DMPA-SC Supply Chain Assessment in Uganda

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Uganda DMPA-SC Supply Chain Assessment Report

This document was produced by John Snow Inc. (JSI) and inSupply Health. The team conducted an assessment of the public health supply chain system for family planning commodities including DMPA-SC in Uganda. This assessment was funded through the Access Collaborative project led by PATH in partnership with JSI.

Acknowledgments

We would like to thank all the respondents who participated in this assessment for their valuable inputs, including respondents from the Ministry of Health, National Medical Stores, Joint Medical Stores, district health offices, service delivery points, development partners and donors. Finally, this assessment would not have been possible without the support of PATH and PSI in Uganda, as well as the dedicated effort by JSI and inSupply Health staff who were part of the assessment team.

Abstract

This report describes the findings of an assessment of the supply chain system for DMPA-SC in Uganda to identify areas for improvement and provide recommendations.

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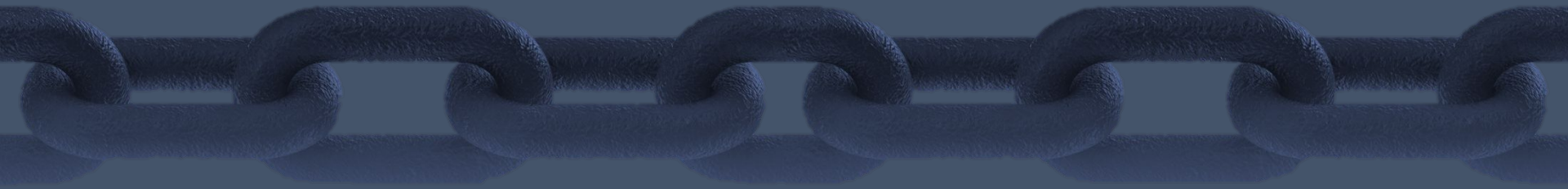
Acronyms / Abbreviations

3PL	third party logistics provider
AIMO	Assistant Inventory Management Officer
CYP	couple years protection
DMPA SC	depot medroxyprogesterone acetate subcutaneous
DHIS2	District Health Information System
DHO	District Health Office
DISC	Delivering Innovation in Self Care
FP	family planning
FPRHCS	family planning reproductive health commodity security
HRIO	Health Record and Information Officer
HC	Health Center
HSC	health supply chain
IMPACT	Information Mobilized for Performance Analysis and Continuous Transformation
JMS	Joint Medical Stores
LMIS	logistics management information system
MMS	Medicines Management Supervisor
MCH	maternal and child Health
MOH	Ministry of Health
NMS	National Medical Stores
NO	Nursing Officer
PFP	private for profit facility
PNFP	private not for profit facility
PHN	Public Health Nurse
PMO	Principal Medicines Officer
QI	quality improvement
QPPU	Quantification Procurement Planning Unit
RH	reproductive health
RHC	Reproductive Health Coordinator
RMNCAH	reproductive, maternal, newborn, child & adolescent health
SC	supply chain
SDP	service delivery point
SPARS	Supervision, Performance Assessment & Recognition Strategy
TWG	technical working group



Overview and Background

Project Overview

The Access Collaborative Project

Led by PATH in partnership with John Snow, Inc.(JSI), the Access Collaborative (AC) provides data-driven technical assistance, coordination, and tools to ensure that women have increased access to self-injection as one contraceptive option, delivered through informed choice programming. Since 2017, the AC has been working with ministries of health and partners across public and private sectors to facilitate introduction and scale-up of the self-injectable contraceptive DMPA-SC. The AC provides dedicated technical assistance to integrate DMPA-SC alongside other methods in family planning programs—including support on monitoring and evaluation, health worker training and supervision, supply chain management, and policy advocacy. The AC also shares data and information gathered across countries with international donors to help shape the global market for DMPA-SC, with the ultimate aim of dependable supply available to meet demand.

DMPA-SC in Uganda

Uganda is currently implementing the National Scale-up Plan II for DMPA-SC, including Self-Injection and the National DMPA-SC Taskforce's Theory of Self-Injection Scale-Up whose implementation is being led by the Ministry of Health. The goal of both plans is to scale up access to self-injection across all sectors, increase awareness of self-injection as part of the FP method mix, create an enabling environment for the scale-up including updating policy, regulations, training curricula and commodity availability, explore and open up innovative access channels, and gather evidence and learnings for implementation. Various implementing partners working through the National DMPA SC Taskforce have been involved in activities to realize this goal, such as, health care worker training, multi-channel demand generation campaigns and promoting access.

Demand for family planning, including DMPA SC and self-injection has increased due to demand creation activities. However, these efforts and the scale-up of self-injection is being constrained by inconsistent supply of DMPA-SC, which is increasingly impacting uptake and provider engagement. While stock status reports reveal product availability at central level, there exists challenges with availability at the last mile indicating that there could be bottlenecks preventing uninterrupted flow of products in the downward supply chain. This underscores the need for a deep dive to assess the supply chain of DMPA SC in Uganda to help identify where the blockages are and highlight key opportunities for intervention that would guide investment efforts by the MOH and stakeholders to ensure continuous supply according to need. In May 2022, the AC conducted a supply chain assessment in Uganda to identify contraceptive and DMPA-SC supply chain system strengths and challenges, and make recommendations for possible interventions for system improvement. This report documents the assessment findings.

Executive Summary

The uptake of DMPA-SC in Uganda is dependent on consistent availability of supplies at service delivery points. Supply chain challenges have resulted in significant stock imbalances with 41% of facilities reported being stocked out and 35% overstocked of DMPA Injectables (DMPA-IM and DMPA-SC combined), as of May 2022. The main purpose of this assessment is to identify the key gaps, challenges, and opportunities for improvement of the supply chain system, specifically for family planning commodities including DMPA-SC. Through desk review, consultations with key stakeholders and observations during facility visits, several gaps have been identified and recommendations formulated.

The pandemic has disrupted supply chains and access to family planning services in the last two years resulting in high levels of volatility in availability and consumption of DMPA-SC. Uncertainty in demand and supply combined with lack of facility level data visibility has made forecasting and supply planning of DMPA-SC challenging. In 2022, only 45% of DMPA-SC quantities ordered by health facilities have been fulfilled by NMS, resulting in shortages and stockouts at the last mile. At the same time a large quantity of emergency supplies are being made by JMS indicating an overdependence on alternate channels because the routine ordering and distribution system is not working well. NMS is rolling out a new electronic ordering system that can have significant benefits if implemented well. The new CSSP system has the potential to enhance data visibility and monitoring of supply chain performance, however data quality issues are a concern. In accurate stock records were observed at SDP level resulting in poor quality reports and orders. As data visibility improves, it will be critical to build a culture of data use which is currently lacking. While central level stocks of DMPA-SC are routinely tracked and monitored, SDP level monitoring is not done routinely and is limited to supervision visits.

Overall, it was observed that larger efforts and resources in technology, people and processes are being made at central and higher levels of the chain, while districts and lower level facilities are getting less attention. Issues cannot be addressed in isolation and this assessment has followed a holistic approach to identify areas for improvement at each level of the system. Summary findings and recommendations under each component of the supply chain system are shown on the next two pages.

Summary Findings

These findings highlight the strengths and challenges of the DMPA-SC supply chain system. These results were validated through a validation meeting with national and subnational stakeholders

Product Availability	• DMPA-SC stock at central level below minimum or stocked out for 6 months (Mar-Aug) in 2021. Current stock as of May 2022 is less than 3 months. • Large stock imbalances across SDPs. As of May 2022, 41% of facilities reported being stocked out and 35% overstocked of DMPA Injectables (DMPA-IM and DMPA-SC combined).
Quantification & Procurement	• Demographic method used to develop forecasts. Consumption data not used. • For supply planning, stock on hand from district and health facility level is not considered due to lack of data visibility for DMPA-SC. Assumptions on program changes or expansion not included.
Inventory Management	• In 2022, only 45% of DMPA-SC quantities ordered by health facilities have been fulfilled by NMS, resulting in shortages and stockouts at the last mile. • Large number of emergency orders through JMS resulting in over dependence on the alternate distribution system. Frequent redistribution amongst SDPs due to stock imbalances.
Logistics Management Information System	• Stock on hand data collected through HMIS 105 is not disaggregated for DMPA-SC and DMPA-IM, making it challenging to monitor stock status and use the data for procurement planning. • Logistics data is fragmented across multiple systems. Lack of an integrated dashboard to track key supply chain indicators limits data visibility and its use for decision making.
Transport & Distribution	• While NMS has a published distribution schedule, facilities do not always receive commodities on time. Delays occur at district level due to limited fleet of 3PL providers. • Distribution has been delayed for the last two cycles with several SDPs not receiving commodities since November 2021.
Storage	• Limited storage space at district stores poses a challenge during transfer of commodities from NMS to 3PL providers. Insufficient infrastructure for cross docking at district level. • At FP clinics, DMPA-SC units are stored loosely since the manufacturer packaging is 200 stock keeping units per package.
Organization & Staffing	• While supply chain positions are adequate at the higher levels, the SDP level does not have dedicated positions to support commodity management functions. • Guidelines and SOPs exist for most supply chain tasks, however these documents have not been adequately disseminated to the lower level facilities.

Summary Recommendations

The below recommendations were developed and validated jointly with all stakeholders through group discussion workshops and that were held with subnational and national stakeholders.

Quantification & Procurement	• Use stock on hand and consumption data in forecasting and supply planning. • Take district programmatic activities, including planned partner activities, into consideration during procurement planning.
Inventory Management	• Develop a regular schedule for ordering and supply between NMS and JMS to ensure NMS maintains appropriate min-max stock levels at all times. Eliminate adhoc inter warehouse transfers. • Have a single ordering and distribution system for both routine and emergency supplies for public health facilities, in line with one warehouse one facility policy.
Logistics Management Information System	• Disaggregate DMPA-SC and IM on HMIS form to enable visibility of DMPA-SC stock on hand data. • Build an integrated logistics dashboard to enable tracking of key supply chain indicators using data from CSSP, RxSolution, HMIS, and supervision data. Increase access to more users at each level. • Link the various logistics information systems (CSSP, RxSolution, HMIS) so that recording and reporting at facility level can be streamlined and data quality can be improved.
Transport & Distribution	• Adopt seamless cross-docking from NMS trucks to 3PL trucks to improve delivery timeliness. • Increase fleet of 3PL based on number of facilities. Streamline delivery schedule and optimize routing plan. Include performance indicators in 3PL provider contracts.
Storage	• Provide district stores with adequate infrastructure for cross-docking and storage of buffer stocks. Strengthen facility storage to allow proper placement and labeling of products. • Provide small boxes for facility storekeeper to dispense small quantities of DMPA-SC to FP clinic
Organization & Staffing	• Assign supply chain staff to Health Center III and II to reduce the burden on service providers. Build capacity of health facility staff to ensure improved accuracy in reports and orders. • Disseminate supply chain SOPs and user manuals to all facilities and monitor compliance through supervision and supply chain dashboard.

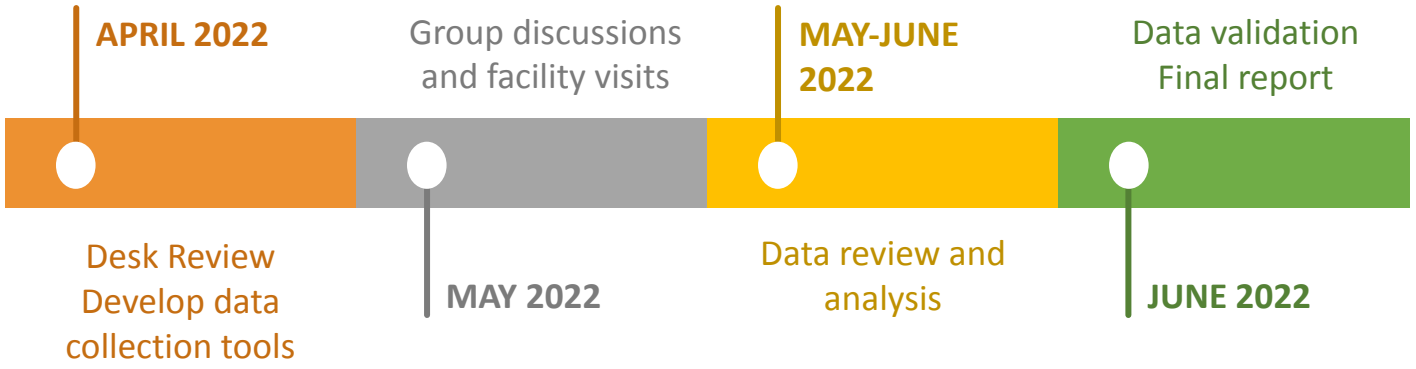
Methodology

Assessment Timeline

This assessment was conducted over a period of three months from April 2022 to June 2022. The assessment began In April 2022 with a desk review of existing reports including previous supply chain assessments conducted, and DMPA-SC logistics and service data. The team designed assessment tools for each level of respondents – central, district and SDP level – including questionnaires for focus group discussions and facility visits. The in country data collection was conducted over a period of one week from May 9-13, 2022 and included two one-day focus group discussion workshops followed by facility visits to three regions in Uganda.

Following the data collection phase, the results were analyzed and summarized. Supply chain gaps were identified and recommendations developed to address those gaps. In June 2022, a data validation workshop was conducted with all stakeholders where the findings and recommendations were reviewed and validated. This report represents the validated findings and agreed recommendations.

Figure 1: Assessment Timeline



Objectives and Methodology

Objectives

The main purpose of this assessment is to identify the key gaps, challenges, and opportunities for improvement of the DMPA-SC supply chain system. The objectives of this assessment are:

- Outline the flow of product and information of DMPA SC in Uganda's health supply chain.
- Evaluate the performance of key logistics indicators for DMPA SC at central and facility level.
- Identify DMPA SC supply chain bottlenecks from end to end affecting product availability at the last mile.
- Develop key recommendations for intervention to ensure undisrupted supply and availability of DMPA-SC at service delivery points.

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Overall Methodology

The assessment team collected data through a mixed method approach including desk review of logistics data and policies, group discussions with key national and subnational stakeholders and field visits to district stores and service delivery points.

The following key elements of the supply chain system were assessed;

- Organization and staffing support for logistics
- Logistics management information systems
- Forecasting and procurement
- Inventory management
- Transport and distribution
- Warehousing and storage

Assessment Design

Desk Review: The assessment team obtained and reviewed existing supply chain policies, strategic plans and previous assessments. Logistics data from the warehouse and facility levels for the last two years was collected to measure historical performance of key supply chain indicators.

Group Discussion Workshops: Two workshops held in Kampala brought together key national and subnational stakeholders to review critical components of the logistics system and identify strengths, challenges and recommendations for the DMPA-SC supply chain. The national level workshop had 15 participants including those from MOH, NMS, JMS, development partners and donors. The subnational workshop included 20 participants from regional NMS and district health offices, and health facility staff. A list of participants can be found in the appendix.

The team designed and administered a comprehensive questionnaire where participants were broken up into small groups to answer questions pertaining to each component of the supply chain system. All responses were captured electronically. Each group developed a list of strengths, challenges and recommendations for their component and presented it to the larger group for feedback and validation. The consolidated results from both workshops were shared by email to all participants to seek any additional inputs.

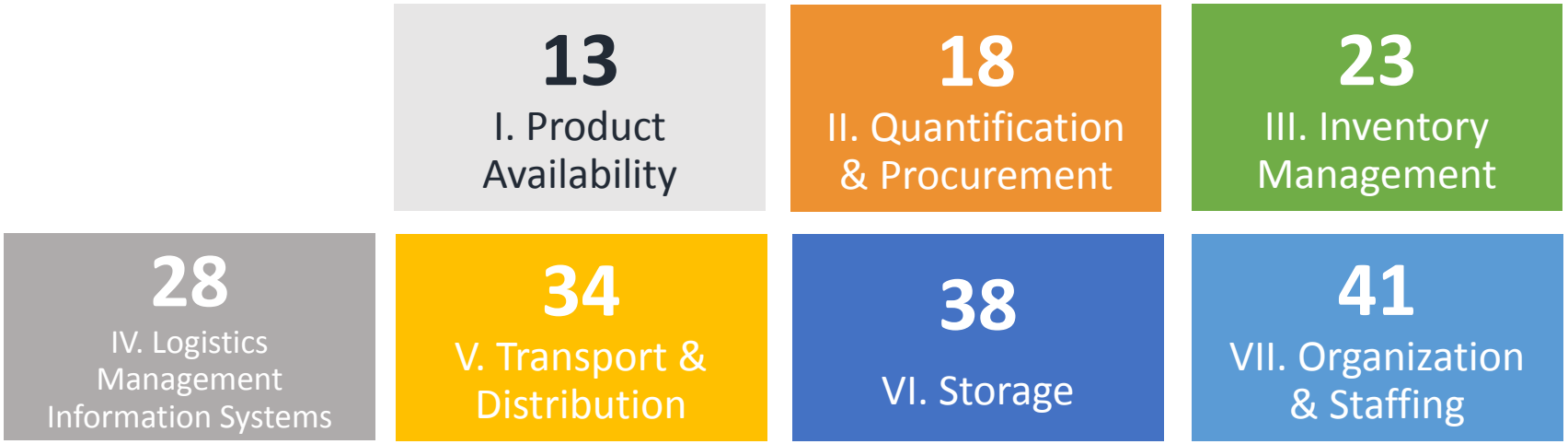
Facility Visits: Facility visits were conducted at district stores and a few sample SDPs in Wakiso, Jinja and Kyenjojo districts. Each visit included interviews with facility supply chain staff, a physical count of DMPA-SC stock on hand (SOH), a review of logistics records and reports, and observations of storage conditions. All responses were captured electronically in an excel based tool.

Results Validation: Following the data collection phase, the team analyzed the data collected to develop preliminary findings and recommendations. A virtual results validation meeting was held with all stakeholders to obtain feedback and agree on the recommendations.

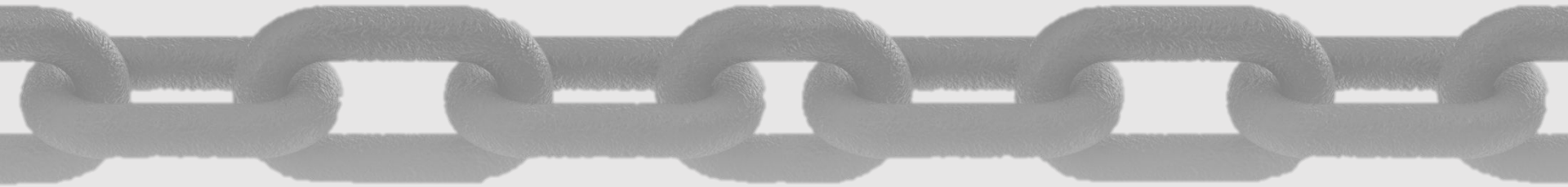
Group discussion workshop with subnational stakeholders

Visit to Rwaitengya Health Center II, Kyenjojo District

Findings and Recommendations



The findings and recommendations in this report are based on the observations and opinions of the respondents and the assessment team. Many of the assessment findings are based on information provided by respondents and are therefore affected by the knowledge, opinions, truthfulness, and biases of the respondents. Responses may have also varied by facility, as different facilities have varied opinions and knowledge with regards to the system. Some of the findings are based on data collector observations and interpretations. Any findings shown are based on desk review, interviews with a sample of facilities and individuals, and may or may not represent the situation in all facilities in Uganda



I. Product Availability

DMPA-SC Stock Status at Central level

A well-known slogan in the public health world is ***"No product, no service."*** FP clients should have access to the method of their choice when they need it. A key measure of a strong and dynamic supply chain system is adequate availability of contraceptives at service delivery and resupply points. DMPA-SC availability was assessed at the central warehouses and SDPs through desk review of stock status reports, HMIS data provided for a few sample districts, and data collected during the facility visits.

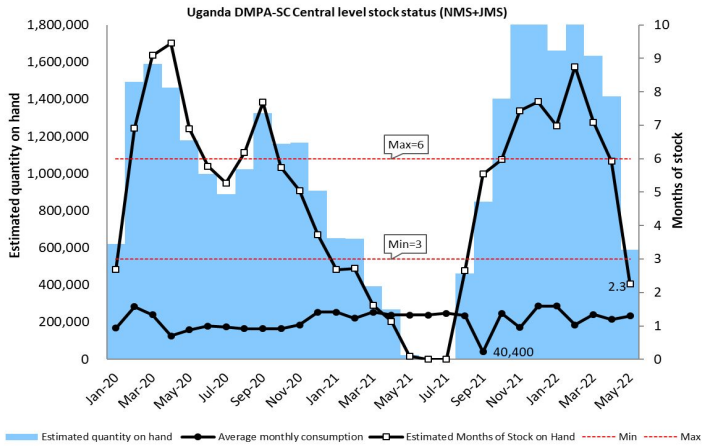
As of May 2022, stock levels at both central warehouses were inadequate. As shown in Figure 2 below, both NMS and JMS were holding less than the minimum level of 3 months of stock on May 31, 2022. A shipment of 612,000 units is expected to be received in June 2022, however this will not be sufficient to fulfill the needs of all health facilities and maintain adequate stock levels at the warehouse. Additional shipments are expected later in 2022 which could alleviate some of the shortages. It will be important to review supply plans and consumption trends to ensure adequate stock levels are maintained.

Figure 2: Stock Status at Central Level as on May 31, 2022*

Warehouse	Stock on Hand	Average Monthly Issues	Months of Stock
NMS	164600	140525	1.2 months
JMS	170339	129950	1.3 months

* Data Source: RMNACH Commodity Stock Status Report May 2022 - DPNM

Figure 3: Stock Status at Central Level Jan 2020 – Apr 2022**



** Data Source: Global FP VAN

Historical data was obtained from the global FP VAN to review central level stock status (calculated based on average monthly issues from the central warehouse) for DMPA-SC since Jan 2020. As can be seen in Figure 3 above, healthy stock levels were maintained for the majority of months during this period with the exception of a six month period between March and August 2021 when stocks were below minimum level or stocked out. The impact of low stocks at central level is reflected in the extremely low fulfillment of orders from the facility level as shown in Figure 4 below.

Figure 4: Order fulfillment rate for DMPA-SC *

June-July 2021	August-November 2021	Dec 2021-April 2022
4%	19%	45%

DMPA-SC Stock Status at District level

In Uganda, the district level is not supposed to store health commodities except during transit from NMS to 3PL providers. In practice though, districts sometimes store commodities that are returned by facilities that need to be redistributed, or store supplies for emergency orders.

All three district stores that the assessment team visited did not have any stock of DMPA-SC on the day of the visit, although the district stores were overflowing with commodities in transit to be delivered to health facilities. These commodities come prepacked for each facility and are stored at the district temporarily during transfer from NMS trucks to 3PL provider trucks. In larger districts, commodities need to be stored for up to 3 weeks while waiting to be delivered to health facilities. Most district stores do not have adequate space to store all the commodities, resulting in commodities being stored in other areas of the district health office.

There is a lack of visibility of stock on hand stored at the district level. As a result, these commodities are not considered during supply planning at central level.

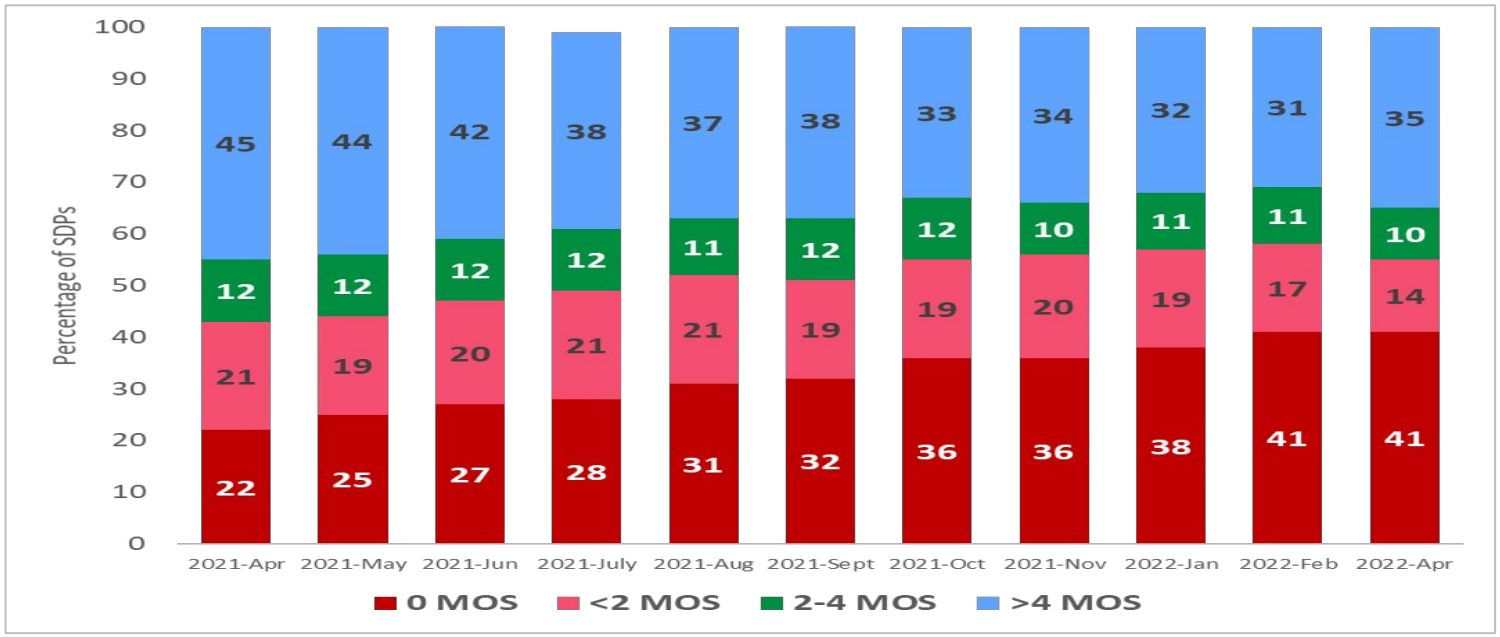
Figure 5: District Store

DMPA (IM+SC) Stock Status at SDP level

As mentioned in the overview and background section, the high incidence of stock outs at SDP level have had a negative impact on uptake of DMPA-SC. HMIS reports only provide aggregated DMPA stock on hand data. As a result disaggregated data for DMPA-SC is not available. As shown in Figure 6 below, the percentage of SDPs reporting stock outs of DMPA injectables has been increasing over the last one year with 41% of SDPs stocked out in the most recent reporting period.

A critical indicator illustrating the health of a supply chain system is whether SDPs have adequate stock levels to meet future needs. Figure 6 illustrates whether SDPs were overstocked (with greater than four months of stock), adequately stocked (between 2 and 4 months of stock), understocked (less than one month of stock), or stocked out (with zero stock). Large stock imbalances across SDPs indicate poor inventory management practices resulting in shortages at facilities that have the most need. Only 10% of SDPs are maintaining adequate stock levels while 35% are overstocked.

Figure 6: Stock Status of DMPA (IM + SC) at SDP Level April 2021 – April 2022*

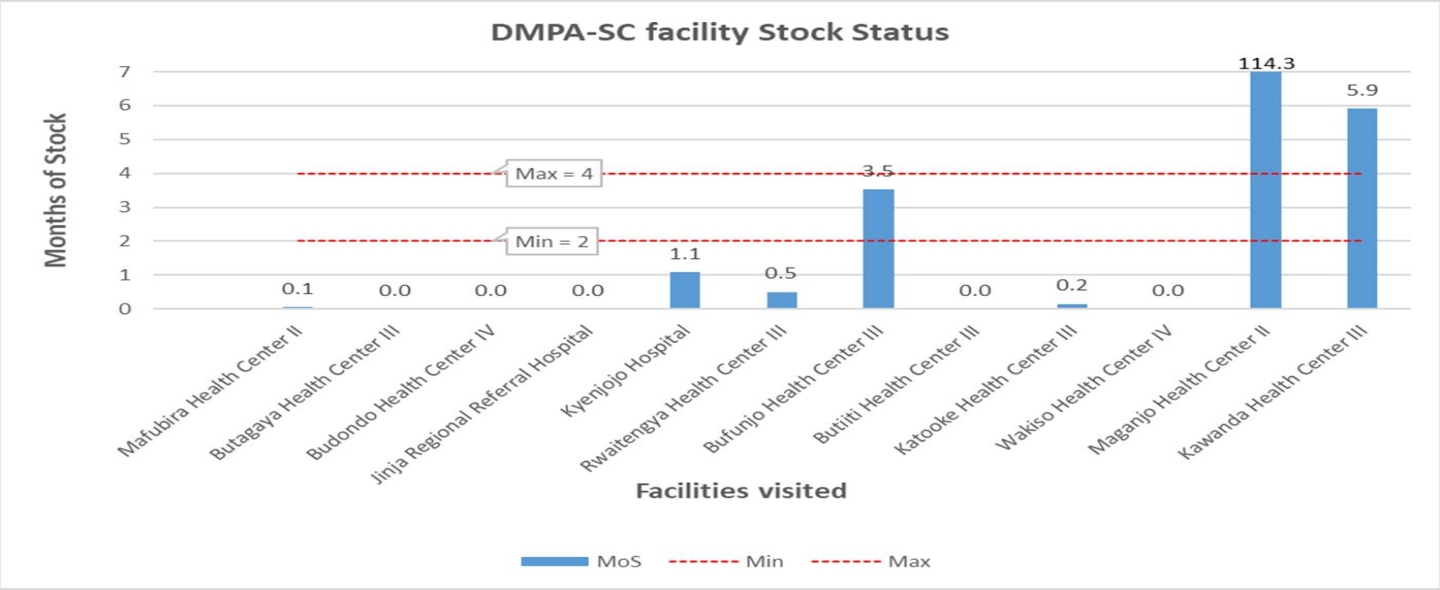


* Data Source: FP RHCS working group report - June 2022

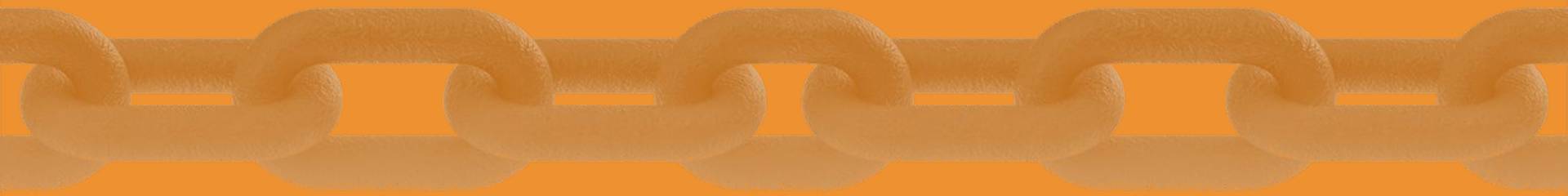
DMPA-SC Stock Status at SDP level

The assessment team conducted facility visits to 12 SDPs in the three districts of Wakiso, Jinja and Kyenjojo. In each facility the team conducted a physical count of stock on hand at the facility store and the FP clinic. Out of 12 facilities visited, only 1 was adequately stocked. 2 were overstocked, 4 were understocked and 5 were stocked out of DMPA-SC. Several facilities reported that they had not received products for many months and were dependent on emergency orders and redistributions. Facilities were expected to receive commodities from NMS in the coming weeks for two previously missed distribution cycles. While this would help alleviate some of the shortages at SDPs with insufficient stocks, it will create overstocks at SDPs that already have more than they need. For example, Maganjo Health Center II which receives commodities through the kit system reported 343 units of DMPA-SC (114 months of stock) on the day of the visit and was expected to receive 800 units (assuming two boxes per cycle) in May 2022, even though they are not in need of additional supplies. Using an inventory control system that calculates resupply based on the most recent consumption data can help reduce such stock imbalances and ensure products are distributed to SDPs based on their needs.

Figure 7: DMPA-SC Stock Status at SDPs on the day of the visit *



* Data Source: Assessment Team facility visits



II. Quantification & Procurement

Forecasting

The Quantification, Procurement Planning Unit (QPPU) of the MOH conducts a quantification exercise annually with support from different partners. Most of the positions of the QPPU are funded by development partners.

Although consumption and issues data is collected by various reporting systems, it is not being used to arrive at forecasts for contraceptives. The most recent review conducted in November 2021 used the demographic method to quantify the needs. For DMPA-SC, the assumptions applied were: a 2020/21 mCPR of 37.2% increasing by 1.2 annually, an injectable method mix of 37% unchanged through the forecasting period, a product split of 50%: 50% between IM and SC, a source mix of 10%:45:45% between PFP, public and PNFP facilities and a CYP of 4 vials per year. The forecasts results are shown in Figure 8.

In addition to using the demographic method to develop forecasts, it is recommended to compare other available data sources such as consumption data and issues data.

Figure 8: Public sector forecasts for DMPA-SC (2020-21 to 2022-23)*

DMPA-SC	2020-21	2021-22	2022-23
Forecasted quantity	1,510,363	1,327,434	1,411,353

As can be seen in Figure 8 above, forecasted quantities for DMPA-SC have reduced after 2020-21 due to reduction in the injectables method mix from 45% to 37%. According to the PMA2020 R7 survey report, this is attributed to the increased demand for LARCs and emergency contraceptives. While the most recent forecast keeps the method mix unchanged in future years, it will be important to review the method mix on an annual basis so that the latest method mix is reflected in subsequent forecasts. In addition, programmatic activities must be considered as DMPA-SC self injection gets rolled out in additional districts across the country.

Forecasting for Health facilities: Before the start of each financial year, NMS conducts annual procurement planning exercises with higher level facilities and works with district health officials to revise the district's essential medicines kits sent to lower level facilities. This process usually takes place over a period of 3 months from October to December each year. This forecasting exercise informs the annual budget allocation for each facility. While higher level facilities can order DMPA-SC based on their consumption patterns, lower level facilities are restricted to fixed quantities determined at the beginning of each year. This makes the system extremely rigid as it cannot adapt to increases or decreases in consumption during the year. For FP products that are donor funded, it is recommended that lower level facilities follow the same consumption based ordering system that can allow for more equitable distribution of commodities.

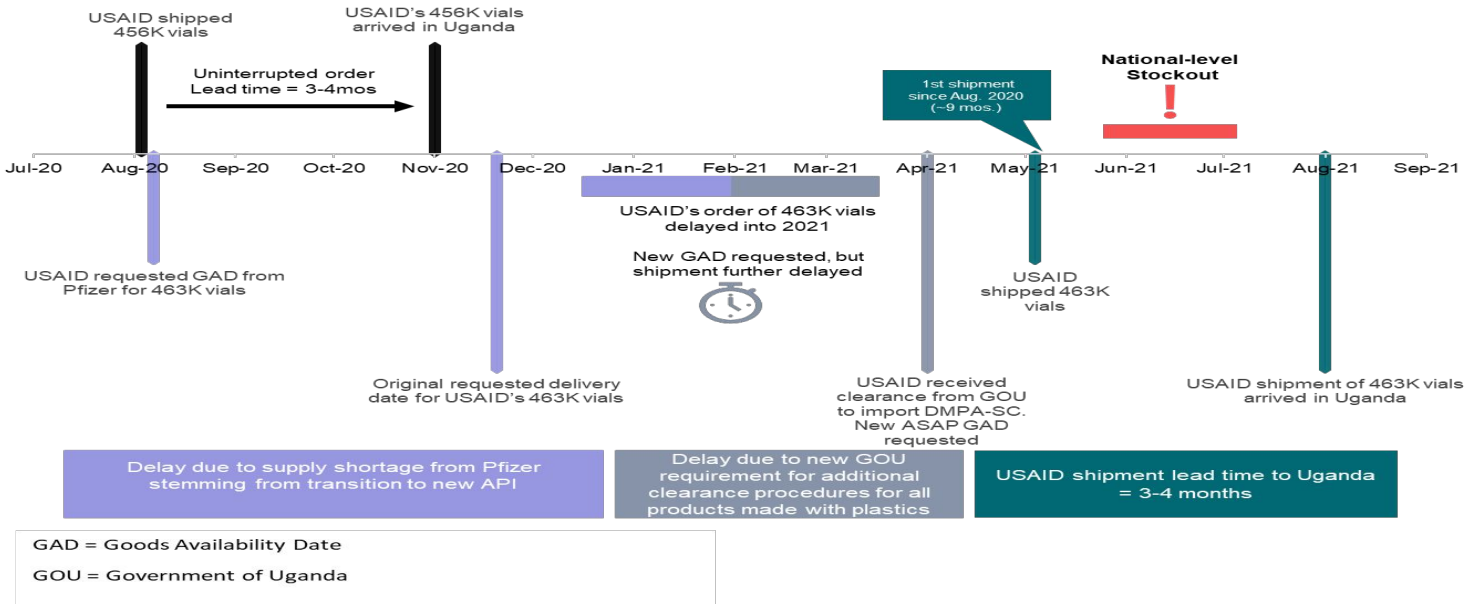
* Data Source: Uganda National Quantification report for RMNCAH commodities FY 2021/22 - 2023/24

Procurement planning

While NMS is the parastatal agency responsible for procuring essential medicines and medical supplies for all public facilities in Uganda, DMPA-SC is primarily procured by USAID and UNFPA. Currently, DMPA-SC is only sourced from a single manufacturer, i.e Pfizer, which poses a potential risk of global supply constraints.

The forecasts established in the quantification exercise are used to develop a procurement plan which is presented to the development partners for funding commitment. In the last financial year, the amounts of DMPA SC procured were not obtained at the appropriate time at central level due to a number of reasons namely: a change in the manufacturing site of DMPA SC that halted production of DMPA-SC for a while, covid-19 related global transportation challenges and a change in clearance procedures by Government of Uganda (GoU) for all products made with plastics. As illustrated in Figure 9, a USAID procured order of 463,000 units which had an original delivery date of November 2020 was not received until August 2021. During the period between August 2020 and May 2021, only one small shipment of 200,000 units procured by UNFPA was received. Consequently, an acute shortage of DMPA-SC was experienced at central level between May-July 2021.Looking into FY 2022/23, global supply is not currently constrained and orders have begun shipping on schedule.

Figure 9: USAID funded DMPA-SC shipment status July 2020 to September 2021



DMPA-SC packaging

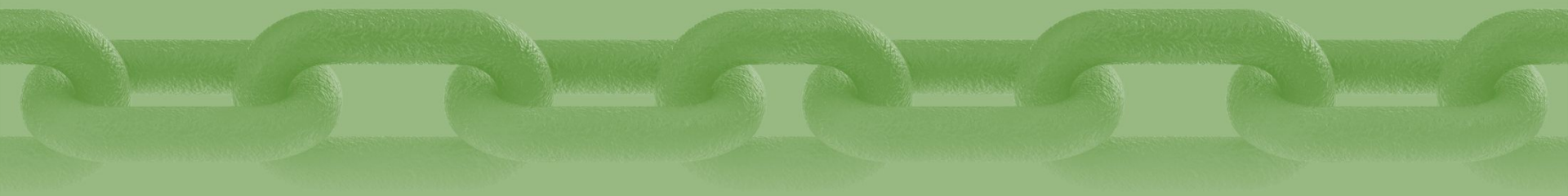
DMPA-SC comes in a standard packaging of 200 units per box with no option for smaller packaging available. Due to the minimum resupply quantity of 200 units, smaller health facilities that have low average monthly consumption end up receiving and stocking much more than they need. For example, one of the health center II visited by the assessment team reported an average monthly consumption of less than 10 units in the most recent three month period. A box of 200 units would translate to 20 months of stock. As noted earlier, a large percentage of SDPs are overstocked and the large minimum packaging quantity of 200 units is likely to be one of the causes. Resupplying smaller quantities to these facilities based on their consumption patterns can help reduce overstocking and create more equitable distribution across health facilities.

It is recommended that NMS and JMS create smaller packaging of DMPA-SC that can be used to resupply to lower level SDPs in line with their needs. Additionally, it is recommended for the MOH together with donors to advocate to the manufacturer to provide smaller packaging or at least four smaller boxes of 50 units within the larger box. Smaller boxes of 50 units can also be helpful for SDP storekeepers when they dispense small quantities to the FP clinic. As can be seen in the picture below, FP clinics store DMPA-SC loosely due to lack of appropriate storage boxes.

Storage of DMPA-SC at a health facility

Gaps and Recommendations

Gaps	Recommendations
There is a single manufacturer/supplier for DMPA-SC. The global supply of DMPA-SC faced constraints in 2021 due to change in manufacturing site and covid-19 related transportation challenges causing delays in receipt of DMPA-SC in-country	There is need for a generic alternatives for DMPA SC to diversify the supply source and ensure flexibility and agility when the market faces a disruption MOH should advocate with the international donors to advance the discussions for a generic DMPA-SC.
Consumption and issues data is collected by various reporting systems but not used to arrive at forecasts for contraceptives	QPPU should develop forecasts using other data sources such as consumption, issues and services and evaluate the strengths and weaknesses of each forecast to determine the most suitable method to use.
Procurement plans do not necessarily consider demographic trends, program changes or expansion.	QPPU should take into consideration programmatic activities planned in the district including planned partner activities
Health Center IIs rely on kit system for forecasting and resupply which does not always meet actual demand.	Once CSSP is rolled out nationally, NMS should allow lower level facilities to pull orders utilizing consumption and stock on hand data
In the most recent quantification exercise of November 2021, the forecast developed assumed an unchanging method mx throughout the forecasting period (2020/21-2023/24).	QPPU should review the method mix on an annual basis so that the latest method mix is reflected in subsequent forecasts.
DMPA-SC comes in a standard packaging of 200 units per box with no option for smaller packaging available. Due to the minimum resupply quantity of 200 units, smaller health facilities that have low average monthly consumption end up receiving and stocking much more than they need.	It is recommended that NMS and JMS create smaller packaging of DMPA-SC that can be used to resupply to lower level SDPs in line with their needs. Additionally, it is recommended for the MOH together with donors to advocate to the manufacturer to provide smaller packaging or at least four smaller boxes of 50 units within the larger box.



III. Inventory Management

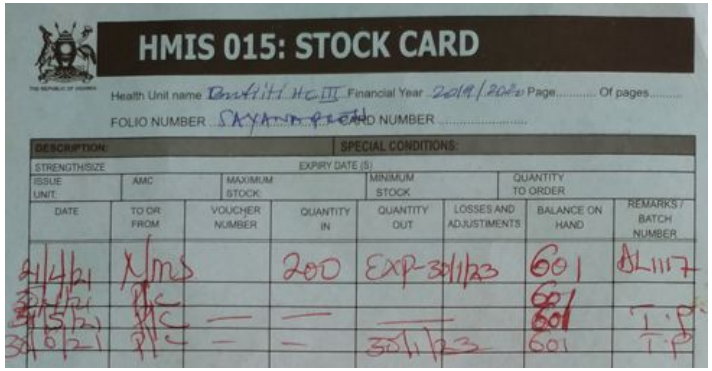
Inventory Control System

Commodities are managed primarily at central and SDP level, and to a certain extent at district level.

Central: At the central level DMPA-SC and other FP commodities are first received at JMS; NMS obtains its commodities from JMS based on request. NMS is responsible for supplying commodities to all public health facilities while JMS supplies commodities to PFPs and PNFPs and supports emergency orders to public facilities. JMS and NMS are supposed to maintain stock levels of a minimum of 3 months and a maximum of 6 months, however in practice it is not clear how this is implemented. As was shown in the product availability section, stock levels of DMPA-SC at the central level have been either well below minimum or well over the maximum for most months in the last year. Due to anticipated global supply disruptions for DMPA-SC, it is recommended to increase the min and max levels at the central level to provide a cushion. Both warehouses need to maintain an appropriate inventory control system so that they can service the needs of the facilities they support.

District: The district level acts as a pass through with prepackaged commodities being held while in transit from NMS trucks to the 3PL trucks. While the district stores these commodities temporarily (sometimes as long as three weeks), it doesn't record these stocks while in storage which poses a risk with regards to accountability for and the safety and integrity of the commodities. Districts also hold some stocks that are returned from facilities which need to be redistributed. None of the three district stores that the assessment team visited maintained stock cards. It is recommended that districts maintain an appropriate stock recording system for all commodities stored in the district warehouses to prevent any risk of loss.

Figure 10: Stock card at SDP



SDP: Higher level SDPs such as hospitals and health center IVs have dedicated store keepers while at lower level SDPs commodity management tasks are done by facility in charges or service providers. 5 of 12 SDPs visited had a variance between physical count and stock balance which leads to inaccurate reports and order calculation. During facility visits, the assessment team found that most facilities had comprehensive inventory management tools with instructions and formulas to help standardize stock management. However, adherence to the documented SOPs need to be strengthened through regular supervision and on-job training.

In addition to the stores, commodities are also stored at the FP clinic; these commodities are usually not recorded on a stock card. This could create potential inaccuracies during month end reconciliation when completing monthly reports. It is recommended that all units that store commodities within the SDP maintain separate stock cards or registers.

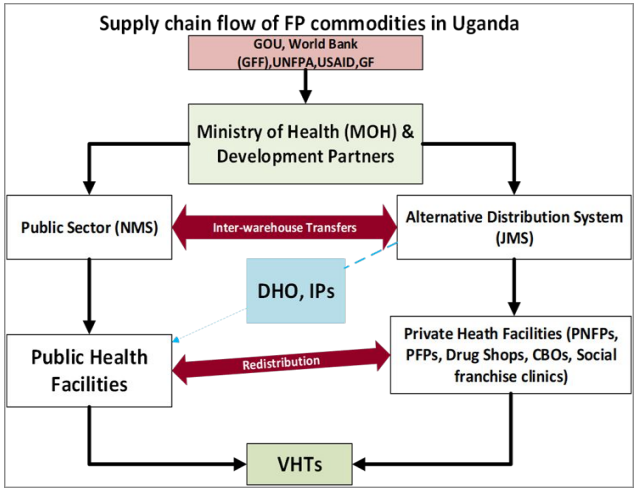
Routine Ordering System

The one warehouse one facility policy was introduced in 2019 to streamline the ordering and distribution mechanisms for public and private facilities. Public health facilities are supposed to order and receive supplies from NMS while PFPs and PNFPs order and receive supplies from JMS. An additional clause in the policy allows public facilities to make emergency requests to JMS thereby creating an alternate distribution system which in itself contradicts the one warehouse policy. While this may have been done to diversify the risk, it creates confusion and inefficiencies in the system.

Central: The assessment team observed that there is no regular ordering and delivery schedule between NMS and JMS to support inter warehouse transfers, rather it is adhoc based on requests from NMS. Extended delivery times from JMS to NMS create delays that result in public facilities receiving commodities late or not all. This could explain the extremely low order fulfillment rates for DMPA-SC at NMS. The absence of a scheduled ordering system between the two warehouses is a critical bottleneck in the supply chain.

District: Districts do not order commodities for themselves, but they play a critical role of approving orders submitted by SDPs. Districts review routine orders and also facilitate emergency orders and redistributions, however visibility of SDP stock status still remains a challenge specifically for DMPA-SC which is not disaggregated in the HMIS report. The new digital ordering system, CSSP, will make it easier for districts to review and approve routine orders as well as track deliveries. It is recommended that the CSSP also be used for emergency orders and redistributions to ensure all ordering and resupply mechanisms are digitized and captured in one information system.

Figure 11: Flow of FP commodities



SDP: Higher level facilities follow a pull system while lower level facilities get pushed commodities based on annual forecasts. Clear SOPs exist for SDPs to create and submit orders and NMS has recently trained all SDPs on the new CSSP system. NMS publishes a delivery schedule, however delivery timeliness is a big concern. Most facilities the team visited had not received commodities since November 2021. It was observed that in large districts delivery delays are caused by long wait times at the district level, sometimes up to 3 weeks, due to limited fleet of 3PL compared to the number of facilities to cover.

When a cycle is missed, NMS supplies the current and previous cycles which can lead to overstocking. It is recommended that ordering and resupply calculations be based on the most recent stock on hand and consumption.

Emergency Orders and Redistribution

Emergency Orders

As noted earlier, under the one warehouse one facility policy, public health facilities order and receive routine supplies from NMS while emergency orders are fulfilled by JMS; this creates two different mechanisms for ordering and receiving commodities. The one warehouse policy was introduced to streamline how SDPs receive products and stop the previous practice of partners facilitating orders through JMS. In practice however, the previous system is still prevalent with several SDPs that the team visited mentioning that partners assisted them in obtaining emergency supplies. For the period March-June 2022, JMS reported 183,200 units of DMPA-SC being supplied through emergency orders, indicating a large dependence on emergency supplies. One plausible explanation could be the low order fulfillment rates by NMS, causing the need for a large number of emergency orders. However a deeper analysis needs to be done on why NMS is not able to fulfill routine orders and if they are receiving adequate supplies from JMS.

Having public facilities use two different mechanisms for ordering creates inefficiencies in the system and makes coordination challenging for SDPs and district staff who facilitate these orders. A single system for routine and emergency orders will help streamline distribution and allow NMS and JMS to focus on their respective customers.

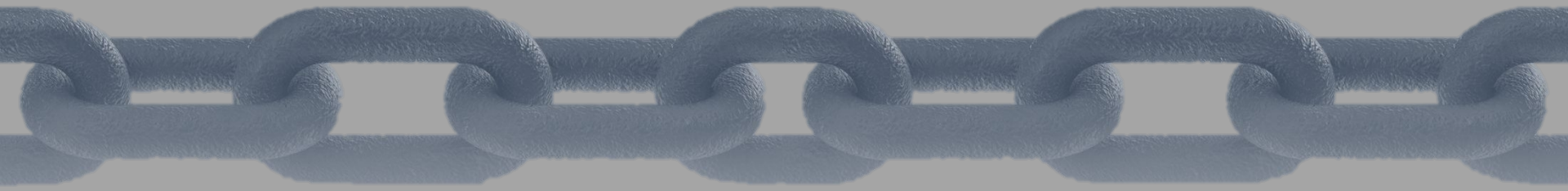
Figure 12: Job aid for emergency orders

Redistribution: District staff usually facilitate redistribution of commodities from SDPs that are overstocked. Due to lack of SDP stock status visibility, district staff rely on supervision visits and WhatsApp groups to identify facilities that are overstocked and those in need of stock. As shown in the product availability section, there are large stock imbalances with the majority of facilities either understocked, out of stock, or overstocked. This results in a large number of emergency orders and redistributions indicating that the inventory management system is not working very well.

It is recommended that the CSSP also be used for emergency orders and redistributions to ensure all ordering and resupply mechanisms are digitized.

Gaps and Recommendations

Gaps	Recommendations
Kit/PUSH system is used to resupply health center IIs and III's which is rigid and cannot adapt to changing needs of the facilities	With the roll out of CSSP, to all facilities, NMS should shift to pull system which factors consumption and stock on hand to resupply all facilities.
Poor record keeping and reporting practices at SDPs lead to inaccuracies in order calculations resulting in stock imbalances.	NMS should build capacity of SDP staff through on the job training and supervision to maintain accurate stock records and calculate orders correctly.
No regular ordering and delivery schedule between NMS and JMS to support inter warehouse transfers, rather it is adhoc based on requests from NMS.	NMS and JMS along with donors must jointly develop a scheduled ordering and resupply system between the two warehouses using min max parameters to ensure NMS maintains adequate levels of stock at all times.
When a cycle is missed, NMS supplies the current and previous cycles which can lead to overstocking.	It is recommended that ordering and resupply calculations be based on the most recent stock on hand and consumption.
Having public facilities use two different mechanisms for ordering (NMS for routine and JMS for emergency) creates inefficiencies in the system and makes coordination challenging for SDPs and districts who facilitate these orders.	It is recommended to have a single system through NMS for all public facilities to place both routine and emergency orders. This will help streamline distribution and allow NMS and JMS to focus on their respective customers.
Due to warehouse capacity, max-min inventory level at central warehouse is limited to 3-6 MOS	Once the new warehouse is completed, it is recommended to increase the min max levels to mitigate against supply disruptions
DMPA SC comes in a pack of 200 doses. Since this is the minimum quantity of issue, overstocks in low volume facilities may happen. Stock counts are difficult in the current SKU	It is recommended that NMS and JMS create smaller packaging of DMPA-SC that can be used to resupply to lower level SDPs in line with their needs.



IV. Logistics Management Information System

Supply Chain Information Systems

Considered to be the engine of the logistics cycle, a functional LMIS provides essential data about commodities useful for filling routine supply orders for SDPs and for monitoring and improving supply chain performance.
The assessment team met with stakeholders at each level to observe the information systems used for management of health commodities. It was observed that a combination of paper, Excel, and web based applications are used for different supply chain functions at each level. Below is a description of the systems used for each function.

Stock recordkeeping: The central warehouse uses an electronic MACS warehouse management system to manage all its operations including recordkeeping. At the facility level, staff use stock cards (HMIS015), requisition and issue vouchers (HMIS017) and daily dispensing logs to record logistics and service transactions. Most facilities use paper based tools, however approximately 270 higher level service facilities are using an electronic system known as RxSolution that synchronizes data in real time to the MOH Pharmaceutical Information Portal (PIP).
Stock reporting: Logistics data are reported through the RH commodities order and report form that facilities submit once every two months. Logistics data reported includes: opening balance, quantity received, quantity consumed, losses/adjustments, days out of stock, adjusted AMC, closing balance, months of stock and quantity required. Previously these reports were paper based, but most facilities are moving to the new electronic system introduced by NMS known as CSSP. Additional logistics data are reported through monthly health unit outpatient reports (HMIS105). This is an exhaustive 25 page report that captures stock on hand and dispensed to user data on select tracer commodities. While DMPA-SC dispensed to user data is captured, stock on hand information is not captured separately for DMPA-SC, but in an aggregate of DMPA-SC and DMPA-IM. Most facilities submit paper based reports to the district which inputs the data electronically into a DHIS2 system. Higher level service facilities that have appropriate infrastructure have started to input the data directly into the electronic system.
Ordering and distribution: The new web based ordering system, CSSP for health facilities, eliminates the need for paper based ordering. At the time of this assessment, this system was still being rolled out. NMS had completed the initial training and was expected to supply computers to all facilities. For distribution, NMS Smart Care is a set of mobile and web based applications that allow facilities to track last mile deliveries in real time and provide feedback on their supplies to NMS.
Supervision: Multiple paper and electronic supervision tools exist across programs and partners. For RH commodities, the RH SPARS (Supervision, Performance Assessment & Recognition Strategy) is a supervision checklist used in a limited number of districts to monitor commodity management at health facility level. Data collected through this tool is available in the PIP.
Supply chain monitoring: The PIP visualizes data from the central warehouse, RxSolution and RH SPARS. HMIS data is available through the DHIS2 platform. Logistics data is fragmented across various systems and there is a need for a single integrated platform.

Data Visibility

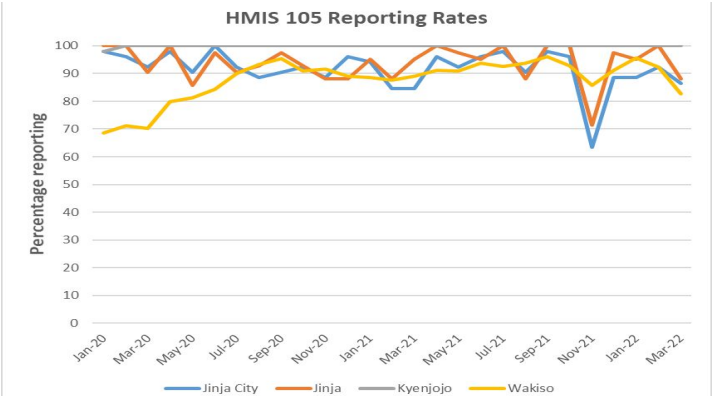
A strong supply chain requires good data visibility, based on routinely and accurately updated records and timely reporting, so that managers and supervisors throughout the system can make informed decisions. For managers and supervisors to have data available when and where they need it for timely decision making, warehouses and SDPs need to report on time and with accurate data.

At the central level, warehouse stock status reports are available through the PIP and shared during RH TWG meetings usually held on a monthly basis. Facility level stock status is available through the PIP for those higher level facilities using RxSolution, however majority of facilities report logistics data through the HMIS. Once all facilities start using the CSSP, stock on hand and consumption data will be available through this system and could be used for reporting stock status. Through the new distribution monitoring portal (NMS smart care), visibility of distributions has been greatly enhanced.

The assessment team observed significant duplication across the various systems. For example, all three systems – RxSolution, CSSP and HMIS – report stock on hand and dispensed to user data. Although only the HMIS has sufficient coverage across the country, while CSSP and RxSolution are not implemented by all SDPs as yet. There is a need for a single dashboard that can consolidate the data from multiple data sources to allow users a single point to track key supply chain indicators.

The assessment team understands that the current dashboards within the systems mentioned above are accessible to a limited number of stakeholders, with most stakeholders accessing summary reports shared during monthly review meetings. This limits stakeholders ability to monitor performance on a continuous basis. It is recommended that dashboards are made accessible to more stakeholders at all levels of the system to increase data visibility, transparency and data use for decision making.

Figure 13: HMIS 105 reporting rates between Jan 2020-March 2022



Reporting rates for HMIS 105 were analyzed in facilities from the 3 focus districts to evaluate data availability. Figure 13 above illustrates the performance during the review period. Average reporting rates have been above 80% since May 2020 with the exception of Nov 2021 where there was a sharp dip. Kyenjojo District had the best reporting rates averaging 100% throughout the review period.

As mentioned earlier, one of the current limitations in the current HMIS system is that DMPA-SC stock on hand data is not available separately, but combined with DMPA-IM, making it impossible to track stock status of DMPA-SC at the facility level. This is a significant gap and it is recommended that HMIS forms be updated as soon as possible to provide this level of visibility.

Data Quality

Using quality data to make wise resupply decisions and for monitoring the performance of the supply chain is essential to maintaining an efficient and effective supply chain.
In a recent RH SPARS supervision data report from 28 districts, completeness of the HMIS report (Family Planning section 6 – stock status) was at 95%, however only 82% of the reports were accurate. As can be in Figure 14 below, one of the primary causes of inaccurate reports is facilities inability to keep the stock card updated correctly. This finding was validated during facility visits made by the assessment team. 5 of 12 SDPs visited had a variance between physical count and stock balance which leads to inaccurate reports and order calculation.

Figure 14: RH SPARS Report – Stock management challenges*

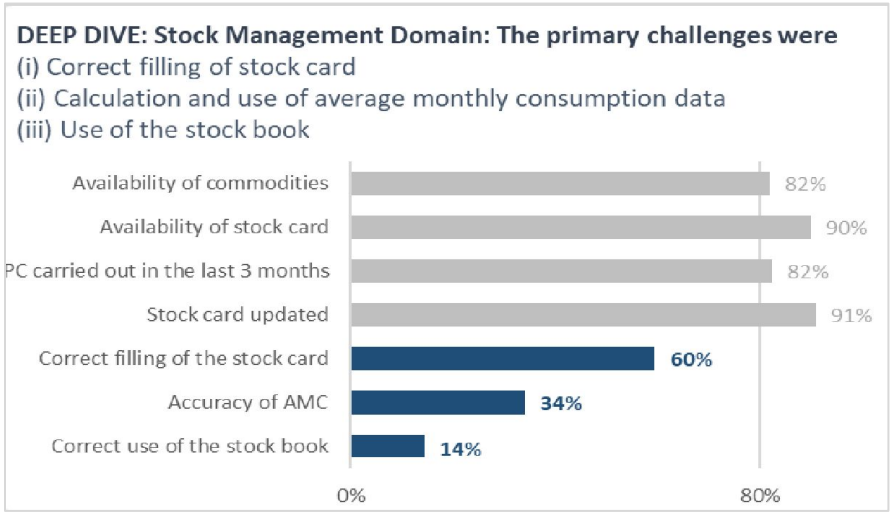
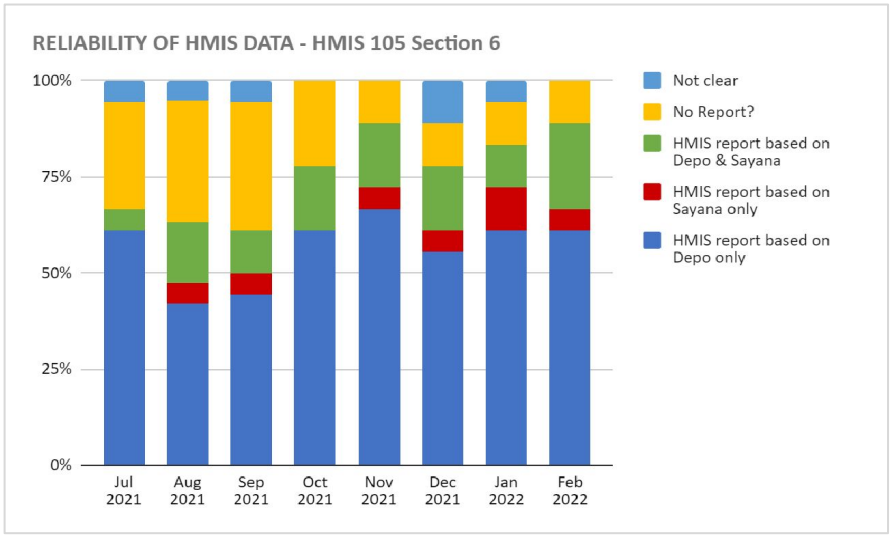


Figure 15: RH SPARS Report – Reliability o HMIS data*



The challenge of using HMIS data to track stock status of DMPA-SC has been noted earlier in this report. With the HMIS form not disaggregating DMPA-SC and DMPA-IM and no guidance for facilities on how to enter data for the two products, large variations in the data reported makes it highly unreliable. As can be seen in Figure 15 above, majority of facilities are reporting only DMPA-IM while others report the combined quantity of both products together. A simple update to the form can solve this issue and must be addressed on priority. HMIS data for injectable in its current form is unusable and its use can lead to inaccurate resupply and forecasting decisions.

* Data source: RH SPARS Report – USAID Uganda Family Planning Activity (FPA)

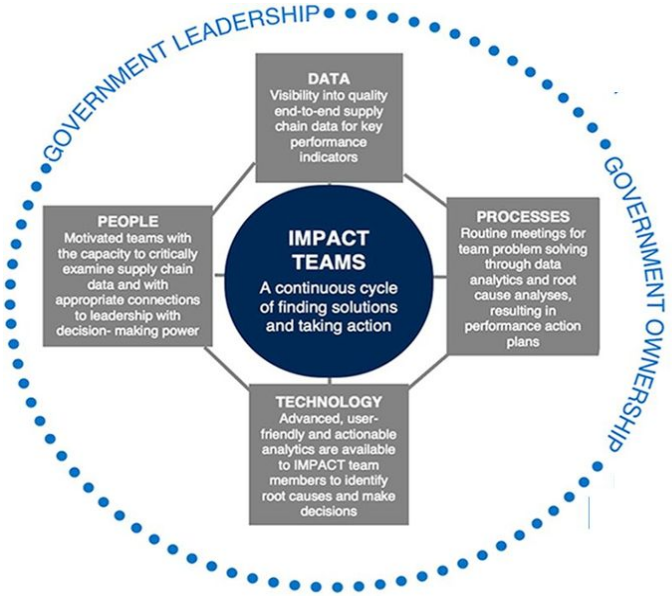
Data Use

As noted earlier, supply chain performance data is scattered across multiple information systems with only a limited number of stakeholders having access to those systems. For example, although facilities collect and submit reports to the district, access and use of this data is limited as only the district biostatistician has access to the DHIS2., while the inventory management officers who are responsible for monitoring stock status at SDPs do not have access.

During the group discussions it was observed that there are several forums such as routine technical working group (TWG)and data review meetings where supply chain performance data is presented. While routine information sharing helps keep stakeholders informed it must be followed up by actions to address the issues raised. The assessment team had the opportunity to join a FP TWG meeting which was helpful to get an understanding of the latest supply chain situation. However it was unclear what the follow up actions would be and who would be responsible for addressing the supply chain challenges that were presented. In the absence of a clear action planning structure, such meetings are limited to a show and tell and does not encourage stakeholders to use the data for decision making.

While large investments have been made to digitize supply chain operations, it is important to leverage the data being generated to build a more dynamic and resilient supply chain system. Building easy to interpret data visualizations combined with Increasing access to a larger number of users is the first step in building a culture of data use. This will allow stakeholders to monitor and track supply chain performance on a continuous basis and not be restricted to accessing data through review meetings that take place at monthly or quarterly intervals.

Figure 16: IMPACT Team Theory of change*



**** Data source:*** https://doi.org/10.9745/GHSP-D-21-00345

An example of a data use approach is the Information Mobilized for Performance Analysis and Continuous Transformation (IMPACT) Team intervention that has been implemented by JSI/In Supply in few countries. As can be seen in Figure 14 above, no single component by itself but rather a combination of data, people, processes, and technology, under the leadership of governments is needed to institute a change in data use culture that leads to sustained improvements in supply chain processes and outcomes.

Gaps and Recommendations

Gaps	Recommendations
Stock on hand data collected on HMIS 105 is not disaggregated as DMPA-SC and IM making it difficult to monitor stock status. Due to this HMIS data for DMPA-SC is not reliable.	MOH should disaggregate DMPA on page 14 of HMIS 105 into DMPA-SC and DMPA-IM and disseminate the updated forms on priority.
Printing of manual data capture tools has been largely donor supported. Most lower level facilities do not have electricity and internet access to support roll out of CSSP (e-LMIS).	NMS should disseminate the data forms along with distribution of commodities. Roll out plan for CSSP by MOH and NMS should consider alternative power sources for lower level facilities that are not within reach of the national grid.
There is no centralized /district level system for tracking stock status. Consequently, districts do not have visibility of their facilities and depend on ad hoc supervision visits, phone calls and WhatsApp groups for facility level stock visibility. Data review forums are limited to show and tell with limited culture of data use and action planning.	MOH in collaboration with supply chain implementing partners should build dashboards that visualize data reported from CSSP to help track various supply chain indicators e.g. Stock status. New and existing dashboards should be made accessible to more stakeholders at all levels of the system to increase data visibility, transparency and data use for decision making. Quality improvement approaches must be incorporated in all forums.
The three electronic information systems at facility level – CSSP, RxSolution and HMIS do not speak to each other, increasing the reporting burden at the facility level.	MOH, NMS and partners should interlink the systems so that recording and reporting at facility level can be streamlined.
Data accessibility and utilization is a challenge because the people who collect and report on data do not have access to the data for decision-making	MOH and partners should allow access to reported data. District health management team should organize regular data review forums where they review data to inform decisions to improve their supply chain performance

V. Transport and Distribution

Transport

Transport for routine distribution
Transportation of commodities to public health facilities is managed by NMS. NMS has its own fleet of trucks that manage distribution up to the district level. Last mile delivery from the district to the SDPs is managed by 3PL providers contracted by NMS. A representative of the district travels in the 3PL truck to manage the delivery documentation and ensure goods are delivered to the recipient.

During the assessment teams visit to Wakiso district it was mentioned that the 3PL provider does not have sufficient trucks to deliver commodities in a timely manner. As a result, districts with a large number of health facilities require several trips from the district to complete delivery to all facilities, which can take as long as 3 weeks.

It is recommended that NMS review the capacity and route plans of its 3PL fleet to ensure last mile distribution is conducted in a timely and cost effective manner. With enhanced tracking of deliveries through the CSSP, NMS can measure delivery timeliness and incorporate appropriate performance requirements in their agreements with 3PL providers.

Transport for emergency orders and redistribution
No dedicated transportation and budget is available to fulfill emergency orders and redistribution of commodities. Usually the facility that requires resupply makes the logistics arrangements which can be challenging and pose a financial burden. District staff and Implementing partners have been facilitating the delivery of commodities during supervision visits or other program activities.

NMS delivery truck

Transport for submitting reports
Facilities often face transport challenges when submitting reports and orders to the district; this is one of the causes of late or no reporting. This in turn causes delayed or missed orders leading to stock shortages at the facility level. Digitization of the ordering process through CSSP and electronic HMIS reporting can help alleviate some of these challenges.

Distribution

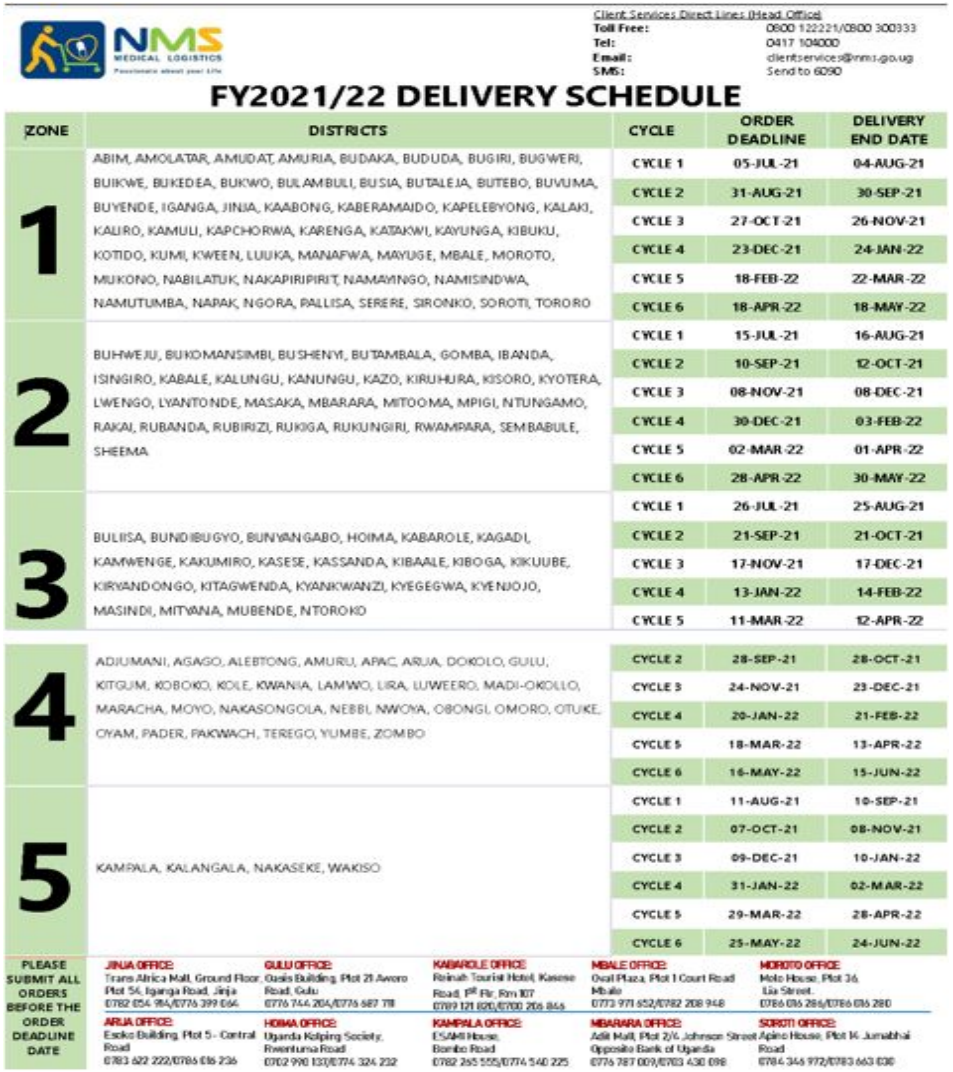
Routine distribution

NMS has a published schedule for delivery of health commodities to all public health facilities for routine orders. Distribution is supposed to be done once every two months following a staggered schedule across five zones. It was mentioned that these schedules were not adhered to and all facilities that the assessment team visited had not received commodities for the last two delivery cycles. Districts do not have adequate facilities and personnel to manage the cross-docking process which results in increased lead times, especially in districts with large number of health facilities. With enhance tracking becoming available through the CSSP system, it is recommended that NMS analyze the data to identify where the specific bottlenecks lie in each region.

Non routine distribution

No clear distribution mechanism exists for fulfillment of emergency orders and redistributions. As a result the system is dependent on implementing partners to facilitate these distributions. If feasible, it is recommended that NMS and JMS explore the use of 3PL providers for these non routine distributions.

Figure 17: NMS delivery schedule



NMS MEDICAL LOGISTICS

Client Services Direct Lines (Head Office)
Toll Free: 0800 122221/0800 300333
Tel: 0417 104000
Email: clientservices@nms.go.ug
SMS: Send to 6090

FY2021/22 DELIVERY SCHEDULE

ZONE	DISTRICTS	CYCLE	ORDER DEADLINE	DELIVERY END DATE
1	ABIM, AMOLATAR, AMUDAT, AMURIA, BUDAKA, BUDUDA, BUGIRI, BUGWERI, BUIKWE, BUKEDEA, BUKWO, BULAMBULI, BUSIA, BUTALEJA, BUTEBO, BUVUMA, BUYENDE, IGANGA, JINJA, KAABONG, KABERAMAIDO, KAPELEBYONG, KALAKI, KALIRO, KAMULI, KAPCHORWA, KARENGA, KATAKWI, KAYUNGA, KIBUKU, KOTIDO, KUMI, KWEEN, LUUKA, MANAFWA, MAYUGE, MBALE, MOROTO, MUKONO, NABILATUK, NAKAPIRIPIRIT, NAMAYINGO, NAMISINDWA, NAMUTUMBA, NAPAK, NGORA, PALLISA, SERERE, SIRONKO, SOROTI, TORORO	CYCLE 1	05-JUL-21	04-AUG-21
		CYCLE 2	31-AUG-21	30-SEP-21
		CYCLE 3	27-OCT-21	26-NOV-21
		CYCLE 4	23-DEC-21	24-JAN-22
		CYCLE 5	18-FEB-22	22-MAR-22
		CYCLE 6	18-APR-22	18-MAY-22
2	BUHWEJU, BUKOMANSIMBI, BUSHENYI, BUTAMBALA, GOMBA, IBANDA, ISINGIRO, KABALE, KALUNGU, KANUNGU, KAZO, KIRUHURA, KISORO, KYOTERA, LWENGO, LYANTONDE, MASAKA, MBARARA, MITOOMA, MPIGI, NTUNGAMO, RAKAI, RUBANDA, RUBIRIZI, RUKIGA, RUKUNGIRI, RWAMPARA, SEMBABULE, SHEEMA	CYCLE 1	15-JUL-21	16-AUG-21
		CYCLE 2	10-SEP-21	12-OCT-21
		CYCLE 3	08-NOV-21	08-DEC-21
		CYCLE 4	30-DEC-21	03-FEB-22
		CYCLE 5	02-MAR-22	01-APR-22
		CYCLE 6	28-APR-22	30-MAY-22
3	BULISA, BUNDIBUGYO, BUNYANGABO, HOIMA, KABAROLE, KAGADI, KAMWENGE, KAKUMIRO, KASESE, KASSANDA, KIBAALE, KIBOGA, KIKUUBE, KIRYANDONGO, KITAGWENDA, KYANKWANZI, KYEGEGWA, KYENJOJO, MASINDI, MITYANA, MUBENDE, NTOROKO	CYCLE 1	26-JUL-21	25-AUG-21
		CYCLE 2	21-SEP-21	21-OCT-21
		CYCLE 3	17-NOV-21	17-DEC-21
		CYCLE 4	13-JAN-22	14-FEB-22
		CYCLE 5	11-MAR-22	12-APR-22
4	ADJUMANI, AGAGO, ALEBTONG, AMURU, APAC, ARUA, DOKOLO, GULU, KITGUM, KOBOKO, KOLE, KWANIA, LAMWO, LIRA, LUWEERO, MADI-OKOLLO, MARACHA, MOYO, NAKASONGOLA, NEBBI, NWOYA, OBONGI, OMORO, OTUKE, OYAM, PADER, PAKWACH, TEREGO, YUMBE, ZOMBO	CYCLE 2	28-SEP-21	28-OCT-21
		CYCLE 3	24-NOV-21	23-DEC-21
		CYCLE 4	20-JAN-22	21-FEB-22
		CYCLE 5	18-MAR-22	13-APR-22
		CYCLE 6	16-MAY-22	15-JUN-22
5	KAMPALA, KALANGALA, NAKASEKE, WAKISO	CYCLE 1	11-AUG-21	10-SEP-21
		CYCLE 2	07-OCT-21	08-NOV-21
		CYCLE 3	09-DEC-21	10-JAN-22
		CYCLE 4	31-JAN-22	02-MAR-22
		CYCLE 5	29-MAR-22	28-APR-22
		CYCLE 6	25-MAY-22	24-JUN-22

PLEASE SUBMIT ALL ORDERS BEFORE THE ORDER DEADLINE DATE

JINJA OFFICE: Trans Africa Mall, Ground Floor, Plot 56, Iganga Road, Jinja. 0782 654 184/0776 399 666

GULU OFFICE: Oasis Building, Plot 21 Awere Road, Gulu. 0776 744 264/0776 687 718

KABAROLE OFFICE: Reinah Tourist Hotel, Kaisene Road, 1st Flr, Rm 107. 0789 121 820/0700 206 866

MBALE OFFICE: Oval Plaza, Plot 1 Court Road, Mbale. 0772 971 652/0782 208 948

MOROTO OFFICE: Molo House, Plot 36, Lia Street. 0786 036 286/0786 036 280

ARUA OFFICE: Esoko Building, Plot 5 - Central Road. 0783 622 222/0786 016 236

HOIMA OFFICE: Uganda Kolping Society, Rwentuma Road. 0702 990 133/0774 324 232

KAMPALA OFFICE: ESAMI House, Bombo Road. 0782 265 555/0774 540 225

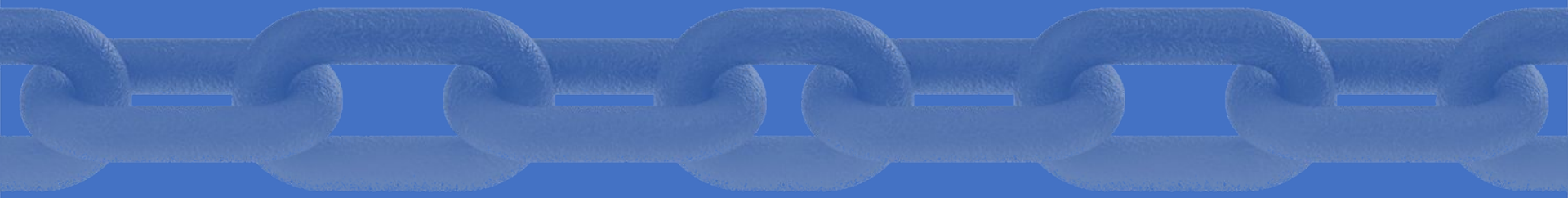
MBARARA OFFICE: Adil Mall, Plot 2/4 Johnson Street Opposite Bank of Uganda. 0776 787 009/0703 430 098

SOROTI OFFICE: Apino House, Plot 14 Jumabhai Road. 0784 346 972/0783 663 030

Data Source: National Medical Stores

Gaps and Recommendations

Gaps	Recommendations
NMS trucks are not able to reach the last mile when distributing commodities. Commodities are temporarily staged at the district store and picked by a smaller truck that distributes to facilities. There is limited storage space at district stores which poses a challenge during transfer of commodities from NMS to 3PL providers. There is also insufficient infrastructure for cross docking at district level.	Adopt seamless cross-docking from NMS trucks to Last Mile Distribution Trucks (3PL). NMS should develop SOPs for staff at districts in order to standardize cross docking operations.
Only 1 truck (3PL) is used to distribute commodities to all facilities in a district leading to extra lead time sometimes up to 3 weeks.	Increase fleet of Last Mile Distribution trucks (3PL) based on number of facilities Streamline delivery schedule and optimize routing plan
Only the facility-in-charge can generate a code to confirm receipt of commodities in the CSSP system.	There should be more than one person who has authority to approve an receive commodities as a back up when the in-charge is not available on the date of delivery
Transport and distribution of emergency orders is currently managed by implementing partners as there is no budget available to support distribution of emergency orders.	There needs to be a policy or guidance on emergency orders stipulating order frequency, how orders are calculated between the warehouses, and the roles of each party during transfers. The use of 3PL providers for emergency orders should be reviewed to make the system more sustainable.
During the pandemic, distribution of Covid 19 supplies were prioritized over RH commodities.	NMS should come up with mitigation plans to implement during crises to ensure continuity of all supplies to facilities.



VI. Storage

Storage Infrastructure

The assessment team observed storage conditions in district stores and health facilities in three districts. Additionally, issues related to storage at all levels were discussed during the group discussions.

Central: The old NMS warehouse has limited storage capacity affecting its ability to effectively service all facilities in a timely manner. Due to the pandemic, there has been a delay in completing and operationalizing the new NMS warehouse that has a significantly larger capacity and better infrastructure.

District: As noted earlier, districts store commodities temporarily ranging from a few days to three weeks. Most districts have limited or no storage space. With limited infrastructure available for cross-docking, district stores are overwhelmed when goods transit through their facilities. Commodities are stored in office spaces, corridors, and parking lots posing a risk to the integrity of the goods. Poor infrastructure and lack of trained personnel to load and offload the goods result in delays.

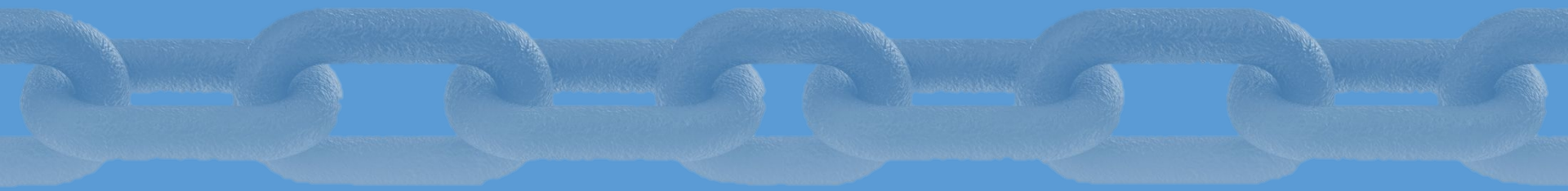
SDP: Storage space is a big challenge at lower levels. It was observed that it is difficult to clearly label the products on the shelves because the space only allows labelling by category, such as family planning. 80% of the stores visited had products stored by expiry dates. The rest had a challenge with space, and as such, even the placement of product was difficult. Challenge with shelving was witnessed in some stores; store managers are forced to hold the items in boxes. One of the facilities visited was using bricks as they did not have pallets. At the FP clinic, it was observed that DMPA-SC was stored in loose pieces without a box as the store manager would dispense small quantities at a time.

New NMS Central warehouse

Butiiti Health Center III Store , Kyenjojo District

Gaps and Recommendations

Gaps	Recommendations
Limited storage space for commodities in a number of facilities visited. Use of alternative/temporary space making it hard to track commodities.	MOH should Invest in storage infrastructure at facility level prioritizing space and shelving equipment to allow proper placement of products and labelling. The recommendation of strengthening district level storage needs to be aligned with the strategic plans.
Inadequate shelving infrastructure at health facilities making it difficult to arrange products according to storage SOPs.	
There has been a delay in completing and operationalizing the new NMS warehouse in Wakiso due to the COVID-19 pandemic. NMS is still using the old warehouse in Entebbe that has limited storage capacity.	NMS must fast track completion and operationalization of new warehouse to inform new max-min inventory parameters
District level adds an extra level of storage that increases lead time for facilities.	MOH should develop guidelines to facilitate seamless cross -docking from NMS trucks to Last Mile Distribution Trucks (3PL). In collaboration with implementing partners, these guidelines need to be disseminated and adopted by the district health offices.
At the point of administering DMPA-SC, there is no appropriate storage for small quantities. Individual units are stored loosely. This makes physical counts and overall management of commodities difficult.	Storekeepers should issue DMPA-SC units to the FP unit in small boxes. A two bin replenishment system can be initiated between the store and FP unit.



VII. Organization and Staffing

Organization structure

A well functioning supply chain requires the support of a well coordinated organizational structure complemented by standardized policies, guidelines and procedures to ensure health commodities are available when and where people need them. Through desk review and key informant interviews, the assessment team gathered information to determine the organizational structure and understand which divisions are responsible for supply chain functions.

The figure on the next page illustrates the divisions and positions that are responsible for supply chain functions within each level. It was observed that at most levels of the system an adequate structure is available to support the various supply chain functions. However, the SDP level lacks certain key positions such as storekeepers, particularly at Health Center III and II level. In the absence of dedicated supply chain personnel at these levels, service providers (nurses and midwives) and facilities in charge are forced to take on supply chain tasks. Often these personnel have not received adequate supply chain training and do not have the time to prioritize supply chain tasks. This compromises supply chain performance at this critical level.

Central: The Department of Pharmaceutical and Natural Medicine (DPNM) within the MOH plays the lead coordination role for most supply chain functions. Within this department the Quantification and Procurement Planning Unit (QPPU) leads the forecasting and supply planning and overall monitoring functions for all health commodities. While the QPPU is adequately staffed, most of the positions are not institutionalized and are funded by development partners. The MOH works in coordination with NMS and JMS who manage procurement, storage, ordering and distribution of health commodities to the service delivery points.

Regional: The regional pharmacist oversees commodity quality assurance, supervision and liaises with the central level to determine health facility needs and develop forecasts. The NMS regional team that -manages orders and distribution, conducts supervision and provides overall customer service to the districts and facilities.

District: The district health officer (DHO) leads the district team and is responsible for approving orders from the health facilities. In addition, the DHO manages coordination, budgeting and supervision. The district medicines management officer reviews orders and conducts supervision to SDPs. The inventory management (IM) officer is responsible for receiving, storage and distribution of health commodities to SDPs. In addition, the IM officer conducts supervision and coordinates redistribution of excess commodities at SDP level. Bio statisticians are responsible for receiving HMIS reports from SDPs and entering it into the DHIS2 system.

Service Delivery Point: The staffing structure at the SDP varies depending on the size of the health facility. Hospitals and Health Center IVs have dedicated storekeepers to manage commodities, while Health Center IIIs and IIs do not have adequate supply chain staff. At these levels, midwives and nurses take on the commodity management tasks. All SDPs except HC II's have a bio statistician responsible for HMIS data reporting.

Organization Structure

Central

DPNM & QPPU
Forecasting
Supply planning
Policy & Coordination
Monitoring & Supervision

Standard Compliance Accreditation and Patient Protection Unit
Policy
Quality assurance

Department of Health Information
LMIS
HMIS

NMS/JMS
Procurement
Supervision/Training
Order processing
Distribution

Regional

Pharmacist
Forecasting & Planning
Inventory Management
Supervision
Quality Assurance

Senior Customer Care Officer
Coordination
LMIS
Transport & Distribution

Customer Care Officer
Handling orders
Handling complaints
LMIS

Driver
Transport for Distribution and Supervision

District

District Health Officer
Coordination
Budgeting
Supervision
Order approval

District Medicines Management Officer
Receiving and processing orders
Supervision

Inventory Management Officer
Receives commodities
Storage
Distribution
Supervision

Bio Statistician
LMIS and HMIS
Forecasting
Supervision

SDP

Facility in Charge
Forecasting & Planning
Storage
Stock recordkeeping and reporting
Supervision

Stores Assistant
Storage
Stock recordkeeping
Issuing and receiving commodities

Midwife/Nurse
Handling orders
Dispensing commodities
Storage

Bio Statistician
HMIS
Forecasting
Reporting

Supply Chain Policies, Guidelines and SOPs

To manage supply chain activities well, staff need to have a clear understanding of their roles and responsibilities, knowledge and skills, and tools to do their jobs. A strong organizational structure alone cannot improve supply chain performance and needs to be complemented by standard operating procedures that are well documented and disseminated to all users. SOPs provide guidance to users and aim to build standardized and well coordinated supply chain operations across levels and regions. In addition, users must receive training, continuing education and job support to ensure they are in compliance and standards are maintained.

During the group discussions, participants mentioned that all guidelines and SOPs were disseminated to all health facilities. However, during the facility visits it was observed that several facilities had not received the manuals. Facility staff mentioned that the new CSSP system was expected to start in July, however none of the facilities the team visited had received the user manuals as of yet.

Supply Chain Policies and Strategic Plans: The MOH 5 year strategic plan and the supply chain 10 year roadmap outline the strategic objectives for the public health supply chain system in Uganda. The roadmap is a comprehensive document outlining various proposed interventions, and most importantly, a clear monitoring and evaluation framework to measure implementation progress and supply chain performance.

On the operational side, the one warehouse-one facility policy was introduced in 2019 with an aim to streamline distribution of RH commodities through NMS and the alternate distribution system under JMS. During the facility visits, the team observed that this policy was not always adhered to with implementing partners continuing to facilitate supplies to health facilities through JMS. Under this policy, districts are allowed to obtain supplies from JMS to bridge supply gaps at public health facilities. This process for handling supply gaps conflicts with the one warehouse-one facility policy as it allows for a parallel distribution mechanism that is used more often that it should be. A review of this policy is recommended to ensure that public facilities receive commodities through single mechanism for both routine and emergency distribution. In addition, a clear policy on the inter warehouse transfers is needed to support the one warehouse-one facility policy.

SOPs and User Manuals: The SOP manual for supply chain management at facility level includes procedures for all supply chain tasks. Several facilities that the team visited did not have a copy of this manual. In addition, facilities did not have access to user manuals for the logistics information systems such as CSSP and RxSolution. It is recommended that each facility receive a copy of these manuals and electronic versions be disseminated through the WhatsApp groups.

Training, Monitoring and Supervision

In order to ensure compliance of supply chain policies and SOPs, staff need to receive routine training and supervision. Both interventions are currently dependent on and driven by development partners. Each partner focuses on their project objectives which results in numerous training materials and supervision tools, creating duplication in efforts across programs. Similar to training and supervision interventions, monitoring forums such as TWGs and review meetings take place depending on availability of partner funding.

Figure 18: RH SPARS Supervision Tool

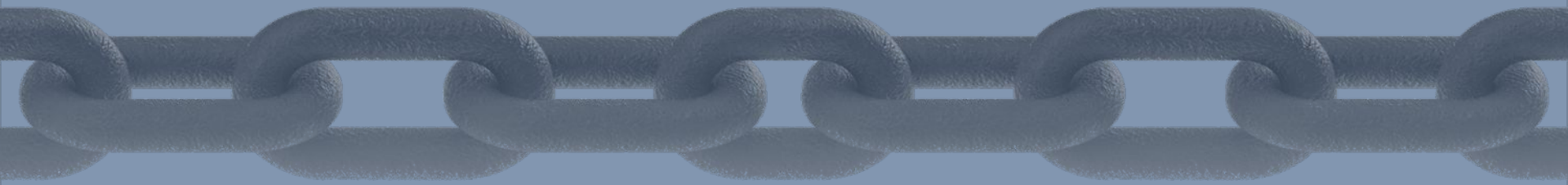
Supply Chain Training: Out of the 12 health facilities the assessment team, only one facility had staff that had not received any training in logistics. Most facilities had received training from NMS on the new CSSP ordering system, however none of the facilities had received any user manuals. During the group discussions, participants mentioned that trainings were fragmented across different partners and programs, and that there was no need to harmonize the training curriculums and improve coordination while implementing trainings.

Monitoring: Several forums exist for monitoring supply chain performance. At the central level these include the Medicines Procurement Management Technical Working Group (TWG), the Commodity Security TWG, and the FPRHCS TWG. In addition, the Pharmaceutical Information Portal (PIP) is used to monitor stock status at the central warehouse. At the subnational level quarterly review meetings are held with districts and facilities. However, these meetings are dependent on partner funding and not all districts in the country may be conducting these meetings. Other than the PIP, there is no integrated platform for continuous monitoring of supply chain indicators. While several data are presented during the meetings, it is not clear how this data is used and acted upon.

Supervision: Several supervision tools and mechanisms are implemented across various programs and partners. Not all facilities receive supervision, with one discussion group estimating that only approximately 20% of facilities receive supervision. Much data is collected through the extensive supervision checklists used, many of which are paper based. It's not clear how these data are used by higher level managers.

Gaps and Recommendations

Gaps	Recommendations
While supply chain positions are adequate at the higher levels (central, regional, district), the SDP level does not have dedicated positions to support commodity management functions especially at the Health Center III and II level. This puts a huge burden on service providers and facility in charges at these levels and adversely affects supply chain performance.	Dedicated supply chain staff at Health Center III and II is needed to reduce the burden on service providers and ensure commodities are being managed appropriately. Where not possible, appropriate task sharing policies should be put in place by MOH to ensure SC functions are implemented by trained staff.
At regional and district level the inventory officer in-charge of stores reports to admin and not the pharmacist or the district medicines management officer.	A structural realignment is recommended at the district level to ensure inventory officers get the appropriate guidance and supervision and the admin is not burdened with commodity management issues.
At the central level, most of the positions within the Quantification Procurement and Planning unit (QPPU) are not institutionalized into the MOH structure and are funded by development partners.	A gradual absorption of key staff within the QPPU into the MOH structures is recommended to ensure sustainability of the critical functions managed by the QPPU.
While guidelines and SOPs exist for most supply chain tasks, these documents have not been adequately disseminated to the lower level facilities.	It is recommended to disseminate all guidelines and SOPs electronically through whatsapp groups and other mediums. Additionally, all facilities should receive paper copies which can be distributed during supervision visits. It is also recommended to develop and disseminated guidelines and job aids in regional languages where needed.
Numerous training materials and supervision tools across programs and development partners creates duplication and sub optimal use of resources.	It is recommended that a harmonization exercise be conducted for all SC training materials and supervision tools across programs and partners. An integrated approach can reduce costs and time ensuring better utilization of resources. Integrating SC modules in clinical trainings can be more efficient



Conclusion and Way Forward

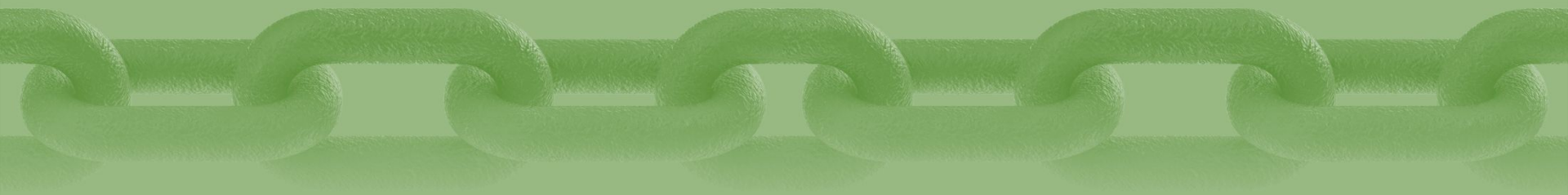
Conclusion and Way Forward

DMPA-SC self-injection is part of an expanded range of contraceptive methods, delivered through informed choice programming.

Health service delivery including family planning services in Uganda is decentralized. However, several policies and components of the supply chain, such as quantification and procurement of contraceptives and LMIS are centrally managed. The assessment of the DMPA-SC supply chain has found several areas for improvement as documented in this report. Some of the key bottlenecks affecting supply of DMPA SC include: central level stock shortages, use of demographic forecasts, low order fill rates, limited visibility and use of facility stock status data, and limited storage space at central and facility level.

There are several recommendations that would help to address these bottlenecks. The central stores need to review the inventory control system in line with the storage solution envisioned as the ultra modern warehouse begins its operations. At the policy level, there is need to streamline inter warehouse transfers between NMS and JMS. In the interim, a well structured MoU should be established to assure timely replenishment to maintain adequate stock levels at all times. This will consequently help improve the order fill rates as products become readily available. There is need to streamline cross-docking at the district, to guarantee the safety and quality of the products by providing a standard staging space awaiting last mile distribution. Some of these solutions, like the CSSP system, have already begun implementation and it is very important that the key stakeholders establish process indicators to continue monitoring the implementation process. The CSSP will improve supply chain visibility. Stakeholders will be able to monitor stock levels across the supply chain. The system will also provide more data, and QPPU should use both consumption and service data in addition to demographic data to better forecast for their needs.

Many recommendations have been made throughout this report, driven by the assessment findings. During the dissemination of this report, the assessment team will collaborate with stakeholders to develop an action plan comprising of activities and outputs to achieve the agreed recommendations. Access Collaborative led by PATH in partnership with JSI/inSupply, is able to provide technical assistance to address some of these, though it will take a broad approach and series of interventions, led by MOH, local governments and other stakeholders, to achieve progress towards the ultimate goal of ensuring that all Ugandans have access to a full range of contraceptives, including self-injection, whenever and wherever they want them.



Appendix

List of Respondents: Sub National Group Discussion

Name	Position	Organization
Daniel Isabirye	Medicines Management Supervisor	District Local Government, Jinja
Deus Batte	Supply Chain Manager	District Local Government, Wakiso
Doreen Basangwa	Pharmacist	National Medical Stores, Kampala
Juliet Nambasa	Store Personnel	Nsangi H/C III, Wakiso
Lameck Olal	Medicines Management Supervisor	District Local Government, Oyam
Nelca Amanda	Store Personnel	District Local Government, Kyenjojo
Philip Ampaire	Pharmacist	National Medical Stores, Jinja
Raymond Ssebata	Pharmacist	National Medical Stores, Moroto
Richard Bongo	Assistant Inventory Management Officer	Anyeke H/C IV, Oyam
Sanyu Sirasi	Assistant Inventory Management Officer	Kyenjojo General Hospital, Kyenjojo
Shem Mutala	FP focal person	Lukolo H/C, Jinja
Yona Tumwine	Pharmacist	National Medical Stores, Kabarole

List of Respondents: National Group Discussion

Name	Position	Organization
Dorcas Badaru	Procurement Advisor	GHSC-PSM
Eric Jemera	Supply Chain Advisor	Family Planning Activity/SAMASHA
Fred Tabu	Pharmacist	MoH Uganda
Frederick Mubiru	Technical Advisor	FHI 360
Immaculate Nalubega	RH Technical Officer	Joint Medical Stores
Lawrence Were	Technical Advisor	CHAI
Martha G. Ajulong	Assistant Commissioner	MoH Uganda, Division of Supply chain
Robert Mutumba	Principal Medicines Officer	MoH Uganda
Rogers Kagimu	Monitoring & Evaluation	MoH Uganda
Sandra Magona	Senior Technical Officer	MoH Uganda, RMNCAH
Sunday Izidoro	Principal Project Coordinator	National Medical Stores
Thomas Obua	Senior Pharmacist	MoH Uganda
Timothy Kasule	Coordinator, RHSC	United Nation Population Fund

List of Respondents: Facility visits

Name	Position	Organization
Sylivia Kajiri	Enrolled Nurse	Katooke Health Centre III
Harriet Kababiito	Registered Midwife	Kyenjojo General Hospital
Olimi Busobozi	Pharmtec / Medicines Management Supervisor	Kyenjojo General Hospital
Innocent Niyonzima	Facility In Charge	Rwaitengya Health Centre III
Joan Sanyu	Enrolled Nurse	Rwaitengya Health Centre III
Sirasi Sanyu	Assistant Inventory Management Officer	Kyenjojo G. Hospital/District
Anita Babukiika	Assistant District Health Officer	Kyenjojo District
Annette Namugosa	Facility In Charge	Kawanda Health Center III
Allen Nakayiza	Facility In Charge	Maganjo Health Center II
Paul Wasswa	Assistant Inventory Management Officer	Wakiso Health Center IV
Sulouman Mutebu	Public Health Nurse	Wakiso
Frank Kakande	Biostatician	Wakiso
Deus Batte	Supply Chain Manager	Wakiso District Local Govt

List of Respondents: Facility visits

Name	Position	Organization
Januario Tumuhimbise	Health Information Assistant	Bufunjo Health Center III
John Bosco Ngonzi	Medical Clinical Officer	Bufunjo Health Center III
Johnson Tugume	Enrolled Nurse	Bufunjo Health Center III
Lydia Kemigisa	Enrolled Nurse	Bufunjo Health Center III
Harriet Masika	Registered Midwife	Butiiti Health Centre III
Mable Katusiime	MRA	Butiiti Health Centre III
Patrick Tugume	Registered Midwife	Butiiti Health Centre III
Rinic Ategeka	Enrolled Midwife	Butiiti Health Centre III
Mary Ategeka	Enrolled Nurse	Katooke Health Centre III
Rosemary Mbabazi	Registered Midwife	Katooke Health Centre III

List of Figures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