

# Transitioning the Supply Chain Management Portal to the Government of Bangladesh

March 2016



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**SIAPS**   
Systems for Improved Access  
to Pharmaceuticals and Services

## **Transitioning the Supply Chain Management Portal to the Government of Bangladesh**

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## **About SIAPS**

The goal of the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program is to ensure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve desired health outcomes. Toward this end, the SIAPS results areas include improving governance, building capacity for pharmaceutical management and services, addressing information needed for decision-making in the pharmaceutical sector, strengthening financing strategies and mechanisms to improve access to medicines, and increasing quality pharmaceutical services.

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## ACRONYMS

|       |  |
|-------|--|
| CMSD  | central medical supply depot                           |
| DGDA  | Directorate General Drug Administration                |
| DGFP  | Directorate General of Family Planning                 |
| DGHS  | Directorate General of Health Services                 |
| IT    | information technology                                 |
| MoHFW | Ministry of Health and Family Welfare                  |
| OP    | operational plan                                       |
| PLMC  | Procurement and Logistics Management Cell              |
| SCIP  | Supply Chain Information Portal                        |
| SCMP  | Supply Chain Management Portal                         |
| SIAPS | Systems for Improved Access to Pharmaceutical Services |
| SPS   | Strengthening Pharmaceutical Systems                   |
| USAID | US Agency for International Development                |

## EXECUTIVE SUMMARY

The USAID-funded Strengthening Pharmaceutical Systems (SPS) Program and its follow-on, the USAID-funded SIAPS Program, have collaborated with the Ministry of Health and Family Welfare (MoHFW) since 2010 to improve procurement tools and processes. An output of this collaboration has been the MoHFW Supply Chain Management Portal (SCMP), a web-based portal that is updated continually with family planning commodity information at the subdistrict (upazila) level using data collected at the community and facility levels.

The SCMP serves as an e-dashboard for communicating real-time procurement information, which allows MoHFW procurement desk officers to update the procurement process and implement procurement tracking efficiently and effectively. The portal has significantly improved the accountability and overall management of procurement processes.

Since initiating this MoHFW support, SPS/SIAPS has targeted sustainability and country ownership with the overall goal of handing over management to the MoHFW. As a key step in ensuring the sustainability and eventual handover of the portal, SIAPS supported the establishment of the Procurement and Logistics Management Cell (PLMC), which oversees and coordinates supply chain management functions, within the MoHFW. In 2012, SIAPS added staff to the PLMC to build capacity for SCMP oversight.

In 2014, SIAPS started working with the MoHFW to develop transition, advocacy, and policy plans to sustain the tools and seamlessly transfer SCMP operations, maintenance, and oversight. A draft of transition milestones, including technical, technological, organizational, and financial aspects, and user and technical manuals were developed.

SIAPS is in the final transition and handover of the SCMP to the MoHFW. Throughout this transition, SIAPS has continued to provide limited technical assistance to the MoHFW in the form of intellectual and on-the-job support, and it will do so for the remainder of the program.





## INTRODUCTION AND BACKGROUND

The MoHFW procures thousands of commodities annually utilizing Government and World Bank managed pool funds<sup>1</sup>. This process is headed by 32 line directors who develop 32 separate operational plans (OPs). Of these, 17 are from the Directorate General of Health Services (DGHS), and seven are from the Directorate General of Family Planning (DGFP). The line directors submit the OPs to the MoHFW for approval. Upon approval, each line director submits procurement plans, including the procurement requests for goods, work, and services from each directorate, to the MoHFW and the World Bank.

Prior to 2012, the MoHFW did not have a product catalog with unique codes or standard specifications, and information on registered medicines and contraceptives was not directly linked to the procurement process, both of which were bottlenecks. The Ministry was therefore responsible for consolidating and finalizing all procurement plans and monitoring the procurement process for adherence to Public Procurement Act, Public Procurement Regulation, and World Bank guidelines. The procurement process was not fully computerized, making this a massive and highly inefficient task, and for many years, this complex procurement process contributed to package failures.

**The DGFP SCIP was awarded the National Digital Innovation Fair award for the best e-governance initiative and the runner-up award for national digital innovation in the e-health category, making it eligible for the World Summit Award — the global initiative to promote the world's most innovative information technology applications.**

The USAID-funded SPS Program and its follow-on, the USAID-funded SIAPS Program, have collaborated with the MoHFW since 2010 to improve procurement tools and processes. SPS/SIAPS and the MoHFW explored ways to enhance the efficiency of supply chain information systems, which is critical to the adequate planning and maintenance of reproductive health product availability. The DGFP Supply Chain Information Portal (SCIP) Online Procurement Tracker was developed to address this need. DGFP users were able to use these tools effectively, which contributed to the official government launch of an online tool to facilitate the procurement process in February 2011.

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<sup>1</sup> Draft Report - Strategic Thematic Area: Procurement and Supply Chain Management. Strategic Thematic Group: Core Systems Development. Government of Bangladesh, Ministry of Health and Family Welfare Planning Wing. August 2015.

## DEVELOPMENT OF THE SUPPLY CHAIN MANAGEMENT PORTAL

Following the successful execution of the DGFP SCIP, the MoHFW requested help in developing a comprehensive procurement tracking system that would encompass the entire procurement process. SPS/SIAPS performed a rapid assessment to map the entire procurement system for family planning commodities. The assessment identified key stakeholders as well as significant constraints in the procurement system. A subsequent options analysis was conducted in collaboration with the MoHFW and public and private technical partners to identify feasible solutions for improving the procurement process. An e-tool was selected, developed, and implemented to address the identified need for adequate technology to simplify and improve the monitoring, transparency, and efficiency of the family planning commodity tracking system.

**In 2014, the midterm review of the Health, Population, and Nutrition Sector Development Program<sup>2</sup>, 2011–2016, revealed that the SCMP was a “game changer” in improving procurement and supply chain efficiency.**

The above process resulted in the creation of the MoHFW SCMP (<https://scmpbd.org/>). This web-based portal is updated continually with family planning commodity information at the subdistrict (upazila) level using data collected at the community and facility levels. The portal also serves as an e-dashboard and a vehicle for communicating real-time information about the procurement system, which allows MoHFW procurement desk officers to update the procurement process and implement procurement tracking efficiently and effectively. The portal has significantly improved the accountability and overall management of procurement processes.

In November 2011, a technical working group was convened to design the portal. Working group members carefully reviewed the proposed design prototype, which included computer screens, paper reports, and the functionality of the portal's features. Several technical meetings, demonstration sessions, and validation workshops were held to review the prototypes and provide feedback to improve the system. Clinicians at different level hospitals provided technical input as well. A local information technology (IT) firm used this feedback to develop the SCMP.

In collaboration with the MoHFW, SIAPS tested the system to verify the software and resolve any performance defects. The system was run through a process of user acceptance testing with workshops for the procuring entities, including the PLMC, DGFP Logistics and Supply Unit, and Central Medical Store Depot (CMSD) of DGHS. Feedback was incorporated, and a user manual was developed that was based on the user acceptance test results.

SIAPS developed the SCMP as an online system, with data residing on the host server. Any authorized user with a desktop, laptop, or tablet can access the portal anytime from anywhere, including MoHFW officials; procurement staff from MoHFW entities, such as DGHS,

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<sup>2</sup> Health, Population, and Nutrition Sector Development Program (HPNSDP) July 2011–June 2016, Mid-term program implementation report (MPIR): July 2011–June 2014.

DGFP, and Directorate General Drug Administration (DGDA); the National Institute of Population Research and Training; the Directorate of Nursing Services; and the World Bank, among others.

## SUSTAINABILITY AND INSTITUTIONALIZATION

***Sustainability can be seen as a process, starting from the inception of the system, to the various processes around design, development, support, and implementation. Sustainability concerns the longevity of these processes and how they coexist over time, especially once external support is withdrawn.***

***Institutionalization can be seen as the process by which Information Systems can be made sustainable over time.***

- Braa, et. al. 2003

Donors are key to introducing new forms of IT in developing countries, thereby creating a dependency on the donor for technical and managerial expertise to keep the IT system running. Due to poor infrastructure and a lack of skilled and experienced staff, donor support is required, but at the same time, it creates an unsustainable situation<sup>3</sup>.

SIAPS supported the establishment of the PLMC within the MoHFW, which is key to ensuring the sustainability and eventual handover of the SCMP. In 2012, SIAPS added staff to the PLMC to build capacity for SCMP oversight. The PLMC provides expert opinions on the procurement of goods and services to ensure timely and appropriate procurement processes.

The PLMC was responsible for monitoring the SCMP, and the SIAPS team supported the PLMC and built their capacity for backing up the database, managing user access, fixing software defects, and making enhancements and modifications to the SCMP. The PLMC preserved documents on the internal design of the software for future maintenance and enhancement to ensure the sustainability of the program. The SIAPS program facilitated on-the-job trainings and onsite user support.

**With SIAPS support, 32 line directors prepared and submitted their procurement plans for the 2012–2013 and 2013–2014 fiscal years using the SCMP and provided feedback to improve the experience.**

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<sup>3</sup> Kimaro, HC; Nhampossa, JL. (2007). The challenges of sustainability of health information systems in developing countries: comparative case studies of Mozambique and Tanzania [Electronic Version]. Journal of Health Informatics in Developing Countries, 1(1), 1-10 from <http://www.jhdc.org/index.php/jhdc/article/view/3>.

## TRANSITION OF SCMP TO MOHFW

In 2014, SIAPS started working with the MoHFW to develop a transition plan<sup>4</sup> for the seamless transfer of the operations, maintenance, and oversight of the SCMP tools. A draft of transition milestones, including technical, technological, organizational, and financial aspects, and user and technical manuals were developed.

SIAPS reviewed the IT requirements, including staffing capacity, for managing SCMP hardware and software and determined that the MoHFW was the only agency with enough available human resource to assume responsibility for the SCMP.

| Position             | MoHFW | DGHS | DGFP | DGDA |
|----------------------|-------|------|------|------|
| System Manager       |       |      |      |      |
| System Analyst       | √     | √    |      |      |
| Programmer           | √     | √    |      |      |
| Assistant Programmer | √     | √    |      |      |
| Network Engineer     | √     | √    |      |      |
| Computer Operator    | √     | √    |      |      |
| Established IT Cell  | √     |      |      |      |

To facilitate transitioning SIAPS-supported tools to the MoHFW for management and maintenance, SIAPS prepared an advocacy and policy plan for the sustainability of the tools<sup>5</sup>.

This plan included the following milestones to be put into place during the transition:

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<sup>4</sup> Kabir, Md Humayun. 2014. *Report on Sustainability of SCMP*.

<sup>5</sup> *ibid.*

| Milestones for SCMP Handover   | Status and Timeline  |
|--|--|
| A technical and financial proposal highlighting the management and maintenance of the SCMP will be developed by the MoHFW during the next sector program. It will be submitted to the Health Ministry for the creation of a new budgetary code for the management of the SCMP.   | TBD  |
| Several entities (DGFP, DGHS, DGDA, MoHFW) have established appropriate internal organizational structures and assigned relevant technical staff to manage the SCMP system.  | Stakeholders have their internal structures in place, and the MoHFW has assigned 12 people to undergo intensive SCMP training (March 2016) |
| A user manual, including a meta-data dictionary, frequently asked questions, troubleshooting guidelines, and technical manuals, has been finalized.  | August/September 2015  |
| <p>SCMP technical documents provided to MoHFW:</p> <ol style="list-style-type: none"> <li>1. SCMP Technical Document Introduction</li> <li>2. SCMP Technical Document Business Use Case</li> <li>3. SCMP Technical Document Databases</li> <li>4. SCMP Database Structure</li> <li>5. SCMP Technical Document Electronic Forms</li> <li>6. SCMP Technical Document Reports</li> <li>7. SCMP Technical Document System Administration Tasks</li> <li>8. SCMP Technical Document Deployment Guide</li> <li>9. SCMP Technical Document Database Administration Manual</li> <li>10. SCMP Technical Document Programmer Manual</li> </ol> |  |
| The MoHFW has taken responsibility for maintaining the product catalog, and the product database has been updated, completed, and populated. The product catalog is one of the most important components of the SCMP. Proper oversight and maintenance of the items/specifications is necessary to ensure an efficient and useful database.  | The product catalog was reviewed and updated in consultation with MoHFW and relevant stakeholders; it is awaiting final MoHFW approval.    |
| A MoHFW national specifications committee was established to review specifications to be included in the database. This committee:   | A national specifications committee has been established.  |
| <ul style="list-style-type: none"> <li>• vets any new products and/or specifications to be included in the database</li> <li>• ensures that all bid documents use the specifications from the database</li> <li>• ensures that specifications are correctly drawn without any preference to any country or supplier and are generic</li> </ul>   |  |

*Transition of SCMP to MoHFW*

| Milestones for SCMP Handover  | Status and Timeline   |
|---|---|
| All users (relevant staff at DGFP, DGHS, DGDA, CMSD, MoHFW, and operational line directors) have been trained.  | 2015  |
| IT systems have been set up at CMSD, DGFP, and DGDA. IT staff at these agencies have been trained on SCMP's software.   | March 2016  |
| MoHFW will contract with an outside agency to oversee the maintenance of the system and has a budget in place.  | TBD   |
| All data for both the SCMP and SCIP (which have been combined into one dashboard) have been transferred to the MoHFW/DGHS server, and MoHFW/DGHS has assumed responsibility for database management. In addition, SIAPS provided the following recommendations: <ul style="list-style-type: none"> <li>• The MoHFW needs to ensure the security of its own data, and there should be a provision for real-time or daily mirroring (back up).</li> <li>• The MoHFW should have back-up and disaster recovery plans.</li> </ul> | December 2015<br>DGHS data center (Dhaka) and back-up system (mirror site in Khulna)  |
| MoHFW will take over responsibility for administrative management of the SCMP website.  | December 2016<br>SIAPS will provide limited support until the next sector program begins (upon approval of extension).  |
| MoHFW/PLMC issued a Bangla circular for concerned authorities on the official use of the SCMP.  | September 30, 2014  |
| MoHFW assigned a "Helpline" team (mobile phone/short message service/e-mail) to provide assistance to users.  | <ul style="list-style-type: none"> <li>• For procurement-related issues, users call the deputy program manager of monitoring and evaluation, PLMC.</li> <li>• For e-logistics management information system issues, users reach out to the DGFP master trainers or DGFP tools management committee.</li> <li>• For DGDA-related issues, users call the DGDA content management team.</li> </ul> |

Increasing the capacity of the users and management teams is very important for ensuring that the system is used appropriately and efficiently. SIAPS supported several trainings to build capacity, including:

- identifying master trainers (SIAPS developed a pool of master trainers within the government of Bangladesh who can continue the functionality of the Upazila Inventory Management System, Warehouse Inventory Management System, and Service Delivery Point dashboard to sustain the program) and facilitating the training of trainers to be master trainers
- conducting classroom and on-the-job training for users
- providing specialized training for technical staff on backend language and the overall system, including concept, data flow, process flow, data validation, access log, and user management
- facilitating the formation and development of the terms of reference for the DGFP tool management committee for troubleshooting and site support



## **FOLLOW-ON MAINTENANCE AND CUSTOMIZATION OF THE SCMP**

SIAPS is in the final stages of the transition and handover of the SCMP to the MoHFW. Final handover of the portal will be complete in April 2016. In preparation for this, SIAPS is providing training to DGFP, DGHS, DGDA, and MoHFW personnel on the software used to support the SCMP and on the technical needs of the DGHS data center, which hosts the server. SIAPS is also discussing a formal ceremony to celebrate the handover.

Although MoHFW capacity has been greatly enhanced, and SCMP oversight and management is mainly being performed by the MoHFW, the MoHFW, SIAPS, and USAID have recognized that the MoHFW will have limited capacity in the short term for complete oversight and maintenance of the system and, therefore, have promoted outsourcing general maintenance to a third party.

Because the majority of the SCMP tools were developed by a local IT firm in coordination with SPS and SIAPS, making the current cost of portal upkeep nominal, SIAPS promoted the inclusion of a budget line item and budget code within the MoHFW to contract with this outside agency for server management, feature enhancement, troubleshooting, and technical training.

The SIAPS Program in Bangladesh will continue to provide limited technical assistance in the form of intellectual and on-the-job support to the MoHFW for the remainder of the program.

## CHALLENGES AND LESSONS LEARNED

The SCMP has promoted transparency and brought efficiency to the MoHFW's handling of procurement, but a number of challenges had to be addressed to get to this stage.

- There was, and still remains, a lack of relevant technical personnel within the MoHFW and its entities to manage the SCMP from the backend. SIAPS and the SCMP developer, Softworks, provided tailored trainings on backend language and the overall system, including concept, data flow, process flow, data validation, access log, and user management. This increased the capacity of MoHFW personnel, but there remains a need for additional oversight and on-the-job training. SIAPS has proposed that MoHFW outsource the maintenance and continued training to an outside agency.
- Contracting with an outside agency to oversee SCMP maintenance requires a commitment from the MoHFW to prepare and submit a budget for sustaining the tool. To support this process, SIAPS estimated the cost of yearly software maintenance (approximately 15% to 20% of base value) and recommended a competitive bidding process to obtain the best value.
- The MoHFW needed support to reach a level of behavioral and organizational readiness to take over responsibility for future SCMP management and maintenance. The intent to hand over the system to Government ownership and control was always present. Upon recognition that the MoHFW had the basic capacity to oversee the portal with limited SIAPS support, the teams worked together to prepare a transition plan that was agreeable to the MoHFW, USAID, and SIAPS.
- The high turnover of senior MoHFW officials affects country ownership. SIAPS has supported and promoted the extensive training of a range of MoHFW stakeholders to ensure continuous involvement and ownership regardless of turnover rates.