



Building Pharmaceutical Management Capacity in South Sudan



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SIAPS
Systems for Improved Access
to Pharmaceuticals and Services

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BACKGROUND

South Sudan's health system is struggling to overcome a myriad of challenges, including poor pharmaceutical supply management practices, weak infrastructure, and inadequate skilled manpower. The outbreak of civil unrest in the nascent nation in December 2013 further exacerbated the already dire situation. South Sudan has one of the highest maternal mortality rates in the world, estimated at 789/100,000ⁱ live births. The country's HIV prevalence rate increased from about 2% in 2000 to 2.6% in 2015 among adults, according to the South Sudan HIV/AIDS Commission and Ministry of Health.ⁱⁱ As of 2014, only 6% of 15 million people living with HIV were on antiretroviral therapy (ART).ⁱⁱ

Malaria is one of the leading causes of mortality and morbidity in South Sudan; it accounts for 40% of outpatient consultations, 30% of hospital admissions, and 20% of health facility deaths.ⁱⁱⁱ Children and pregnant women are most vulnerable to malaria. According to the 2013 Malaria Indicator Survey conducted by the South Sudan Ministry of Health, which examined the uptake of core malaria interventions, only 17% of children under five years of age received treatment within 24 hours of

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fever onset, and 50% of pregnant women sleep under insecticide-treated nets. Only 32% of pregnant women received two or more doses of sulfadoxine-pyrimethamine intermittent preventive treatment for malaria.ⁱⁱⁱ Weak pharmaceutical system planning and coordination mechanisms, especially at state and county levels, and limited access to relevant medicine and other products hamper malaria control activities.

PROBLEM STATEMENT

South Sudan’s Central Medical Stores (CMS) have been mandated by the Ministry of Health (MOH) to coordinate distribution and ensure safe storage of medicines and delivery to county health department (CHD) stores using the fastest means possible.^{iv} The MOH requires systematic documentation and reporting on commodities at all levels.^{iv} However, with most local health facilities lacking skilled management and physical infrastructure, the bulk of medical supplies often end up in county medical stores, which lack sufficient storage space. Poor inventory management then often leads to an accumulation of expired or damaged medicine.

Quantification exercises, a critical element of supply chain management that might allay these issues, is often not based on historical consumption data from health facilities. This is due to inadequate methods applied during the exercises.^v A weak logistics management information system (LMIS) makes it difficult to track consumption data from some health facilities. In health facilities where an LMIS exists, it is still difficult to implement a stock inventory management system because any one medicine may be stored in multiple rooms; uncoordinated donations of medicines and medical supplies are also problematic. The few skilled staff is often overworked and unable to update the LMIS tool and train others how to do it. Rapid staff turnover also leads to fewer staff with LMIS training.^{vi}

A 2010 assessment of the availability of tracer medicines found stock-outs in 67% of health facilities, with implementation of a pull system compromised by lack of pharmaceutical management capacity in states and counties.^{vii} This has led to many malaria patients not receiving prescribed medicines, increasing their risk of morbidity and mortality.



Figure 1. SIAPS framework for strengthening pharmaceutical systems in South Sudan

PROJECT DESCRIPTION

The Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program works to ensure 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 (MSH) in South Sudan.

STRATEGIC APPROACH

Under Objective Two (figure 1) of SIAPS' results framework, "Capacity for pharmaceutical supply management and services increased and enhanced," SIAPS seeks to build the organizational, technical, and institutional capacity of the MOH's Directorate of Pharmaceuticals and Supplies and the National Malaria Control Program (NMCP) to effectively assume coordination and pharmaceutical management of malaria control activities. To that end, SIAPS finalized a public sector pharmaceutical management training manual and trained supply managers and health care workers at various levels in Central (CES) and Western Equatoria States (WES).

PROJECT IMPLEMENTATION

SIAPS South Sudan staff trained and mentored MOH staff at the state and county levels on managing inventory and reorganizing priority medical stores. When SIAPS took the lead, local leadership and partnerships with other USAID-funded Integrated Service Delivery Project (ISDP) partners were encouraged to help ensure sustainability, leverage resources, accelerate results, and ensure effective monitoring and evaluation of activities. Interventions initially focused on the former CES and WES, which were sub-divided into six states by the presidential establishment order number 36/2015 AD. The

establishment order divided WES into Amada, Gbudwe, and Maridi States and CES into Jubek, Terekeke, and Yei River States.^{viii}

SIAPS technical advisors controlled the quality of training by their direct participation in the preparation and delivery, ensuring consistency with a MOH-approved pharmaceutical training manual. They also mentored health workers in state facilities through quarterly joint field visits with state MOH staff and ISDP partners. This regular on-the-job mentoring of key staff directly addressed the challenges that health workers face, helping SIAPS address capacity gaps and ensure that pharmaceutical management practices taught were being utilized as envisioned.

RESULTS

Training of Trainers

SIAPS used the MOH-approved pharmaceutical management training manual to customize and deliver three training of trainers (TOTs) at health facilities, two in CES and one in WES, over a two-year period to equip health workers with the skills to better manage medical stores and promote rational use of medicines.

Cascade Training

After delivering the first TOT in Yambio, WES, and in Juba, CES, in August 2014, the SIAPS team conducted 14 cascade trainings for health care workers at the county level between August 2014 and June 2016 to help ensure sustainability. The trainings covered key technical areas, including inventory management and medical stores management, and pharmaceutical management information system (PMIS) tools like stock cards and report and requisition forms. Eight TOTs were given in the CES counties of Tereke, Lainya, Yei, Morob, Juba (two), and Kajokeji (two) and six in the WES counties of Mvolo, Tambura, Ibba Mundri West,

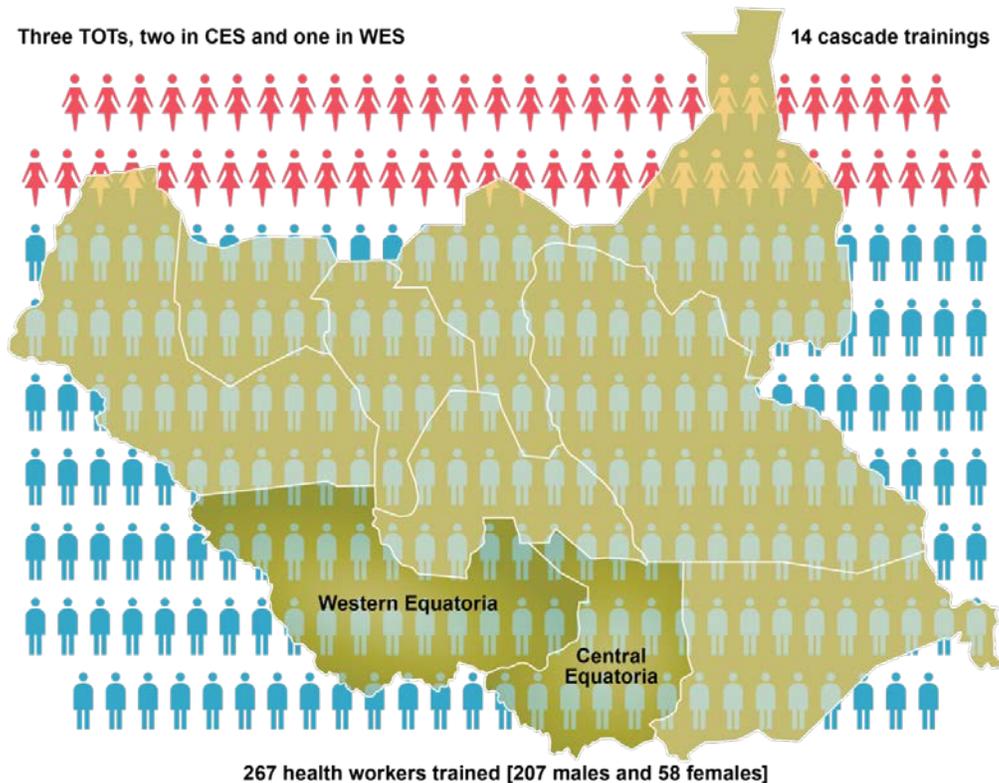


Figure 3. SIAPS pharmaceutical supply management training in South Sudan

Maridi, Yambio, and Ezo. A total of 265 health workers (207 males and 58 females) were trained.

SIAPS also identified and trained health workers through close collaboration with ISDP in Juba, Terekeke, Lainya, Yei Morobo, Kajo-keji, Mvolo, Mundri West, Ibba, Mundri East, Nzara, and Tambura in the former CES and WES. Outside of these states, SIAPS supported similar training by IMA World Health for health care workers in Upper Nile and Jonglei States and training that Health Pooled Fund conducted in Unity, Warrap, Lakes, Northern Bahr el Ghazal, Western Bahr el Ghazal, and Eastern Equatoria states.

Supporting a Pull System

Pharmaceutical supply management training has increased the capacity of health workers to prepare monthly medicine requisitions for the

county medical stores in CES and WES. Through cascade and on-the-job trainings, CHD staff who receive, store, and redistribute medical supplies to other health facilities were equipped with knowledge and skills to mentor their colleagues in other health facilities. These staff were then able to properly utilize and report on medical commodities in their stores and help ensure successful roll-out of a pull system in CES, where USAID | DELIVER supplied health commodities from June 2014 to December 2015 as part of its Emergency Medicines Fund (EMF) Project.

The partial adoption of a pull system in 9 of 16 SIAPS-supported counties in WES and CES minimized stock-outs for tracer medicines in health facilities during the EMF period. Despite only partial adoption, this helped health workers at CHD stores

manage medicines until the commencement of regular deliveries of medical supplies to health facilities. As of the first quarter of 2015, 66% of county medical stores assessed had a stock card corresponding with the physical count of products in their stores, and 124 out of 203 health facilities (primary health care centers and units) had completed and submitted data to the MOH Logistics Management Unit over a period of six months.

Insecurity in CES and WES hampered the project's plan to train more participants and deliver training manuals to more health workers.

Post-Training Action Plans

Fourteen post-training action plans were developed and implemented immediately after the training period. SIAPS conducted follow-up supportive supervision visits to health facilities in collaboration with CHDs and partners to ensure that the trainees have implemented their action plans. In WES, 78% of trainees (one female and six of eight males) completed post-training action plans that they had developed during their most recent pharmaceutical management training.

Skills Certification

During supportive supervision visits, SIAPS provided regular on-the-job mentoring of key staff to address ongoing capacity gap challenges and ensure that they were utilizing their newly learned pharmaceutical management practices. In WES, 69% of health facilities supervised during the last quarter ending September 2016 had certified pharmacy personnel after they completed the recommended pharmacy training curricula for in-service staff that SIAPS helped develop. In CES, all supportive supervision was postponed due to insecurity.

LESSONS LEARNED

- Involving local implementation partners in training participants ensured that those who

attended the training were directly in charge of dispensaries or medical stores in their respective counties.

- The TOT empowered health care workers in many CES and WES counties to assume responsibility for future trainings after SIAPS' transition. Some of the training materials, including demonstrations, may also be used for on-the-job training during supportive supervision.
- Post-training action plans contributed much to translating acquired skills into action at health facilities.
- Training community health workers with a lower education level can be challenging. A translator was needed to facilitate communication with non-English-speaking trainees. Also, some health workers needed more time to adapt to the educational process.

CONCLUSIONS

- CHDs should continue working with partners to improve pharmaceutical management at county medical stores and health facilities.
- The MOH should continue to provide supportive supervision to health facilities to monitor storage and procurement processes.
- All county medical stores should implement a pull supply system, analyzing actual consumption and need at the local level to prevent accumulation, damage, and expiry of unused medicines and other products.
- Health facilities are encouraged to follow the first expired, first out (FEFO) rule in their stores.
- County medical stores and health facilities are encouraged to follow South Sudan's donation guidelines to avoid receiving unwanted pharmaceuticals and medical supplies, thereby complicating storage systems.

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- ⁱ World Health Organization Country Cooperation Strategy, South Sudan. 2016; http://apps.who.int/iris/bitstream/10665/136881/1/ccs_brief_ssd_en.pdf
- ⁱⁱ South Sudan AIDS Commission and Ministry of Health Narrative Report. 2016; http://www.unaids.org/sites/default/files/country/documents/SSD_narrative_report_2016.pdf
- ⁱⁱⁱ SIAPS. 2016. Systems for Improved Access to Pharmaceuticals and Services: Malaria Quarterly Updates (January – March 2016); <http://siapsprogram.org/publication/altview/malaria-newsletter-april-2016/english/>
- ^{iv} Ministry of Health Government of Southern Sudan. Southern Sudan Pharmacy Protocol. 2012; <http://apps.who.int/medicinedocs/documents/s21012en/s21012en.pdf>
- ^v Dick Mochache et al, Oct 2011. Pharmaceutical Logistics Assessment in South Sudan. Washington, DC: Global Health Technical Assistant Project; <http://apps.who.int/medicinedocs/documents/s19289en/s19289en.pdf>
- ^{vi} Anthony Bourasseau et al, Feb 2009. Assessment of Storage, Distribution and Waste Management in the Public Pharmaceutical Supply Chain of Southern Sudan at Regional and State Levels. Pharmaciens Sans Frontieres, South Sudan Ministry of Health and Comite International.
- ^{vii} Rajkotia, Yogesh, Stephanie Boulenger, and Willa Pressman. July 2007. Southern Sudan Health System Assessment. Bethesda, MD: Health Systems 20/20 project, Abt Associates Inc.
- ^{viii} President Kiir Creates 28 States of South Sudan; <http://www.gurtong.net/ECM/Editorial/tabid/124/ctl/ArticleView/mid/519/articleId/17532/President-Kiir-Creates-28-States-In-South-Sudan.aspx>

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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