

National Surgical, Obstetric, and Anesthesia Planning Intervention Toolkit

A Resource from the Program in Global Surgery and Social Change, Harvard Medical School

Domain: Interventions and resources for strengthening the hospital supply chain

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Brief Synopsis

There is a medium body of evidence around interventions to support or improve access to essential drugs, supplies, and consumables through improving the supply chain system. The UNICEF toolkit: *A Process Guide and Toolkit for Strengthening Public Health Supply Chain Through Capacity Development* provides a comprehensive framework and tools along with recommended practices for strengthening hospital supply chain systems in low- and middle-income countries. The USAID DELIVER project which has been implemented in over 30 countries provides a comprehensive list of resources detailing interventions for increasing availability of essential health supplies. The USAID DELIVER project, implemented by the NGO John Snow, Inc. (JSI) is one of the most comprehensive undertakings to improve hospital supply chain in developing countries. Their most successful interventions form the basis for the interventions outlined below. The interventions have been divided into technical and policy intervention categories.

Guidelines

1. UNICEF Supply Chain Process Guide and Framework

- a. [A Process Guide and Toolkit for Strengthening Public Health Supply Chains Through Capacity Development](#)

This process guide and toolkit was developed by UNICEF with the aim of supporting national governments and development partners in strengthening public health supply chains. The toolkit provides a framework for approaching challenges in supply chain management. The resource guide provides explanations of and links to key tools, guidelines and other resources that will support application of specific methodologies. Some of the included tools and guidelines detail advocacy and engagement, situational analyses, strategic and implementation planning, implementation, performance measurement, and learning and improvement.

2. USAID DELIVER PROJECT Tools

- a. [Logistics System Assessment Tool \(LSAT\)](#)

The LSAT, is one of two data-gathering tools developed by the DELIVER project, which is used to assess a logistics system and the system's environment. The LSAT, a diagnostic and monitoring tool, can be used to complete an annual assessment. The information collected is analyzed to identify issues and opportunities, and results are used to outline further assessment and/or appropriate interventions. Because

assessments using the LSAT are conducted and analyzed in successive years, the results can be used to monitor and improve system performance; and to provide critical data that can identify a country's commodity security strengths and weaknesses.

b. [Logistics Indicators Assessment Tool \(LIAT\)](#)

The LIAT, a quantitative data collection instrument, is used to conduct a facility-based survey to assess health commodity logistics system performance and commodity availability at health facilities. The LIAT can be used to monitor the performance of certain processes involved in the logistics management, to evaluate certain outcomes of logistics interventions, to provide ongoing supervision and performance monitoring, and to monitor commodity availability.

c. [Assessment Tool for Laboratory Services \(ATLAS\)](#)

The ATLAS is a data gathering tool used to assess laboratory services and logistics. It can be used in a similar way to the LIAT.

3. [WHO Procurement and Supply Management Toolbox](#)

This is a platform that was created by WHO AIDS Medicines and Diagnostics Service (AMDS) to improve access to procurement and supply chain management (PSM). The platform is in the form of a search engine to find and select PSM tools that are needed for a particular PSM technical area of interest.

Interventions

TECHNICAL INTERVENTIONS

1. Implementing and strengthening an electronic Logistics Management and Information System

Reference:

1. http://deliver.jsi.com/wp-content/uploads/2016/12/FinaCounRepo_ZM-1.pdf
2. http://deliver.jsi.com/wp-content/uploads/2017/01/FinaCounRepo_ET.pdf

Weblink: http://www.who.int/hiv/events/DELIVER_Presentation.pdf

Type: National policy; facility-based

Intervention description:

Many LMICs still rely on paper-based Logistics Management and Information Systems (LMIS) which often leads to challenges in the supply chain system including long lead times, errors in transcribing and reading illegible hand-writing, limited analytics, and slow access to data for decision-making. To mitigate these challenges, many countries are turning to electronic Logistics Management and Information Systems (e-LMIS).

Examples: As part of the USAID Deliver Project, e-LMIS have been implemented as an analytical tool in several countries. The tool aims to 1.) make data reporting faster, easier and

more accurate, 2.) increase data visibility for managers, 3.) improve decision making regarding stock levels, 4.) reduce stockouts, and ultimately, 5.) improve health outcomes. Different components of the USAID e-LMIS have been implemented in Zambia, Tanzania, Ethiopia and Pakistan.

Outcomes: In Zambia, the software-based eLMIS is currently used nationwide and serves approximately 250 health facilities. The new system has led to increased efficiency in requisitioning and supplying health commodities, improved commodity management, and enhanced service delivery across the country¹. Ethiopia has also made significant progress in implementing and scaling integrated health commodity management systems².

Organization: USAID, MOH of Zambia, MOH of Tanzania, Medical Stores Limited (MSL), John Snow, Inc. (JSI)

Cost: The eLMIS project was funded by numerous partners including the USAID-funded Supply Chain Management System (SCMS) project, Zambian and Tanzanian MOH, Churches Health Association of Zambia (CHAZ), the Bill & Melinda Gates Foundation, the Rockefeller Foundation, the World Bank, the CDC, PATH, Village Reach, UN Commission on Life-Saving Commodities, and UNICEF

Considerations: Piloting electronic management systems like the eLMIS in a few facilities is important for ensuring the feasibility of the tool in each setting and will allow the tool to be adapted to each country's context before scale-up. It's equally crucial to ensure that users are properly trained to use these electronic management systems to ensure acceptability. Roll-out of electronic logistics management systems nationally can be resource intensive requiring hardware and training but outcomes can be substantial if properly implemented. Country Ministries and Leadership driving the process is important for success.

2. Essential Medicines Logistics Improvement Programme (EMLIP)

Reference:

1. http://deliver.jsi.com/wp-content/uploads/2016/12/FinaCounRepo_ZM-1.pdf

Web link: <http://thepump.jsi.com/how-the-emlip-hybrid-system-strengthens-health-outcomes-in-zambia/>

Type: National policy

Intervention description:

To protect against frequent stock outs of essential medicines at district pharmacies and facilities, a kit of essential medicines and supplies are delivered to each facility at regular intervals.

Example: In Zambia, an Essential Drugs Public Pilot Program (EDPPP) was rolled out with its Essential Medicines Logistics Improvement Programme (EMLIP). However, challenges in maintaining stock levels led to the creation of the EMLIP hybrid focused on improving logistics capacity at the district level and reducing the number of stockholding points. In the hybrid system, facilities receive a monthly predetermined quantity of supplies through a baseline kit for

essential commodities (push) and additional supplementary supplies through demand from the logistics team (pull).¹

Outcome: The pilot study in Zambia demonstrated reduced district-level stock out rates. Storage practices also improved with training of staff, and reporting of consumption of supplies rates increased from 72% to 95% over the 12-month period of the pilot study.¹

Organization: Zambian MOH, JSI, USAID, MSL

Cost: USAID-funded

Considerations: Late procurement of some commodities may lead to stock outs at some facilities. Since the essential medicines kit are not customized to the demands of each facility, wastage and shortage may become problematic. Regular delivery of a customized kit to each facility could protect against this.

3. Forecasting and Quantification (F&Q) training

Reference: http://deliver.jsi.com/wp-content/uploads/2016/12/FinaCounRepo_ZM-1.pdf

Type: National policy; facility-based

Intervention description:

Training supply chain staff in best practices for forecasting and quantification can help ensure the uninterrupted supply of products to health facilities.

Example: The USAID DELIVER project created an F&Q core team in Zambia responsible for data collection for quantification. Training in F&Q were also provided to the team to help identify funding needs and procurement gaps, maximize use of available resources, and advocate for additional resources.

Outcome: The project has helped enable staff to conduct annual long-term forecasts and quantifications for family planning, malaria, HIV test kits, and essential medicines commodities in Zambia. Development of a supply chain coordination committee also helped to improve stakeholder coordination in the procurement of health commodities.

Organization: Zambia MOH, JSI, USAID, MSL

Cost: USAID-funded

Considerations: Forecasting and quantification training can be resource intensive. Strong coordination is also required for success of F&Q training and implementation.

POLICY AND ADVOCACY FOR COMMODITY SECURITY INTERVENTIONS

1. Lobby for increased commodity investment by national governments

Reference: http://deliver.jsi.com/wp-content/uploads/2016/12/FinaCounRepo_ZM-1.pdf

Type: National policy

Intervention description:

It is therefore essential to develop strategies to increase resource and funding allocation from the government and funding partners for procurement of commodities for the supply chain. This can be promoted by lobbying efforts.

Example: In Zambia the USAID Deliver project worked closely with the MOH to track donor contribution to ARV procurement for the public supply chain and to perform annual gap analysis. The gap analysis was used by the MOH to lobby for support from supporting partners including donor and implementation partners.

Outcome: Commodity gap analysis in Zambia led to an increase in commitment from the government of Zambia of \$1.2 million in 2009 to \$24.3 million in 2014 for antiretroviral.

Organization: Zambia MOH, JSI, USAID, MSL

Cost: USAID-funded

Considerations: Lobbying for additional funding will require a committed advocacy team and high quality data collection and analysis to make the case for additional funding for commodities. Lobbying can increase funding commitment for supply chain management from local governments and international funders.

2. Regular meetings between implementers to improve coordination

Reference: http://deliver.jsi.com/wp-content/uploads/2016/12/FinaCounRepo_ZM-1.pdf

Type: Facility-level, state-level, and national-level

Intervention description:

Lack of communication and information sharing between managers and supervisors at different levels of the supply chain system can lead to inefficiencies in the system. Regular meetings between district-, state-, and national-level implementers of the hospital supply chain has been found by the DELIVER Project to reduce commodity stock outs.

Outcome: In Zambia, regular meetings between provincial and district supervisors among MSL, MOH, and implementing partners led to improved sharing of information about status of stock outs at each level and redistribution of excess commodities. These meetings also lead to increased data visibility and problem solving for supply chain challenges.

Organization: Zambia MOH, JSI, USAID, MSL

Cost: USAID-funded

Considerations: These meetings need coordination and planning to be most productive. Regular meetings can strengthen data visibility and understanding among partners.

3. Development and implementation of a Supply Chain Strategic Plan

Reference: <http://www.moh.gov.zm/docs/impplanncss.pdf>

Type: National policy

Intervention description:

A national health sector supply chain strategy can serve to outline the gaps in the hospital supply chain system and lay a roadmap for implementation.

Outcome: The Zambia Health Sector Supply Chain Strategy and Implementation Plan (2015-2017)

Organization: Zambian MOH, MSL, UNICEF, DFID

Cost: Zambian MOH and USAID

Considerations: Development and implementation of a supply chain strategic plan needs to include all relevant stakeholders. It also needs a strong advocacy and implementation team to ensure the success of each country's strategic plan. A strategy should be put in place from the beginning of implementation to measure and evaluate indicators important to efficient and effective supply chain.

Additional Resources:

1. Shewarega, Abiy, Paul Dowling, Welelaw Necho, Sami Tewfik, and Yared Yiegezu (PFSA). 2015. Ethiopia: National Survey of the Integrated Pharmaceutical Logistics System. Arlington, Va.: USAID | DELIVER PROJECT, Task Order 4, and Pharmaceuticals Fund and Supply Agency (PFSA)