



## ABOUT USAID/UGANDA HEALTH SUPPLY CHAIN

The USAID-funded program, Uganda Health Supply Chain (UHSC), aims to assist the Government of Uganda's and the Ministry of Health's commitment to improve the health status of the Ugandan population by increasing the availability, affordability, accessibility, and appropriate use of good quality essential medicines and health supplies (EMHS).

The five-year \$30 million cooperative agreement is implemented by Management Sciences for Health in collaboration with Harvard University/Harvard Pilgrim Health Care, Euro Health Group, Imperial Health Sciences, Health Promotion and Social Development and Makerere University College of Health Sciences.

The program builds on the achievements and lessons learned under USAID's Securing Ugandans' Rights to Essential Medicines program and focuses on health system strengthening to ensure availability and equitable access to EMHS, and contribute to the achievement of Uganda's national health and development goals.

### USAID/Uganda Health Supply Chain Program Objectives

- Improve Uganda's policies and strategies to support cost-effective, equitable, and transparent use of available EMHS resources
- Strengthen country capacity for effective management and utilization of EMHS
- Increase availability and access to EMHS for priority populations

By the end of UHSC, Uganda's supply chain management capacity will be built at all levels, optimized systems will be efficient, effective, and transparent, management will be stronger due to evidence-based decision making, and affordability will be improved. In addition, the Ministry of Health will have taken ownership and responsibility for the EMHS supply chain and will have the necessary tools, approaches, skills, and coordinating mechanisms to allow the government to maintain and expand on USAID's investments.

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## ACRONYMS AND ABBREVIATIONS

|         |   |
|---------|---|
| ACT     | artemisinin-based combination treatment                         |
| AMELP   | Activity, Monitoring, Evaluation and Learning Plan              |
| ART     | antiretroviral therapy  |
| ARV     | antiretroviral  |
| CPHL    | Central Public Health Laboratory                                |
| DHIS2   | district health information system, version 2                   |
| EMHS    | essential medicines and health supplies                         |
| FY      | fiscal year   |
| GPP     | good pharmacy practices   |
| HC      | health center   |
| iCCM    | integrated community case management                            |
| JMS     | Joint Medical Store   |
| M&E     | monitoring and evaluation                                       |
| MB-MMS  | medical bureau medicines management supervisors                 |
| MMS     | medicines management supervisors                                |
| MoH     | Ministry of Health  |
| MTCs    | medicines and therapeutic committees                            |
| NDA     | National Drug Authority   |
| NMCP    | National Malaria Control Program                                |
| NMS     | National Medical Stores   |
| NTLP    | National Tuberculosis and Leprosy Program                       |
| PEPFAR  | President's Emergency Plan for AIDS Relief                      |
| PFM     | pharmaceutical financial management                             |
| PIP     | pharmaceutical information portal                               |
| PMI     | President's Malaria Initiative                                  |
| PNFP    | private not-for-profit  |
| QPPU    | Quantification and Procurement Planning Unit                    |
| RDT     | rapid diagnostic test (malaria)                                 |
| RMNCH   | reproductive, maternal, newborn, and child health               |
| SPARS   | supervision, performance assessment, recognition strategy       |
| SURE    | Securing Ugandans' Right to Essential Medicines [program]       |
| TB      | tuberculosis  |
| UGX     | Uganda shilling   |
| UHSC    | Uganda Health Supply Chain [program]                            |
| UNAMU   | Uganda Network for Appropriate Medicines Use                    |
| UNCoLSC | UN Commission on Life-Saving Commodities for women and children |
| UNFPA   | United Nations Population Fund                                  |
| USAID   | US Agency for International Development                         |
| WAOS    | web-based ARV ordering and reporting system                     |
| WHO     | World Health Organization                                       |

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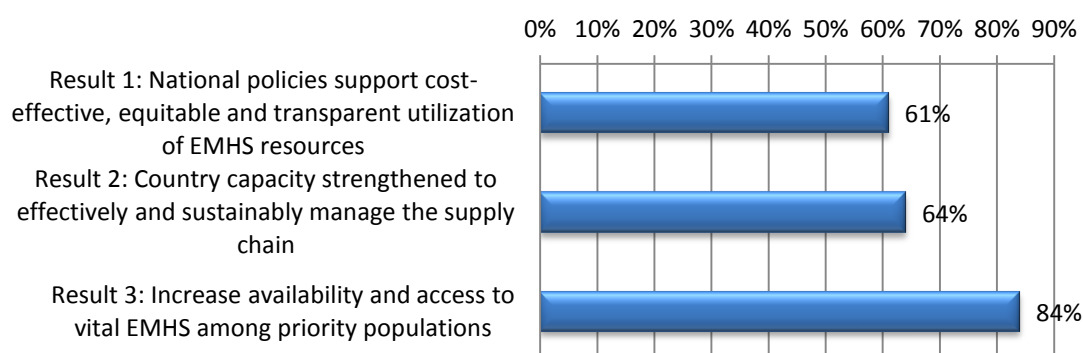
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## EXECUTIVE SUMMARY

This annual progress report covers Year 1 of the US Agency for International Development (USAID)/Uganda Health Supply Chain (UHSC) program from August 25, 2014 to September 30, 2015. It highlights the UHSC program's activities and achievements in improving availability, access, affordability, and appropriate use of medicines, as well as the challenges we encountered in implementation during the year and next steps in Year 2.

Figure 1 below provides a quick overview of progress achieved to date by result area. Each sub-result activity listed in the Year 1 work plan was scored based on its status at the end of Year 1: 0% not started, 50% started but not completed, or 100% completed. Using this means of calculating progress, the overall progress by end of Year 1 of Year 1 activities is 70%.



**Figure 1: UHSC year 1 progress by result area**

UHSC's progress was possible because of the high level of cooperation and commitment from Ministry of Health (MoH) programs, particularly the Pharmacy Division, and district health authorities and partners in the 75 UHSC-supported districts.

Coordination of MoH and development partner resources and planning has greatly improved; vital information on life-saving medicines is more readily available; structured training, supervision, and accreditation systems cover the majority of districts; a comprehensive monitoring and evaluation system is in place to track key pharmaceutical sector indicators; and important donor partners, such as Global Fund, United Nations Population Fund (UNFPA), UNICEF, and World Health Organization (WHO), are committing substantial financial and technical resources to strengthen the national supply chain system. The ground work laid over the past six years by Securing Ugandans' Right to Essential Medicines (SURE), and now continued by UHSC, provides the framework and traction for building the various supply chain system components.

Significant challenges, however, remain. Some planned activities were delayed due to circumstances beyond UHSC control, including the major organizational restructuring at Joint Medical Stores (JMS) and lack of a confirmed executive director at National Drug Authority (NDA), and serious understaffing at the Central Public Health Laboratory (CPHL). In addition, the National Medical Stores (NMS) remained uncommitted to UHSC offers of technical support.

Major achievements and challenges for the year are summarized below.

## **Result 1: National policies support cost-effective, equitable and transparent use of EMHS resources**

Policies and strategies to address inequity in the allocation of resources for essential medicines and health supplies (EMHS) have been prioritized in the MoH's five-year *National Medicines Policy* and *Pharmaceutical Sector Strategic Plan (2015–2020)*, both which were revised this year with substantial UHSC technical input. To support change in government allocations, UHSC developed an equity index using financial and client load data for the MoH and the Government of Uganda to use to measure vertical and horizontal equity of government funding allocations. UHSC also developed a concept paper detailing the steps needed including a review of the current allocation formula and possible criteria for improving equity. MoH senior management is reviewing a proposal to create a multi-sectoral equity committee. We submitted a second paper to the MoH proposing the establishment of an EMHS resource and financial tracking system to make all pharmaceutical sector resource flows transparent.

## **Result 2: Country capacity strengthened to effectively and sustainably manage supply chain**

UHSC worked with the medical bureaus and JMS on developing different models and criteria for improving equity of funding allocations to private-not-for-profit (PNFP) facilities. The opportunity for applying the new allocation models is expected next year after MoH approval of UHSC's proposal to establish a credit line at JMS to supply EMHS to 600 PNFP facilities with a portion of government grant funds currently allocated to the PNFP sector. The proposal was adopted by the medicines procurement and management technical working group. Using data collected in the 2015 baseline survey, UHSC will work with the medical bureaus to streamline and standardize the currently fragmented guidelines and policies

UHSC continued to build the capacity of the Pharmacy Division's monitoring and evaluation (M&E) unit. The expanded unit compiled statistics for the *Annual Pharmaceutical Sector Performance Report 2013/2014*, provided technical inputs to the health sector development plan and the national pharmaceutical sector strategic plan for 2015–2020.

With UHSC support, the MoH's Quantification Procurement Planning Unit (QPPU) consolidated their role as the central hub for national forecasting, quantification, stock status, and pipeline monitoring of commodities. The team compiled and analyzed data for eight different quantification and supply planning exercises during the year and held eight commodity security group meetings with MoH program staff and key stakeholders to discuss risks and recommend actions on national stock status issues.

The MoH moratorium on new e-health systems was lifted at the end of 2014. As a result, UHSC escalated the implementation of RxSolution by adding 33 hospitals and health center (HC)IV facilities during the year; to date, 93 of 425 higher-level facilities operate RxSolution. UNFPA and Global Fund are providing financial support to achieve national coverage, and additional resources will be used to set up a call support center and maintain hardware and Internet connectivity. UHSC trained 80 additional medicines management supervisors (MMS) to enable them provide on-the-job support to facility staff in RxSolution. In addition, the UHSC management information system team expanded the functionality for the pharmaceutical information portal (PIP) data warehouse. This year, more than 400 users accessed the site to download one of the existing 165 reports or create one of their own.

UHSC's team of logistics management specialists supported the AIDS Control Program and users of the web-based antiretroviral ordering system (WAOS) by monitoring facility orders, analyzing data, and producing bimonthly reports on the ARV and opportunistic infection drug situation. The team also trained 52 MMS and 95 facility staff members on ARV logistics data reporting and WAOS use in PEPFAR-supported districts. As a result, the facility reporting rate has risen to over 80% among the 1,500+ accredited antiretroviral therapy (ART) sites, with 92% of the reports being submitted through WAOS and 70% sent in by the deadline. Two assessments of WAOS data quality are underway to guide improvements to the logistics management information tools and training.

In collaboration with National Malaria Control Program (NMCP), we conducted the fourth malaria end-use verification survey in May 2015. The data from 15 districts and 75 facilities showed mixed progress: 81% of the children under five who tested negative for malaria received artemisinin-based combination treatment (ACT); 97% of all facilities had at least one ACT pack size available; and 93% of facilities had rapid diagnostic tests (RDTs) in stock on the day of visit; yet only 61% of suspected malaria cases were tested. UHSC supported the President's Malaria Initiative (PMI) to ensure sufficient availability of USAID-provided ACTs, RDTs, and artesunate injections at JMS and 585 PNFP facilities throughout the country by monitoring facility reporting, stock levels, consumption, and shipments and producing bimonthly reports. UHSC logistics training and follow-up resulted in increasing the ordering and reporting rate for ACTs to 81% with 64% having correct calculations for average monthly consumption. We paid special attention to stock levels in the northern region because of a malaria outbreak.

The main achievement this year related to UHSC support to NDA was the completion of the electronic Good Pharmacy Practices (GPP) system and related training of 39 NDA inspectors to use it. The electronic GPP system enables easy data entry, data quality checks, and automated report generation of GPP inspections. Inspectors have entered 952 reports into the new system.

In Year 1, coverage of the supervision, performance assessment, and recognition strategy (SPARS) increased from 59 districts to 75 districts. With UHSC support, 230 active MMS visited 2,725 public and PNFP health facilities, including the 43 newly trained MMS from the medical bureaus who covered 381 PNFP facilities. The average performance score of mature districts now stands at 18.4, close to the target of 20 (maximum of 25); the average score is 11.5 in new districts. MMS have continued to improve their efficiency with a record high 1,309 supervision visits conducted in the last quarter, thanks to 83 new MMS, more rigorous feedback from regional teams, and repairs to 131 of 186 motorbikes.

To promote appropriate use of medicines and improve quality of care, health workers and training institutions across the country received one of 5,000 copies of *Practical Guidelines for Dispensing*, a reference manual developed by UHSC to guide dispensing practices at lower-level facilities. The guidelines for higher-level facilities will be disseminated next year.

Baseline data on provider knowledge, skills, and practices related to the diagnosis and management of five priority conditions was collected. These data will in Year 2 feed into the development of strategies for improving appropriate treatment.



### **Result 3: Increased availability and access to vital medicines and health supplies among priority populations**

UHSC met regularly with the MoH's Reproductive and Child Health Divisions and coordinated activities related to UN Commission on Life-Saving Commodities (UNCoLSC) and integrated community case management (iCCM). UHSC supported a review of the district health information system, version 2 (DHIS2), mTRAC, and SPARS information systems to identify data available on reproductive, maternal, newborn, and child health (RMNCH) commodities. We also led the development of a national iCCM procurement and supply plan to coordinate delivery of commodities to village health teams. Work began on a situational analysis of the village health teams' supply chain, which will contribute to the development of a national RMNCH supply chain system.



Figure 2: Pader district work planning meeting with District Health Team

## TECHNICAL RESULT AREAS AND ACTIVITIES

This section presents details on the status of activity implementation under the three result areas.

### RESULT 1: NATIONAL POLICIES SUPPORT COST-EFFECTIVE, EQUITABLE, AND TRANSPARENT USE OF EMHS RESOURCES

#### Sub-result 1.1. Policies that improve affordability, availability, and accessibility of EMHS

In Year 1, UHSC made significant progress in achieving more equitable, cost-effective, and transparent use of resources for EMHS.

##### **National medicines policies and plans**

With UHSC technical support the MoH's *National Medicines Policy 2015–2020* was revised. The dissemination strategy includes presentations, introduction in basic curriculum at training institutions, and providing it to all health managers and district political leadership. The pharmaceutical sector strategic plan was also updated for 2015–2020, and a UHSC consultant is assessing its use by the MoH to lobby for additional funding.

##### **Resource allocation equity**

At the request of the Director General of Health Services, UHSC helped the Pharmacy Division prepare a proposal for establishing a credit line at JMS to supply EMHS to 600 PNFP facilities using a portion of a current allocation to the PNFP sector. The medicines procurement and management technical working group accepted the proposal. UHSC worked with the medical bureaus and JMS to develop different allocation models and criteria to discuss further with the MoH. UHSC also drafted a concept paper related to EMHS financing allocations to government facilities and submitted it to the MoH. The paper details the steps needed to address inequity and included a review of the current allocation formula with recommendations for improvement and a proposal to create a multi-sectoral equity committee at the MoH to guide the budgeting, planning, and allocation of EMHS finances. Using information obtained on the primary health care funding allocations and client load data in PNFP facilities, UHSC proposed an index for the MoH and government of Uganda to measure vertical and horizontal equity in their primary health care and Vote 116 funding allocations.

We explored how the referral system is working in our baseline assessment, which highlighted the fact that lack of affordable transport is a major contributor to the weak system implementation whereby less than 20% of patients initiating treatment at the lowest level of health care. UHSC will collaborate with the MoH and Harvard University to design interventions to strengthen the referral system when all levels of care have more uniform medicines availability.

##### **Financial information management and governance**

To improve transparency and accountability in management of EMHS resources, UHSC submitted a concept paper to the MoH Pharmacy Division, Budget/Finance Division, and Planning Division to promote the establishment of an EMHS resource and financial tracking system. The paper calls for a comprehensive review of the flow of resources and commodities

into the public and PNFP sectors and an assessment of the existing financial and commodity tracking systems used by the MoH, government, and other stakeholders. Prior attempts to establish similar systems have failed, but we are persisting in advocating for this important system.

### **Affordability of medicines**

Our 2015 baseline survey factors that determine the cost of medicines and services in PNFP facilities owned and operated by the medical bureaus (Catholic, Muslim, Orthodox, and Protestant). Preliminary analysis indicates that facilities have no clear criteria or guidelines on what to charge for services—some facilities charged flat fees for medicines, while others charged 75% of the price of the medicine; mark-ups were arbitrary and ranged from 20% to 70%. Where fee exemptions existed (e.g., for the very poor), staff were not sure how to recover the costs. The medical bureaus and UHSC will use this information to help standardize policies and procedures for cost recovery, with a view toward making services and medicines affordable for vulnerable populations.

### **Challenges**

- During the year, the UHSC principal health finance advisor, a key program position, left us and has not yet been replaced
- Shifting from push to pull distribution system will be a difficult political decision because the increased funding resulted in better product availability under the kit system

### **Next steps**

- Support the Pharmacy Division to develop a road map for implementing an EMHS credit line at JMS for PNFP facilities
- Present the index for measuring the equity of EMHS funding allocations to MoH and other officials to obtain consensus on next steps
- Get endorsement of the establishment of the equity committee and its terms of reference; support its function
- Finalize the design of the push-pull distribution study and pilot it
- Design interventions to strengthen the health care referral system
- Assess financial and commodity tracking systems in use
- Complete mapping of EMHS budgets, expenditures, and flows
- Develop proposals for a new EMHS allocation principles for Vote 116 funds
- Support implementation of a financial and commodity tracking system
- Engage the medical bureaus and MoH to develop guidelines and procedures for cost recovery
- Finalize design and obtain MoH approval of the assessment of cost recovery mechanisms in private wings

## **Sub-result 1.2 Pharmaceutical sector research and advocacy**

### **Operations research—collaborating, learning, and adapting**

In Year 1, UHSC continued working on articles to submit to peer-reviewed journals on SURE and UHSC interventions. We have submitted two manuscripts: one on equity and one on the implementation of the GPP program and finalized draft of one on the methods used to implement SPARS. Year 2 plans include disseminating lessons learned on the implementation of

pharmaceutical financial management in health facilities, data quality related to SPARS, and the effect of SPARS on medicines management practices.

### Next step

Finalize analysis for research articles in collaboration with Harvard University

## RESULT 2.COUNTRY CAPACITY STRENGTHENED TO EFFECTIVELY AND SUSTAINABLY MANAGE THE SUPPLY CHAIN

### Sub-result 2.1. Central supply chain management systems strengthened

#### Central warehouse performance

In November 2014, UHSC and the MoH organized a conference to identify priorities for strengthening the pharmaceutical sector over the next five years. The priorities included increasing equity in funding allocation; improving medicines availability at lower levels; reintroducing an order-based supply system in government HCIIIs and HCIIIs; strengthening management information systems; and integrating and harmonizing systems across the public and PNFP sectors. Based on the conference outcomes, UHSC discussed collaboration and priorities with JMS and NMS for Year 1.

In the area of harmonizing systems across public and PNFP sectors, UHSC's unified product coding system is nearing completion for all common pharmaceutical products managed by the central warehouses. The system will make it easier to track major commodities and simplify ordering by facilities. In Year 2, UHSC will present the coding system to stakeholders and lobby for the central warehouses to adopt it.

#### *National Medical Stores*

Based on our February 2015 meeting, UHSC and NMS decided on the following activities, although NMS has not yet signed a letter of intent.

At NMS's request, UHSC drafted a scope of work and identified four potential consultants to carry out a costing study of NMS operations to guide the development of a service fee structure. NMS has not yet responded.

To improve the quality of the annual EMHS procurement plans that facilities submit to NMS, QPPU conducted a study to identify capacity issues related to how facilities adhere to the plans and how they track their Vote 116 budgets and expenditures. The QPPU and UHSC collected and analyzed data from six hospitals and HCIVs and drafted a preliminary report. The findings are important because NMS consolidates individual facility procurement plans to generate annual requirements for their own national procurement plans. The mismatch between what facilities plan and what they actually order from NMS can cause of stock imbalances at NMS. The findings and recommendations will be shared with NMS and the facilities to instigate interventions that will improve procurement planning at facility level.

UHSC cleaned and re-analyzed data collected from 28 facilities in five districts to document the scope and cost of redistribution and expiry of commodities at district level. The study, conducted

under SURE, aims to inform the MoH, NMS, and partners on the efficiency of the current redistribution policy. The revised report is expected early Year 2.

In Year 2, we will continue to offer technical support to NMS.

### *Joint Medical Store*

Since October 2014, JMS has undergone a major restructuring exercise with changes in leadership, management structure, and staffing. While these changes have presented positive opportunities, they have also caused some disruption to UHSC-supported. One of our primary contributions under the Year 1 work plan with JMS was the provision of long- and short-term personnel to assist in building JMS staff capacity and to further strengthen JMS systems and operations. UHSC mobilized the following experts during Year 1:

- We hired an international pharmaceutical wholesale expert in August 2015 for one year under a co-funding arrangement with JMS. Mr. Gerrit Weeda began his work with JMS senior management to review various recommendations from five previous JMS operations assessments; in the coming year, he will oversee a team of technical staff to implement action plans including streamlining the JMS enterprise management system (IFS).
- Two pharmacist/logistics specialists were hired to strengthen JMS systems for managing ordering and reporting on third-party HIV and malaria commodities. Working with warehouse staff, they track facility orders, support facilities to improve order completion and timeliness, and work with diocesan health coordinators to supervise facilities that are performing poorly in ordering and reporting. The specialists compile and analyze data on a bimonthly basis and disseminate reports to stakeholders. As a result of this support, JMS data management processes are stronger and facility reporting rates and data quality have improved for both commodity groups.
- A short-term consultant from UHSC's partner, Imperial Health Sciences, helped document JMS's warehousing and distribution performance for use in an external US government evaluation of the PEPFAR/Uganda supply chain.

In August 2015, UHSC submitted a proposal to USAID outlining activities to help JMS develop their new cadre of 13 medical representatives to provide supportive supervision to PNFP and private-for-profit workers in logistics management. The medical representatives began work in the third quarter; they will be trained to be MMS in early Year 2, while we wait for the decision on the \$100,000 proposal from USAID.

In Year 2, UHSC will work with JMS to pilot facility electronic ordering through their IFS system using RxSolution. We have identified two facilities for the pilot, which will take place in the first quarter.

UHSC also worked with JMS to draft a scope of work for an international short-term consultant to assess the performance of JMS's door-to-door distribution system. The assessment will be implemented in Year 2.

### **Next steps**

- Complete unified product coding between the warehouses
- Sign letter of intent with NMS
- Develop and agree on detailed work plan with NMS

- Obtain feedback from NMS to finalize costing study statement of work and consultant recruitment
- Finalize the procurement planning and redistribution study
- Recruit an expert in information technology and knowledge of IFS to assist JMS
- Conduct a follow-on of the JMS business process review
- Conduct a post-implementation review of IFS
- Assess JMS's to-the-door distribution system
- Enable electronic ordering at JMS through RxSolution and IFS and pilot it
- Train 13 JMS medical representatives in medicines management supervision

### **National Drug Authority**

A milestone was the completion of the NDA verification of imports system, which was initiated under SURE. This system, which links the port of entry staff with information on product registration status and physical verification, will help NDA field officers assure that product imports meet quality standards. Relevant NDA staff were trained to use the system, which has been incorporated into NDA's overall information management system.

Implementation of the electronic GPP system has been completed after we updated it over the year to meet the NDA's needs. A total of 39 inspectors have been trained to enter report data into the electronic system. UHSC and the inspectors also entered all previous 952 inspection reports done under SURE. This system has checks on data quality, and use of the inspection data is optimized as users can automatically generate reports. The reports will be shared with authorities such as district health officers and MoH. Inspected facilities also receive their reports after they have been signed off by the NDA inspectorate department.

During the data entry process, we discovered that some inspectors claimed to have inspected more than 10 facilities in one day, which raised the possibility of fraud. All inspectors were summoned, and NDA explained their zero tolerance policy for fraud. Meetings with the suspected inspector were held, and NDA took responsibility for the matter and agreed to re-inspect the facilities in question. This district inspector was barred from taking part in any future UHSC-supported GPP inspections. NDA put all these actions in writing to UHSC and is carrying out all the necessary action steps. By the end of Year 1, the matter was near conclusion, and a new sub-contract with NDA will be signed in Year 2 that allows GPP inspections to resume. In addition, UHSC and NDA collaborated on a data quality assessment of the inter-rater reliability of GPP inspections. The results will be presented in Year 2, and a strategy to improve the reliability will be developed.

NDA regional offices are managing public outreach materials for the *Sawa Sawa* campaign and facility certification status for the GPP program. District inspectors are responsible for delivering the GPP certificate and *Sawa Sawa* logo to certified facilities and the outreach materials to all facilities.

UHSC and NDA have drawn up a road map to implement the good distribution practices by the January 2016 launch date. All pharmaceutical wholesalers will be inspected and we will develop electronic submission possibility similar to what was done for the GPP tool. A number of preparatory meetings have taken place and an NDA coordinator has been assigned to lead a team of inspectors.

### Challenges

- The suspected fraud situation delayed all planned activities and the signing of the new contract between NDA and UHSC
- NDA has not had an executive director for the whole year and many decisions have also been delayed

### Next steps

- Sign the GPP inspection subcontract with NDA and support
- Present GPP data quality assessment findings and identify action points
- Develop strategies to address deficiencies and issues identified in GPP inspection reports
- Advocate to include GPP certification into the new MoH management contracts
- Support implementation of *Sawa Sawa* campaign
- Support rollout of the good dispensing practices and the development of the electronic inspection tool

### Private not-for-profit facilities

In Year 1, UHSC worked with the four medical bureaus to define the basic package of support to improve medicines management and use in PNFP health facilities, which mirrors that for government health facilities. Diocesan health coordinators implement the package, which includes SPARS, pharmaceutical financial management (PFM), GPP, and RxSolution, among others. UHSC participated in multiple meetings to present the basic package of support and to build consensus around the importance of strengthening these areas and reporting on progress.

To ensure effective implementation, UHSC oriented the MMS (MB-MMS) in SPARS supervision, providing basic computer training and tools and equipment needed to conduct SPARS supervision, including 23 netbooks and 28 modems. Funding for the MB-MMS to conduct supervision visits started in May 2015. Currently, 66 of 72 MB-MMS have what they need to roll-out SPARS in the PNFP sector (Table 1).

**Table 1: SPARS rollout status in the four medical bureaus**

|  | UCMB | UPMB | UMMB | UOMB | Total |
|--|------|------|------|------|-------|
| MB-MMS trained in SPARS supervision        | 25   | 30   | 8    | 3    | 66    |
| MB-MMS trained in computer skills          | 14   | 15   | 1    | 0    | 30    |
| PNFP health facilities reached with SPARS  | 198  | 146  | 26   | 11   | 381   |
| Total number of PNFP health facilities     | 282  | 274  | 50   | 14   | 620   |
| SPARS visits (October 2014–September 2015) | 138  | 145  | 35   | 11   | 329   |
| Average number of visits per MB-MMS        | 5.5  | 4.8  | 4.4  | 3.7  | 5.0   |

To smooth the transition of SPARS supervision from district-based MMS to MB-MMS, UHSC and the bureaus mapped PNFP health facilities where MB-MMS could supervise with the current fixed fee of 30,000 UGX per supervision per facility; 269 of the 620 PNFP facilities in all districts can be covered under this arrangement. The district health offices and the district-based MMS are aware of the transition.

To further strengthen capacity within the medical bureaus, in the last quarter, UHSC hired and seconded two pharmacist interns to the Orthodox and Muslim bureaus. The interns have been

instrumental in strengthening systems at the bureaus, such as updating the health facility inventory, developing MB-MMS work plans, and following up with facilities to improve their ARV ordering and reporting.

In Year 1, UHSC conducted a qualitative assessment of the leadership and institutional capacity of the four medical bureaus to deliver quality health services. We will finalize the report in the first quarter of Year 2 and discuss the results and UHSC follow-up support with the medical bureaus.

### **Challenge**

Coordination and information-sharing between district health officers, district-based MMS, and the MB-MMS is still not effective and needs to be addressed in the coming months.

### **Next steps**

- Sign letter of intent with the four medical bureaus
- Support SPARS rollout in PNFP facilities
- Develop and test a PFM module for PNFP facilities
- Work with medical bureaus to harmonize service fees at PNFP facilities
- Recruit secondments for the medical bureaus where needed
- Finalize and discuss medical bureaus' capacity assessment

### **Pharmaceutical management information system**

Establishing a well-functioning pharmaceutical management information system is an important pillar of UHSC's strategy. Improving the availability of quality data and strengthening the knowledge and skills of managers, MMS, and health workers on how to use information should lead to better decision-making.

#### *Capacity building and data utilization*

The pharmaceutical management information system contains data from SPARS, GPP, pharmaceutical financial management, and RxSolution streams. At the end of 2014, the MoH moratorium on e-health systems was lifted, and UHSC escalated implementation of various activities. The MoH approves new users before they receive a username and password. The number of PIP active users from diverse stakeholder groups has steadily increased from approximately 300 at the beginning of Year 1 to 439 users who generated 5,472 reports this year. The number of SPARS reports submitted into PIP during the year was 2,591, for a total of 11,885 from 107 out of 112 districts in Uganda.

#### *RxSolution roll-out*

In Year 1, we made substantial progress with the national rollout of RxSolution. The software was installed in 32 more hospitals and HCIV facilities. To date, 92 of 425 higher-level facilities are running RxSolution and routinely entering data on their stock (orders, receipts, and requisitions) and producing standardized reports (e.g., stock status reports, stock loss and adjustments, product expiry, consumption by wards). Ten of 13 regional referral hospitals are now submitting stock status reports to the Pharmacy Division; UHSC will work with the remaining three and assist the Pharmacy Division to aggregate the reports to get an overview of EMHS stock status at the regional level.

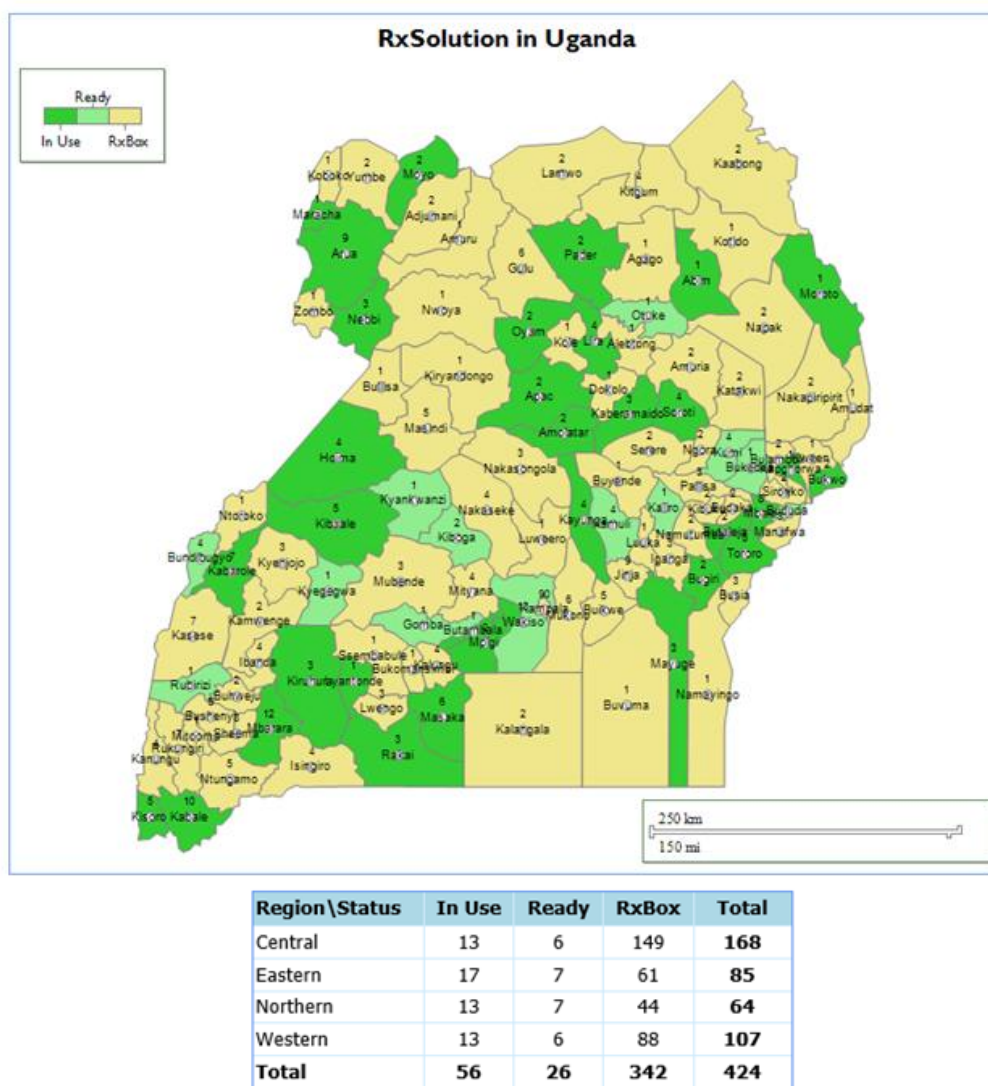


The MoH Pharmacy Division and medical bureaus continue to support the installation of RxSolution and training for staff in all 425 government and PNFP hospitals and HCIVs. This support has resulted in additional funding (US\$469,721) from UNFPA and the Global Fund to achieve national coverage. In addition, support from the MoH, UNICEF, World Health Organization, and other partners will be used to set up a call support center to handle technical issues and to maintain hardware and Internet connectivity, which will add to system sustainability.

UHSC is installing full computer kits (desktop/server, inverter+battery, and printer) in hospitals so they can endure power cuts and still print RxSolution reports. UHSC also hired two new information technology specialists to join the team to provide additional help. In addition, we trained 400 MMS in a one-week course to provide on-the-job support to facility staff as needed. The current status of implementation can be seen in Table 2 and Figure 3.

**Table 2: Status of RxSolution rollout**

|   | Baseline<br>(Oct 2014) | Q1-3 progress<br>cumulative | Q4 progress<br>cumulative | Y1 target<br>cumulative |
|---|------------------------|-----------------------------|---------------------------|-------------------------|
| Number of facilities with RxSolution installed <sup>1</sup>   | 60                     | 92                          | 92                        | 68                      |
| Number of staff trained <sup>2</sup>  | 200                    | 226                         | 326                       | 272                     |
| Number of support activities carried out <sup>3</sup>   | –                      | 70                          | 150                       | 130                     |
| <sup>1</sup> Hardware procured and installed through UNFPA and MoH  |                        |                             |                           |                         |
| <sup>2</sup> Training include staff from MoH, Medical Bureaus, JMS, implementing partners and more  |                        |                             |                           |                         |
| <sup>3</sup> Support activities include: On-site training/maintenance, remote desktop connection, phone calls and e-mails. Presently no tracking system in place and figures are rough estimates. |                        |                             |                           |                         |



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**Figure 3: Geographic location of RxSolution installations at government and PNFP health facilities**

UHSC is preparing for possibly expanding RxSolution to include the dispensing module, which will give more detailed reports on consumption patterns. We have set up a sample database to demonstrate the value of having the full RxSolution system deployed including dispensing, label printing, biometric scanning to identify patients, barcode scanning, and advanced reporting. This will complement a feasibility study to install RxSolution in the national referral hospital in Kampala and pilot RxSolution in a private-for-profit setting. UHSC is also exploring a mobile version of RxSolution as a viable option for HCIs and IIIs with limited electrical power and staff. We will share the results of this assessment with stakeholders who are already engaged in setting up systems at the lower level. UHSC will remain focused on higher-level facilities. Early in the year, UHSC staff went to South Africa to meet with the MSH South Africa team and evaluate a special RxSolution feature called Control Tower for the Uganda setting. This led to a plan to establish a central system for hosting and updating the national product catalogue and facilitating automated software updates.

**Next steps**

- Assess current RxSolution sites related to hardware, software, and data use
- Assess feasibility of installing RxSolution in the national referral hospital
- Support regional referral hospitals and Pharmacy Division to generate RxSolution reports
- Collaborate with UNICEF, WHO, and HealthEnabled to draft a concept paper to create an MoH information and communication technology help desk
- Pilot the RxSolution dispensing module at the national referral hospital and in a private clinic
- Explore the feasibility of using the mobile version of RxSolution at lower level facilities
- Finalize plan to establish a central system for hosting and updating the national product catalogue and facilitate automated software updates

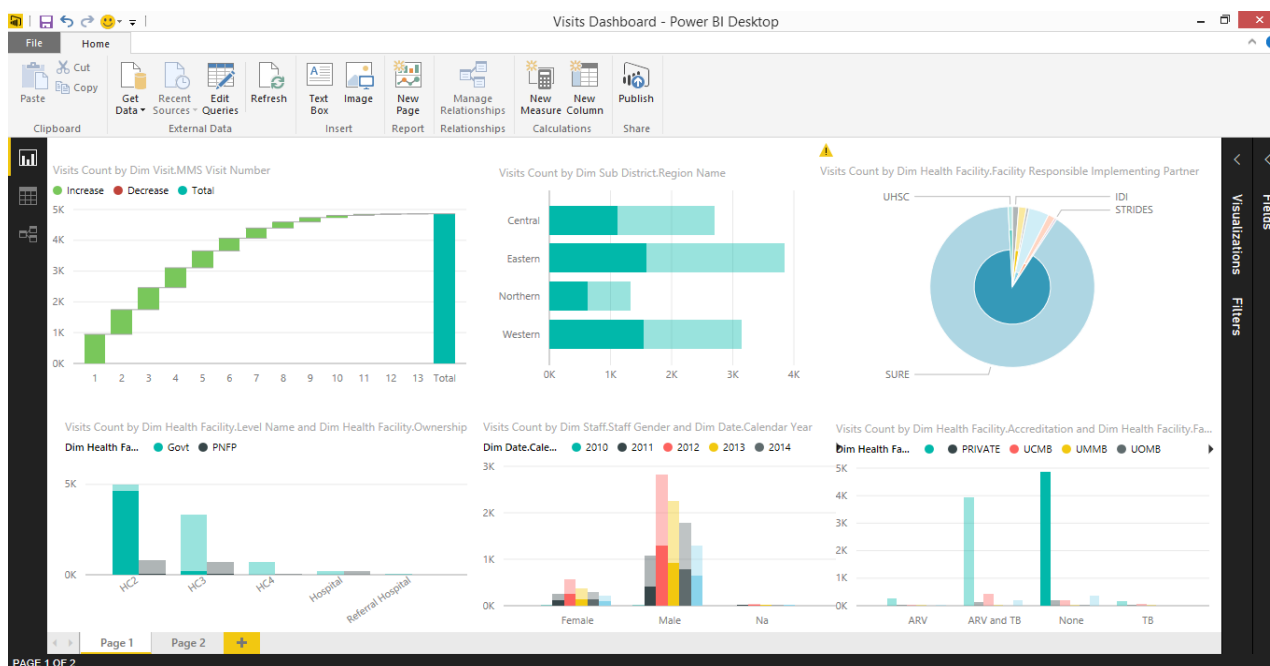
*Pharmaceutical information portal*

In Year 1, the focus of the UHSC team has been on expanding the PIP’s functionality and stability and creating a user-friendly interface, so that users at all levels—including technical specialists, MMS, and managers—can easily perform their own dynamic analyses and create reports from the many available data sources.

This year, the UHSC completed important steps toward the goal of establishing PIP as a useful and well-used resource—

- One aim was to spread the word about PIP and get people to visit and use the data warehouse. We presented the new Internet address ([pip.nhdb.ug](http://pip.nhdb.ug)) to users across the country during four regional meetings of MoH staff, health workers, and other health sector partners. User IDs were created for PIP users so that the MoH and UHSC can track usage. To date, 400 unique users have accessed the site.
- We created a dimensional model to provide data for management and tracking of reports that users request and generate. This will help prioritize the development of new reports based on user analysis and requests.
- We have updated 97 of 98 existing reports and created 66 new reports. In addition, we made it possible for users to import the PIP data into a statistical tool for analysis and reporting.
- Significant progress was made in selecting the tool (Microsoft Power BI) to provide users with OLAP (online analytical processing) access. We have initiated procurement of the tool.

Figure 4 shows what Power BI can do for dynamic reporting where the user selects the data to be analyzed.



**Figure 4: Dynamic analysis of SPARS data using Power BI**

### Challenge

- The creation of the SPARSFORM data entry application, which MMS need to submit their supervision reports into the PIP, has experienced considerable delays, partly due to the delay in the delivery of the development software, but also due to the complexity of the application.

### Next steps

- Further develop Power BI functionality
- Follow-up closely on the pending purchase requests
- Create new reports based on new data collected through the updated SPARS tool
- Restructure the portal to have one MoH Pharmacy Division site
- Initiate integration of PIP into the MoH
- Create a mobile application to generate basic statistics on SPARS data
- Start evaluation of the first external data source to include in the PIP

### Pharmacy Division and other MoH technical programs

#### *Logistics coordination and collaboration*

UHSC continued to participate in regular sector meetings of the medicines procurement and management technical working group, the commodity security group, regular Pharmacy Division coordination meetings, and quarterly meetings with the Director General Health Services, Jane Aceng. In addition, regular regional coordination meetings are held with the Pharmacy Division, UHSC, regional pharmacists, regional performance monitoring teams, and US government implementing partners. The first was held in June and the next will be early in Year 2. In addition, UHSC proposed to the medicines procurement and management technical working group regularly to review data from all sources, determine how best to use these data, and improve data quality and timely availability and dissemination. First review is planned for Year 2.

UHSC organized a retreat in collaboration with the MoH Resource Center in September 2015 to update and harmonize the MoH health facility master list. Participants reviewed existing standard operating procedures for revising the master list to accommodate new and upgraded health facilities and to correct errors. UHSC agreed to support an Internet discussion forum to support dissemination of the work (<http://UgandaHealthInformaticsForum.pbworks.org>)

#### *Pharmaceutical sector monitoring and evaluation system*

In Year 1, UHSC continued to build the capacity of Pharmacy Division to monitor the pharmaceutical sector and ensure timely access to accurate information for decision making. In the first quarter, UHSC hired a strategic information technical advisor and an M&E specialist to second to the Pharmacy Division's M&E Unit.

The M&E unit in collaboration with the UHSC M&E team successfully completed a number of activities including the following—

- Compiled information and statistics for the *Annual Pharmaceutical Sector Performance Report 2013/2014*. The report was published and the findings presented to the medicines procurement management technical working group. The indicators and results were incorporated into the national medicines policy and national pharmaceutical sector strategic plan for 2015–2020. Annex 1 includes the table of indicators.
- Supported the Pharmacy Division to finalize inputs to the health sector development plan, including the incorporation of four indicators to monitor the pharmaceutical sector:
  - Average percentage availability of a basket of 41 commodities based on all reporting facilities in the previous quarter
  - Percentage of sampled pharmaceutical products from postmarketing surveillance failing NDA quality tests
  - Percentage of prescriptions for different conditions adhering to *Uganda Clinical Guidelines*
  - Percentage of local pharmaceutical market (value of commodities) met by local manufacturers
- Provided technical input to the review of MoH national EMHS monitoring indicators, specifically the national indicator on availability of tracer medicines, which will now include 41 high-volume products used to diagnose, prevent, and treat Uganda's 10 most common diseases or conditions (Annex 2). The programs covered include immunization, HIV/AIDS, malaria, tuberculosis, and RMNCH. The revision took into consideration the newly revised HMIS 105 section that will track data on the 41 commodities, and the SPARS tool has been revised accordingly.
- In the last quarter of Year 1, the M&E unit began developing the M&E plan for 2015–2020 linked to the revised national medicines policy. The plan consists of 34 indicators to guide regular performance monitoring and has been expanded to track newly implemented policies and interventions.

#### *Streamlining and harmonization*

UHSC took the lead in organizing the first implementation planning meeting between the Pharmacy Division and the Global Fund focal coordination office for the health system strengthening grant that was awarded in June 2015. Results of the meeting included memoranda of understanding between MoH and grant implementing partners (NMS, Uganda Health Marketing Group, and NDA); terms of reference for positions to support the grant, including the

health system strengthening coordinator, district coordinator, M&E specialist, and three Resource Center positions; and specifications for the procurements needed for the grant.

### Challenge

- This year the major challenge the Pharmacy Division M&E unit faced was with getting timely data to ensure that the *Annual Pharmaceutical Sector Report* was produced in time.

### Next steps

- Finalize the national medicines policy M&E plan
- Conduct the first health commodity management and M&E meeting
- Support the Resource Center to finalize the health facility master list and develop procedures to update and disseminate it
- Finalize and disseminate the Annual Pharmaceutical Sector Report 2014/2015
- Support the dissemination of the national medicines policy and national pharmaceutical sector strategic plan

### *Quantification and Procurement Planning Unit*

**National forecasting and quantification.** With UHSC support, the QPPU continued to operate as the central hub for national forecasting, quantification, and stock status and pipeline monitoring of HIV, tuberculosis (TB), reproductive health/family planning, malaria, and other commodities. To further strengthen the capacity of QPPU, this year UHSC hired a laboratory supply chain advisor to provide more specialized technical support in that area and an additional pharmacist/logistics management specialist to analyze data and generate reports.

The QPPU completed the quantification and supply planning for a number of programs and grants during the year—

- The application for a costed Global Fund extension of the HIV Round 7, Phase 2 grant to procure HIV commodities for August 2014 to June 2015
- The \$132 million Global Fund grant application to support HIV/TB programs and health and community systems strengthening for July 2015 to June 2017
- Anti-TB medicines under the Global Fund single-stream funding grant
- National ARV requirements for universal ART coverage
- HIV-related commodities for the PEPFAR country operational plan for 2014/15
- Quantification of hepatitis B treatment for 10% of the 3.5 million Ugandans expected to be infected with hepatitis B
- Revision of the three-year contraceptive forecast and quantification to reflect actual demand

**Procurement and supply planning.** QPPU continued to produce national bimonthly stock status reports, which act as an early warning system for stock outs or expiry problems. UHSC participated in eight commodity security group meetings with MoH program staff and stakeholders to discuss risks and recommended actions, which were presented to MoH senior management for further action. The stock status reports and commodity security group meetings have improved transparency and accountability by stakeholders. The report has been useful for lobbying for more funding when gaps are identified; for example, the estimated gap for HIV test kits was communicated to Global Fund and PEPFAR, who expedited the procurement of additional 30,000 units that were delivered to NMS for distribution. The reports have also

prevented expiry of HIV and malaria commodities by identifying products that are over- and under-stocked so that stock can be redistributed accordingly.

### Challenges

- Addressing central warehouse stock imbalances continues to be a challenge because commodities procured by the US government cannot presently be transferred to NMS
- Accuracy, timeliness, and reliability of data from central warehouses continues to be a challenge

### Next steps

- Increase visibility and tracking of RMNCH commodities during commodity security group meetings
- Continue working with central warehouses to improve data collection quality
- Complete and disseminate facility procurement planning survey report
- Incorporate facility stock status report from WAOS into the national bimonthly stock status report

### *AIDS Control Program*

To support the AIDS Control Program, UHSC seconded three full-time pharmacist/logistics management specialists. During the year, they supported WAOS users, monitored and followed-up on facility ordering and reporting, and collected and analyzed WAOS data to produce bimonthly reports. The WAOS data is tracked against the AIDS Control Program's projected annual patient targets and the expected regimen distribution across patients.

The team also successfully carried out a number of WAOS information dissemination and training activities during the year. Eight regional review meetings were held where 225 UHSC MMS, 26 MB- MMS, and six regional performance monitoring teams were orientated in the ARV order/report form and WAOS. We also trained an additional 52 MMS and 95 facility staff in Mildmay-supported districts in logistics management and WAOS. To enhance supportive supervision of PNF and private for-profit facilities, 13 JMS medical representatives were also trained on WAOS. These trained individuals are part of the country-wide network tasked with improving the coverage and quality of WAOS reporting and following-up to ensure adequate availability of ARVs in facilities, such as redistributing overstocked products.

As a result of this UHSC support, the facility reporting rate has increased to over 80% among the more than 1,500 accredited ART sites, with 92% of the reports being submitted through WAOS and 70% sent in by the order deadline. With the reporting rate consistently high, UHSC focused more this year on the accuracy and completeness of data in the orders and reports submitted through the system. The team's detailed analysis of WAOS data from June 2014 to February 2015 pointed to the need for more in-depth study. For example, more than 30% of facilities submitted the exact same data for two cycles. Consequently, UHSC designed and initiated a facility-based WAOS data quality assessment in a small sample of PNF facilities; this will be expanded to include a sample of public sites in Year 2. The WAOS data analysis and data quality audit will identify problem areas so that practical recommendations can be made to improve ARV logistics management and reporting.

UHSC also supported system changes this year to improve WAOS data quality and management, such as an upgrade of the WAOS from Data Mart to Analytics, which has more validation rules to minimize data entry errors. We distributed a job aid to help WAOS users with the upgrade.

### Challenges

- Widespread ARV overstocks are being caused by facilities overestimating the number of new patients to be enrolled in the next cycle. The WAOS order form needs to be revised to eliminate this problem
- Private-for-profit facilities are the worst performers in WAOS reporting; they do not have umbrella structures to support them in proper logistics management practices
- NMS experienced frequent stock-outs of ARVs this year, which required a series of urgent actions

### Next steps

- Complete the WAOS data quality audit, disseminate results, and develop consensus on needed actions
- Complete information communication technology mapping and prepare WAOS training plan under the Global Fund health commodity system strengthening grant
- Support facilities to improve ARV reporting rates and data quality

### *National TB and Leprosy Program*

In Year 1, the UHSC team helped National TB and Leprosy Program (NTLP) ensure the country's facilities have adequate supplies of first and second line anti-TB medicines—

- Revised the Global Fund procurement and supply management plan and prepared orders for first and second line anti-TB medicines through the Global Drug Facility
- Completed NTLP's Global Fund performance update and disbursement request
- Quantified national requirements for new anti-TB medicines including bedaquiline, linezolid, and clofazimine for pre-XDR (extremely drug-resistant) TB
- Analyzed data from monthly stock status reports from the 15 multi-drug resistant TB treatment facilities and coordinated redistribution with other partners to mitigate frequent stock-outs at national level, particularly of capreomycin, the quantification of which was revised to accommodate increased demand
- Supported the printing of TB medicines dispensing log and order and report forms
- Coordinated redistribution of first line anti-TB medicines to address facility shortages due to delayed Global Drug Facility shipments
- Explored the possibility of using available government funds to procure anti-TB medicines

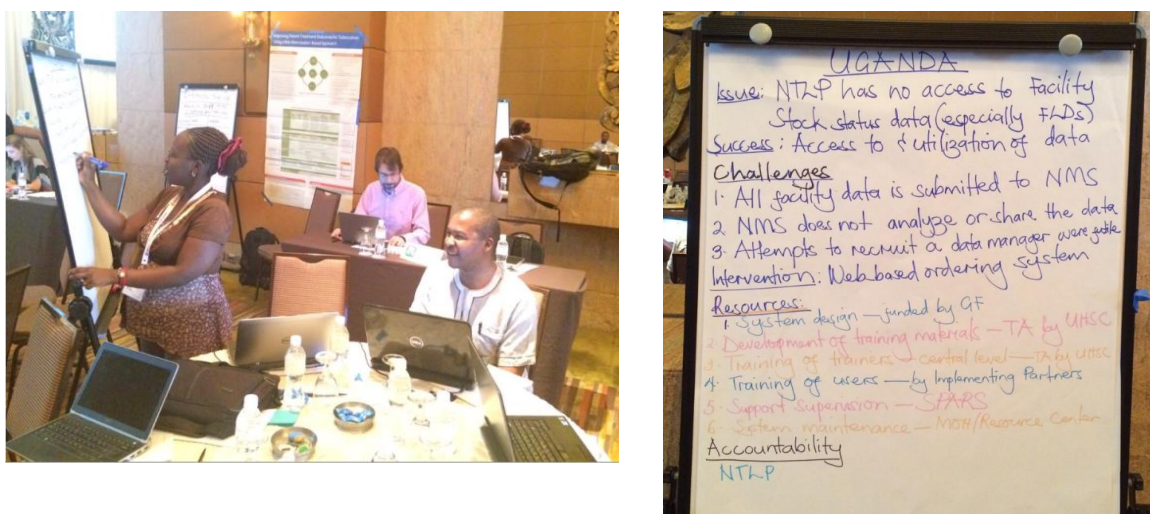
UHSC also provided technical assistance to the National TB Reference Laboratory to quantify country requirements and place an order for Genexpert cartridges. Delivery of the cartridges enabled the National TB Reference Lab to continue their diagnostic activities.

We made progress on implementing TB-SPARS and a web-based TB ordering and reporting system based on WAOS this year. We finalized the TB-SPARS concept and developed and reviewed a TB-SPARS performance assessment tool that will be piloted in facilities in the first quarter of Year 2. Results of the pilot will be used to finalize the tool and training materials for subsequent national rollout later in the year. The concept for the web-based TB ordering and reporting system was presented to the NTLP. Implementation of the system will be the Global Fund's responsibility under the current grant; the timeframe is subject to availability of funds.



UHSC also contributed to the development of the new national clinical guidelines for TB management in children (logistics management sections and dosing chart). In Year 2, UHSC will support logistics training during the roll-out of these guidelines.

In March, MSH's Systems for Improved Access to Pharmaceuticals and Services program sponsored the national TB reference laboratory program manager, UHSC TB logistics technical advisor, and a QPPU staff to attend a technical conference, "Building the Post-2015 Agenda: Novel Approaches to Improving Access to TB Medicines and Pharmaceutical Services," in Bangkok, Thailand. The conference was attended by representatives of 11 countries across Africa and Asia and included other TB stakeholders. The Uganda team presented on Uganda's experience using the early warning system to improve TB medicines management and participated in developing a country-specific action plan to eliminate TB (Figure 5).



**Figure 5: Left: Uganda team highlighting a key challenge and planned intervention to solve it. Right: Facility stock status data to be accessed through the web-based ordering system to be rolled out with support from Global Fund and UHSC.**

### Next steps

- Disseminate TB logistics management tools to health facilities
- Pilot test the TB-SPARS assessment tool as part the initial rollout
- Update TB-SPARS training materials
- Support monitoring of regimen switch from ethambutol/isoniazid to rifampicin/isoniazid
- Develop regimen switch plan for pediatric TB medicines from old to new formulations

### Central Public Health Laboratory

At the start of Year 1, Central Public Health Laboratory (CPHL) and UHSC held a strategy meeting. Although participants at the pharmaceutical sector conference recommended developing Lab-SPARS to build capacity in facility-based laboratory management, UHSC's work with CPHL has been delayed because of CPHL competing demands and other factors. Recruitment of seconded staff and implementation of activities has been postponed to Year 2.

**Challenge**

- There is no clear structure linking CPHL to district hospitals and district laboratory focal persons, which has a negative effect on CPHL’s ability to coordinate and monitor logistics issues between warehouses and facilities.

**Next steps**

- Recruit four secondments and a UHSC laboratory technical assistant
- Develop a detailed support work plan for CPHL
- Finalize the scope of work for postmarket surveillance of lab commodities
- Identify an international laboratory consultant and mobilize for the first visit

*National Malaria Control Program*

UHSC, together with the National Malaria Control Program (NMCP), conducted the fourth malaria end-use verification survey in May 2015. The survey documents the availability, management, and appropriate use of antimalarial medicines and diagnostic supplies as well as malaria case management. A total of 15 districts in four regions of Uganda were included, with five randomly selected facilities chosen in each district for a total of 75 health facilities. The data collection team included four UHSC staff members, four regional pharmacists, two regional pharmacist management team members, two NMCP staff members, and 14 district or health sub-district MMS. Findings of the survey were presented during a commodity security group meeting and the report disseminated to stakeholders by the NMCP.

Key findings from the survey included the following—

- 81% of the children under five who tested negative for malaria received ACTs
- 97% of all facilities had at least one ACT pack size available.
- 93% of facilities had RDTs in stock on the day of visit, yet only 61% of suspected malaria cases were tested

UHSC continued providing support to ensure sufficient availability of donated ACTs, RDTs, and artesunate injections at JMS and at 585 PNFP facilities throughout the country. Support included monitoring central warehouse stock levels, issues to facilities, and shipments, as well as analyzing logistics data reported bimonthly by facilities. During the past year, Global Fund decided to transition all of its commodity support to the public sector, which faced chronic shortages; UHSC assisted with the transfer of these commodities from JMS to NMS.

To ensure adequate facility data is available for monitoring commodity availability and estimating stock levels, UHSC secondments helped JMS contact non-reporting facilities and their diocesan health coordinators to help them complete and submit their orders and reports on time. UHSC also supported supervision visits to 14 PNFP facilities in Kabale district and trained 12 facility in-charges and two diocesan health coordinators from Uganda Protestant Medical Bureau on how to complete the malaria commodity order form. As a result, the reporting rate improved to 81% in the last cycle (July–August 2015), up from 52% at the start of the year (November–December 2014). The quality of data also improved, with 91% of reports having all fields completed and 64% having the correct calculations for average monthly consumption. The reports and field visits show that many facility staff still have difficulty completing the bimonthly order/report, so we will revise it in Year 2.



**Figure 6: Training Uganda Protestant Medical Bureau in-charges in Kabale on how to fill the malaria commodity order/report form**

### Challenge

- Training and supportive supervision are effective ways to improve data quality and impact, but staff turnover dilutes these efforts.

### Next steps

- Monitor stock levels, prepare bimonthly reports, and strengthen mechanisms to optimize data use
- Revise NMCP order/report form
- Support NMCP quantification, supply planning and logistics management
- Develop and share quarterly SPARS specific reports for the program
- Continue quarterly reporting to the procurement planning and monitoring report – malaria (PPMRm)

### *Child Health Division and Reproductive Health Division*

Support to these two divisions is described under Sub-result 3.

## **Sub-result 2.2 District-level capacity for EMHS management and utilization strengthened**

### **EMHS SPARS scale-up and enhancement**

In Year 1, UHSC increased SPARS coverage from 59 districts under SURE to 75 districts, including the 16 naïve UHSC districts. New and replacement MMS have been trained in collaboration with Makerere University and have been capacitated to implement SPARS in their districts (Table 3).

**Table 3: Summary of SPARS rollout**

|  | Naive districts | Mature districts | Total     |
|--|-----------------|------------------|-----------|
| No. of MMS trained and in-service oriented | 57              | 26               | <b>83</b> |
| MMS trained in computer skills             | 55              | 17               | <b>72</b> |

MMS have continued to improve in their efficiency over the past three quarters, with a record high 1,309 supervision visits conducted in the last quarter, up from 220 supervisions in Quarter 1. This increased momentum could be attributed to regular performance feedback from the regional teams, the mobilization of new MMS, and repairs of 131 of 186 motorbikes. Table 4 below summarizes the performance in SPARS for the year, disaggregated by naive and mature districts.

**Table 4: SPARS performance for Year 1, disaggregated by naive and mature districts**

|   | Naive districts | Mature districts | Total |
|---|-----------------|------------------|-------|
| Total number of visits in Year 1                          | 382             | 2604             | 2986  |
| Number of health facilities reached with SPARS in Year 1  | 382             | 1436             | 1818  |
| Total number of facilities in SPARS supported districts   | 567             | 2158             | 2725  |
| Total number of active MMS at end of Year 1               | 51              | 179              | 230   |
| Average number of visits per MMS in Year 1                | 7.5             | 14.5             | 13.0  |
| Average district SPARS score (out of 25) at end of Year 1 | 11.5            | 18.4             | 17.6  |

The average number of days between visits is still much higher than desired, with a huge range in gap between visits, particularly for facilities that should receive visits within 60 days (Table 5). Monitoring the efficiency of MMS will be an important activity moving forward.

**Table 5: Average number of days between two visits implemented in Year 1**

| # Visits     | # Facilities | Recommended # of days to next visit | Median # of days between visits | Min       | Max        |
|--------------|--------------|-------------------------------------|---------------------------------|-----------|------------|
| 2            | 131          | 60                                  | 71                              | 15        | 263        |
| 3            | 80           | 60                                  | 92                              | 29        | 289        |
| 4            | 77           | 60                                  | 90                              | 10        | 218        |
| 5            | 86           | 60                                  | 89                              | 8         | 238        |
| <b>Total</b> | <b>374</b>   | <b>60</b>                           | <b>86</b>                       | <b>16</b> | <b>252</b> |
| 6            | 81           | 120                                 | 108                             | 17        | 282        |
| 7            | 106          | 120                                 | 120                             | 28        | 242        |
| 8            | 112          | 120                                 | 126                             | 23        | 244        |
| 9            | 121          | 120                                 | 133                             | 24        | 247        |
| 10           | 117          | 120                                 | 122                             | 23        | 297        |
| 11           | 81           | 120                                 | 129                             | 24        | 303        |
| 12           | 37           | 120                                 | 119                             | 45        | 192        |
| 13           | 15           | 120                                 | 122                             | 21        | 200        |
| 14           | 4            | 120                                 | 125                             | 119       | 132        |
| <b>Total</b> | <b>674</b>   | <b>120</b>                          | <b>123</b>                      | <b>36</b> | <b>238</b> |

In Year 1, UHSC revised the SPARS supervision tool in close collaboration with MoH, MMS, and implementing partners. The new supervision tool and corresponding supervision books have been printed and await rollout of the electronic version of the tool through the PIP. UHSC also conducted a district baseline assessment of SPARS support to districts. We are finalizing this report and will use the data to update the current PIP master list of facilities with elements such as support with shelves, rewards, etc.

UHSC procured the first batch of health facility rewards and will distribute them in the first quarter of Year 2. Learning from SURE lessons, UHSC will closely link rewards to performance. UHSC has contracted with a transporter that will receive, package, brand, and deliver the rewards and health facility tools efficiently

### Challenge

- The aging of old equipment such as computers and motorcycles has started affecting MMS activities in the districts.

### Next steps

- Finalize MMS training of regional pharmacists, regional performance monitoring team pharmacists, and MB-MMS
- Train all new MMS, replacement MMS, and MB-MMS in defensive motorcycle riding
- Strengthen the performance-based recognition scheme for health facilities, District Health Officers, MMS, and regional pharmacists.
- Develop and implement a strategy to improve the use of supervisory books and tools; the target a greater than 50% increase in their use by the end of Year 2
- Improve the standard district report developed and implemented in Year 1 to ensure that district health officers use SPARS data for decision making
- Replace aging equipment, including computers, printers, and motorbikes using a performance-based approach
- To improve services and GPP certification rates, explore innovative and cost-effective ways to upgrade store conditions with USAID including ceilings, floor, and ventilation

### *Coordination and sustainability at district level*

During Year 1, UHSC supported three types of coordination meetings at the district, regional, and national levels.

At district meetings, UHSC was introduced as the SURE follow on program and district-specific annual workplans developed. These annual workplans will be reviewed at the next district meetings beginning in the next quarter.

We attended eight regional meetings covering all 75 UHSC-supported districts with a focus on improving the use of information for decision making. In these meetings, MMS and district health officers were provided with access to the PIP and instructions on how to use the PIP for identifying medicines management issues in their districts and formulating workable solutions. As an outcome, MMS will be better positioned to discuss specific district issues with the district health teams using evidence from the PIP reports that they generate.

*Now that I have access to the PIP, we shall use it to improve our performance as a district, but also track performance of our MMS— Dr. Kiwanuka George, District Health Officer, Gomba.*

At the national SPARS coordination meeting, stakeholders including the Pharmacy Division, implementing partners, and selected district health officers discussed SPARS performance, how to improve SPARS effectiveness and efficiency, and enhancing the use of information for decision making and closer peer support.

In Year 1, we reviewed the peer supervision strategy and shared it with the Pharmacy Division. Implementation of this strategy will begin in Year 2 in six districts before eventual scale-up during the course of the year.

### Challenge

- The availability and readiness of regional pharmacists to take on peer support activities remains a concern because they have not demonstrated this ability in the coordination activities at district and regional levels so far.

### Next steps

- Continue biannual district coordination meetings and joint supervisions with regional pharmacists, MB-MMS, etc.
- Continue biannual regional meetings with districts to review performance and share experiences.
- Continue biannual national coordination meetings with MoH, regional pharmacists, regional performance monitoring teams and selected District Health Officers and the warehouses
- Review district-specific annual workplans at district meetings
- Implement the peer strategy in six districts

### *Efficiency and effectiveness of SPARS implementation*

Based on a study implemented under SURE showing that more than 75% of MMS lacked good supportive supervision skills, there is a need to strengthen supportive supervision by MMS. In collaboration with Makerere and Harvard universities, we developed a concept paper for an intervention strategy in Year 1, guided by the SURE study findings and previous MSH work on supportive supervision. The strategy is based on developing a highly participatory training course that will involve videos of participants to demonstrate good and marginal practices combined with in-service performance monitoring of supportive supervision. Makerere who will implement the training will, together with regional pharmacists, be trained on how to use the videos as an integrated part of the training. The regional pharmacists will take responsibility for the in-service training of the MMS and using video technology to identify weaknesses and strengths in MMS supervision. The detailed curriculum for the training will be finalized in first quarter of Year 2.

The need to audit SPARS visits has been highlighted by the GPP fraud incident. To pilot the audit tool, UHSC visited eight health facilities to verify visits and report. MMS who reported many supervisions in a month were the focus of the pilot audit. The results of this exercise showed one of the eight reports failing the verification in regard to both documentation in the visitors' book and in the data collected. We will give high priority to investigate further, institute SPARS audit as a routine practice and develop agreed standard operating procedures for actions against MMS where the audit failed. The regular SPARS audit reports will be widely shared and discussed with district health officers, MMS, regional pharmacists, and the Pharmacy Division.

### Next steps

- Develop a supportive supervision training course in collaboration with Makerere and Harvard universities
- Train Makerere University trainers and regional pharmacists to use video technology as part of an interactive educational strategy

- Develop and creation district positions for a district pharmacists
- Continue with SPARS audit; disseminate findings and consequences of failed audits

### **Pharmaceutical financial management**

In Year 1, UHSC obtained input on the PFM tool from selected district health officers, MMS, and MoH staff who had implemented PFM under SURE. We revised the PFM tool accordingly and will start rollout in Year 2.

### **Next steps**

- Develop a PFM roll-out approach for order-based government health facilities
- Train all MMS in PFM
- Improve and update the PFM electronic tool
- Start developing a PFM training module for PNFP facilities that includes a cost recovery component

### **Appropriate medicines use**

#### *Uganda National Appropriate Medicines Use Committee*

UHSC's plan to support the establishment of the Uganda Network for Appropriate Medicines Use (UNAMU) to study and promote appropriate medicines use was postponed to Year 3. For the network to be effective, some of the hospitals' medicines and therapeutic committees (MTCs) must be functioning because they will form the core of the network in Uganda.

In Year 1, UHSC wrote a concept paper promoting the establishment of an appropriate medicines use unit within the MoH Pharmacy Division; the paper outlined the rationale, proposed functions, reporting lines, and staffing of the unit. As one of the core strategies in the new national medicines policy, the unit will serve as the lead on all MoH activities related to improving medicines use, including overseeing MTCs, Uganda Medicines and Therapeutic Advisory Committee and the future UNAMU network. To build capacity in this area, UHSC will support the unit with secondments and explore the possibility of engaging regional pharmacists to carry out the unit's decisions.

#### *Improve diagnosis and treatment for five priority conditions*

In Year 1, we selected five conditions as the focus of UHSC appropriate medicines use interventions: malaria, upper respiratory tract infection, acute non-bloody diarrhea, diabetes, and hypertension. The UHSC baseline survey included data on provider knowledge, skills, and practices related to the diagnosis and management of the five. To analyze the issue in depth, we are developing a survey jointly with Harvard University that includes case scenarios administered to health workers; reviews of prescription and dispensing records at the study facilities that will be implemented in Year 2. Based on the findings and with support from Harvard, we will develop an intervention strategy for strengthening appropriate medicines use, diagnosis, and treatment for one of the priority conditions in Year 2.

#### *Practical guidelines for dispensing*

In Year 1, UHSC completed two sets of practical guidelines for dispensing, one for lower-level health units and one for higher-level health units. The practical guidelines for dispensing are reference manuals designed to help health workers ensure patients receive the correct medicines in the correct dosage, with adequate information provided for them to take their medicine

correctly. The practical guidelines for dispensing include all medicines on the *2012 Essential Medicines and Health Supplies List of Uganda*. The manuals were reviewed by multidisciplinary target users for the general medicines and consultants for the specialist medicines.

More than 5,000 copies of the practical guidelines for dispensing for lower level facilities were distributed to health professional training institutions, district health officers, regional pharmacists, and all public and PNFP HCII and IIIs. To support their use, we also developed standard operating procedures that MMS are using in on-the-job training of health workers on how to use the guidelines correctly. Final editing of the practical guidelines for dispensing for higher level facilities is underway and 10,000 copies will be printed in the first part of Year 2.

During the year, we distributed other printed materials as shown in Table 6.

**Table 6: Number of guidelines and tools distributed in Year 1**

| Recipient                        | Dispensing logs | Uganda Clinical Guidelines 2012 | <i>Practical Guidelines for Dispensers (lower-level facilities)</i> |
|----------------------------------|-----------------|---------------------------------|---|
| Government health facilities     | 9353            | 3574                            | 3642  |
| Uganda Catholic Medical Bureau   | 1164            | 284                             | 422   |
| Uganda Protestant Medical Bureau | 964             | 294                             | 341   |
| Uganda Orthodox Medical Bureau   | 75              | 52                              | 30  |
| Uganda Muslim Medical Bureau     | 125             | 28                              | 45  |
| Training institutions            | —               | —                               | 750   |
| MoH technical programs           | —               | —                               | 40 (5 each)   |
| Implementing partners            | —               | —                               | 45 (5 each)   |
| <b>TOTAL</b>                     | <b>11,681</b>   | <b>4,232</b>                    | <b>5,315</b>  |

#### *National and hospital medicines and therapeutic committees*

During Year 1, UHSC conducted a literature review on the structure, functioning, and performance of MTCs to identify success factors for a well-functioning hospital MTC. Together with Harvard and the Pharmacy Division, UHCS will use this information to design an effective intervention strategy to revitalize MTCs in Ugandan hospitals and pilot it in Year 2. Well-functioning MTCs can have a substantial impact on reducing costs, minimizing wastage, and promoting appropriate medicines use.

At the national level, the Uganda Medicines and Therapeutics Advisory Committee has not been functioning and needs to be reactivated. The MoH has not yet been able to obtain consensus on how the committee fits into its organizational structure. However, we have drawn up a work plan and identified a group of experts to participate in the update of the *Uganda Clinical Guidelines 2012* including the *Essential Medicines and Health Supplies List of Uganda* expected to be completed in 2016.

#### **Next steps**

- Recruit staff to support the appropriate medicines use area, including secondments to Pharmacy Division's new appropriate medicines use unit
- Carry out problem analysis and develop an intervention strategy to improve diagnosis, prescribing, and dispensing for one priority condition



- Print and distribute the practical guidelines for dispensing for higher-levels of health care to all hospitals and HC IVs
- Finalize the intervention strategy to revitalize MTCs and begin implementation
- Initiate the update of the 2012 Uganda Clinical Guidelines and Essential Medicines and Health Supplies List of Uganda

### Implementing partners

In Year 1, UHSC continued to support US government implementing partners with the basic package for EMHS management at the district level. Although we have shared the basic package with all partners, they have not always adhered to the implementation strategy due to inadequate resources and differing project priorities. To increase uniform implementation, UHSC has been collaborating with the Strengthening Decentralization for Sustainability program as a technical backstop for the districts previously supported by NU-HITES. Important achievements in this area were budgeting for district grants to support various medicines management activities and managing to continue SPARS supervision activities in these districts.

At USAID's request, UHSC submitted a proposal for the resources needed to support the basic package in the remaining 37 districts to ensure coverage including SPARS in all 112 districts. Table 7 summarizes the achievements of active implementing partners in SPARS over the past year.

**Table 7: SPARS implementation status by implementing partners**

|  | NU-HITES | STAR EC | IDI | MUWRP* |
|--|----------|---------|-----|--------|
| # of visits in Year 1                        | 125      | 180     | 37  | 8      |
| # of active MMS at end of Year 1             | 23       | 13      | 10  | 1      |
| Average # of visits per MMS at end of Year 1 | 5.4      | 13.8    | 3.7 | 8      |

\*MUWRP is implementing only in Buvuma district

### Challenges

- The sudden closure of the NU-HITES project in February 2015 greatly affected SPARS implementation in 11 Northern districts because subsequent support through Strengthening Decentralization for Sustainability program grants only began in June 2015 and excluded modems needed for data submission
- SPARS implementation by new partners such as Infectious Disease Institute continue to have a site focus rather than the recommended district-wide focus

### Next steps

- Continue technical assistance to implementing partners to expand SPARS
- Await USAID feedback on proposal to implement the basic package for medicines management in the 37 implementing partner-supported districts with a district-wide focus
- Help the Pharmacy Division develop standards and specifications related to the SPARS strategy including for computers, shelves, reward scheme, manuals, data collection tools, etc.

### Sub-result 2.3: Country capacity to manage EMHS enhanced through pre-service education

#### Medicines management, information technology, and pharmaceutical finance incorporated in pre-service training

During Year 1, UHSC held seven meetings with officials from regulatory bodies, health training institutions (Makerere, Gulu, Busitema, and Mbarara), and Ministry of Education and Sports to discuss the integration of EMHS management into pre-service training curricula for health care workers. Makerere University was selected to spearhead the activities working with the other universities; in collaboration with UHSC, they developed a strategy document and detailed work plan to guide the implementation process. The strategy builds on the lessons learned from the attempt to revise the training curriculum under the SURE program. One committee was formed to work with universities and another to work with the diploma- and certificate-awarding institutions. Participants agreed to prioritize curricula for nurses, doctors, clinical officers, pharmacy technicians, and pharmacists because these are the cadres that manage medicines directly in health facilities. The strategy has been finalized and will be implemented in Year 2.

#### Next steps

- Sign contracts with Makerere to update pre-service curricula and initiate implementation
- Support pharmacy training institutions to include PFM and RxSolution in the training curricula for undergraduate pharmacists

## RESULT 3: INCREASED AVAILABILITY AND ACCESS TO VITAL MEDICINES AND HEALTH SUPPLIES AMONG PRIORITY POPULATIONS

### Sub-result 3.1 Increased access to RMNCH commodities

#### Collaboration and coordination with MoH in RMNCH commodities

UHSC's collaboration with the Reproductive Health and Child Health Divisions strengthened over the year through regular meetings and UHSC's activities to improve the RMNCH supply chain management. UHSC's RMNCH technical advisor is an active member of the MoH's maternal and child health cluster and reproductive health commodity security committee. UHSC is also a member of the iCCM implementation task force, which is responsible for rolling out the iCCM program to all districts in Uganda.

#### Access to the 13 life-saving commodities for women and children

A major challenge in planning for the 13 life-saving commodities specifically, and RMNCH commodities in general, is the limited amount of information available to central and district levels. With UHSC support, a review was made of the DHIS2, mTRAC and SPARS information systems to see which routine data are collected on any of the life-saving commodities. We found that through the HMIS 105 monthly facility report and the SPARS database, we had data to report on the stock on hand, consumption, and stock out days for nine RMNCH commodities every month. Of these, five are part of the 13 life-saving commodities: oxytocin, misoprostol,

magnesium sulfate, oral rehydration salts, zinc, and ceftriaxone. The other commodities reported on are Depo-Provera, sulfadoxine/pyrimethamine tablets, measles vaccine, and mama kits.

In addition, three indicators on availability of oral rehydration salts, zinc, and ACTs at community level are reported in village health team/iCCM quarterly reports (HMIS 097b):

- Total number of villages with stock-outs of the first-line antimalarial medicine
- Total number of villages with stock-outs of amoxicillin
- Total number of villages with stock-outs of oral rehydration salts

This information is of limited value, unless the total number of villages covered is also known. UHSC is currently engaging the Resource Center and Pharmacy and Child Health divisions to review the existing tool in DHIS2.

In Year 2, UHSC will work with the Child Health, Reproductive Health, and Pharmacy divisions to consolidate data on these RMNCH commodity management indicators and presented it in the RMNCH logistics dashboard for easy interpretation and decision making. The data will also be used to update the five-year national forecasting and quantification exercise for the 13 UNCoLSC commodities, which was completed this year with UHSC support.

UHSC also provided technical input, along with other stakeholders, to incorporate the new recommendations for the 13 commodities into the Uganda clinical guidelines. Under the UNCoLSC initiative, UHSC provided feedback on a proposal to establish a local central repository for relevant information on product demand and supply and information from specific market research studies and non-routine sources of data. UHSC emphasized the importance of linking the repository to the PIP instead of creating a parallel and possibly duplicative system.

### **RMNCH supply chain management strategy**

The recent UHSC facility baseline survey (July 2015) indicated that although many village health teams operate in both the public and PNFP sectors, the processes and tools used to order, deliver, and report on village health teams commodities are not standardized. Little logistics data (e.g. receipts, stock on hand, quantity dispensed) appears to be collected for use at any level for monitoring and planning, and training of village health teams in commodity management is weak or non-existent. The result is erratic supplies, frequent stock-outs, and poor accountability. Information shows that at least 22 RMNCH commodities<sup>1</sup> are being distributed using village health teams through various parallel programs managed by the MoH and donor partners. The geographic coverage of these interventions differs widely, some in two to three districts and others nationwide. Some of the programs are in pilot phase and others are in scale-up mode, being adopted as national programs.

In response, UHSC will carry out a comprehensive situational analysis of the village health teams' supply chain system in government and PNFP facilities, looking at each of the components of the logistics management cycle (financing, product selection, quantification, procurement, storage/distribution, information management). The review will map current geographic coverage of MoH and partner-supported village health team activities. The situational

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<sup>1</sup> Child health: iCCM package (amoxicillin, ORS, zinc, ACTs, malaria RDTs, respiratory timers, artesunate suppository), albendazole, vitamin A, Aquasafe, measuring tape, ready-to-use therapeutic food). Reproductive health commodities: male condoms, injectable contraceptives (Depo-Provera, Sayana Press), oral contraceptive pills, alcohol with glycerine, sharp boxes, examination gloves, needles, and syringes. Maternal health: ferrous sulfate, ferrous sulfate/folic acid, multivitamins.

will inform the design and development of a national RMNCH supply chain system that can effectively serve communities. This year, UHSC recruited a local consultant to help carry out this activity; UHSC is also drawing on MSH-wide experience in logistics management of RMNCH commodities. We presented the plan for the analysis to the Pharmacy Division and discussed it at a maternal and child health cluster meeting to inform other stakeholders. We started reviewing related materials and developing the interview guides and a facility data collection forms. Data collection will begin in the first quarter of Year 2 and a report is expected to be completed in December 2015.

### **Integrated community case management**

A Child Health Division priority is the national scale-up of iCCM activities as a high-impact intervention to reduce child mortality. In Year 1, UHSC supported the Child Health, NMCP, and Pharmacy Division to plan iCCM scale-up with Global Fund support. UHSC led efforts to develop a national iCCM procurement and supply plan to coordinate the delivery of the commodities from the two main sources for village health teams: Global Fund will provide RDTs and ACTs, and UNICEF will supply amoxicillin 250mg dispersible tablets for upper respiratory infection and oral rehydration solution and zinc co-packs for diarrhea. Once adopted, the QPPU will integrate supply planning and stock status monitoring for the 13 commodities.

### **Saving Mothers Giving Life**

During the year, UHSC participated in three quarterly Saving Mothers Giving Life partner meetings to exchange information. One issue raised was the need to better coordinate partners' supervision and capacity-building initiatives with the existing SPARS and MMS activities in districts to maximize impact at the health facility. In response, UHSC invited Saving Mothers Giving Life partners to participate in SPARS regional review meetings, which bring together regional performance monitoring teams, district health teams, and implementing partners from the districts in the region.

### **Challenges**

- Coordination with multiple stakeholders involved in RMNCH activities at various levels
- Coordination of delivery, tracking, and planning for commodities for iCCM implementation
- Predictability of the timing of the Global Financing Facility for RMNCH
- Lack of standard definitions of indicators for baseline and routine monitoring the village health teams stock status

### **Next steps**

- Engage Resource Center and Pharmacy and Child Health divisions to review the existing RMNCH tool in DHIS2.
- Update the five-year national forecasting and quantification for the 13 life-saving commodities
- Finalize RMNCH situational analysis of the village health team's supply chain system
- Design and pilot village health teams' supply chain intervention
- Initiate engagement with stakeholders to develop the RMNCH supply chain management strategy

## MONITORING, EVALUATION, AND REPORTING

### Work planning and reporting

The UHSC M&E unit attended a four-day training organized by the Monitoring and Evaluation of Emergency Plan Progress program to learn about the new reporting system; the data for accountability, transparency, and impact for PEPFAR-specific indicators; and the country operational plan for 2015 to 2019.

We have submitted three quarterly progress reports on time. The UHSC Year 2 work plan with narrative was discussed with stakeholders and approved by USAID.

### Routine reporting

Our M&E unit also met with the Monitoring and Evaluation of Emergency Plan Progress program to ensure that relevant PEPFAR indicators are included in our activity monitoring evaluation and learning plan. User accounts for UHSC were set up to enable reporting on specific indicators for PEPFAR (DATIM), number of individuals trained (TraiNet) and quarterly reporting on PMI malaria commodities (PPMRm). Another account will be set up for USAID performance reporting following the final review of the Activity Monitoring Evaluation and Learning Plan (AMELP).

### Baseline surveys

The program carried out three baseline surveys during Year 1: the health facility baseline survey conducted in the second quarter, the district baseline survey conducted in last quarter of Year 1 and medical bureau baseline surveys conducted in the third quarter. We submitted the report on the health facility baseline survey (conducted in 48 public and 36 PNFP facilities in 12 districts) to USAID as required. We are finalizing the draft reports on the district and the medical bureau baseline surveys.

### Data quality assessments

In Year 1, UHSC and NDA designed and conducted a data quality assessment of the GPP inspection reports to ensure adequate inter-rater reliability (i.e., the same outcomes result regardless of the inspector). Eight facilities were inspected each by a team of three inspectors comprising a senior NDA inspector, district drug inspector, and an NDA inspector. Only six of the eight facilities had complete data determine the certification status. Among the six facilities, the inter-rater reliability (as measured by percent agreement of certification status) was 58%. The average inter-rater reliability for the three categories of indicators were 57%, 70%, and 59% for the critical, major, and minor indicators, respectively. The assessment indicates a need to improve reliability of GPP inspections. We also carried out a quality assessment of WAOS data in eight PNFP and for-profit facilities to explore how well facility records match what facilities report through WAOS. The SPARS data quality assessment designed during Year 1 was decided not to be undertaken as the sample size needed to assess the effect of using electronic data entry to improve inter-rater reliability was too large.

### Operations research

As part of the strategy to share lessons learned under the SURE program widely, UHSC continued work on articles to submit to peer-reviewed journals. The process to publish is lengthy, involving a thorough cleaning of datasets and a detailed review of the analyses. We

have drafted two manuscripts—one on the implementation of the GPP program in public and PNFP facilities and another on the methods used in implementing SPARS. Additional manuscripts are planned for Year 2 including implementation of PFM in health facilities, inter-rater reliability and the effect of SPARS on medicines management practices in facilities, such as rational medicines use and supply chain management.

### Next steps

- Finalize the analysis of research articles on SPARS inter-rater reliability, PFM and SPARS implementation
- Analyze the procurement planning survey and district baseline and medical bureau surveys
- Respond to comments raised by the USAID learning team and submit the AMELP to USAID for approval

## M&E reporting

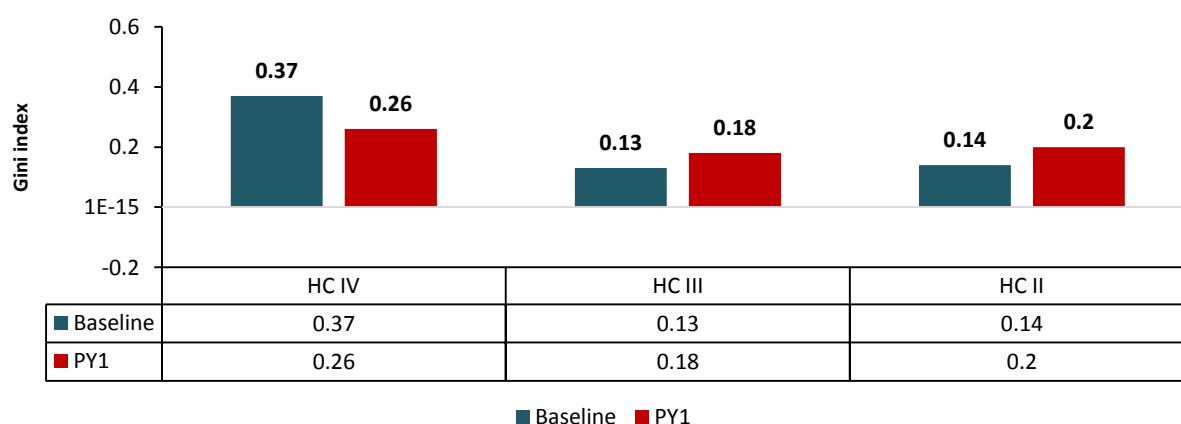
During Year 1, the program worked closely with USAID’s monitoring, evaluation, and learning team on a set of indicators to track to performance over program life. Currently, we track 23 indicators, seven of which are required by USAID. Targets for the program-specific indicators were finalized and the AMELP submitted to USAID; comments are being addressed so that the AMELP can be approved early Year 2. Annex 3 provides an overview of the baseline data and data through Year 1 for all UHSC indicators.

### AMELP indicator narratives

The following section presents a narrative of the 23 indicator results for UHSC Year 1 performance with comparisons made to baseline figures and targets.

#### 1. Horizontal equity index

This measures how equitably EMHS resources are allocated to health facilities at the same level of care. Values of zero indicate perfect equality and one indicates inequality. Across the different levels of care the equity indices during year one were 0.26, 0.18, and 0.20 for HCIV, III, and II, respectively. Compared to the baseline figures, there were improvements in equitable allocation of EMHS resources for HCIVs, but not for HCIIIs or HCIIIs. Figure 7 shows equity indices for the different levels of care at baseline and Year 1.



**Figure 7: Horizontal equity index (Gini index) by level of care**

#### 2. Percentage of government funds allocated to the health sector spent on EMHS

In financial year (FY) 2014/15, the government allocated a total of 1299 billion Uganda shillings (UGX) to the health sector. Of that, 218 billion UGX was budgeted and 233 billion UGX was actually spent on all EMHS including ARVs, ACTs, anti-TB medicines, vaccines, and reproductive health commodities. Compared to the previous year's allocation to the entire sector, the amount nearly doubled, but the amount allocated to EMHS was nearly the same at about US\$2.20 per capita.

### 3. Amount of EMHS funds spent on different categories of medicines and health supplies

Of 233 billion UGX spent on all EMHS in FY 2014/15, the largest share was spent on "other EMHS" at about 106 billion UGX, followed by ARVs and opportunistic infection medicines (93 billion UGX) (Table 8). None of these funds were spent on laboratory supplies, a situation similar to the previous fiscal year.

**Table 8: Distribution of government funds spent on medicines and health supplies**

| Group of medicines and health supplies | Baseline 2013/14<br>(million UGX) | PY1 2014/15<br>(million UGX) |
|--|-----------------------------------|------------------------------|
| ACTs                                   | 5,200                             | 4,443                        |
| Anti-TB                                | 7,800                             | 5,560                        |
| ARVs                                   | 85,800                            | 93,291                       |
| Vaccines                               | 7,800                             | 4,116                        |
| Reproductive health                    | 7,800                             | 19,506                       |
| Lab supplies                           | 0                                 | 0                            |
| Other EMHS                             | 80,600                            | 105,793                      |

### 4. Percent of average international price paid by NMS and JMS for a procured basket of EMHS

The average percent of the international price paid by NMS and JMS for a procured basket of EMHS during the financial year 2014/2015 was 57% and 63% respectively. Whereas there has been an increase in the percentage of the international prices paid by both NMS and JMS as compared to the previous year, the percentages have not exceeded 100 which implies that both NMS and JMS are procuring EMHS at competitive prices.

### 5. Number of ACT treatments purchased with US government funds

In FY 2014/15, 1,769,100 ACT treatments were purchased with US government funds for the PNFP sector, an increase of more than 120% in the previous year. The target number of treatments of 941,596 was surpassed by 88%.

### 6. Number of insecticide-treated nets purchased with US government funds

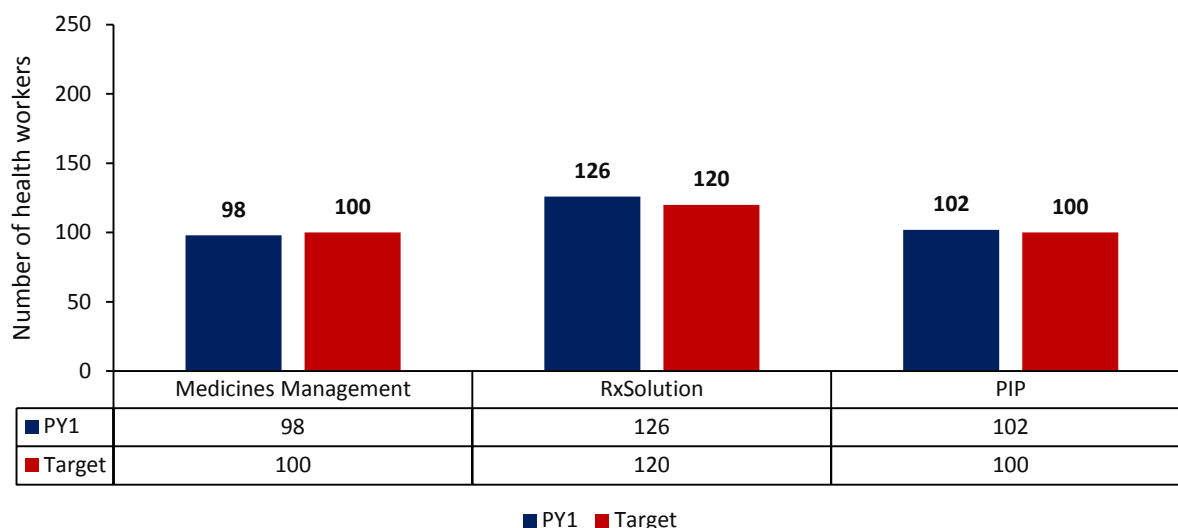
In FY 2014/2015, 3,926,080 insecticide-treated nets were purchased with US government funds for the PNFP sector, which is 37% less than the previous year. The target number of insecticide-treated nets of 1,096,429 was surpassed by over 250%.

### 7. Number of RDTs purchased with US government funds

A total of 445,850 of the 1,476,000 malaria RDTs included in the malaria operational plan of 2015 were purchased with US government funds during 2014/2015. In the previous year, PMI did not procure malaria RDTs because JMS had sufficient stock that had been procured by Global Fund.

### 8. Number of individuals trained to conduct supply chain, inventory management, and supportive supervision

Through Year 1, UHSC and Makerere University conducted four trainings in supply chain management (SPARS) for 98 health workers (78 males and 20 females) to carry out SPARS supervision in their facilities. Following the SPARS training, 102 MMS underwent a one-week training in using the PIP. UHSC also conducted four trainings in the inventory management software program RxSolution for 126 health workers (64 males and 62 females) with a target of 120. The pharmaceutical financial management training and supportive supervision training will start in Year 2. Figure 8 shows the targets and actual number trained in the three different areas.



**Figure 8: Number of health workers trained during Year 1**

### 9. Percent change in sales of EMHS at JMS

No data yet for the current financial year.

### 10. Average percent availability of 6 tracer medicines and health supplies over a period of 3 months at NMS and JMS<sup>2</sup>

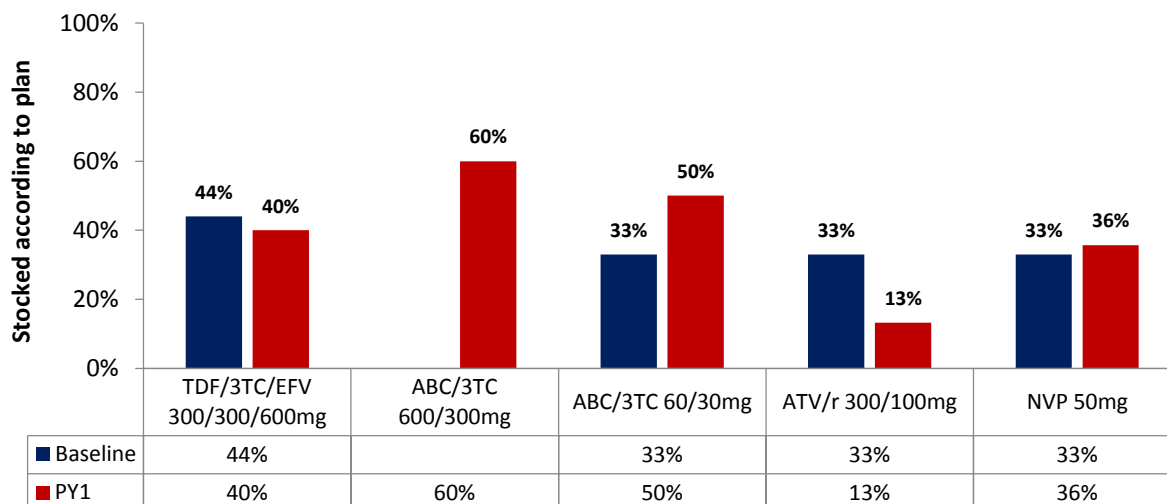
During the reporting period, the availability of four of six tracer medicines improved compared to the baseline. Co-trimoxazole and Depo-Provera had 100% availability through Year 1, whereas, oral rehydration salts/zinc was available for 33% of the year. Availability of ACTs, measles vaccine and sulfadoxine/pyrimethamine during this period was 89%, 78% and 56%, respectively.

### 11. Percentage of storage sites where commodities are stocked according to plan, by level in supply system-central warehouses

Commodities are stocked according to plan if the available stock on hand can last between three and six months based on the stock status reports from the central warehouses (NMS, JMS, and Medical Access Uganda Limited). Among the ARVs, ABC/3TC 600mg/300mg was the most appropriately stocked item at 60% of the time according to plan followed by ABC/3TC 60/30mg at 50% as shown in Figure 9.

<sup>2</sup> Only NMS data is presented for this indicator



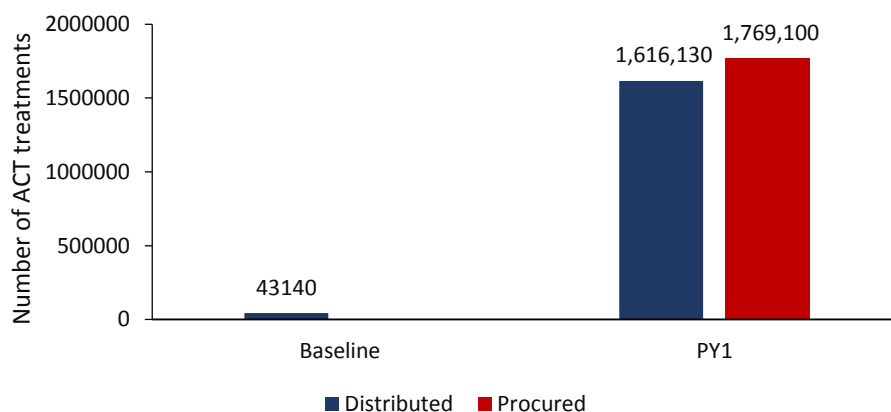


**Figure 9: Percentage of time where ARVs are stocked according to plan, at central warehouses**

During the reporting period, Determine HIV test kits were stocked according to plan 53% of time and other laboratory supplies, Pima, Partec, and Facscullibur CD4 cartridges, were stocked according to plan 27%, 11%, and 33% of the time, respectively. Low stock levels of these commodities at central warehouses implies that health facilities will not be supplied with the quantities ordered to provide the required services to patients.

*12. Number of artemisinin-based combination therapy (ACT) treatments purchased in any fiscal year with USG funds that were distributed in this reported fiscal year*

In Year 1, JMS distributed 1,616,130 ACT treatments purchased with US government funds to PNFP health facilities, which was 1.5 million more than last year. Figure 10 shows the number of ACTs purchased and distributed during the year, indicating a distribution percentage of 91%.



**Figure 10: Number of ACTs procured and distributed**

*13. Number of RDTs purchased in any fiscal year with US government funds that were distributed in this fiscal year*

Distribution records from JMS indicated that only 750 RDTs procured through PMI were issued to PNFP health facilities this year, while JMS issued 1,794,700 RDTs procured through Global Fund. The PMI RDTs (445,850) were only delivered to JMS on last day of the reporting period (September 30, 2015).

*14. Number of insecticide-treated nets (ITNs) purchased in any fiscal year with US government funds that were distributed to health facilities in this reported fiscal year*

In Year 1, PMI started distributing insecticide-treated nets to health facilities through JMS—640,860 in this reporting period.

*15. Number of wholesalers licensed according to the new good distribution practices guidelines*

During Year 1, UHSC and NDA reviewed the tools that will be used to license wholesalers according to the new good distribution practices guidelines; however implementation is not planned until Year 2.

*16. Number of government and PNFP health facility pharmacies certified according to good pharmaceutical practices*

Currently, 952 (804 public and 148 PNFP) out of 3750 health facilities have been inspected, of which 520 met the minimum GPP certification requirements (55%). Similar to the Good Distribution Practices licensing of wholesalers, inspection of health facilities for GPP inspections is planned for year two.

*17. Number of facilities with a functional electronic logistics management information system (RxSolution)*

Cumulatively, a total of 92 (72 government and 20 PNFP) health facilities have an electronic logistics management information system (RxSolution) installed and the program has trained 126 health workers on how to use the system. For the LMIS system to be functional, the trained health workers need to use it to; select facility commodities, take stock, generate orders, and receive orders and process requisitions on top generating stock status reports. Presently, 13 (9 government and 4 PNFP) facilities have been able to use their LMIS system.

*18. Percentage of facilities with a SPARS score of 20 and above*

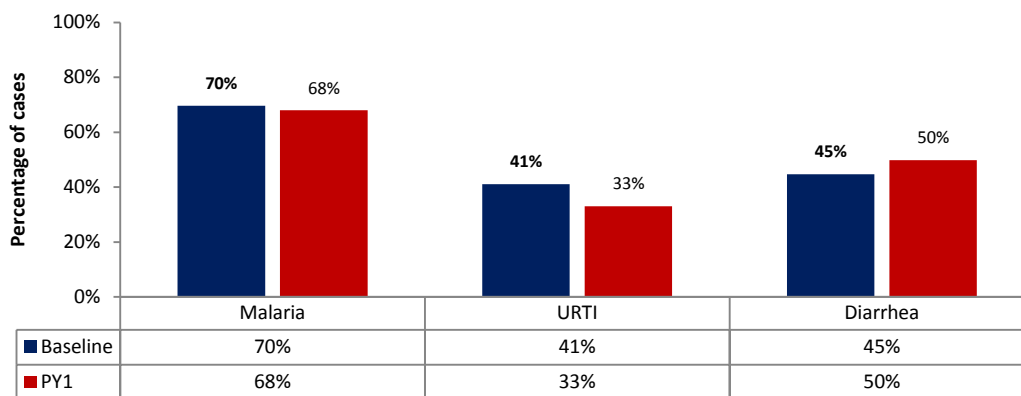
The percentage of facilities that have attained a SPARS score of 20 of 25 was 40% at the end of Year 1 (41% in public and 35% in PNFP facilities). This score was the same as at baseline. The reason was that the 16 new districts have had limited SPARS visits, and no facilities have reached the score of 20. The new facilities increased the denominator, so that improvements in mature sites over the year were diluted. At baseline, 732 government facilities and 134 PNFP facilities out of 2,235 total scored 20 and above. In 2014/15, 881 government and 169 PNFP facilities out of 2,644 total had met the goal of 20.

*19. Percentage of order-based facilities with a pharmaceutical financial management score of 16 or above*

As at the end of Year 1, 63% of the hospitals and 51% of the HC IVs with at least one PFM visit had attained a score of at least 16 out of 20. This figure remained unchanged from baseline because no additional PFM visits took place this year, because we are reviewing the PFM manual and tool prior to national rollout.

*20. Average percentage of cases of priority conditions treated in compliance with standard treatment guidelines*

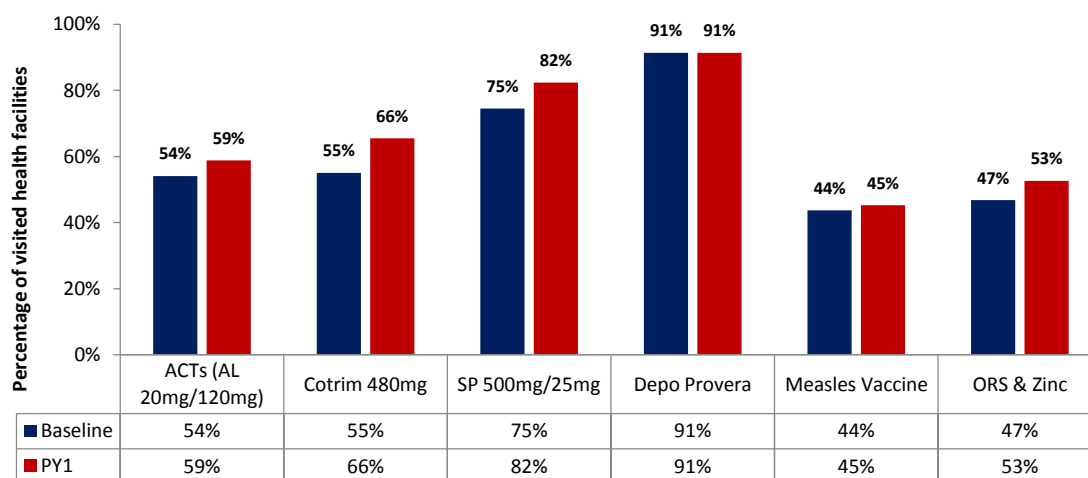
The SPARS assessment tracks adherence to standard treatment guidelines for malaria, mild or moderate upper respiratory tract infections, and diarrhea. Through Year 1, SPARS data showed that adherence to standard treatment guidelines was highest for malaria at 68% followed by diarrhea at 50%. Treatment of mild or moderate upper respiratory infection lagged behind with only 33% of the cases treated in adherence to standard treatment guidelines (thus without antibiotic) (Figure 11).



**Figure 11: Adherence to standard treatment guidelines for three conditions**

*21. Percentage of availability of 6 tracer medicines and health supplies over a period of 2 months*

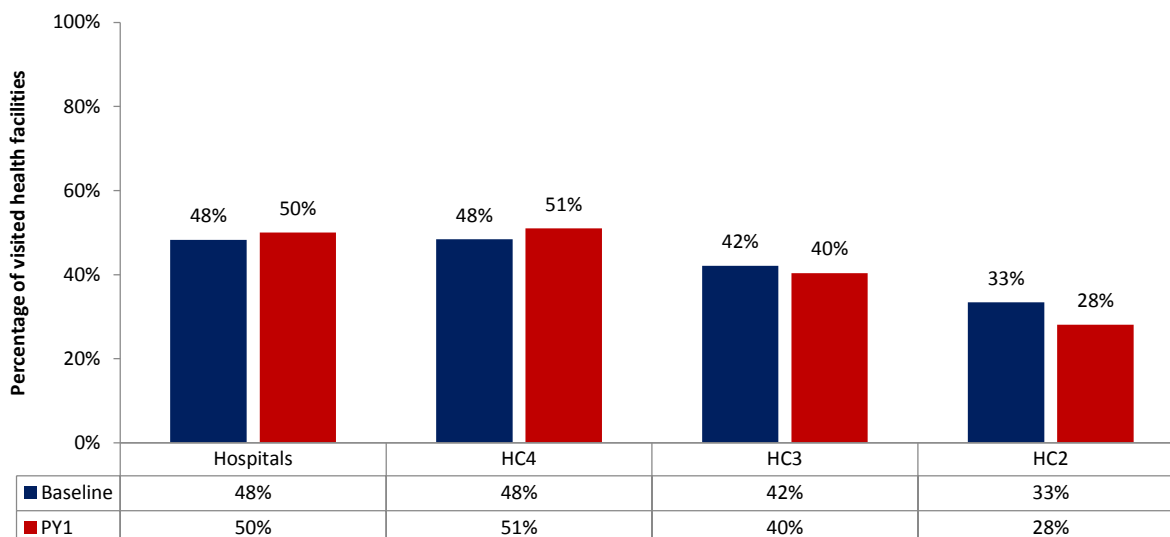
The percentage of facilities with at least two months’ of stock improved for nearly all six tracer medicines in Year 1 compared to the baseline figures. Percentage of facilities with stock available was highest for Depo-Provera followed by sulfadoxine/pyrimethamine 500mg/25mg, with 91% and 82%, respectively. More than 50% of the facilities had enough stock for five of the six commodities to last at least two months. The percentage of facilities with at least two months’ of stock for measles vaccine was lower compared to other tracer commodities (Figure 12).



**Figure 12: Availability of at least 2 months of stock for 6 tracer medicines on day of visit**

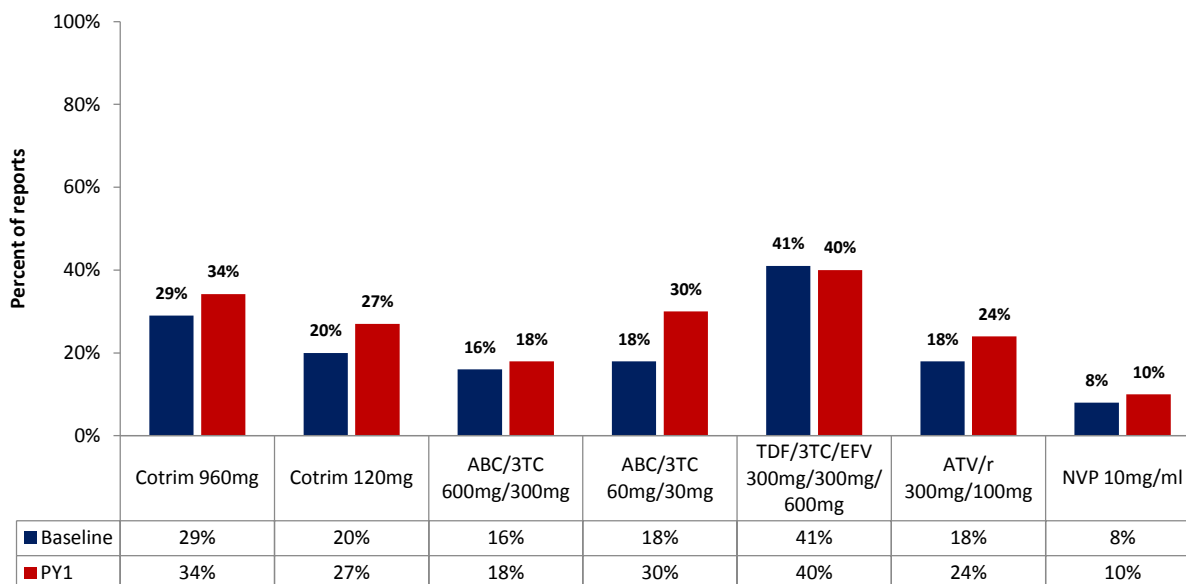
*22. Percentage of health facilities with all 6 tracer medicines available on day of visit*

On the day of visit, the percentage of facilities that had all six tracer medicines available was highest among HCIVs (51%) and lowest in HCIIIs, where only 28% had all six medicines available. In the higher levels of care, the figure increased slightly in Year 1 from baseline; HCIVs and hospitals had a three and two percentage point improvement, respectively (Figure 13).



**Figure 13: Availability of all 6 tracer medicines on day of visit**

23. *Percentage of health facilities where HIV tracer commodities are stocked according to plan*  
 Based on the bimonthly health facility stock status reports, there has been an improvement in the percentage of facilities that stock ARV and opportunistic infection medicines according to plan, which is between two and four months' worth of stock. During the reporting period, facilities had sufficient stock of TDF/3TC/EFV 300mg/300mg/600mg 40% of the time, followed co-trimoxazole 960mg at 34% of the time. Compared to baseline figures, there were improvements across all items, with ABC/3TC 60mg/30mg having the highest with a 12 percentage point from increase (Figure 14).



**Figure 14: Percentage of stock status reports from facilities where ARVs and opportunistic infection medicines are sufficiently stocked**

### Progress by result area and activity

Figures 15 and 16 give an overview of UHSC progress at end of Year 1 as per the activity plan. We measure and score all activities (sub-sub-results) a five-level scale: not started/postponed to

Year 2 (0%), initiated (25%), half-way done (50%), almost completed (75%) and totally completed (100%). For each sub-result area, we calculate the averages of all planned activities. Based on this approximate implementation scoring, we averaged 70% implementation overall in Year 1. We have made considerable progress since Quarter 3, when the overall status was at 37% implementation.

Those activities that we did not manage to complete in Year 1 as planned are included in the Year 2 work plan.

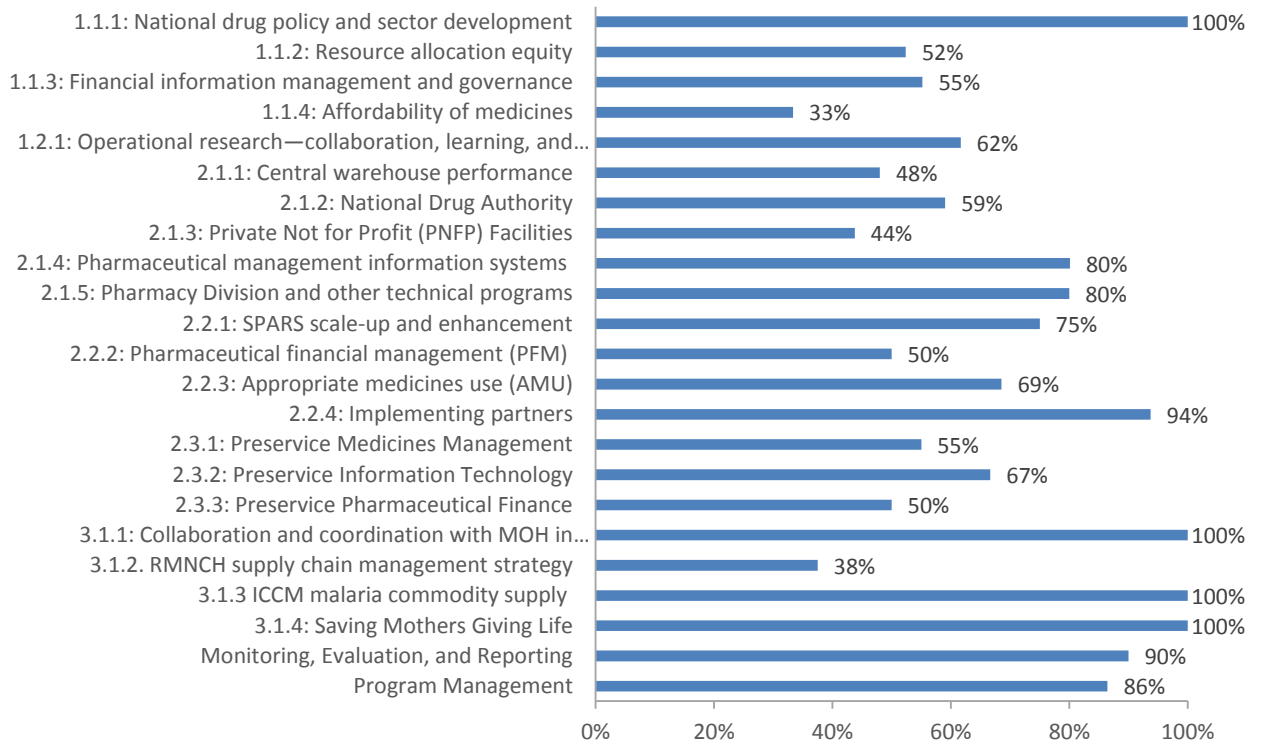


Figure 15: Year 1 UHSC progress by sub-sub result (activity)

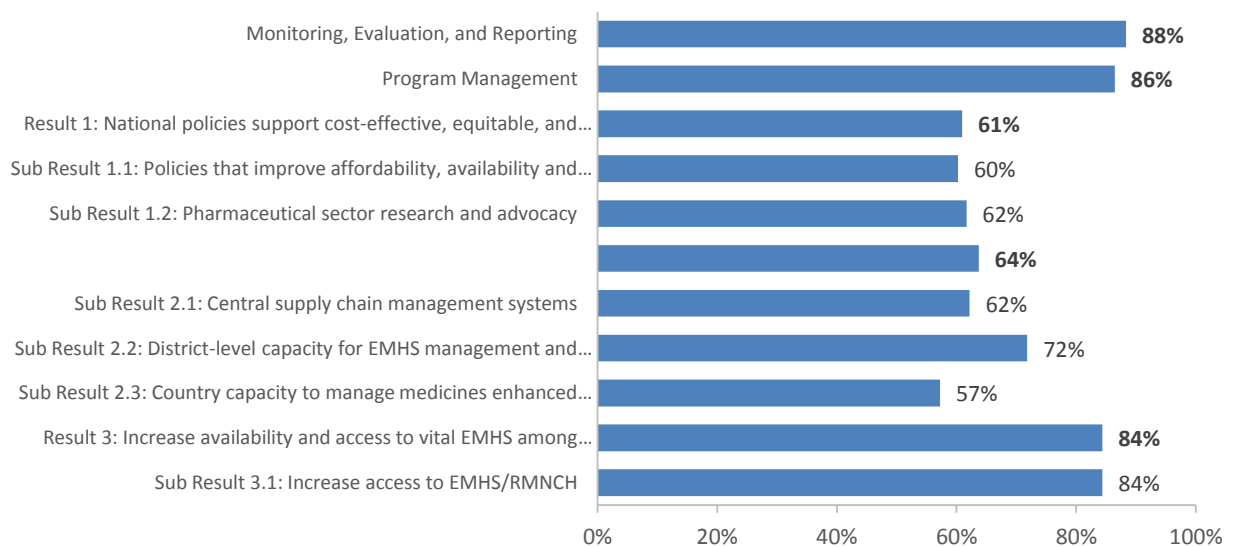


Figure 16: Year 1 UHSC progress by result and sub result areas

## PROGRAM MANAGEMENT

### Program start-up

#### Procurement of equipment and supplies

The UHSC program took over most of the furniture, equipment, and vehicles from the former SURE Program as per the approved disposition plan. In addition, the program inherited new, unused items including motorcycle tires and printed materials and manuals such as dispensing logs, dispensing and prescription guidelines, and *Uganda Clinical Guidelines*. These were all distributed to the districts in Year 1.

The program management unit worked with the country operational management unit, procurement team, and home office to procure the following equipment, supplies, and commercial services—

- 1,450 utility rack shelves and a vendor to transport and distribute these shelves to 756 health facilities in 75 districts; delivery will take place in early part of Year 2
- 89 motorcycles to be used by MMS in new districts; delivery was delayed but is expected in early part of Year 2; arrangements are underway to train users of the motorcycles in six-day motorcycle defensive training courses, with the first training in October, 2015
- Information technology equipment, software, and supplies for the MMS and the UHSC information technology and M&E teams
- SPARS reward items and a vendor to store, transport, and distribute them to health facilities starting in the early part of Year 2

#### Next steps

- Receive and hand over 89 motorcycles to district and MB-MMS
- Conduct defensive riding training for new MMS
- Track procurement and finalize contract with vendor to distribute 1,450 utility rack shelves to health facilities
- Receive and distribute SPARS rewards items
- Print copies of the national medicines policy, national pharmaceutical sector support plan, dispensing guidelines, and other publications

#### Coordination with MSH home office

We hold biweekly meetings with MSH home office and established a framework for MSH home office support in the areas of finance, administration, procurement, human resources, contracts, and technical issues. Procedures have been established for what home office need to handle and what the program handles with support from the Uganda country operational management unit. During the past year, MSH Uganda completely overhauled its country operational management unit to increase efficiencies and ensure the highest level of compliance with MSH and USAID rules, regulations, and policies. As a result, administrative support functions (human resources, logistics, procurement, accounting, and information communication technology) are now centralized under the direction of a separate unit within the MSH Uganda office. UHSC has also taken part in several internal MSH audits to ensure adherence to standards, rules, and regulations. These internal audits have guided and helped strengthen the country operational management unit.

## **MSH Uganda risk management committee**

In line with MSH's organization-wide effort to mitigate risks, a committee was established to advise the MSH Uganda country leadership team. The risk management committee is comprised of finance and administrative staff from all the major projects and the country operational management unit director. Two senior staff members represent UHSC on the committee. The committee evaluates and prioritizes identified risks and develops common strategies for managing the risks across all projects. The risk management committee meets monthly and reports to the country leadership team.

## **USAID award meeting**

UHSC and USAID held an award meeting to discuss submission of deliverables for Year 1 including the submission date for the baseline study moving to July 25, 2015 which was adhered to.

## **Introduction and presentation of UHSC to major stakeholders**

UHSC organized meetings with all central-level stakeholders, including the MoH technical programs, as well as implementing partners and district management teams to present the program and describe Year 1 implementation plans. We have established regular meetings with major stakeholders.

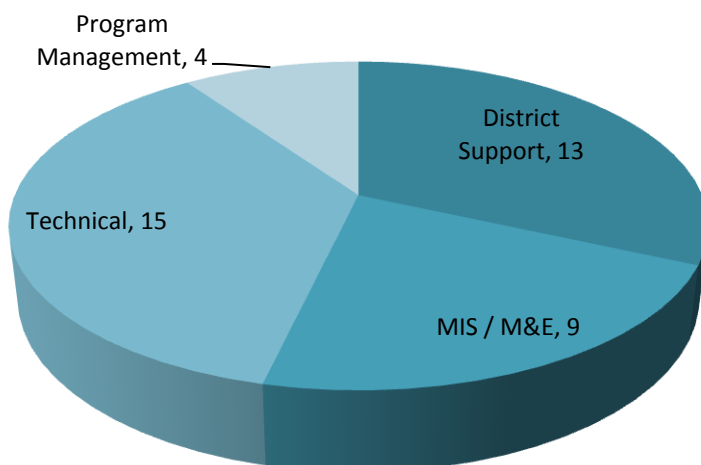
## **Employment of key staff**

Filling key staff positions was a priority goal at the beginning of Year 1. A summary of status follows—

- The chief of party continued from the previous SURE program and was on board from the first day
- The deputy chief of party joined the project in February 2015
- The health economist started in October 2014, but then immediately took a leave of absence to finish previous work in Nigeria. He returned to the project in February 2015, and in August 2015 tendered his resignation. Active recruitment is currently underway to fill this position.
- The finance and administration manager joined the project on October 1, 2014 as planned and went for training at home office. In January 2015, MSH shifted a significant part of his time to direct the MSH Uganda country operations management unit which oversees accounting, procurement, human resources and other supporting functions for all MSH projects in the country. In August 2015, he returned full time to UHSC.
- The supply chain advisor position was vacant until March 2015, when a temporary staff member came on board for six months. In September 2015, this position was filled with a new full time staff person.

## **Employment of other positions**

The program has continued to fill technical positions and secondments to the MoH and other counterpart organizations. At the end of Year 1, UHSC staff totaled 41. Figure 17 shows the distribution of staff across the various program areas. The number of staff needed for program management, finance, and administration is limited because the country operations management unit has taken over most of these tasks.



**Figure 17: UHSC staff distribution by program area**

### Short-term technical assistance

The program closely monitors short-term technical assistance and international travel against the approved plan. The following activities were completed during Year 1—

- Martha Embrey was mobilized from MSH headquarters in November 2014 to help with the Uganda pharmaceutical sector conference report and finalize the UHSC Year 1 work plan
- Dennis Ross-Degnan and Anita Katharina Wagner from Harvard Pilgrim Health Care made presentations on the international perspective of health finance and appropriate medicine use at the Uganda pharmaceutical sector conference and participated in drafting the program Year 1 work plan
- Philippe Delamare from Imperial Health Sciences worked with JMS in January 2015 to evaluate the cost-effectiveness of the current procurement mechanisms
- Rebecca Copeland, an independent consultant, supported program management with writing and editing of technical reports
- Gerrit Weeda, an independent long-term consultant, is working with JMS management and technical staff to improve efficiency of operations

### International travel

- One UHSC staff person traveled to MSH headquarters in October for orientation to standard operating practices, etc.
- Two UHSC information technology staff traveled to South Africa in December 2014 to work with MSH staff there to study the new enhancements to RxSolution and operations of the control tower software
- One technical staff member traveled to Bangkok, Thailand in March 2015 together with one MoH NTLP official and one QPPU technical officer to attend MSH's Global TB Conference 2015: Creating Connections to Build the Post-2015 Agenda
- One information technology employee traveled to South Africa for two weeks to study blade server system administration and VMare installation and management. He is applying his skills to support the PIP system.



## Program launch

UHSC was successfully launched as part of the Uganda pharmaceutical sector conference in November 2014 by the Honourable Minister of Health, Dr. Eloida Tumwesigye, and the Permanent Secretary for Health, Dr. Asuman Lukwago.



**Figure 18: Minister of Health, Dr. Eloida Tumwesigye, launching UHSC Program in November 2014**

## Program implementation

Throughout the first year of the UHSC program, the program management unit provided operational support for program implementation. Through regular meetings with the chief of party and finance and administrative manager, the program management unit drew up and managed contracts with sub-partners, recruited staff and consultants, supported procurement of equipment and other items, and ensured that mandatory reports were submitted to the donor and other stakeholders.

### Program finance

The expenditure figures shown in Table 9 are provisional. Some costs that were committed with Year 1 funding are shown in a separate column because these have not been included in our Year 2 budget. These costs include procurement of computers, distribution of shelves and rewards, additional motorcycle riding gear, and software for a server upgrade. These items are expected to be expensed in Quarter 1 of Year 2.

Considering the provisional expenditures, accruals (\$1.1 million) and additional commitments (\$0.4 million), the total expenditure against the Year 1 budget is approximately \$5,281,564, which represents 93% of the approved budget of \$5,664,342. Expenditures (including accruals) against current obligation of \$7,160,887 is at 68%.

**Taking into account the carry-over activities to be expensed in Quarter 1 of Year 2 as well as the Year 2 budget expenses, the current obligation will be fully spent around the end of January 2016.**

**Table 9: UHSC program provisional expenditure against annual budget**

| Line item          |                           | Expenditure      |                  |                       |  | Budget<br>PY 1   |                  |
|--------------------|---------------------------|------------------|------------------|-----------------------|--|------------------|------------------|
|                    |                           | through Q3       | Q4 <sup>1</sup>  | PY1 incl.<br>accruals | Additional<br>commitments <sup>2</sup> |                  | Total for PY 1   |
| I                  | Salaries and Wages        | 947,179          | 346,865          | 1,294,044             |  | 1,294,044        | 1,621,994        |
| II                 | Consultants               | 24,497           | 37,737           | 62,234                |  | 62,234           | 72,200           |
| III                | Overhead                  | 492,583          | 161,317          | 653,900               |  | 653,900          | 794,719          |
| IV                 | Travel and Transportation | 117,487          | 123,252          | 240,739               |  | 240,739          | 320,733          |
| V                  | Allowances                | 175,051          | 40,671           | 215,721               |  | 215,721          | 353,977          |
| VI                 | SubContracts              | 497,037          | 291,318          | 788,356               |  | 788,356          | 991,247          |
| VII                | Trainings/Workshop        | 8,484            | 37,226           | 45,710                |  | 45,710           | 270,680          |
| VIII               | Equipment <sup>3</sup>    | 83,495           | 697,875          | 781,370               | 205,000                                | 986,370          | 366,672          |
| IX                 | Other Direct Costs        | 287,391          | 489,735          | 777,126               | 217,363                                | 994,489          | 872,120          |
|                    | <b>SUBTOTAL</b>           | <b>2,633,204</b> | <b>2,225,997</b> | <b>4,859,201</b>      | <b>422,363</b>                         | <b>5,281,564</b> | <b>5,664,342</b> |
| <b>COST SHARE</b>  |                           |                  |                  |                       |  | -                |                  |
| <b>GRAND TOTAL</b> |                           |                  |                  |                       |  | <b>5,281,564</b> |                  |

|                                 |              |      |
|---------------------------------|--------------|------|
| Obligation to date <sup>4</sup> | \$ 7,160,887 | 100% |
| Expended to date                | \$ 4,859,201 | 68%  |
| Obligation remaining            | \$ 2,301,686 | 32%  |

|                        |               |      |
|------------------------|---------------|------|
| Life of project budget | \$ 29,990,862 | 100% |
| Expended to date       | \$ 4,859,201  | 16%  |
| Balance remaining      | \$ 25,131,661 | 84%  |

**Notes:**

- <sup>1</sup> Expenditures in Qtr 4 are provisional and are inclusive of accruals from PY1 which are expected to be paid in the next quarter.
- <sup>2</sup> Expenditures which were committed (but not accrued) in PY1 and which are expected to be expensed in the next quarter.
- <sup>3</sup> Includes equipment for field operations under the \$5000 threshold (e.g., computer equipment & utility shelves)
- <sup>4</sup> Includes Modification No. 3 dated 28 September, 2015

**Next step**

Monitor expenditures forecast for October to December 2015 very closely and apprise USAID as the current obligation is exhausted

**Contract management***Makerere University College of Health Sciences*

A fixed-price contract was drawn up with partner Makerere University College of Health Sciences to train MMS. Four 2–week MMS training courses were conducted with a fifth course underway.

*Coalition for Health Promotion and Social Development*

A fixed-price contract was drawn up with partner Coalition for Health Promotion and Social Development to conduct the baseline assessment. No other contract is planned in the near future.

*Harvard Pilgrim Health Care*

UHSC signed two task orders with partner Harvard Pilgrim Health Care during the year. The first included support for the pharmaceutical sector conference and the second covered ongoing support to UHSC in providing technical input to the national medicines policy, impact study design, and article writing. A third contract has been drafted to cover their upcoming visit early in Year 2.

#### *Imperial Health Sciences*

A sub-contract for short-term consultancy from Imperial Health Sciences was drawn up to provide technical assistance on storage and distribution systems activities during the year; additional assignments have been scheduled in Year 2 to continue supporting JMS in this area.

#### *National Drug Authority*

A sub-contract with NDA to conduct GPP inspection of 3,000 public and PFNP health facilities is pending USAID approval. Implementation is scheduled for the early Year 2.

#### *Letters of Intent*

Letters of Intent were drafted for signing by NMS and JMS. JMS signed at the end of Year 1, and NMS is expected to sign early in Year 2. We will also draft letters of intent for the districts and medical bureaus.

#### **Next steps**

- Strengthen contract management and draw up new sub-contracts and task order as needed and per approved workplan
- Draft and sign letters of intent as needed

## **Visibility and communication**

### **Uganda pharmaceutical sector conference**

The program management unit worked closely with the MoH to organize the Uganda pharmaceutical sector conference that attracted close to 140 participants over three days (November 17–19, 2014) at Speke Resort–Munyonyo, Kampala. The conference report was finalized, printed, and distributed, and a program brochure was printed and is being distributed widely to our partners.

We worked closely with USAID to design UHSC Program visibility items as per the branding and marking plan. A name change from Uganda Systems Strengthening for Health Commodities (which many people found awkward to use) to Uganda Health Supply Chain was approved by USAID in December 2014.

Working with the MSH Uganda country communications team, a program link was created on the MSH website and a project brochure was uploaded. Deliverables are uploaded and shared on this common platform.

#### **Next steps**

- Hire a communications assistant
- Develop and print program banners, stickers, posters, and other visibility materials
- Produce and distribute the first UHSC program newsletter, the VALUE CHAIN

## ANNEX 1: PROGRESS ON KEY PHARMACEUTICAL INDICATORS

|  |                   |
|--|-------------------|
|  | Achieved          |
|  | Fair progress     |
|  | Not achieved      |
|  | No data available |

| Key Pharmaceutical Indicators  | Overall Progress | Baseline 2010/2011                                    | Achievement 2012/2013                                  | Achievement 2013/2014   | Target 2014/2015 |
|--|------------------|---|--|---|------------------|
| Average % availability of six tracer medicines measured over a period of three months at NMS                     |                  | 61%   | 88%  | 54%   | 100%             |
| % of health facilities with <b>all six</b> tracer medicines available on the day of the visit                    |                  | 43%   | 50%  | 46%   | 80%              |
| % of health facilities without monthly stock outs of any tracer medicines in the previous six months             |                  | 43%   | 53%  | 57%   | 60%              |
| Average % availability of basket of six individual tracer medicines at health facilities on the day of the visit |                  | 84%   | 87%  | 85%   | 100%             |
| % of facilities with the current EMHSLU and UCG available  |                  | 14% – EMLU<br>48% – UCG                               | 30% EMHSLU<br>40% UCG                                  | No data   | 100%             |
| % of vital, essential and necessary items issued at NMS  |                  | No data   | No data  | V- 60%<br>E- 17%<br>N- 23%<br><b>(n- 1358) items</b><br><b>Total sales- 320 billion shillings</b> |                  |
| % of average international price paid by the central warehouses for procured basket of essential medicines       |                  | NMS – 64%<br>JMS – 51%                                | NMS – 63%<br>JMS – 52%                                 | NMS- 52%<br>JMS- 54%  | <100%            |
| % of health facility orders placed that are fully filled at NMS  |                  | Order fill – 66%<br>Nil Line – 25%<br>Adjustment – 9% | Order fill – 65%<br>Nil Line – 35%<br>Adjustments – 1% | Order fill- 68%<br>Nil line- 32%<br>Adjustment- 14%   |                  |
| Average NMS lead-time (days) from ordering to delivery at the facility   |                  | <b>59 days</b><br>(range 20 – 215)                    | <b>40 days</b><br>(range 15 – 91)                      | <b>39 days</b><br>(range 0 – 111)   | Max 60           |
| % of deliveries made by NMS to the facilities within the scheduled date  |                  | 42%<br>(2009/2010)                                    | 47%  | 74%   |                  |
| % of health facility orders submitted on time as per NMS delivery schedule                                       |                  | 78%   | 88%  | 89%   | 100%             |
| Compliance of major suppliers  |                  | -   | QCL – 1.3  | No data   | +_14 days        |

| Key Pharmaceutical Indicators  | Overall Progress | Baseline 2010/2011   | Achievement 2012/2013   | Achievement 2013/2014  | Target 2014/2015 |
|--|------------------|--|---|--|------------------|
| to agreed delivery schedule (GF, UNITAID, QCL)   |                  |  | months delay<br>GF ARVs - 0.7 months delay,<br>UNITAID – 1.3 months delay                         |  |                  |
| % of facilities with stock book correctly used   |                  | 36%  | 50%   | 56%  | 100%             |
| % of facilities with (sampled) stock cards correctly filled  |                  | 7%   | 36%   | 50%  | 100%             |
| % of GoU funds allocated for credit line EMHS distributed to health facilities (excluding ARVs, ACTs, TB supplies, and vaccines) |                  | 75%  | 103%  | 101%   | 95%              |
| % of GoU funds released for EMHS out of the total health sector (including ARVs, ACTs, TB supplies, and vaccines)                |                  | <b>31%</b><br>(2011/2012)                                    | <b>29%</b>  | <b>19%</b>   |                  |
| Per capita expenditure on EMHS (including ARVs, ACTs, TB supplies, and vaccines)   |                  | <b>USD \$2.18</b><br>(2011/2012)                             | <b>USD \$2.09</b>   | <b>USD \$ 2.40</b>   |                  |
| Per capita expenditure on EMHS (excluding ARVs, ACTs, TB supplies, and vaccines)   |                  | <b>USD \$0.50</b>  | <b>USD \$0.90</b>   | <b>USD \$ 0.99</b>   |                  |
| Donor vs. Government funding contribution for EMHS   |                  | GoU – 23%<br>Donor – 77%                                     | GoU –30%<br>Donor – 70%   | GoU- 23%<br>Donor- 77%   |                  |
| % of sampled essential medicines failing pharmaceutical, chemical or microbiological NDA quality tests                           |                  | 11%  | 9%  | 4%   |                  |
| Number of reports submitted on pharmacovigilance   |                  | 268 ADR  | 238 ADR   | 273 ADR  |                  |
| Number of drug outlets/pharmacies inspected annually   |                  | <b>Private:</b><br>Pharmacies – 747<br>Drug outlets – 11,785 | <b>Private:</b><br>Pharmacies – 976<br>Drug outlets – 6,140<br><b>Public:</b><br>Pharmacies – 605 | <b>Private:</b><br>Pharmacies – 901<br>Drug outlets – 5,984<br><b>Public:</b><br>Pharmacies – 1002 |                  |
| Number of drug outlets/pharmacies passing inspection   |                  |  | <b>Private:</b><br>No data<br><b>Public:</b><br>347   | <b>Private:</b><br>884 (98%)<br><b>Public:</b> 486 (49%)   |                  |
| % of medicines dispensed that are adequately labeled   |                  | <b>34%</b>   | <b>64%</b><br>(medicine name and dose)  | <b>83%</b><br>(medicine name and dose)   | 100%             |

| Key Pharmaceutical Indicators   | Overall Progress | Baseline 2010/2011   | Achievement 2012/2013   | Achievement 2013/2014  | Target 2014/2015 |
|---|------------------|--|---|--|------------------|
|   |                  |  | correct)<br>20% (Complete label correct)  | correct)<br>24% (Complete label correct)                                 |                  |
| % of patients knowledgeable about the dosage and duration of taking medicines dispensed |                  | <b>59%</b>   | <b>76%</b>  | <b>57%</b>   | 100%             |
| Adherence to UCGs for treatment of malaria, diarrhea, URTI                              |                  | Malaria – 5%<br>Diarrhea – 10%<br>URTI – 10%   | Malaria – 47%<br>Diarrhea – 47%<br>URTI – 37%   | Malaria – 66%<br>Diarrhea – 37%<br>URTI – 31%                            | 100%             |
| % Performance on 25 SPARS indicators for public and PNFP facilities                     |                  | 45%  | 64%   | 73%  |                  |
| Accuracy of the HMIS 105 report on stock outs of tracer medicines                       |                  | 43%  | 79%   | 89%  | 100%             |
| Number of pharmacy students and pharmacy technicians enrolled and graduating per year   |                  | <b>Pharmacy Students</b><br>Enrolled – 85<br>Graduating – 78<br><b>Pharmacy Technician</b><br>Enrolled – 42<br>Graduating – 25 | <b>Pharmacy Students</b><br>Enrolled – 120<br>Graduating – 76<br><b>Pharmacy Technician</b><br>Enrolled – 54<br>Graduating – 34 | <b>Data not available</b>  |                  |
| Pharmacists per 100,000 population  |                  | 1.1  | 1.2   | 1.6  |                  |
| % of pharmacist and pharmacy technician positions fully filled in the public sector     |                  | <b>Pharmacists</b><br>55%<br><b>Pharmacy Technician/Dispenser</b><br>59%<br>(2011/2012)  | <b>Pharmacists</b><br>26%<br><b>Pharmacy Technician/Dispensers</b><br>37%   | <b>Pharmacists</b><br>11%<br><b>Pharmacy Technician/Dispenser</b><br>62% | 75%              |

## ANNEX 2: THE 41 HEALTH COMMODITIES TRACKED IN THE HEALTH MANAGEMENT INFORMATION SYSTEM 105 FORM.

### Essential Medicines and Health Supplies (15 medicines)

| Item description   | Unit pack    | VEN | LOC      |
|--|--------------|-----|----------|
| Recommended first line ACT (Artemether/Lumefantrine 100/200mg) | Tablet       | V   | HCII     |
| Cotrimoxazole 480mg  | Tablet       | V   | HCII     |
| Therapeutic milk F75 (75Kcal/100ml)                            | Packet       | V   | Hospital |
| Therapeutic milk F100 (100Kcal/100ml)                          | Packet       | E   | Hospital |
| Ready to use Therapeutic feeds (RUTF)                          | Paste        | N   | HCI      |
| Cotrimoxazole 960mg tablet                                     | Pack of 1000 | E   | HCIII    |
| Chlorhexidine 20%  | Liters       | N   | HCII     |
| Bendrofluzide (Aprinox) 5mg                                    | Tablet       | E   | HCIII    |
| Propranolol 40mg   | Tablet       | E   | HCIV     |
| Nifedipine tablets 20mg  | Tablet       | E   | HCIII    |
| Captopril 25mg   | Tablet       | E   | Hospital |
| Metformin 500mg  | Tablet       | V   | HCIV     |
| Glibenclamide 5mg  | Tablet       | V   | HCIV     |
| Insulin short-acting   | Vial         | V   | HCIV     |
| Cardiac Aspirin 75/80mg  | Tablet       | E   | HCIV     |

### ARV (8 medicines)

| Item description  | Unit pack  | VEN | LOC   |
|---|------------|-----|-------|
| Tenofovir/Lamivudine/Efavirenz (TDF/3TC/EFV) 300mg/300mg/ | Pack of 60 | V   | HCIII |
| Zidovudine /Lamivudine/Nevirapine (AZT/3TC/NVP)           | Pack of 30 | V   | HCIII |
| Zidovudine/Lamivudine (AZT/3TC) 300mg/150mg               | Pack of 60 | V   | HCIII |
| Tenofovir/Lamivudine (TDF/3TC) 300mg/300mg                | Pack of 30 | V   | HCIII |
| Nevirapine (NVP) 200mg                                    | Pack of 60 | V   | HCIII |
| Efavirenz (EFV) 600mg                                     | Pack of 60 | V   | HCIII |
| Abacavir/Lamivudine (ABC/3TC) 60mg/30mg (Pediatric)       | Pack of 60 | V   | HCIII |
| Nevirapine (NVP) 50mg                                     | Pack of 60 | V   | HCIII |

### TB ( 2 medicines)

| Item description                       | Unit pack  | VEN | LOC   |
|--|------------|-----|-------|
| (RHZE) blister strip 150/75/400/275 mg | 28 Tablets | V   | HCIII |
| RH blister strip 150/75 mg             | 28 Tablets | V   | HCIII |

### LAB (7 health supplies and diagnostics)

| Item description                               | Unit pack   | VEN | LOC   |
|--|-------------|-----|-------|
| Determine HIV Screening test                   | Pack        | V   | HCII  |
| Stat -pack HIV Confirmatory rapid tests, tests | Pack        | V   | HCII  |
| Unigold HIV RDT Tie-breaker test,              | Pack        | V   | HCII  |
| CD4 reagent Specify                            |             | V   | HCIV  |
| Malaria Rapid Diagnostic tests                 | Tests       | V   | HCII  |
| ZN reagent for AFB                             |             | V   | HCIII |
| Blood 450 ml                                   | Milliliters | V   | HCIV  |

### REPRODUCTIVE MATERNAL NEONATAL AND CHILD HEALTH (RMNCH- 9 Medicines)

| Item description                                    | Unit pack  | VEN | LOC   |
|---|------------|-----|-------|
| Depo- Provera                                       | Ampoule    | V   | HCII  |
| Sulfadoxine/ Pyrimethamine tablet                   | Tablet     | V   | HCII  |
| ORS Sachets with zinc tablet                        | Sachet     | V   | HCII  |
| Measles Vaccine                                     | Sachet     | V   | HCII  |
| Misoprostol 200mcg Tablet**                         | Tablet     | V   | HCII  |
| Amoxicillin dispersible 125mg tablet (For children) | 30 Tablets | V   | HCII  |
| Ceftriaxone 1g Injection                            | Vial       | V   | HCIV  |
| Oxytocin Injection                                  | Ampoule    | V   | HCIII |
| Mama Kit**  | Kit        | V   | HCII  |

## ANNEX 3: USHC AMELP INDICATOR SUMMARY TABLE FOR YEAR 1

| No. | Indicator   | Disaggregation                       | Baseline  | Project year one      |           |
|-----|---|--------------------------------------|---|-----------------------|-----------|
|     |   |                                      |   | Actual                | Target    |
| 1   | Horizontal Equity index   | HC4                                  | 0.37  | 0.26                  | -         |
|     |   | HC3                                  | 0.13  | 0.18                  | -         |
|     |   | HC2                                  | 0.14  | 0.20                  | -         |
| 2   | Percent of GoU funds disbursed to health sector that are spent on EMHS.   |                                      | 32.6%   | 17.9%                 | 16.8%     |
| 3   | Amount of EMHS funds spent on different categories of medicines and health supplies (in Million UGX)  | ACTs                                 | 5,200   | 4,443                 | -         |
|     |   | Anti-TB                              | 7,800   | 5,560                 | -         |
|     |   | ARVs                                 | 85,800  | 93,291                | -         |
|     |   | Vaccines                             | 7,800   | 4,116                 | -         |
|     |   | RH                                   | 7,800   | 19,506                | -         |
|     |   | Lab supplies                         | 0   | 0                     | -         |
|     |   | Other EMHS                           | 80,600  | 105,793               | -         |
| 4   | Percent of average international price paid by NMS and JMS for procured basket of EMHS  | NMS                                  | 52%   | 57%                   | <100%     |
|     |   | JMS                                  | 54%   | 63%                   | <100%     |
| 5   | Number of artemisinin-based combination therapy (ACT) treatments purchased with USG funds   |                                      | 799,800   | 1,769,100             | 941,596   |
| 6   | Number of insecticide treated nets (ITNs) purchased with USG funds  |                                      | 6,199,795   | 3,926,080             | 1,096,429 |
| 7   | Number of rapid diagnostic tests (RDTs) purchased with USG funds  |                                      | 0   | 445,850               | 1,476,000 |
| 8   | Number of individuals trained to conduct supply chain, inventory management, supportive supervision or distribution activities under UHSC                           | Supportive Supervision               | 0   | 0                     | 0         |
|     |   | Medicines Management                 | 0   | 98                    | 100       |
|     |   | PFM                                  | 0   | 0                     | 0         |
|     |   | RxSolution                           | 0   | 126                   | 120       |
|     |   | PIP                                  | 0   | 102                   | 100       |
| 9   | Percent increase in sales of EMHS at JMS  |                                      | -16%  | No data available yet | 2%        |
| 10  | Average percent availability of 6 tracer medicines and health supplies over a period of 3 months at NMS and JMS   | ACTs (AL 20mg/120mg)                 | 0%  | 89%                   | 100%      |
|     |   | Cotrimoxazole 480mg                  | 67%   | 100%                  | 100%      |
|     |   | sulfadoxine pyrimethamine 500mg/25mg | 67%   | 56%                   | 100%      |
|     |   | Depo Provera                         | 100%  | 100%                  | 100%      |
|     |   | Measles vaccine                      | 0%  | 78%                   | 100%      |
|     |   | ORS & zinc                           | -   | 33%                   | 100%      |
| 11  | Percentage of storage sites where commodities are stocked according to plan, level in the supply system - central warehouses  | Determine Test kit                   | 44%   | 53%                   | -         |
|     |   | Partec CD4 Test kit                  | 11%   | 13%                   | -         |
|     |   | PIMA CD4 Reagent                     | 22%   | 27%                   | -         |
|     |   | Facscalliber CD4 Reagent             | 22%   | 33%                   | -         |
|     |   | Cotrim 960mg                         | 33%   | 47%                   | -         |
|     |   | Cotrim 120mg                         | 11%   | 40%                   | -         |
|     |   | ABC/3TC 600mg/300mg                  |   | 60%                   | -         |
|     |   | ABC/3TC 60mg/30mg                    | 33%   | 50%                   | -         |
|     |   | TDF/3TC/EFV 300mg/300mg/600mg        | 44%   | 40%                   | -         |
|     |   | ATV/r 300mg/100mg                    | 33%   | 13%                   | -         |
|     |   | NVP 50mg                             | 33%   | 36%                   | -         |
|     |   | 12                                   | Number of artemisinin-based combination therapy (ACT) treatments purchased in any fiscal year with USG funds that were distributed in this reported fiscal year |                       | 43,140    |
| 13  | Number of rapid diagnostic tests (RDTs) purchased in any fiscal year with USG funds that were distributed in this reported fiscal year                              |                                      | 179,950   | 750                   | 1,476,000 |
| 14  | Number of insecticide treated nets (ITNs) purchased in any fiscal year with USG funds that were distributed in this reported fiscal year: through health facilities |                                      | 0   | 640,860               | 1,096,429 |
| 15  | Number of wholesalers licensed according to the new   |                                      | 0   | 0                     | 0         |



## USAID/Uganda Health Supply Chain Program Year 1 Progress Report

| No. | Indicator   | Disaggregation                    | Baseline | Project year one |        |
|-----|---|-----------------------------------|----------|------------------|--------|
|     |   |                                   |          | Actual           | Target |
|     | GDP guidelines  |                                   |          |                  |        |
| 16  | Number of government and PNFP health facility pharmacies certified according to Good Pharmaceutical Practices (GPP)             | Government                        | 423      | 423              | 644    |
|     |   | PNFP                              | 97       | 97               | 97     |
| 17  | Number of facilities with a functional Logistics Management Information System  | Government                        | 49       | 72               | 59     |
|     |   | PNFP                              | 20       | 20               | 23     |
| 18  | Percentage of SPARS supported facilities with a SPARS score of 20 and above   | Government                        | 39%      | 41%              | 40%    |
|     |   | PNFP                              | 34%      | 35%              | 35%    |
| 19  | Percentage of order based facilities with a pharmaceutical financial management score of 16 and above                           | Hospitals                         | 63%      | 63%              | 60%    |
|     |   | HC4                               | 51%      | 51%              | 51%    |
| 20  | Average percentage of cases of priority conditions treated in compliance with standard treatment guidelines in reporting period | Malaria                           | 70%      | 68%              | 80%    |
|     |   | Upper respiratory tract infection | 41%      | 33%              | 80%    |
|     |   | Diarrhea                          | 45%      | 50%              | 80%    |
| 21  | Percentage availability of 6 tracer medicines and health supplies over a period of 2 months                                     | ACTs (AL 20mg/120mg)              | 54%      | 59%              | -      |
|     |   | Cotrim 480mg                      | 55%      | 66%              | -      |
|     |   | SP 500mg/25mg                     | 75%      | 82%              | -      |
|     |   | Depo Provera                      | 91%      | 91%              | -      |
|     |   | Measles Vaccine                   | 44%      | 45%              | -      |
|     |   | ORS & Zinc                        | 47%      | 53%              | -      |
| 22  | Percentage of health facilities with all 6 tracer medicines available on day of visit   | Hospitals                         | 48%      | 50%              | 80%    |
|     |   | HC4                               | 48%      | 51%              | 80%    |
|     |   | HC3                               | 42%      | 40%              | 80%    |
|     |   | HC2                               | 33%      | 28%              | 80%    |
| 23  | Percentage of health facilities where HIV tracer commodities are stocked according to plan.                                     | Cotrim 960mg                      | 29%      | 34%              | -      |
|     |   | Cotrim 120mg                      | 20%      | 27%              | -      |
|     |   | ABC/3TC 600mg/300mg               | 16%      | 18%              | -      |
|     |   | ABC/3TC 60mg/30mg                 | 18%      | 30%              | -      |
|     |   | TDF/3TC/EFV 300mg/300mg/600mg     | 41%      | 40%              | -      |
|     |   | ATV/r 300mg/100mg                 | 18%      | 24%              | -      |
|     |   | NVP 10mg/ml                       | 8%       | 10%              | -      |