SIAPS TECHNICAL HIGHLIGHT

Improving Accountability and Transparency in Pharmaceutical Supply Chains

BACKGROUND

Pharmaceutical expenditures account for approximately 25% of total health expenditures, range from 7% to 68% across countries, and are typically one of the top health care expenditures for governments globally[1]. However, ineffective pharmaceutical supply chains negatively impact the full value of positive health outcomes that should be derived from these expenditures. A key contributor to ineffective pharmaceutical supply chains is poor compliance with processes, including a lack of accountability and transparency coupled with corruption. These issues may occur in any functional area of supply chain management, including selection of pharmaceuticals, demand forecasting, manufacturing, procurement, warehousing, and distribution.

This summary provides examples of best practices for improving accountability and transparency in supply chain management that have been implemented in developing countries with technical assistance from the US Agency for International Development (USAID)-funded Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program. These best practices (table 1) have improved governance in supply chains and helped eliminate opportunities for corruption and undetected mismanagement, thereby helping to reduce the loss of pharmaceutical products.

Table 1. Best Practices for Improving Accountability and Transparency in Pharmaceutical Supply Chains

Supply chain management function	Best practices
A. Procurement	1. Adoption and use of standard treatment guidelines (STGs) and essential medicines lists (EMLs) to guide procurement
	2. Procurement price benchmarking
	3. Procurement framework contracts
	4. Procurement information
B. Forecasting and supply planning (quantification)	1. Multistakeholder collaboration
	2. Technical working groups
C. Logistics management information	1. Monitoring and use of supply chain data
D. Supply chain governance (oversight)	1. Supportive supervision
	2. Logistics management unit (LMU)
	3. Strategic planning
	4. Auditable Pharmaceutical Transactions and Services (APTS)
E. Warehousing and distribution	1. Warehousing location labeling and racking systems
	2. Guidelines, standard operating procedures, and performance measurement

[1] Lu Y et al. 2011. *The World Medicines Situation 2011: Medicine Expenditures.* 3rd ed. Geneva: WHO.

A. BEST PRACTICES: PHARMACEUTICAL SELECTION AND PROCUREMENT

1. Participatory Selection Process, Including Adoption of STGs and EMLs

An effective selection process will determine which medicines the public sector will purchase and might also determine patient eligibility for reimbursement.[2] STGs are a good management tool to facilitate objectivity and utilization of standards in promoting regimen and treatment selection for rational prescribing. EMLs can then be developed based on the STGs. These tools can guide procurement and promote adherence to prescribing of recommended medicines and related diagnostics.

In Namibia, SIAPS supported the Ministry of Health and Social Services to update and publish the country's fifth editions of STGs and EML. First, a committee was re-established and new terms of reference of the stakeholder group were adopted to ensure a rigorous, transparent, and consistent medicine selection process.[3] This participatory process allowed the committee to approve new HIV, AIDS, and tuberculosis medicines and palliative care products for inclusion in the EML and STGs. In addition, forms were included in the STGs and EMLs to submit requests and supporting documents for changes and updates, ensuring a systematic and transparent process.

Similarly, SIAPS is assisting the Government of Ukraine to establish a national EML that will be used to make decisions about procurement. The intervention involves reviewing and analyzing existing medicines lists and legislative and regulatory frameworks and identifying how they are currently being used by procurement entities. The findings of the analysis will be presented and discussed at a stakeholder review and consensus workshop, and the results of the workshop will be used to develop a plan and recommendations for a unified national EML to replace the existing multiple medicine lists.

2. Procurement Price Benchmarking

The transparent procurement of medicines ensures the best value for both the country and the patient. Many countries have used the International Price Indicator Guide[4], which is an information resource produced by Management Sciences for Health (MSH) and widely disseminated. It contains recent pharmaceutical supplier and buyer prices that can be used as a guide to assess procurements. For example, SIAPS recently supported an assessment of HIV commodity procurement prices in Swaziland using this guide. The results of the assessment may be used to inform decisions about more competitive procurement methods.

Another price benchmarking initiative being implemented in Ukraine with support from SIAPS is a web-based price observatory. SIAPS assisted civil society organizations (CSOs) to develop an observatory that will periodically capture price data. It will enable procurement price monitoring and benchmarking against domestic and international reference prices. The information will be publically accessible and easy to benchmark against other watchdog centers and guides, such as the WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies and MSH's International Price Indicator Guide. The information can be used by decision makers and CSOs to advocate for transparent and accountable procurement practices by public-sector national and regional authorities.

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[2] Management Sciences for Health. 2012. *MDS-3: Managing Access to Medicines and Health Technologies.* Arlington, VA: Management Sciences for Health.

[3] Systems for Improved Access to Pharmaceuticals and Services (SIAPS). 2013. Supporting the Development and Implementation of Essential Medicines Lists. Submitted to the US Agency for International Development by SIAPS. Arlington, VA: Management Sciences for Health. Available at: http://siapsprogram.org/wp-content/uploads/2013/04/SIAPS-EML-Flyer.pdf.

[4] Management Sciences for Health. 2014. International Drug Price Indicator Guide. Arlington, VA: Management Sciences for Health. Available at: http://erc.msh.org/mainpage.cfm?file=1.0.htm&module=DMP&language=English.

3. Procurement Framework Contracts

SIAPS is assisting the provincial (oblast)-level procurement authorities in Ukraine to establish framework contracts for public procurement of health products using US government anticorruption funding. Framework contracts are long-term arrangements used to decrease purchase prices by establishing a safer and more stable commercial relationship for the supplier without committing to concrete quantities, thereby giving flexibility to the procurement agent. These long-term contracts are widely used by governments in industrialized countries because they foster a competitive and transparent market environment. An important success factor is the implementation of a procurement performance system, which includes the process for supplier performance evaluation and selection for long-term contract and capability-building activities. Once price data become available, they will be used to conduct a comparative procurement performance analysis to assess the effect of long-term contracts on procurement.

4. Procurement Information

Sharing procurement information with stakeholders in a timely manner helps to quickly inform all parties about real or potential problems and enables them to respond appropriately to minimize the impact. Procurement information sharing platforms include collaborative workshops, electronic platforms, and trainings. Access to information enables better policy formulation and process improvements, better transparency and visibility into procurement decisions, and informed decision making. E-Procurement platforms are effective in reducing corrupt practices, such as kickbacks in pharmaceutical management operations. For example, in Bangladesh, SIAPS assisted the Ministry of Health and Family Welfare (MOHFW) with the development of a supply chain management portal. This e-tool helps the MOHFW integrate 32 annual procurement plans from the Ministry's line directors as well as track the procurement process and pipelines. This has streamlined the process and improved data visibility and the availability of pharmaceuticals. Additional benefits of this streamlined, web-based system include better procurement coordination among MOHFW directorates, logistics teams, and other stakeholders; strategic procurement decision making; reduced lead time of the procurement process from 78 weeks to 58 weeks; regularly published procurement opportunities and tender results; and increased governance effectiveness, transparency, and competition throughout the procurement process. Enhanced transparency and accountability of the procurement process led to the World Bank approving the MOHFW's USD 63 million procurement plan within the stipulated timeframe in 2012.

Another example is South Africa's National Department of Health, which recently implemented electronic submission of bids to improve the management of the bid information database, enhance transparency, and reduce errors and improve efficiency in the data entry process.

B. BEST PRACTICES: FORECASTING AND SUPPLY PLANNING (QUANTIFICATION)

1. Multistakeholder Collaboration

Quantification involves properly forecasting quantities of products that are required to meet the system needs over a defined period and supply planning (i.e., detailing the quantities required to fill the supply pipeline, costs, and arrival dates of shipments). Establishing multistakeholder collaborations for the quantification process rationalizes and strengthens public-sector procurement.

2. Technical Working Group

Swaziland has consistently conducted evidence-based forecasting and developed quarterly supply plans that are overseen by a functional Technical Working Group (TWG). The quarterly supply planning activities have helped the Ministry of Health (MOH) to better track and plan shipments from different funding sources (e.g., United Nations Population Fund (UNFPA), PSI, the Global Fund to Fight AIDS, Tuberculosis and Malaria). One supply plan allowed UNFPA to cancel the unnecessary procurement of 12,000 sets of the Jadelle Implant for a savings of USD 102,000. This exercise has increased transparency, avoided wastage, allowed analysis of funding gaps, and provided an early stock-out warning system. The cost reduction has been continuous and beneficial.

During one quarter, the procurement budgets for antiretroviral therapy and reproductive health commodities decreased by 6.4% and 69.2%, respectively.

Other countries currently establishing their own coordination and quantification TWGs include Angola, Cameroon, and Ethiopia.

C. BEST PRACTICES: LOGISTICS MANAGEMENT INFORMATION

1. Monitoring and Use of Supply Chain Data

Monitoring and using supply chain data is essential for effective supply chain governance.[5] Near- or real-time supply chain data allow management to identify problems and design anticorruption processes that may be implemented and regularly monitored. For example, in Mali, SIAPS is supporting the Directorate of Pharmacy and Medicines to redesign the existing logistics management information system to address the problem of poor data transmission from lower to higher levels. The intervention includes building staff capability and establishing controls that ensure accountability at each tier as information travels up the supply chain.

D. BEST PRACTICES: SUPPLY CHAIN OVERSIGHT

1. Supportive Supervision

S*upportive supervision* allows for continual monitoring and improvement of processes, which contributes to enhanced supply chain accountability. This practice enables better coordination across the supply chain and provides more clarity on personnel performance, product status and location, and more accurate supply and distribution planning.

2. Logistics Management Unit

An LMU with responsibility for coordinating functions and decisions across the supply chain has been implemented with significant success in several developing countries. For example, South Sudan recently established an LMU, which enabled the MOH to monitor and report on health facility availability of prioritized tracer pharmaceuticals. Generally, an LMU should establish clear roles and responsibilities for supply chain actors as well as an official organogram, including job descriptions. The LMU may also maintain a national supply chain dashboard, which allows for more effective stock management and better visibility regarding wastage, pilferage, and expiries.

3. Strategic Planning

Collaboratively developed supply chain improvement plans are important accountability tools that oversight entities may rely on. SIAPS recently helped Angola's central medical warehouse (CECOMA) and Mali's central medical warehouse (PPM) develop three- to five-year warehousing improvement plans, including resource requirements and performance targets.

4. Auditable Pharmaceutical Transactions and Services

In Ethiopia, SIAPS designed a package of data-driven interventions that ultimately resulted in a continuous supply of essential medicines, optimal budget utilization, and improved pharmacy services. Piloted in a hospital in the rugged highlands of northern Ethiopia, APTS underwent rigorous testing in a number of health facilities, with groundbreaking results.[6]

APTS effectively curtails wastage of medicines due to expiry, pilferage, and misappropriations, thereby improving efficiency and effectiveness in the overall management of pharmaceuticals and services.

[5] Strengthening Pharmaceutical Systems (SPS). 2011. Pharmaceuticals and the Public Interest: The Importance of Good Governance. Submitted to the US Agency for International Development by SPS. Arlington, VA: Management Sciences for Health.

[6] More information about APTS is available on the SIAPS website.

E. BEST PRACTICES: WAREHOUSING AND DISTRIBUTION

1. Warehousing Location Labeling and Racking Systems

The risk of pilferage or product diversion is present throughout the supply chain, including during storage and distribution.[7] In Cameroon, SIAPS worked with the Central Medical Store (Centrale Nationale d'Approvisionnement en Médicaments et Consommables Médicaux Essentiels – CENAME) and Regional Pharmaceutical Supply Centers (Centres d'Approvisionnement Régionaux – CAPR) to improve storage practices by reducing congestion, clearing out expired or obsolete goods, and developing a racking system.[8] SIAPS has been working with the MOH to develop an early warning system and storage staging plan based on distribution plans and schedules that will redistribute and track products to avoid overstocking. A comprehensive labeling system allows for better identification of products in the warehouse, increasing the visibility of inventory.

2. Guidelines, Standard Operating Procedures, and Performance Measurements

Efficient warehousing and distribution systems and procedures will ensure accountability and transparency in the supply chain. Examples include splitting key responsibilities and segregating the workforce, regular stock takes, formal systems for requisitioning and receiving stock for lower levels, and formal systems for disposal of expired stock.

In Angola, SIAPS supported CECOMA to revise its organizational structure and develop clear roles, responsibilities, and job descriptions based on the improved organogram and to develop and implement clear warehouse standard operating procedures and a transportation management guide. SIAPS also assisted CECOMA to develop and implement a customized human resource capability and performance improvement training program and warehouse management performance monitoring metrics.[9] A detailed capacity-strengthening plan, including capacitating staff on logistics management tasks related to warehousing and distribution and selecting key warehouse performance indicators, dashboards, and performance benchmarks, was established.

Pharmaceutical Manufacturing and Registration

As with the supply chain functions mentioned above, pharmaceutical manufacturing and registration functions often lack adequate transparency and accountability and are also susceptible to corrupt practices that can allow falsified and substandard pharmaceuticals to enter the supply chain. SIAPS has supported Angola, Bangladesh, South Africa, and other countries in implementing best practices that strengthen national pharmaceutical regulatory systems, including establishing and updating legal and regulatory frameworks and building capacity for inspections, sample testing, and regulatory enforcement actions.

[7] Cohen JC, Mrazek MF, Hawkins L. 2007. Corruption and Pharmaceuticals Strengthening Good Governance to Improve Access. In *The Many Faces of Corruption: Tracking Vulnerabilities at the Sector Level*, edited by Campos JE and Pradhan S. Washington, DC: World Bank.

[8] Systems for Improved Access to Pharmaceuticals and Services (SIAPS). 2012. SIAPS Activity and Product Status Report: Year 1, Quarter 4. Submitted to the US Agency for International Development by SIAPS. Arlington, VA: Management Sciences for Health. Available at: http://siapsprogram.org/wp-content/uploads/2012/12/SIAPS-PY1-Q4-Report-web.pdf.

[9] White J, Goredema W, Gaparayi P, van Buuren A, Horrocks J. 2014. *Technical Assistance to Strengthen the Angola Central Medical Warehouse System*. Submitted to the US Agency for International Development by the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Project. Arlington, VA: Management Sciences for Health.

Title	Author/Date	Subject	Link
Approaches to Corruption in Drug Management	U4 (2009)	Summary of initiatives to address corruption risks in drug management, including strategies for procurement (page 6) and distribution (page 7)	http://www.u4.no/publications/approaches-to-corruption-in-drug-management/
Corruption and Pharmaceuticals: Strengthening Good Governance to Improve Access. In The Many Faces of Corruption: Tracking Vulnerabilities at the Sector Level	Cohen JC, Mrazek MF, Hawkins L. (2007) World Bank	Overview of corruption in pharmaceutical systems. Outlines strategies for reducing corruption in procurement (page 44) and distribution (page 48). Table 1.2 provides a summary of strategies (page 58).	https://openknowledge.worldbank.org/bitstream/handle/10986/6848/399850REPLACEM1010FFICIAL0USE0Only1.pdf?sequence=1
Measuring Transparency in the Public Pharmaceutical Sector: Assessment Instrument	WHO (2009)	An tool for assessing transparency in the pharmaceutical sector that provides background on key transparency considerations. Sections 7 (Procurement) and 8 (Distribution) are relevant to supply chain management.	http://www.who.int/medicines/areas/policy/goodgovernance/measuring_transparency/en/
Pharmaceuticals and the Public Interest: The Importance of Good Governance	SPS (2011) (USAID-funded predecessor project to SIAPS)	Framework for strengthening governance (page 7) in pharmaceutical systems and overview of strategies	http://projects.msh.org/projects/sps/SPS-Documents/upload/sps_governance_pub_final_2011.pdf
Addressing Corruption in the Health Sector: Securing Equitable Access to Health Care for Everyone	U4 (2011)	Brief summarizing key strategies for supply chain (pages 12, 14, 25–26, 32–34)	http://www.u4.no/publications/addressing-corruption-in-the-health-sector-securing-equitable-access-to-health-care-for-everyone/
Anti-corruption in the Health Sector: Preventing Drug Diversion through Supply Chain Management	U4 (2006)	Brief describing Supply Chain Management System and the President's Emergency Plan for AIDS Relief strategies to reduce diversion in the antiretroviral supply chains	http://www.u4.no/publications/anti-corruption-in-the-health-sector-preventing-drug-diversion-through-supply-chain-management/
Using Power and Influence Analysis to Address Corruption Risks: The Case of the Ugandan Drug Supply Chain	U4 (2013)	Brief describing the need to identify powerful stakeholders that should be engaged in anti-corruption strategies using the example of Uganda's supply chain	http://www.u4.no/publications/using-power-and-influence-analysis-to-address-corruption-risks-the-case-of-the-ugandan-drug-supply-chain/
Operational Principles for Good Pharmaceutical Procurement	WHO (1999)	A document outlining strategic objectives and operational principles for good pharmaceutical procurement	http://apps.who.int/medicinedocs/en/d/Jwhozip49e/
Good Distribution Practices for Pharmaceutical Products	WHO (2010)	A guide on practices that ensure quality and identity of pharmaceutical products during all aspects of the distribution process, including procurement, purchasing, storage, distribution, transportation, repackaging, relabeling, documentation and record keeping	http://www.who.int/medicines/areas/quality_safety/quality_assurance/GoodDistributionPracticesTRS957Annex5.pdf
Guide to Good Storage Practices for Pharmaceuticals	WHO (2003)	Guide on special measures that are appropriate for the storage and transportation of pharmaceuticals	http://apps.who.int/medicinedocs/en/d/Js18675en/

ABOUT SIAPS | The Systems for Improved Access to Pharmaceuticals and Services (SIAPS) program works to assure access to quality pharmaceutical products and effective pharmaceutical services through systems-strengthening approaches to achieve positive and lasting health outcomes. SIAPS is funded by the US Agency for International Development (USAID) and is implemented by Management Sciences for Health.

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4301 N. Fairfax Drive, Suite 400 | Arlington, VA 22203 USA
Tel: +1 (703) 524-6575 | Fax: +1 (703) 524-7898 | E-mail: siaps@msh.org | Web: www.siapsprogram.org