: A total of 44 Key informants were interviewed

Level	Organization	Total Interviews
National	• Ministry of Health (MOH) Ethiopia	5
Regional	• Oromia Regional Health Bureau (RHB) • Dire Dawa Administration Health Bureau • Dire Dawa Ethiopian Pharmaceutical Supply Service (EPSS) Hub	12
Zonal	• East Hararghe Zonal Health Department (ZHD)	4
Woreda	• Jarso Woreda Health Office	4
Health Facilities	• Hospitals (referral and Primary) in Dire Dawa • Health Centers (HC) in Dire Dawa (rural and urban) • Health Centers in Jarso	13
Supply chain partners	• DHA focal persons - East Area and Oromia • GHSC PSM - Regional managers • Research 4 Development	6

Sample Profile

44 key informants consented to participate in the assessment. Participants included technical officers from PMED, RMNCH and SA departments, Warehouse manager and officers, facility incharges, pharmacy heads, immunization/Family planning nurses and implementing partner- regional managers .

Organization	Position	Total Interviews
• MOH Ethiopia	• 2 PMED, 2 SA and 1 EPI	5
• Oromia RHB • Dire Dawa Administration health bureau • Dire Dawa EPSS Hub	• 1 PMED, 2 RMNCH, and 1 SA • 1 PMED, 2 RMNCH, and 1 SA • Warehouse Manager, Distribution officer, Monitoring and Evaluation officer, Forecasting and quantification officer.	12
• East Hararghe ZHD	• 1 PMED, 2 RMNCH, and 1 SA	4
• Jarso Woreda Health Office	• 1 PMED, 2 RMNCH, and 1 SA	4
• Hospitals (referral and Primary) in Dire Dawa • HC in Dire Dawa (rural and urban) • HC in Jarso	• Facility in charge • Pharmacy head/ store manager • RMNCH ○ Family planning • EPI	13
• DHA focal persons • GHSC PSM - Regional managers • R4D	• Area Managers • Regional manager • Regional manager	6

Sampling Process

Sampling procedure. Purposive sampling was used in the selection of participants to be interviewed. The selection concentrated on participants with knowledge of the Ethiopian supply chain, health management information systems and data use practices at different levels of the health system. Furthermore, participants were required to have an experience of either performing Supply Chain tasks or using data for decision making in their day to day operations. Selected participants included pharmacists, monitoring and evaluation officers, logisticians, immunization officers, health information technicians, warehouse managers, program officers, technical officers, health facility incharges and nurses. Prior appointments were arranged with the participants and in person interviews were conducted after consent was obtained.

Key Areas Assessed. The areas evaluated in this assessment included Forecasting and Quantification, Inventory Control Procedures, Logistic Management Information Systems, Data Demand and Use, Performance Monitoring Teams, Recognition and Capacity Building, Transport and Distribution and Governance and Sustainability.

Data Collection and Management

Data collection instruments. Quantitative data was collected using a digitized tool (ODK). Qualitative data was collected using a Key Informant Interview (KII) guide. The guide was reviewed to assess for clarity of questions and whether they answered the intended objectives of the assessment. The responses were recorded in audio and notes were taken.

Data collection Procedures. Data was collected from 27th November 2023 to 8th December 2023. The data collection was done by six project staff who had a background in Pharmacy, Supply Chain, Monitoring and Evaluation and Statistics. The team of data collectors thoroughly reviewed and edited the tools before commencement of data collection. During the interviews, one staff was responsible for asking questions and the other documented the proceedings of the interviews. Additional questions were asked and probes to elucidate more responses. The interviews were audio- recorded for ease of data capture and ended when saturation was reached.

Data management. Data was cleaned, edited and checked for completeness before being stored in the encrypted inSupply database. All data was backed up in different media such as google drive and accessed by authorized personnel only.

Data Analysis

The data collected was analyzed to identify bottlenecks, inefficiencies, and gaps in the RMNCH supply chain. Stock out rates of products were assessed by reviewing out of the 10 RMNCH products, how many were stocked out.

Stock status was assessed by conducting physical inventory on the day of the visit.

Months of Stock [MOS] were calculated using the formula [MOS = Stock on Hand (SOH) / three month Average Monthly Consumption (AMC)] .

Inventory accuracy was calculated by assessing the discrepancy between the bin card and physical stock for each product.

Qualitative data was transcribed and analysed using excel to enable the identification of themes.

SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis was used to identify internal and external factors influencing the RMNCH supply chain

Ethical considerations. Approval to conduct the assessment was obtained from MOH Ethiopia as well as all Regional Health Bureaus, Woredas and health facilities where data collection took place. Verbal consent was obtained and participant privacy and confidentiality was ensured throughout the assessment.

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Key Findings & Emerging Insights

Theme 1: Forecasting & Quantification

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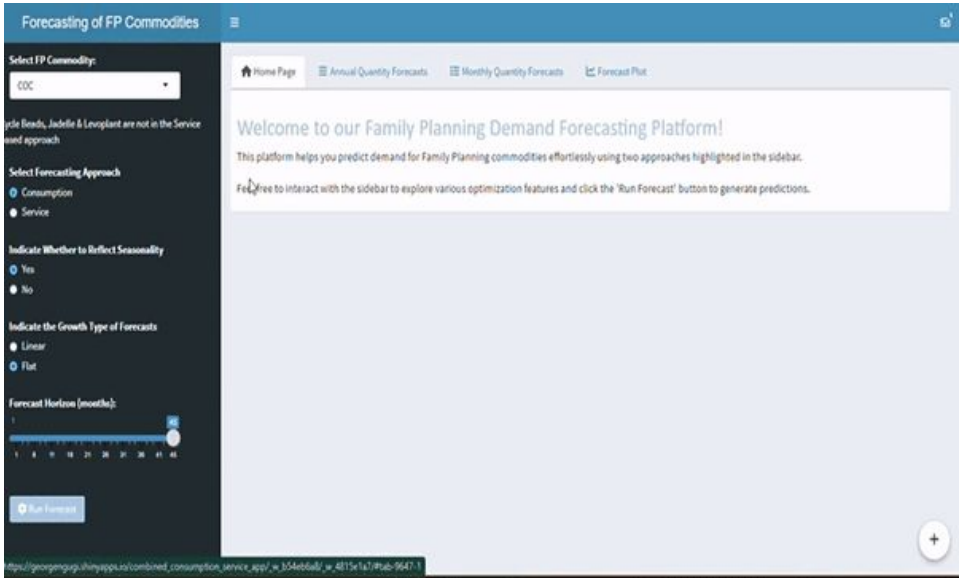
The quantification of RMNCH commodities is both centralized and decentralized, a process affected by poor data quality and the utilization of predominantly manual tools, leading to low forecast accuracy.



Quantification is done using a mixed approach initiated collaboratively

- The collaboration includes working with GAVI and the Ministry of Health.
- This collaborative effort is an annual process that takes approximately 2-3 months to complete.
- To estimate the demand for RMNCH commodities, a mix of methodologies is employed.
- The use of consumption data varies; for ARVs, assessments are conducted to collect actual consumption data, while for MNCH, proxy data (issues) is used.
- The actual demand is dependent on utilization data, and efforts are made to compare supplies with demands from a few facilities.
- During quantification exercise, performance is assessed by comparing current targets with the previous year, factoring in stock-out periods and seasonal variations.
- The Woreda holds responsibility for forecasting specific RMNCH commodities based on targets during the Woreda-based planning.
- Health program commodities, which include RMNCH products, are forecasted centrally. However, there are also RMNCH products that are quantified and procured by health facilities. In such cases, health facilities are responsible for using service/coverage targets to determine the required quantity of the products.
- Besides, commodities other than health program, the health facilities are responsible to forecast the demands.

Data quality has been reported as a great hindrance to forecasting which affects the forecasting outputs

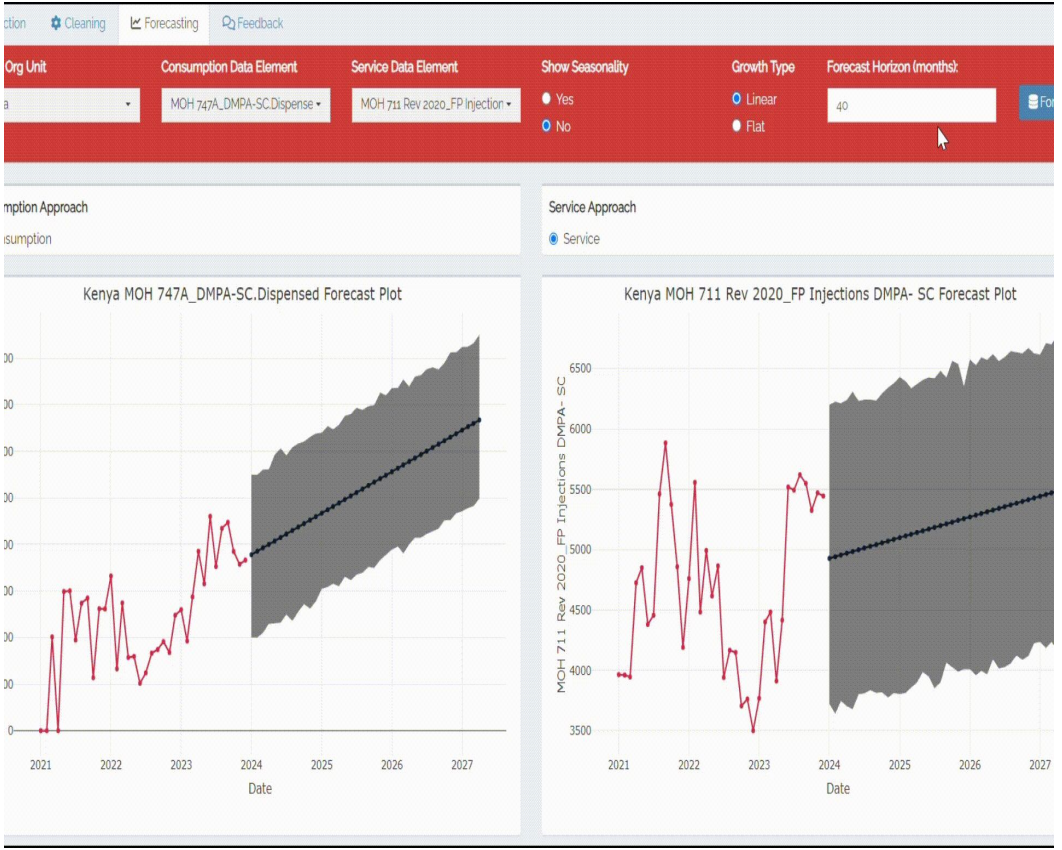
- Various factors contribute to the preparation of forecasts, including demographic data, service statistics, and, importantly, the utilization of logistics and consumption data.
- While there is a recognition of challenges, particularly in data quality, adjustments are made and presented to stakeholders.

“Quantification is done at the central level, Data quality is a problem Logistics and service data is used depending on the program.Compare and reconcile to get best output. Every quarter the quantification is reviewed against supply planning” Key Informant.”

Private sector participation is acknowledged, with private facilities being considered for forecasting. Validation of forecasting reports involves aligning them with annual budgets, and corrections are sought if needed.

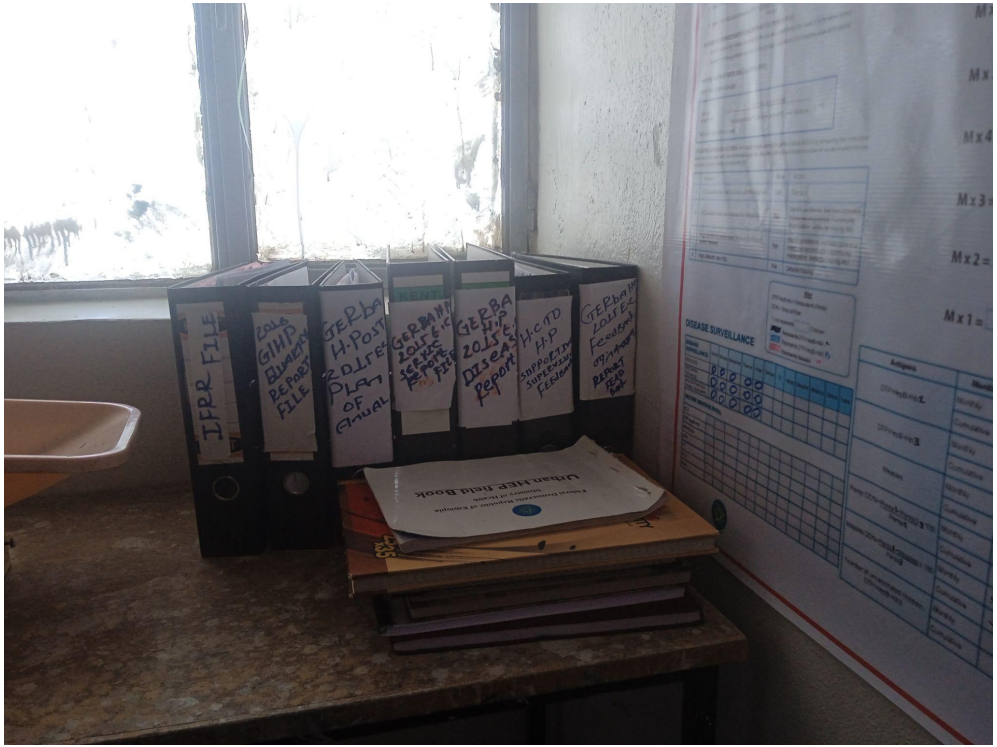
Recommendations

- Addressing the gap of data use and culture can be the first step to ensure data quality thus accurate forecasting and quantification outputs
- The forecasting procedure utilized by health facilities is very manual and takes 2-3 months to complete. These processes can be automated to enhance efficiency especially on data cleaning.



Theme 2: Inventory Control Procedures

Existence of a well established pharmaceutical logistic system with defined inventory control levels for facilities to ensure adequate supplies. For the health facilities visited, stockout of RMNCH commodities were infrequent however stock imbalance (overstock and understock) instances were observed.



A well established pharmaceutical logistic system with defined inventory control levels for facilities to ensure adequate supplies

- The RMNCH supply chain management system follows a pull system based on consumption data.
    - However, In some regions such as East Hararghe both push and pull inventory control system are in use; FP and ORS Zinc acetate follow a pull system, while others follow a push system based on ministry allocation and stock status at EPSS
- Facilities use the Integrated Pharmaceutical Logistic System (IPLS) to manage products from various programs.
- The IPLS, implemented since 2009, is matured, and all facilities order their commodities through this program.
- Health facilities report and request commodities for resupply from specific EPSS hubs.
- The inventory control levels are defined for health centers and health posts, with maximum and minimum stock levels to ensure effective management.

Available tools for reporting and automatic calculation for resupply of commodities

- **Resupply calculations**. resupply quantities are calculated based on consumption data and specific formulas within the reporting forms. The IPLS system standardizes the calculation of the resupply amounts once the required data (beginning balance, consumption, losses, and adjustments) is entered into the system.
- In those HFs that implement DAGU, the resupply quantity will be calculated automatically.
- Tools utilized for recording, reporting, and resupply calculations
    - RRF(Report and Requisition Form)
    - IFRR (Internal Facility Reporting and Requisition),
    - Bin cards (manual and electronic)

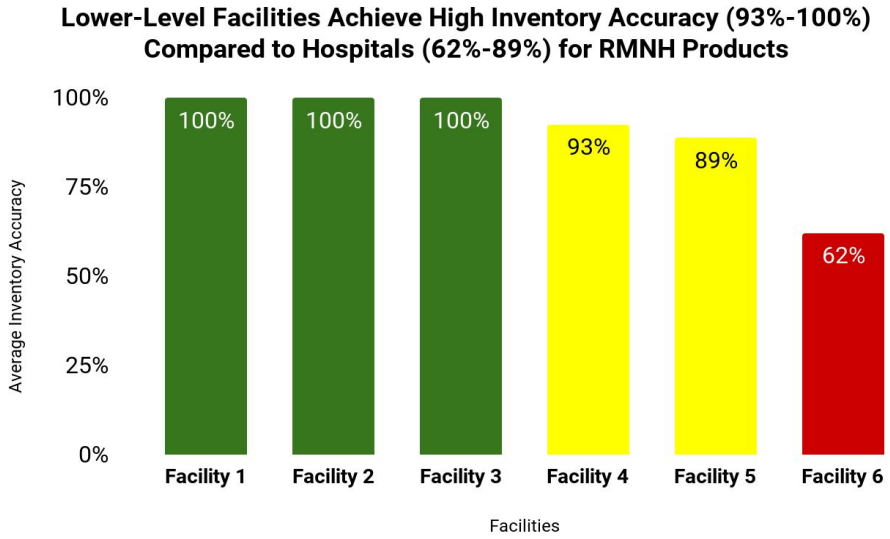
Lower Level facilities record higher inventory accuracy compared to higher level facilities. The inventory accuracy of health centers is higher compared to that of hospitals

Product	Facility 1	Facility 2	Facility 3	Facility 4	Facility 5	Facility 6
Amoxicillin 125/250 mg dispersible tablets	100%	100%	100%	100%	100%	100%
Misoprostol tablets	100%	83%	-	100%	100%	100%
Implants	80%	98%	100%	100%	100%	100%
Magnesium Sulphate inj.	48%	100%	100%	100%	100%	100%
DMPA-IM	78%	76%	92%	100%	100%	100%
Oxytocin	92%	85%	42%	100%	100%	100%
ORS Zinc Combo Pack	0%	66%	71%	100%	100%	100%

Key

	100%
	80%<100%
	50%<80%
	<50%
	Product not managed

The inventory accuracy of health centers is higher compared to that of hospitals



From the 3/6 facilities visited and stock inventory observed ,all the 8 RMNH products had 100% inventory accuracy. This implies that the bin card were available for all the products and were accurately and timely updated on daily basis. However, there were few instances where the bins cards were not timely updated.

All the facilities visited used the DAGU system, which allows electronic tracking of commodity flow.

Most of the facilities are overstocked according to plan (Max 4 MOS) with a few cases of stock out reported.

	Average **MOS Across Sampled Facilities**						
Product	Facility 1	Facility 2	Facility 3	Facility 4	Facility 5	Facility 6	Grand Total
Implants	5.2	1.5	1.7	59.4	3.8	6.6	13.0
ORS Zinc Combo	0.3	4.8	4.5	13.1	21.2	0.6	7.4
Magnesium Sulphate inj.	4.9	6.0	1.5	12.0	6.0	3.4	5.6
Misoprostol tablets	0.0	3.3	15.0	6.3		3.6	5.6
DMPA-IM	5.2	5.0	4.0	5.6	9.0	1.8	5.1
Oxytocin	3.1	5.2	2.1	5.2	1.7	5.0	3.7
Amoxicillin 125/250 mg dispersible tablet	0.0	0.0	1.6	4.9	0.0	3.0	1.6

- The IPLS system monitors stock levels with a minimum of **2 months** and a maximum of **4 months** for health centers and a minimum of **1 month** and a maximum of **2 months** for health posts.
- Stock level are regularly assessed to prevent stock out before regular resupply schedule and see if there is need to place emergency order.

Key

	Stocked out (0)
	Understocked (0 <2)
	Stocked according to plan (2-4)
	Overstocked (4+)
	Product not managed

Most of the facilities checked had at least 2 months of stock for four out of eight RMNCH commodities checked (Implants, Magnesium Sulphate, DMPA-IM and Oxytocin).

Health Facilities Stock Outs on day of visit and past 6 months

Product	DOV	Past 6 Months
Amoxicillin 125/250 mg dispersible tablet	50%	33%
DMPA-IM	0%	0%
Implants	0%	17%
Magnesium Sulphate inj.	0%	50%
Misoprostol tablets	33%	0%
ORS Zinc Combo	0%	33%
Oxytocin	0%	0%

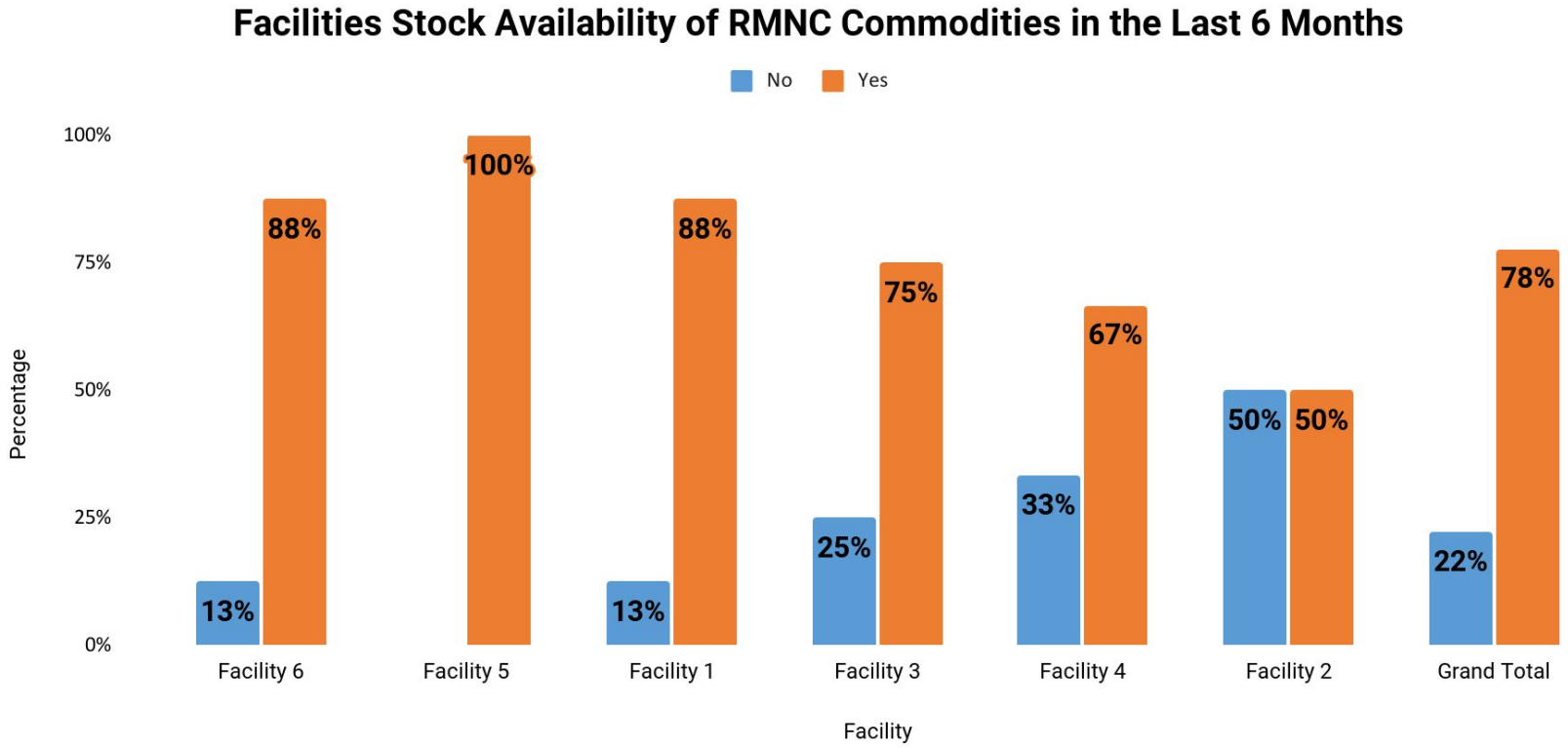
0%	
1%-20%	
21%-50%	

Most of the facilities were adequately stocked on the day of visit with a few stock out cases reported in the past 6 months.

- Stockouts are **infrequent** and mainly attributed to shipment delays, especially for specific vaccines like BCG, was stock out lasting for three weeks in past six months period.
- The order fill rate from EPSS is around 80% for program commodities like RMNCH, TB, and HIV.
- Challenges such as **building electronic visibility at the woreda level, data quality issues**, and **cultural data usage** hinder the prevention of stockouts.
- Awareness creation, supportive supervision, and capacity building are recommended to address these challenges.

- Oxytocin and DMPA-IM were adequately stocked in previous six months prior to the assessment across all the facilities visited.
- **More than 60%** of the facilities visited were fully in stock of implants,ORS_Zinc and Amox in last six months period (July 2023-Nov 2023) prior to the landscaping assessment exercise.

From all the facilities that were visited ,availability of RMNCH commodities was at 78% with one facility having 100% stock availability of all the 8 RMNCH commodities observed.



Recommendations

To improve the RMNCH supply chain management system, several recommendations are proposed:

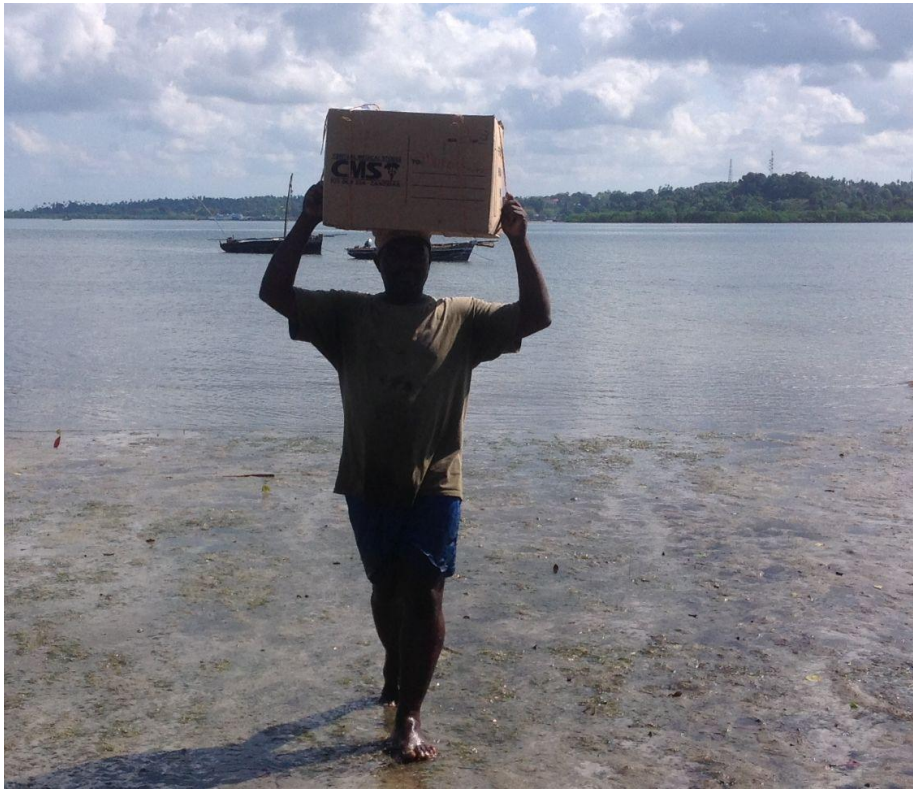
1. Support better utilization of health system data, and data quality interventions.
2. Strengthen the implementation and scale up of eLMIS
3. Build capacities in proper utilization of LMIS tools and monitoring for improved data quality

"Telephone and telegram groups in addition to official written feedback, qua"We have access to the DAGU dashboard BUT it is currently not providing the data as we need it. Through the DAGU dashboard you can see the SOH of the hf implementing DAGU system however the SOH at the time we are seeing in the dashboard and the SOH at the facility level is different":Key Informant

[Key Informant, Ethiopia]

Theme 3: Transport and Distribution

Last mile delivery capacity of EPSS helps to prevent delays in commodity deliveries and shorten lead time



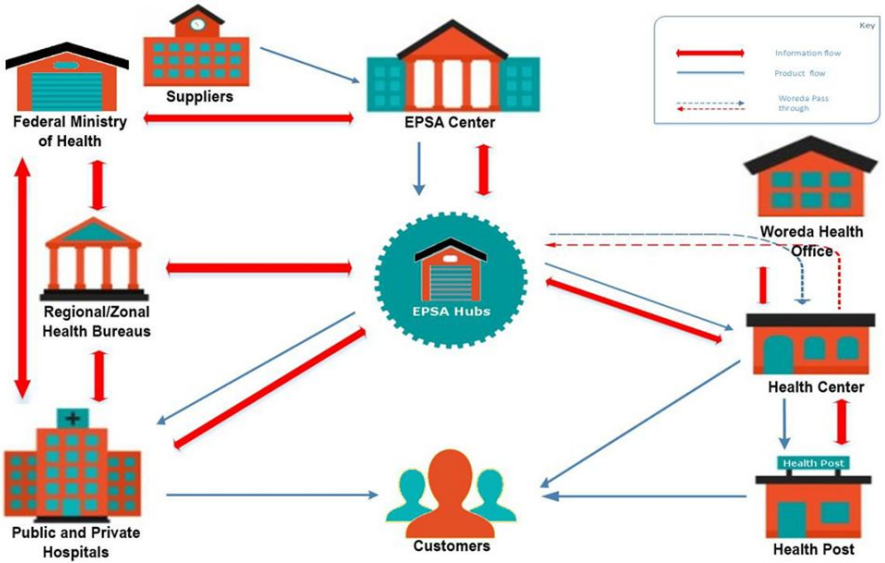
EPSS hubs do direct deliveries of commodities to healthcare facilities through a well structured cycle

Presence of properly established distribution system:

- There is a properly established distribution and integrated transport system from EPSS center to hubs and then to health facilities. The EPSS hub receives RMNCH commodities monthly from the central warehouse along with other essential items.
- The distribution schedule to HFs is bimonthly with even and odd program.
- EPSS utilizes its own vehicles to transport and distribute health program commodities from EPSS center to hubs and then to HFs/WoHos.

Availability of written procedures and documentation

- There are written procedures for delivery methods and schedules



Fleet challenges and indirect delivery lengthen the lead time and delays the timely delivery of commodities to health facilities

Delays in distribution exists due to **vehicles functionality** problem. The vehicles have not been serviced for a long time, which may lead to breakdown and delays in delivering commodities to health facilities.

“The vehicles currently available are old and they have been used for around 10 years. Couple of instances where the vehicles have broken down and delayed distribution.”, key informant.

In the case of Dire Dawa (DD) most facilities receive commodities through direct delivery, a few health facilities that are near the EPSS hub go to collect their consumables themselves. Health Facilities under Jarso woreda with the exception of Jarso health center are indirectly supplied through the woreda, which increases the lead time and results in complex logistic operation.

"Delivered to the different facilities differently in some facilities. There are those that receive directly and for others they deliver to the woreda, But for DD all facilities receive through direct delivery", key informant.

Recommendations

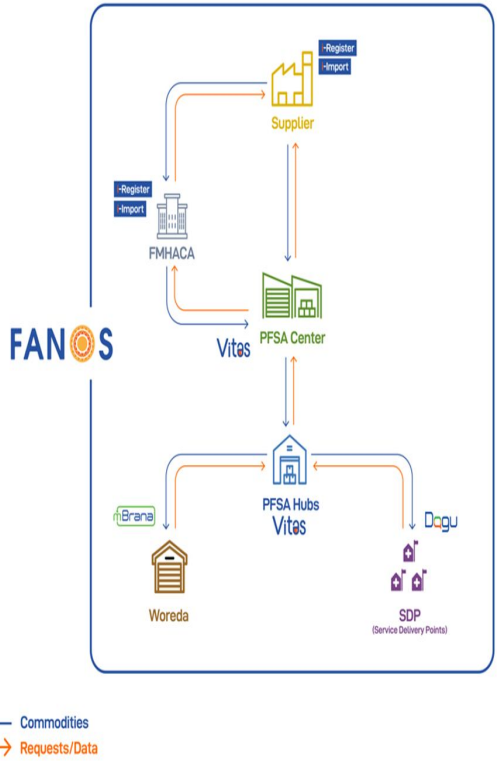
- Support the Ministry's and EPSS's effort in implementing strategic interventions to optimize the logistic (transport and distribution) system including strengthening last mile delivery capacity, inventory holding, and others

Theme 4: Logistics Management Information Systems

"They have a strong coordination system, if there is a problem of refill from EPSS it will be communicated by the HFs and they can take action. The availability of commodities is not a problem"

eLMIS Applications (Upstream and Downstream)

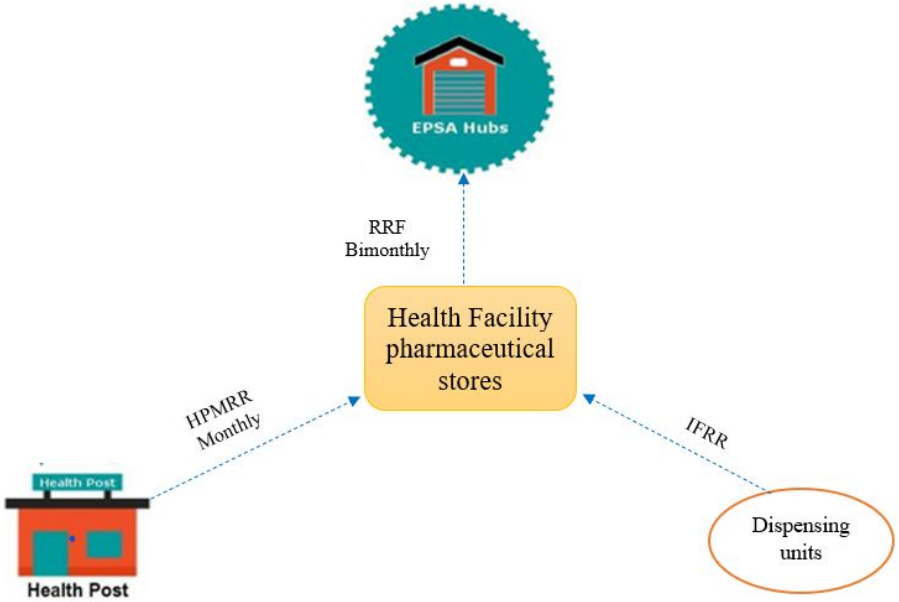
- **DAGU** is compound software solution designed to manage supply chain functions at service delivery points. It includes an inventory management system at the facility store level and a patient service management system at the dispensing unit level through its extended module called Electronic Auditable Pharmacy Transactions and Services (eAPTS).
- **VITAS -** open source, custom software platform designed to support warehouse management, inventory control, and logistics management information. It is used to control inventory, from receipt to issue, and manage movement and storage in EPSS center and hub warehouses.
- **mBrana system** - open source mobile software platform designed to manage inventory such as vaccines, bed nets and other commodities passing through districts (woredas) and facilities throughout Ethiopia
- **Fanos dashboard** - visibility platform that consolidates most important information collected from different levels of supply chain management tools. This includes Vitas, mBrana, and Dagu
- **A national supply chain dashboard** - integrates data from VITAS and ERIS, offers visibility to key stakeholders. This system is accessible to Federal MOH, Ethiopian Health Insurance, Ethiopian Food and Drug Authority and EPSS.



Forms used for reporting

The **flow of logistics information within the health system is a complex yet crucial** aspect that ensures the effective data management and functioning of the RMNCH program.

- **Report and Requisition Form (RRF)**
- **Internal Facility Reporting and Request (IFRR) Form**
- **Health Posts Monthly Report and Request (HPMRR) Form**
- **Vaccine Request Form (VRF):** This form is utilized for reporting and requesting for vaccines by health facilities to woreda/EPSS Centers on a monthly basis.



Efficient reporting infrastructure is in place which empowers health facilities for timely submission

- **Health facilities and EPSS Hubs are adequately supplied with reporting tools** to enable them submit their reports in a timely manner. Health facilities are well resourced and equipped with printers and printing papers which makes it possible for them to print and complete the RRFs, IFRRs and VRFs as required. Facilities that use automated systems (e.g. DAGU) to complete these reports, are able to print the three copies as required for submission. One copy is retained within the facility, another is submitted to the Woreda or regional health bureau and the third copy is submitted to EPSS.

- Health facilities have **structures and processes that ensure reports are verified by the relevant stakeholders within the facilities before submission**. This includes the store manager and pharmacy heads.

"The RRF is produced by the store manager, verified by the pharmacy head, and then approved by the hospital head. This is done on a bimonthly basis." Key informant.

"They have a strong coordination system, if there is a problem of refill from EPSS it will be communicated by the HFs and they can take action. The availability of commodities is not a problem".

[Key Informant, Ethiopia]

Feedback mechanisms enhances communication and accountability in health facilities

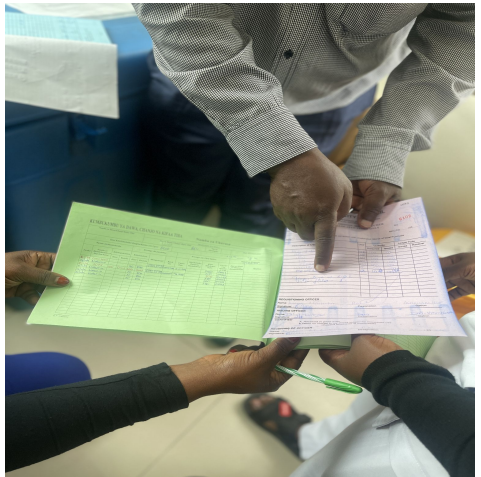
- **Multiple channels are available and used to provide feedback on the reports submitted.** These include telephone, telegram groups, official written feedback, quarterly catchment meetings, supervisory visits, and monthly PMT meetings. Woreda and zones play a crucial role in verifying data and providing feedback to health facilities. These channels are also utilized for **sharing of reports and following up with facilities for any information that is missing.**

"Telegram and whatsapp is used to give feedback to the zones and the facilities. Key informant"

[Key Informant, Ethiopia]

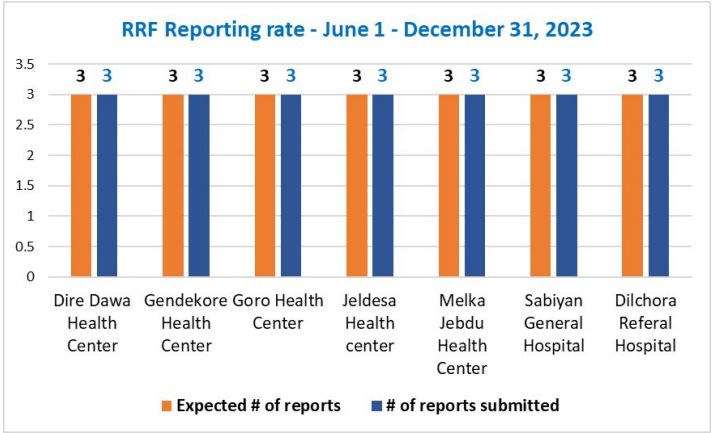
"Telephone and telegram groups in addition to official written feedback, quarterly catchment meetings, supervisory visits, and also monthly PMT meetings were used"

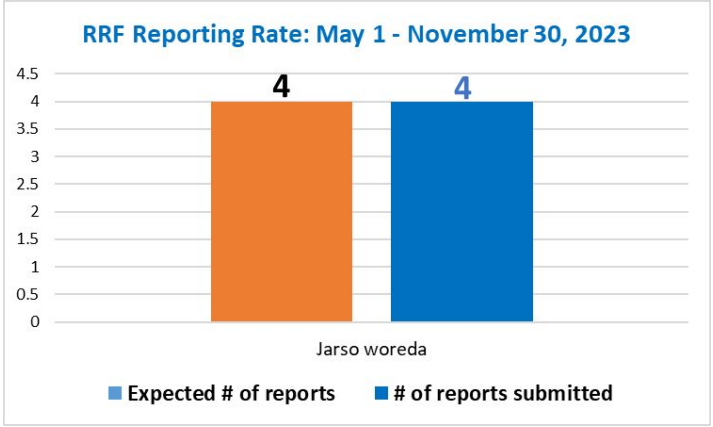
[Key Informant, Ethiopia]



Streamlined coordination and monitoring has strengthened Supply Chain Management in Health Facilities

- There is a **strong coordination system between health facilities and the EPSS hubs.** The hubs communicate to the health facilities whenever there is a challenge with resupply so that health facilities can take action. However, availability of RMNCH commodities is not a problem.
- The **reporting rates average 100% and timeliness is at 95%.** During supportive supervision, they verify that the stock levels reported in the RRF are accurately recorded on the bin cards and in the DAGU system.





Data quality issues such as inconsistency, inaccuracies and lack of expertise to analyze hinders decision making process.

- **The quality of data collected and reported may be inadequate at times leading to inaccuracies and inconsistencies** in the information available for decision-making. This could result from errors in data entry, weak implementation of LMIS, or insufficient training on data collection and management.
- **There is a lack of expertise or resources for effectively analyzing the data collected.** This can hinder the ability to derive meaningful insights and make informed decisions based on the available information.
- **Discrepancies or inconsistencies** may exist between the data reported by different sources or levels of the healthcare system. This could be due to variations in reporting practices, data collection methods, or interpretation of indicators.

"The issues with indicators have been reported to DHIS2. This also includes identification of the health facilities that are producing the discrepancies"

[Respondent, Ethiopia]

"RRF is first filled by stored manager and they have two approval stages before sending to EPSS. However due to the shortage of human resources particularly pharmacist the quality of RRF is poor and the RRF is normally not reviewed as desired"

[Respondent, Ethiopia]

Recommendations

- Address the shortage of human resources, particularly pharmacists, by hiring additional personnel to ensure that there are enough staff members available to handle the responsibilities of reviewing and approving RRFs.
- Implement comprehensive training initiatives focusing on RRF completion, emphasizing accuracy and thoroughness, to mitigate issues stemming from the shortage of pharmacists.
- Establish robust quality assurance measures to ensure that all RRFs undergo thorough review and approval stages before being sent to EPSS.
- Strengthen eLMIS scale up and implementation

Theme 5: Data Demand and Use

Despite the well-structured HMIS and LMIS, the supply chain data utilization practice is poor as a result of low emphasis given for supply data use, skill gap in data analysis and interpretation, and unusable data due to quality problem.

Strong and well structured HMIS & LMIS anchored in policy

High emphasis is given on the information system within the healthcare system.

- **Strategies** and **roadmaps** are in place
- Training package provided to build the capacity of health facilities in data analytics, interpretation, root cause analysis (RCA), and decision-making
- Availability of a well-structured health management information system (HMIS) and Logistic management information system (LMIS)

Presence of data use platforms

- Performance Monitoring Team (PMT) is established at all levels comprising various departments that regularly convenes to discuss performances using KPIs.

Presence of data quality assurance practice

- LQAS (Lot quality assurance sampling) and RDQA (Routine Data Quality Assessment) will be performed regularly at HFs and WoHos.

Supply chain KPIs are included in HMIS

- There are six supply chain KPIs included into HMIS that are routinely captured and tracked.
- These are tracer drug availability (25 medicines), % of clients with 100% prescribed drugs filled, supplier fill rate, % of medicines prescribed from facility specific medicine list, and % of encounters with an antibiotic, and wastage rate.

Absence of simplified and integrated service and logistic data visualization leads to suboptimal data use and delayed decision making

- Due to issues with user-friendliness and simplicity of technologies, the data visualization, analysis, and use at HFs and Woredas is suboptimal. The data analysis is limited to descriptive and further analysis such as triangulation is not being done.
- The lack of up-to-date information exchange between national and subnational levels exacerbates decision-making difficulties at health facilities.

“The major issue is that most systems are not interoperable hence decision making at the health facility becomes very difficult. The technologies that we have should make the life of the health worker easy in generating information and providing visuals for easy problem identification.”, key informant.

Skill gaps that leads to poor data quality, analysis and interpretation which hinders decision making

Data quality problem

- Invalidity, incompleteness, and discrepancy of report and record in data source are among the data quality problems.

"The main causes of poor data quality is poor recording keeping in other departments and rotation of roles in the different departments as new staff may not be aware on how to properly fill in the tool." key informant.

Insufficient capacity in data analysis and use

- Due to skill gaps in supply chain data analysis and use in health facilities, the data analysis is limited to descriptive.
- Poor data triangulation exercises
- Even if training is being provided, it is mostly given to M&E expertise only.

"....The analysis is still suboptimal and mostly descriptive. There is very little data triangulation....The facility can now do simple analysis using the data though the capacity differs from one health facility to another....There is a lot of data at the health facility level and data triangulation is essential. The capacity of data triangulation at the health facility level is not available.", Key informant.

"The role of the facility was mainly doing the data collection and sending to the next level, there was no performance monitoring, there was no institutionalized way of data analysis, root cause analysis, data quality assessments.", Key informant.

"The program experts lack the basic skills of analyzing and interpreting data.", Key informant.

Limited accountability on data management, monitoring and feedback mechanisms leads to reliance on alternative communication channels.

- Weak enforcement mechanisms aimed at holding individuals accountable for recorded and generated data, as well as the associated consequences, lead to inaccurate data recording and reporting, hindered data utilization, and compromised decision-making abilities.
- Poor monitoring and feedback mechanisms established to strengthen accountability associated with data recording, reporting, and use.

"There is also a lack of accountability, people are repeating the same mistakes again and again yet no action is being taken. The decisions are not helping at all. Those health facilities who are using the data well should also be acknowledged and incentivised, something that is currently not happening. There is also a lot of falsification of data hence poor data quality and this is a result of lack of accountability. There should be accountability mechanisms in terms of data use, analysis etc.", key informant.

- Access to data is facilitated through platforms like **DAGU dashboard, FANOS system;** however, concerns about data accuracy in the DAGU dashboard have led to reliance on alternative communication channels such as the Telegram channel and direct calls to health facility in-charges.

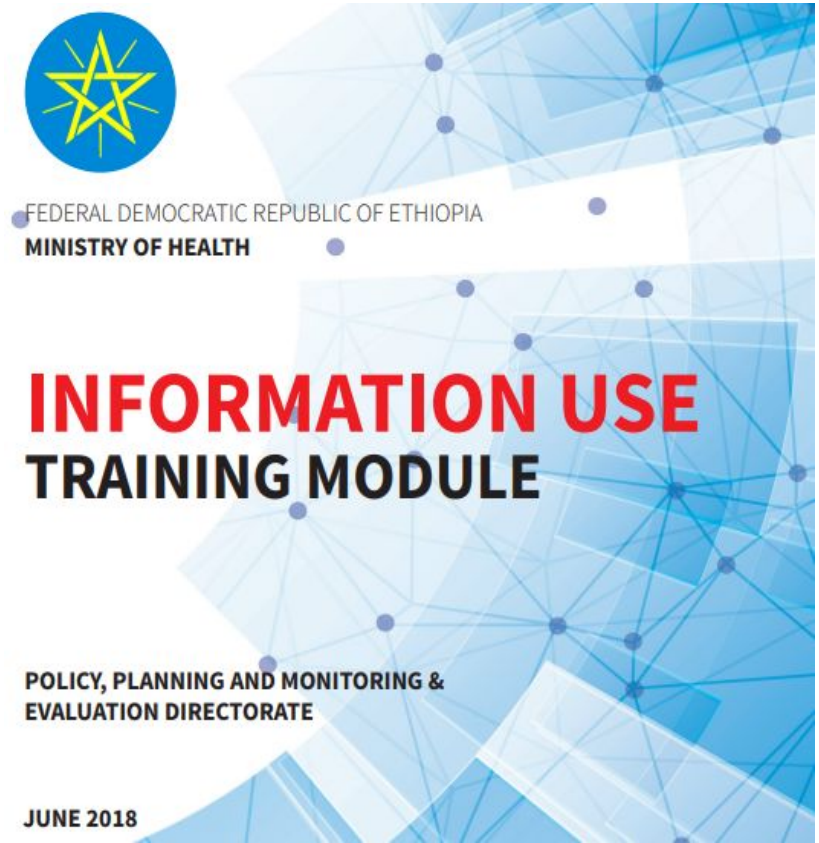
"Through the DAGU dashboard you can see the SOH of the HF implementing DAGU system however the SOH at the time we are seeing in the dashboard and the SOH at the facility level is different…hence the focal person is not comfortable or confident with the data on the dashboard. However they do have a telegram channel where HF incharges from health facilities post the near to expire commodities using that channel.", key informant .

Lack of critical SC indicators which hinders data review and performance monitoring of supplies

Lack of sufficient SC KPIs in the national HMIS

- Supply chain KPIs included in the national HMIS is limited to six which are not enough to monitor the SC performance, see the full picture, and make sound decisions. Due to insufficiency of KPIs trackable through HMIS, a parallel system was developed by the supply chain program and they mostly monitor SC indicators.

“The key indicators tracked are also tracked in DHIS2 and there are about 7 indicators that are monitored. Indicators include, fill rates, total prescribed product, expiry date, drug availability etc and only collect 25 reportable program products are included. For instance only oxytocin from RMNCH - There are also other indicators about 35 indicators that are monitored by the M&E department in PMED.”, key informant.



Recommendations

- Improve access to the national supply chain dashboard data by scale-upping its implementation
- Enhance the supply chain data utilization practice through
  - building skills in data analysis, interpretations, problem solving, action planning and decision making
  - strengthening regular review of supply chain KPIs and utilization for commodity security and service improvement
- Ensure the usability of supply chain data by increasing the data quality through establishing data quality assurance system and capacitating on data capturing, assessment, and quality
- Empowering the SC, data manager, and decision makers at different levels on better Supply Chain data use for decision-making.
- Support the institutionalization of supply chain data use culture through promoting and creating positive attitude and motivation towards data-driven decision making for establishing resilient Supply Chain system
- Promote accountability and ownership by instituting strong monitoring, feedback, and recognition practice.
- Work with the national HMIS to increase the number of supply chain KPIs included in HMIS.

Theme 6: Performance Monitoring Teams

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What is a PMT?

The Performance Monitoring Team (PMT) consists of members from different departments within an institution. A PMT has a chairman - the head of the institution, the secretary who is selected among the HMIS staff within the institution, and Heads of departments who are the members. A PMT at the health centre may include 10 members, at primary and general hospitals upto to 15 members and more than 20 members for specialized hospitals. The Meeting cadence for PMTs varies depending on the level. At the health facility the PMT meets every month whereas at the RHB level, they meet every quarter. The main function of the PMT is to collect data on Key Performance Indicators, analyze, interpret, identify challenges, conduct root cause analysis, and develop action plans and recommendations.

PMT meetings are a strongly government owned and led process and not reliant on partners for support.

MOH- Ethiopia has taken ownership of the PMTs by **establishing PMTs at all levels from National, Regional, Zonal, Woreda and health facility levels.** They have developed a PMT manual and other guidelines essential for the proper functioning of a PMT. Ownership by MOH - Ethiopia has led to a sustained implementation of PMTs **even with minimal implementing partner support.**

The PMT meetings are usually held within the facilities available in each institution. There is no implementing partner support for PMT meetings.

"The meetings take place in the office of the CEO. Sometimes the hospital provides water. There is no partner support. key informant"

[Key Informant, Ethiopia]

The meeting includes about 20 members and where we are currently conducting the meeting the space is very small and there is no tea break or water provided during the meeting. Partners do not provide any kind of support for PMT meetings.

[Respondent, Ethiopia]

PMT meetings at the National and regional level are inconsistent

PMT meetings at National and Regional level are irregular and not taking place as scheduled. **Reasons for irregular PMT meetings** could be due to **occurrence of unanticipated events like outbreaks .i.e dengue fever, existence of other meeting avenues like the Joint Coordination Committee meeting where data use issues are discussed, Chairmanship of the PMT being held by senior leadership who have a lot of other responsibilities and limited time to lead a PMT meeting as well as a lack of motivation among members to conduct PMT meetings.**

" I can't remember the last time we met, probably 8 months ago, maybe last year August 2022 and the main reason for this is that the meeting is chaired by the state minister and quorum depends on the availability of senior leadership"

[Respondent, Ethiopia]

At the regional level, PMT meetings do not take place as scheduled. Most of the regions had not conducted PMT meetings for the last six months.

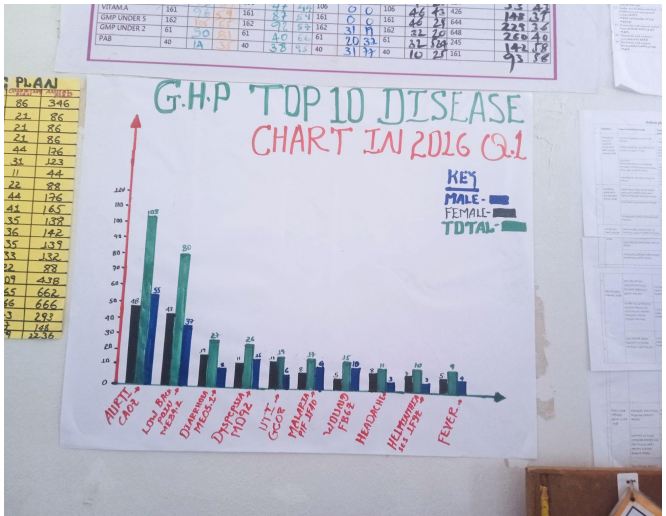
"Yes we have a PMT and conduct PMT meetings but because of regular outbreaks and pandemic cases, the regional health bureau has not been able to sit and conduct meetings every month."

Limited resources in the implementation of action items

The PMT at the national, Zonal, and regional levels has the task of resolving challenges that are beyond the control of health facilities. **With limited resources, higher-level PMTs can only resolve a fraction of the challenges which may be a deterrent to members to continue attending PMT meetings as most of the challenges are not resolved.** This highlights the importance of institutions setting aside a budget to support the implementation of action items that stem from PMT meetings.

> ***"I advocate for Improved availability of resources for the implementation of action items. Most of the problems solved are mostly low-hanging fruits -requiring minimum resources however the problems requiring a lot of resources are usually not done"***

[Key Informant, Ethiopia]



Lack of structured meeting agenda that leads to long meetings and low engagement by the critical members

At the zonal and health facility level, **the PMT meeting lasts the whole day for the team to be able to cover all the presentations from the different departments.** This is a good practice on one hand as one can conduct a thorough review of performance for all departments however it may deter others from attending as they may not have the whole day to listen to presentations.

“The meeting takes the whole day to complete as we review a long list of indicators.”

“The time for the meeting is as needed at times can take a whole day and the team can break for lunch come back again and finish up the meeting.”

The pharmacy department particularly the pharmacy head attends PMT meetings and responds to questions regarding the supply chain including commodity availability. However, they do not play an active role in data extraction, analysis, and interpretation of supply chain data. This is because PMT meetings cover many agenda items and are not just focused on the supply chain.

“The current practise does not engage the pharmacy department , generally the system does not allow for the pharmacy department to be involved in the PMT. The pharmacy department is highly underutilized when it comes to the areas of data use, they are left out in most of the trainings which limits their contribution in improving the health system.”

“The pharmacist participates in PMT meetings and contributes to the discussions however SC indicators are not explicitly discussed in these meetings. The pharmacy performance is not being monitored in comparison to other services.”

Lack of shared responsibility in overseeing PMT meetings

The role of data extraction, analysis, presentation and note taking is done by the secretary. Depending on the level, this role is mainly handled by the Strategic Affairs department who have monitoring and evaluation officers as well as health information technicians with the capacity to perform that role. As a result some PMT members take a sedentary role in PMT meetings as they perceive that the responsibility of data analysis is on a particular department or staff.

"The responsibility of data analysis and interpretation is purely on the Strategic Affairs department, other department managers don't see the role of data analysis as theirs. During PMT meetings the case managers see their role as coming to the meetings and listening to data being presented by the strategic affairs department, some of them don't even bother taking notes."

[Respondent, Ethiopia]

Recommendations

- Adopt learnings from implementing the IMPACT Teams approach to review meeting cadence and PMT meeting agenda.
- Enhance the impact of PMT through increasing the engagement of pharmacy team and building the capacity of members in supply chain data review, RCA, and decision making
- Use the practise of role rotation in conducting PMT meetings for increased member responsibility in overseeing PMT meetings.
- Introduce clear metrics (process indicators) for monitoring the progress of PMTs at different levels.
- Introduce low cost reward and recognition mechanisms to encourage team work and improved productivity.
- Apply adaptive learning practices particularly the culture of continual improvement and use of data to inform practice.
- Develop a tracking dashboard that simplifies KPI tracking, and PMT agenda management.

Theme 7: Recognition and Capacity Building

The recognition and capacity building program is hindered by less emphasis of supply chain KPIs within data use capacity building curriculums and inconsistent recognition practices.

A practice of recognition and capacity building was identified at all levels

Trainings is provided focusing on effective data capturing using HMIS guideline.

"They provide capacity building to facilities on a continuous basis to equip facilities on data capturing.This is done using the HMIS guideline/manual."

[Respondent, Ethiopia]

High-performing health facilities are recognized and certified, creating a culture of excellence within the health system.

"They mostly use recognition, and they recognize zonal staff as well as health facility staff. They mainly provide certificates.", Key informant.

"They recognize good performance based on their annual performance. They provide certificates, blankets, and branded mugs. The best performing teams were the surgical department and neonatal unit."

[Respondent, Ethiopia]

Lack of focus on SC KPIs in capacity building and inconsistent reward and recognition practices

Supply chain data management is weakly addressed in the capacity building package

- Limited data use trainings given for supply chain team
- No on-job-trainings provided on SC data analysis and use

Absence of explicit Rewards and Recognition (R&R) mechanism

- Even though there is a recognition practice, it is not regular and not associated with data quality, analysis, and use performance; rather, it is based on comprehensive performance.

"In general, the best performing PHCU at least gets the certificate of recognition, but not specific to PMT performance."

[Respondent, Ethiopia]

Limited resources for recognition

- Limited resources are acknowledged as a constraint in providing incentives

"They mainly provide certificates and this is mainly due to the limited resources.", key informant.

Recommendations

- Introduce low cost reward and recognition mechanisms to encourage team work and improved productivity.
- Leverage use of learning packages to build capacity of health care workers on basic supply chain skills.
- Design and provide capacity building trainings that fills attitude and skill gaps of supply chain data analysis and use
- Strengthen experience sharing platforms such as review meetings, success story dissemination, site visits

Thank you!

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