

**SPS Afghanistan Associate Award
Final Report (Narrative)
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About SPS

The Strengthening Pharmaceutical Systems (SPS) Program strives to build capacity within developing countries to effectively manage all aspects of pharmaceutical systems and services. SPS focuses on improving governance in the pharmaceutical sector, strengthening pharmaceutical management systems and financing mechanisms, containing antimicrobial resistance, and enhancing access to and appropriate use of medicines.

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ACRONYMS

AA	Associate award
AADA	Agency for Assistance and Development of Afghanistan
ACTD	Afghanistan Center for Training and Development
ACSOR	Afghan Center for Socio-Economic and Opinion Research
ACSS	Advisory Committee for System Strengthening
ADR	Adverse drug reaction
AFGA	Afghan Family Guidance Association
AHDS	Afghan Health and Development Service
AKHS	Aga Khan Health Services
AMR	Antimicrobial resistance
AMSU	Afghanistan Medicines Service Union
ANF	Afghan National Formulary
ANMSO	Afghanistan National Medicine Service Organization
ANPA	Afghanistan Nationwide Pharmacists Association
API	Avicenna Pharmaceutical Institute
ARI	Acute respiratory infection
ATC	Anatomical Therapeutic Chemical
AYSO	Afghan Youth Services Organization
BDN	Bakhtar Development Network
BHC	Basic health center
BPHS	Basic Package of Health Services
CAF	Care of Afghan Families
CBD	Capacity Building Department
cGMP	Current good manufacturing practices
CHC	Comprehensive health center
CMS	Central Medicine Stores
CPD	Continuing professional development
CPDS	Coordinated Procurement and Distribution System
CIMC	Curriculum Implementation and Monitoring Committee
CRMC	Curriculum Revision and Monitoring Committee
CSC	Commodity Security Committee
CSTC-A	Combined Security Transition Command–Afghanistan
DH	District hospital
DIC	Data and Information Committee
DMU	Drug Management Unit
DTC	Drug and therapeutics committee
EML	Essential medicines list, 2013 version
EMMP	Environmental Mitigation and Monitoring Plan

EOI	Expression of interest
EOP	End of project
EPHS	Essential Package of Hospital Services
ERD	Entity Relationship Diagram
EU	European Union
FC	Food Committee
FDA	[US] Food and Drug Administration
GIRoA	Government of the Islamic Republic of Afghanistan
GCMU	Grants Contracts Management Unit
GDCM	General Directorate of Curative Medicine
GDHR	General Directorate of Human Resources
GDPA	General Directorate of Pharmaceutical Affairs
GDPS	General Directorate of Pharmaceutical Services
GHSC-QA	Global Health Supply Chain Program-Quality Assurance
GIHS	Ghazanfar Institute of Health Sciences
GPHF	Global Pharma Health Fund
HACCP	Hazard analysis critical control point
HIS	Health information system
HLIED	Health Legislation Implementation Ensuring Directorate
HMIS	Health management information system
HNTPO	HealthNet Trans-cultural Psychosocial Organization
HPMC	Hospital Pharmaceutical Management Consultant
HPP	Health Policy Project
HRH	Human resources for health
HTA	Health Technology Assessment
IARCSC	Independent Administrative Reform and Civil Service Commission
ICSR	Individual case safety report
IED	Inspection and Enforcement Department
IGICH	Indira Gandhi Institute for Child Health
IHS	Institute of Health Sciences
IMAT	Inventory Management Assessment Tool
IMC	International Medical Corps
IPD	Inpatient department
IST	In-service training
ISTC	In-service training committee
JPPC	Joint Pooled Procurement Committee
LML	Licensed Medicine List
LRP	Learning resource package
LWA	Leader with Associate
M&E	Monitoring and evaluation
MC	Medicines Committee

MDS	Managing Drug Supply
MLR TWG	Medicines Law Reviewer Technical Working Group
MoCIT	Ministry of Communications and Information Technology
MoD	Ministry of Defense
MoFA	Ministry of Foreign Affairs
MoHE	Ministry of Higher Education
MoI	Ministry of Interior Affairs
MoJ	Ministry of Justice
MoPH	Ministry of Public Health
MoU	Memorandum of understanding
MMRCA	Medical Management and Research Courses for Afghanistan
MRA	Medicines Regulatory Authority
MRCA	Medical Refresher Courses for Afghanistan
MSC	Medicine Safety Committee
MSH	Management Sciences for Health
MSI-A	Marie Stopes International-Afghanistan
NQCL	National Quality Control Laboratory
NDTC	National Drug and Therapeutics Committee
NGO	Nongovernmental organization
NMFB	National Medicines and Food Board
NMHRA	National Medicine and Healthcare Products Regulatory Agency
NMP	National Medicines Policy
NPA	National Procurement Authority
NSTG-PL	National Standard Treatment Guidelines for the Primary Level
NSTG-SL	National Standard Treatment Guidelines for the Secondary Level
NTP	National Tuberculosis Control Program
OHPM	Organization for Health Promotion and Management
OPD	Outpatient department
OPSC	Office of Private Sector Coordination
ORCD	Organization for Research and Community Development
ORS	Oral rehydration solution
PCH	Partnership Contracts for Health
PDQ	Procurement, distribution, and quantification
PH	Provincial hospital
PHR	Pharmaceutical human resources
PLIS	Pharmaceutical logistics information system
PLO	Provincial Liaison Office
PMIS	Pharmaceutical management information system
PP&TA	Policy, Planning, and Technical Affairs
PPE	Personal protective equipment
PPHD	Provincial Public Health Directorate

PPHO	Provincial Public Health Office
PPM	Pooled procurement mechanism
PPMU	Pooled Procurement Management Unit
PPMR	Procurement Planning and Monitoring Report
PPOR	Private Pharmaceutical Outlet Registration
PPRO	Private pharmaceutical retail outlet
PQM	Promoting Quality Medicines
PRIS	Pharmaceutical Registration Information System
PSD	Pharmaceutical Services Directory
PSM	Pharmaceutical supply management
QASC	Quality Assurance Subcommittee
QC	Quality control
RHDO	Relief Humanitarian and Development Organization
RMU	Rational Medicine Use
SAF	Solidarity for Afghan Families
SCA	Swedish Committee for Afghanistan
SCI	Save the Children International
SCMS	Supply Chain Management System
SDO	Sanayee Development Organization
SEHAT	System Enhancement for Health Action in Transition
SHC	Sub health center
SHDP	Social and Health Development Program
SHRO	Shahamat Health and Rehabilitation Organization
SM	Strengthening Mechanism
SOP	Standard operating procedure
SPS	Strengthening Pharmaceutical Systems
TA	Technical assistance
TAG	Technical advisory group
TMIS	Training Management Information System
ToR	Terms of reference
ToT	Training of trainers
UMC	Uppsala Monitoring Center
UN	United Nations
UNFPA	UN Population Fund
USAID	US Agency for International Development
VEN	Vital, essential, and nonessential
WAKH	Wazir Akbar Khan Hospital
WHO	World Health Organization

OVERVIEW

In 2008, the USAID Mission invited the Strengthening Pharmaceutical Systems (SPS) Program to provide technical assistance and support to the Government of Afghanistan's Ministry of Public Health (MoPH) to improve the pharmaceutical system. Since then, SPS has been working closely with the MoPH to (1) improve the use of medicines, (2) build MoPH's capacity to manage pharmaceutical services, (3) build the capacity of the MoPH to ensure the quality of pharmaceutical products, (4) establish a coordinated procurement and distribution system, and (5) design a system for USAID procurement of pharmaceuticals to be used after the conclusion of the Tech-Serve Project in 2011.

In August 2011, USAID awarded the SPS Afghanistan Associate Award (AA) to Management Sciences for Health (MSH) under the SPS Program. SPS-AA was a four-year project for 24.5 million USD, which contributed to the following objectives—

- Technical Objective 1: Strengthen the medicines regulatory system
- Technical Objective 2: Improve supply chain management and commodity security to ensure product availability
- Technical Objective 3: Build human resource capacity for effective service delivery
- Technical Objective 4: Enhance pharmaceutical services to achieve desired health outcomes
- Technical Objective 5: Address the information for decision-making challenge in the pharmaceutical sector

The program built on the strengths of existing USAID/Afghanistan programs and formed part of the Agency's health systems strengthening support to Afghanistan. Moreover, it leveraged the SPS record of success in recent years in Afghanistan.

On August 26, 2015, USAID awarded a no-cost extension of 30 days to the Associate Award, and on September 27, USAID awarded an extension of the Associate Award for an additional 9.9 million USD, up to July 10, 2017. The technical objectives of the SPS Afghanistan Associate Award extension aligned with findings from a 2014 mid-term review and the USAID Afghanistan Strategy for Transformation (2015–2024):

- Technical Objective 1: Health commodity security expanded
- Technical Objective 3: Rational medicine use and medicine safety improved at service delivery points

Technical Objective 2: Quality of health commodities increased, was addressed in detail in a separate program where the Promoting Quality Medicines (PQM) project followed by the Global Health Supply Chain Program-Quality Assurance (GHSC-QA) project took the lead.

On July 03, 2017, USAID extended the award period to December 28, 2017, and increased the Total Estimated Cost by 2.6 million USD, bringing the total obligated amount for the project to 37,010,919 USD.

As agreed with USAID, this report has arranged the results, achievements and major activities using the results framework used for the first four project years, from FY2012 to FY2015.

TECHNICAL OBJECTIVE 1: STRENGTHEN MEDICINES REGULATORY CAPACITY

SO1.1: Capacity of MoPH to Regulate Medicines Strengthened

A functional drug regulatory system is required to ensure the safety, effectiveness, and quality of medicines. SPS worked with the National Medicine and Food Board (NMFB) and General Directorate of Pharmaceutical Affairs (GDPA) to ensure a functional coordinating and oversight structure. NMFB served as a policy advisory, coordination, and oversight body, supported by a secretariat office, and GDPA directorates and departments implementing the regulatory activities. SPS provided technical assistance to both to NMFB and GDPA to address the identified institutional and human resources competency gaps in both entities, while contributing to the establishment of a National Medicine and Healthcare Products Regulatory Authority (NMHRA). When regulatory functions transitioned to NMHRA in 2016, it became the prime recipient of SPS assistance in the regulatory area through the end of the project.

Interventions

- Support the MoPH to develop and implement strategies to establish a functional regulatory framework
- Assist the MoPH with all consensus-building processes necessary to secure the support of all stakeholders to strengthen the regulatory system
- Support the MoPH to update laws, regulations, and policies to support the regulatory system
- Support the MoPH to implement regulations, guidelines, and standard operating procedures (SOPs) through organizational reforms, improved management structures, and the establishment of an NMHRA

Achievements and Major Activities

National Medicine and Food Board

- SPS assisted the MoPH to finalize terms of reference (ToR) for the NMFB, its Medicine Committee (MC), and its Food Committee (FC). The Minister of Public Health approved the NMFB on November 21, 2011; the MC on June 18, 2012; and the FC in September 2012.
- SPS assisted the MoPH to establish a secretariat office for the NMFB within the MoPH, and an office was refurbished with critical systems and equipment to establish a functional and modern office infrastructure.

- SPS conducted a two-day training course on pharmaceutical regulatory systems on May 05 and 06, 2013. This training was intended to build the capacity of NMFB and MC members to promote pharmaceutical regulatory affairs in the country. In total, 27 NMFB and MC members (26 male and 1 female) participated in the trainings.
- SPS assisted the NMFB to develop a three-year strategic plan (2013-2016), which was endorsed by MoPH in October 2013, and assisted the NMFB and MC to develop annual implementation plans based on the strategic plan (available online at http://gdpa.gov.af/Content/Media/Documents/NMFB_StratPlan_E_201305611201475356315553325325.pdf).

NMFB Medicines Committee

From October 2011 until June 2016, SPS provided ongoing assistance to the MC in developing four policies, two legal documents, and several regulatory documents. MC regulatory functions shifted to NMHRA after the NMHRA's official inauguration on July 31, 2016; subsequently, SPS assisted the NMHRA. Document development usually involved the following steps:

- One or more consultative meetings/workshops with broad stakeholder participation to decide on the composition of a taskforce or technical working group
- Weekly or biweekly taskforce/technical working group meetings developing the document
- MC approval
- NMFB approval
- Minister's endorsement (where necessary)
- Other ministries' approval (where necessary)
- Cabinet approval (where necessary)
- Informative/dissemination workshop with broad stakeholder participation

NMFB Food Committee

- SPS assisted the FC in drafting a cooperation agreement on the development of a mechanism for reporting and sharing information about food regulatory activities among all food affairs stakeholders. In October 2013, the Legal Advisor of the Ministry of Public Health challenged the legality of the FC, and the agreement was not signed.
- SPS conducted a two-day training course on Food Regulatory System Development for 13 FC members (12 male and 1 female) on April 01 to 02, 2013.
- From September 2012 onward, SPS assisted the FC in developing several regulations and guidelines, drafting the following guidelines, regulations, and procedures for food regulatory affairs to address current and projected issues. On USAID's recommendation, SPS phased out its support for the FC in October 2014 and, on NMFB's recommendation, handed over all developed documents to the MoPH Environmental Health Directorate.
 - General food hygiene regulation
 - Imported food control regulation

- Hazard analysis critical control point (HACCP) guideline
- Current good manufacturing practices (cGMP) guideline for food industries
- Guidelines for registration and licensing of food establishments
- Guideline for training of food handlers
- Guideline for medical examination of food handlers
- General food hygiene regulation
- Imported food control regulation
- General inspection regulation for food and food establishments
- Food sampling procedure with four SOPs for food items (finalized)
- Performance indicators for food control system

General Directorate for Pharmaceutical Affairs

- The SPS Leader with Associate Award (LWA) (2008 to 2011) supported GDPA in starting a systematic **GDPA Functional Analysis** to assess GDPA's capacity for fulfilling its mandate related to pharmaceutical supply management under its existing organizational structure. SPS-AA continued to assist the GDPA in finalizing data collection, data processing and analysis, and report writing. GDPA leadership presented the report to GDPA staff members on May 27, 2013, and approved the final report on July 2013. With SPS support, GDPA printed 500 copies of the report for distribution to the key stakeholders. (Available online at: <http://apps.who.int/medicinedocs/documents/s20274en/s20274en.pdf>.)
- SPS assisted the GDPA to develop a five-year strategic plan (2014 to 2018), based on the GDPA Functional Analysis Report findings. With input from a wide range of stakeholders, the plan was approved by MoPH Technical Advisory Group (TAG) on January 27, 2015, and submitted to the MoPH Executive Board on May 13, 2015. Further approval was halted when the Minister of Public Health assigned a taskforce to develop a concept paper for the establishment of a Medicines Regulatory Authority (MRA) on August 11, 2015.
- Starting in August 2016, SPS assisted the former GDPA in preparing a draft concept note for a pharmaceutical services directorate/general directorate. From February 22, 2017, onwards, SPS provided ongoing support to the committee (presided by the Deputy Minister of Policy and Planning) to develop a detailed concept note and organizational organogram for a General Directorate of Pharmaceutical Services (GDPS). The final revised draft concept note was forwarded to the Minister of Public Health for approval on November 28, 2017.

National Medicines and Healthcare Products Regulatory Authority

- Starting in October 2014, SPS assisted the MoPH GDPA to develop a concept note for establishing a National Regulatory Authority. After the Minister and the Cabinet approved the concept note, the President of Afghanistan approved the appointment of the Executive Director of NMHRA on March 19, 2016. On July 12, 2016, the regulatory functions of the GDPA, Health Legislation Implementation Ensuring Directorate (HLIED), and Food and Drug Quality Control Lab physically shifted into the newly established NMHRA. The Minister of Public Health officially inaugurated the NMHRA on July 31, 2016.

- From June 14 to November 07, 2017, SPS assisted the MoPH NMHRA to develop and revise 59 ToR for the 9 NMHRA departments; these concerned 200 staff positions. The Independent Administrative Reform and Civil Service Commission (IARCSC) approved a total of 81 positions (including 3 directors, 9 heads of departments, 1 legal advisor, and 18 inspection officers) on November 30, 2016.

Table 1: NMHRA department ToR reviewed and finalized with SPS technical support

Name of department	Number of ToR	
	Required	Finalized
Inspection and Enforcement of Law and Regulation	7	7
Medicines and Health Products Registration and Evaluation	9	9
Control of Clinical Studies	2	2
Licensing of Medicines and Health Products Premises and Personnel	9	9
Pharmacovigilance	4	4
Medicines and Health Products Market Authorization, Pricing, and Release	9	9
Policy and Planning	6	6
Medicines and Health Products Quality Control Laboratory	10	10
Medicines Advertisement and Promotion Control	3	3
Total:	59	59

- SPS assisted the NMHRA to develop a five-year strategic plan (2018 to 2022), which was presented to a wide range of stakeholders on October 09, 2016. The strategic plan was modified based on comments from the workshop participants, and submitted to the NMHRA Executive Director for further approval process with MoPH.

Legal and Policy Framework

- From September 2012 onwards, SPS assisted the Medicine Law Revision Technical Working Group (MLR TWG) to review the **Afghan Medicines Law (official gazette number 963)**, and draft a gap analysis. The analysis was used in the consultative workshop on revision of the law on December 23, 2012. SPS assisted the MLR TWG to systematically revise and update the Medicines Law. On February 02, 2016, GDPA officially submitted the final draft of the revised **Afghan Medicine and Health Products Law** to the MoPH and Ministry of Justice (MoJ) for further Government of the Islamic Republic of Afghanistan (GIROA) approvals.
- Starting March 08, 2015, SPS assisted the MoPH GDPA MLR TWG to revise the **Pharmacy Regulation (official gazette number 916)**. On July 08, 2016, the GDPA officially submitted the final draft of the revised **Pharmacy Regulation** to the MoPH and MoJ for further GIROA approvals.
- Revision of the 2003 National Medicines Policy (NMP 2003) began under SPS LWA, but it made little progress during the LWA no-cost extension. SPS-AA assisted the MoPH GDPA to obtain wide stakeholder commitment and input in two workshops on October 25, 2011, and February 12, 2013. The first draft was available on December 18, 2014; the MoPH endorsed the final version of the **Afghanistan National Medicines Policy, 2014–2019**, on July 9, 2014—after incorporation of comments of the MoPH Policy, Planning, and Technical

Affairs (PP&TA) subcommittee, the MoPH TAG, and the MoPH Executive Board. With SPS assistance, GDPA printed and distributed to stakeholders 3,500 copies of the NMP in 2015. SPS assisted the GDPA to finalize a concept note on operationalization of the Afghanistan NMP, 2014–2019 by April 2015. (Available online at:

http://gdpa.gov.af/Content/Media/Documents/AfghanistanNMP2014_2019_Eng.finalJuly2015138201583127189553325325.pdf).

- Starting in March 2013, SPS assisted the NMFB Quality Assurance Subcommittee (QASC) in developing the **National Pharmaceutical Quality Assurance Policy**, which was endorsed by the MoPH on May 30, 2015. With SPS support, GDPA printed 2,500 copies of the policy for distribution to the relevant stakeholders. The policy was officially introduced to the stakeholders in a workshop on February 23, 2016. (Available online at: <http://gdpa.gov.af/Content/Media/Documents/QAEnglishefianl21920151528164553325325.pdf>).
- Starting in November 2013, SPS assisted the GDPA to conduct a situational analysis of the current process and procedure of issuing licenses for narcotic, psychotropic, and controlled medicines. SPS provided further assistance to GDPA in developing the **National Policy for Narcotic and Controlled Medicines**, which the MoPH endorsed on June 05, 2016. With SPS support, NMHRA printed 1,500 copies of the policy in 2017, and officially introduced the policy to the stakeholders in a workshop on October 11, 2017. (Available at: <http://gdpa.gov.af/Content/Media/Documents/007.AfghanistanControlledMedicinespolicy.20160618372016134737940553325325.pdf>).

Medicines Registration

- From January to March 2012, SPS assisted the GDPA to conduct a **Situational Analysis of the Medicines Evaluation and Registration System** in Afghanistan. GDPA approved the final report on January 23, 2013. With SPS support, GDPA printed 500 copies of the report for distribution to the key stakeholders. (Available online at: <http://apps.who.int/medicinedocs/documents/s21797en/s21797en.pdf> or http://gdpa.gov.af/Content/Media/Documents/SA_MedRegSys_E_201205301020148843557553325325.pdf).
- Starting in June 2013, SPS assisted the GDPA in developing the **Medicines Registration Guideline**, which was endorsed by the MoPH on October 13, 2014. With SPS support, GDPA printed 1,500 copies of the Medicines Registration Guideline in 2015, for distribution to the local pharmaceutical importers. (Available online at: <http://gdpa.gov.af/en/documents/category/sops-and-guidelines>).
- From September 2013, SPS assisted the GDPA to develop the **Foreign Pharmaceutical Manufacturing Company Registration Guideline**. The guideline was endorsed by the MoPH on January 20, 2015, and, with SPS support, GDPA printed 1,000 copies of the guideline in 2015 for distribution to the local pharmaceutical importers. (Available online at: <http://gdpa.gov.af/en/documents/category/sops-and-guidelines>).
- SPS developed a customized training approach and materials on the Pharmaceutical Product Dossier Evaluation, and trained 31 GDPA staff members on October 18 to 22, 2014.

- SPS assisted GDPA to develop five SOPs and eight standard letter templates for GDPA's registration department:
 - Receiving, screening and evaluating the application for registration of manufacturing companies
 - Receiving and screening application for registration of medicines
 - Evaluation of application for registration of medicines
 - Issuing marketing authorization/registration certificate for medicines
 - Unique numbering system for product registration number and manufacturing companies
- SPS assisted in the development of a **multi-year implementation plan for the registration** of new medicines and re-registration of products already in the market. This was based on the newly developed Medicines Registration Guideline and Foreign Pharmaceutical Manufacturing Registration Guideline, which were accepted by the GDPA on March 2015.
- From December 2015 through September 2017, SPS assisted the Medicines and Health Products Registration and Evaluation Department in reviewing 61 already-registered companies and their 1,992 products for re-registration according to the new registration procedures. As a result, 957 out of 1,992 products (48 percent) were approved. Likewise, SPS assisted the department in reviewing applications for registration of 192 new products from 34 companies. Only 47 products (24%) met registration requirements. The companies of the 145 other products were requested to complete their applications by submitting remaining documentation.
- Starting in December 2015, SPS assisted the GDPA and NMHRA to develop the **Guideline on Variations to a Registered Pharmaceutical Product** based on the findings and recommendations of the Situational Analysis of the Medicines Evaluation and Registration System. The MoPH endorsed the guideline on July 04, 2017. With SPS support, NMHRA printed 1,500 copies of the guideline in 2017 for distribution to local pharmaceutical importers and manufacturers.
- From October 2015, SPS assisted the GDPA (prior to the NMHRA's establishment in July 2016) to develop the **Medicines Importation Guideline**. The guideline was endorsed by the MoPH on July 04, 2017. With SPS support in 2017, NMHRA printed 1,500 copies for distribution to local pharmaceutical importers.
- SPS assisted the NMHRA to conduct the introductory workshop on the Medicines Importation Guideline and the Guideline on Variations to a Registered Pharmaceutical Product. The workshop was held on October 31, 2017, for a total of 140 participants (127 male and 13 female).

Pharmaceutical Establishment Inspection

- From June 2015, SPS assisted HLIED to develop the Pharmaceutical Establishments National Inspection Checklists and User Manuals (for retail pharmacies, wholesalers, and importers); NMHRA endorsed them on February 27, 2017.

- The NMHRA Inspection and Enforcement of Law and Regulation Department used the new checklists to inspect 1,262 private pharmaceutical establishments in five provinces (table 2).

Table 2: Number of pharmaceutical establishments inspected in FY 2017¹

Type of establishment	# of pharmaceutical establishments inspected, by province					Total
	Kabul	Nangarhar	Balkh	Kandahar	Herat	
Retail pharmacy	729	97	33	4	8	871
Wholesalers	135	41	19	1	0	196
Importers	190	0	2	3	0	195
Total:	1,054	138	54	8	8	1,262

- From April to May 2017, SPS assisted the NMHRA in conducting six three-day training courses in Kabul, Nangarhar, Balkh, Kandahar, and Herat Provinces on the Pharmaceutical Establishment Inspection and use of the National Inspection Checklist. A total of 152 technical staff (144 male and 8 female) participated, representing the NMHRA Inspection and Enforcement Department (IED) and 33 Provincial Public Health Directorates (PPHDs). 2,888 hard copies of the updated key regulatory reference documents were distributed to all training participants.
- Starting in January 2016, SPS assisted NMHRA to develop a draft of **Medicine Sampling Guideline** to address current and projected issues. The final draft was handed over to NMHRA in October 2017.

Licensing of Pharmaceutical Retail Outlets

- SPS supported a working group to review the current GDPA system for **licensing of retail pharmacy outlets** and development of a detailed flow chart of the current licensing processes. Based on the report recommendations, SPS developed an improved flowchart and standard application forms to simplify the process. Teams from the High Authority of Anti-Corruption and the Independent Administrative Reform and Civil Service Commission reviewed the application forms and submitted modified forms to the Minister of Public Health; these were approved in August 2016.
- Starting in August 2016, and based on findings and recommendations from the Afghanistan Retail Pharmacy Survey Consolidated Analysis Report, 2013,² SPS assisted GDPA to develop a guideline on Retail Pharmacy Registration and Licensing to address current and projected issues in registration and licensing of retail pharmacies in the country. By end of project (EOP), the NMHRA was reviewing the final draft of the **Retail Pharmacy Registration and Licensing Guideline** for approval by MoPH.
- SPS provided technical assistance to NMHRA in development of a multi-year implementation plan (2018–2021) and a SOP for registration of new pharmacies and re-

¹ Source: NMHRA Inspection database, November 2017.

² [http://gdpa.gov.af/Content/Media/Documents/ARPS-consolidatedF\(E\)214201613273246553325325.pdf](http://gdpa.gov.af/Content/Media/Documents/ARPS-consolidatedF(E)214201613273246553325325.pdf)

registration of pharmacies already established in the country; these were based on the newly developed Retail Pharmacy Registration and Licensing Guidelines.

SO1.2: Public- and Private-Sector Quality Assurance Systems Strengthened

Interventions

- Support the MoPH to develop, adopt, and implement a comprehensive policy and implementation plan for quality assurance.
- Provide technical assistance to the MoPH to develop and implement a program to improve the quality of products provided through the supply chain.
- Work with GDPA to improve the quality of products and services in private-sector pharmacies and drug shops.
- Help the GDPA improve pharmaceutical waste management.

Achievements and Major Activities

SPS provided its counterparts at the MoPH and other entities with ample documentation, explaining the difference between quality assurance and quality control. SPS also lobbied for the acceptance of a three-tiered quality assurance system in Afghanistan, including use of Global Pharma Health Fund Minilab® (GPHF-Minilab®) at point of entry. From FY 2016 onwards, activities related to quality assurance shifted to the PQM project followed by GHSC-QA project.

GPHF-Minilab

- From the beginning of the project, SPS assisted the NMFB to develop a proposal for piloting GPHF-Minilab as an integral component of Afghanistan's medicines quality assurance strategy. Seven GPHF-Minilab kits were procured in 2012. The MoPH referred the proposal to the Quality Control (QC) Laboratory in August 2013, but the lab rejected GPHF-Minilab for the public-sector QC system. After reconsideration and a change in QC Laboratory leadership, the MoPH agreed to install four GPHF-Minilab kits in the QC Laboratory, and two kits in the Kabul University Faculty of Pharmacy for training purposes in May 2014.
- SPS developed Afghanistan-specific training materials on testing selected medicines using the GPHF-Minilab, Minilab testing procedures, and the test kit handbook (including the survey protocol for sampling, testing instructions, and recording of samples). The materials were used in a seven-day theoretical and practical training, held from March 24 to April 01, 2014, for 25 staff members.
- The GPHF-Minilab pilot began in April 2015 by testing a total of 191 medicinal samples in two pilot sites (Faculty of Pharmacy and MoPH QC Laboratory). Two tiers of pilot testing found that 89% of GPHF-Minilab and pharmacopeia confirmation tests delivered similar results, demonstrating that GPHF-Minilab accuracy is acceptable for medicine quality screening in Afghanistan. The GPHF-Minilab pilot phase report was endorsed by the GDPA on February 21, 2016. On February 23, 2016, a dissemination workshop ("Dissemination of

Findings of Pilot Study of GPHF-Minilab in Afghanistan”) was conducted for 95 participants. With SPS support, GDPA printed 300 copies of the report for distribution to the relevant stakeholders. [http://gdpa.gov.af/Content/Media/Documents/GPHF-MinilabPilotImplementationReport-English-FinalDec2015\)242201614240769553325325.pdf](http://gdpa.gov.af/Content/Media/Documents/GPHF-MinilabPilotImplementationReport-English-FinalDec2015)242201614240769553325325.pdf)

- Based on the MoPH decision dated June 09, 2014, two GPHF-Minilab kits were transferred to the Faculty of Pharmacy at Kabul University for training, and four kits were transferred to the QC Laboratory for testing samples.

Waste Management

In July 2013, SPS began to assist the GDPA in collecting data from GDPA and HLIED; these data were used to assess the pharmaceutical waste management situation in Afghanistan.³ The report was approved by GDPA on May 05, 2015. Based on the technical report’s findings and recommendations, SPS assisted the GDPA to develop the **National Policy for Waste Management and Safe Disposal of Pharmaceutical Products**, which was endorsed by the MoPH on June 05, 2016. With SPS support, NMHRA printed 1,500 copies of the policy in 2017 and officially introduced the policy to stakeholders in a workshop on October 11, 2017 (http://gdpa.gov.af/Content/Media/Documents/005,WasteDisposalofPharmaceuticalsPolicyEnglish_20160121372016134525439553325325.pdf).

TECHNICAL OBJECTIVE 2: IMPROVE SUPPLY CHAIN MANAGEMENT AND COMMODITY SECURITY TO ENSURE PRODUCT AVAILABILITY

SO 2.1: BPHS and EPHS Providers’ Pharmaceutical Supply Chain Management Strengthened

Interventions

- Ensure uninterrupted drug supply to Partnership Contracts for Health (PCH) nongovernmental organizations (NGOs)
- Provide technical assistance to build the institutional capacity of NGOs and other entities for assuming critical functions in procurement, distribution, and rational use of essential medicines
- Provide technical assistance to develop an operational plan for building institutional capacity of the GDPA to assume responsibility for procurement, storage, and distribution
- Provide technical assistance to establish and implement a system of good governance to ensure transparency, efficiency in supply chain management, and commodity security

³ Technical Report; Waste Management of Pharmaceutical in Afghanistan, 2015; <http://gdpa.gov.af/Content/Media/Documents/Wastemanagementreport.finalenglis2192015211818779553325325.pdf>

- Provide technical assistance to the members of Coordinated Procurement and Distribution System (CPDS) committees and sub-committees with the development and implementation of strategies and evidence-based technical interventions to assure pharmaceutical product quality and availability
- Support the MoPH with the development and implementation of a system to coordinate and standardize the collection, reporting, and analysis of essential data required to manage the procurement and supply of medicines and health commodities

Achievements and Major Activities

Drug Supply for NGOs (USAID Pooled Procurement)

- On December 13, 2011, SPS officially assumed responsibility from TechServe for the in-country management of USAID-funded pooled procurement and distribution of essential medicines⁴ for NGOs implementing the Basic Package of Health Services (BPHS) and/or Essential Package of Hospital Services (EPHS) in the 13 USAID priority provinces. The warehouse buildings (containing unexpired medicine worth 8.97 million USD and expired medicines worth 0.74 million USD), warehouse equipment, and warehouse and Drug Management Unit (DMU) staff transitioned to SPS without interruption of supply operations to BPHS/EPHS-implementing NGOs.
- SPS-AA's mandate prohibited the procurement of medicines, thus SPS quantified and projected the essential medicine needs for BPHS/EPHS implementers under the PCH contract. Initially, SPS projected needs until June 2015, then until December 2015, and finally until March 2016; the dates shifted to reflect changing transition dates from PCH to System Enhancement for Health Action in Transition (SEHAT) II. USAID arranged all medicines procurement through the DELIVER and Supply Chain Management System (SCMS) projects.
- Between December 2011 and March 2016, SPS assisted in the customs clearance and storage of additional essential medicines for a value of 18.20 million USD.
- SPS continued the practice of inventory taking by cycle counting (initiated under the USAID-funded, MSH-implemented REACH project, 2003–2006). This allowed differentiated inventory taking, with fast-moving and more-expensive items inventoried more frequently than slow-moving and less-expensive items, and each item inventoried at least twice per year. SPS monitored the weighted average percentage of inventory variance quarterly; it never exceeded 0.1% during life of project.
- The total value of essential medicines distributed to PCH contractors and, with approval or on request of USAID, to other qualifying recipients, amounted to 26.74 million USD. Table 3 illustrates the distribution by fiscal year.

⁴ Including contraceptives.

Table 3: Value of essential medicines distributed from SPS warehouse (in millions of USD)

	FY12	FY13	FY14	FY15	FY16	Total
Routine supply to PCH and SEHAT implementers	4.47	4.81	5.76	7.00	0.38	22.42
Ad-hoc supply to other entities	0.25	1.02	0.61	0.49	1.94	4.32
Total distributed:	4.72	5.83	6.38	7.49	2.32	26.74

- The total value of expired essential medicines discarded and destroyed as per MoPH standard procedures amounted to 1.23 million USD over life of project. Essential medicines for a value of 0.24 million USD were destroyed by a waste management company in 2016, as per USAID instructions, since no valid recipient could be identified.
- The SPS warehouse served as a practical training ground in stock management for NGO staff when they picked up quarterly supplies at the warehouse. SPS trained six staff from the Central Medicine Stores (CMS) in warehouse management in September 2016.
- On request of the MoPH, USAID asked SPS to keep the warehouse functioning until September 2016. SPS assisted a working group to cost out alternative options to take over USAID support for the warehouse beyond September 2016; however, no source of funding could be identified, and the SPS warehouse was closed on September 30, 2016.
- A more detailed narrative on the warehousing and distribution is given in Annex II.2.

Public-Sector Pharmaceutical Supply Options Analysis

Between November 2013 and August 2015, a team of three international consultants worked intermittently on the development of an options analysis for MoPH pooled procurement and distribution. They visited Kabul from January 06 to 29, 2014, collecting relevant information from some 40 key informants representing MoPH, United Nations (UN) agencies, NGOs, private wholesalers, SPS, local logistics companies, World Bank, European Union, and USAID. The team collaborated with SPS staff to detail initial findings and to formulate five options for future public-sector pharmaceutical supply.

The lead consultant presented the findings on the present situation of the public-sector pharmaceutical supply, options for the future, and relevant advantages and challenges of each option. The presentation was made on August 25, 2014, to representatives of USAID, European Union (EU), World Bank, World Health Organization (WHO), UN Population Fund (UNFPA), and MoPH. The MoPH requested that GDPA lead follow-up with key stakeholders, including MoPH, EU, USAID, World Bank, WHO, and UNFPA to decide which option to pursue.

Given the interest of MoPH in identifying the most efficient future pharmaceutical supply option, SPS assisted USAID and MoPH to prepare and conduct a joint (MoPH, USAID, and SPS) study tour to the medical supply operations in Tamil Nadu and Kerala, India, from October 25 to November 10, 2015.

Pooled Procurement Mechanism

- SPS assisted the MoPH to chair an inter-ministerial working group consisting of MoPH, Ministry of Interior Affairs (MoI), Ministry of Defense (MoD), National Procurement

Authority (NPA), Combined Security Transition Command–Afghanistan (CSTC-A), and SPS, which developed a concept paper on a pooled procurement mechanism (PPM) for the different ministries. On request of the senior economic analyst of the President’s Office, SPS fine-tuned the concept paper, which was approved by the President on August 07, 2016.

- SPS assisted the MoPH in implementing the PPM concept paper, namely: establishment of and development of ToR for the inter-ministerial Joint Pooled Procurement Committee (JPPC) and its three subcommittees (Contractual, Financial, and Pharmaceutical).
- SPS assisted the MoPH to develop ToR for the Pooled Procurement Management Unit (PPMU) director, liaison officer, health commodity contract advisor, legal advisor, procurement advisor, financial advisor, pharmaceutical management information system (PMIS) advisor, information technology officer, and admin officer.
- By December 2017, SPS has assisted the JPPC and the PPMU to develop 20 key documents detailing the different steps of establishing framework contracts for the PPM. SPS assisted the JPPC Pharmaceutical Subcommittee to establish standard common procurement lists for medicines, medical supplies, and laboratory items through a participatory process with the Kabul hospitals, Hospital Reform facilities in the provinces, and Ministry of Higher Education (MoHE) hospitals.
- As of December 2017, PPMU is waiting for NPA approval to launch the request for expressions of interest (EOIs) for supplier prequalification.

NGO Capacity Building in Pharmaceutical Supply Management

- Between November 2013 and the end of the project, SPS assisted 25 NGOs⁵ and the Strengthening Mechanism (SM) in 34 provinces to perform root cause analyses on identified shortcomings in their pharmaceutical supply management. These efforts resulted in quarterly action plans for improvement.
- Delays in PPM implementation prevented SPS from assisting BPHS/EPHS implementers to align their procurement cycle with the PPM.

Kabul Hospital Pharmaceutical Supply Improvement

- On USAID’s request, SPS provided assistance to 16 Kabul-based hospitals between October 2014 and August 2015. Six Hospital Pharmaceutical Management Consultants (HPMCs) assisted the management of each hospital to perform an initial assessment of the quality of inventory management, a review of available and missing SOPs for pharmaceutical supply management in each hospital, and a root cause analysis of identified shortcomings in pharmaceutical supply management for each hospital. With SPS support, each hospital developed a six-month action plan to address the priority issues identified.

⁵ AADA, BDN, OHPM, BARAN, SCA, ORCD, MMRCA, AKHS, SAF, IMC, ACTD, SCI, HEAWAD, AHDS, Cordaid, HNTPO, AYSO, MRCA, RHDO, SHDP, BRAC, SDO, MOVE, CAF and SHRO.

- SPS assisted the hospitals to develop detailed SOPs and job aids for receiving and distribution of medicines, and a quantification spreadsheet to support rational forecasting of medicine needs for each hospital, taking into account past consumption and stock on hand, and prioritizing items by applying VEN and ABC analyses. The 16 hospitals developed their medicine projections for CY2015 and CY2016 using the standard spreadsheet, but their final budgets for medicines did not take into account the projections. Still, 10 of the hospitals are using the spreadsheet for their CY2018 projections.
- Table 4 shows the average value of key inventory management indicators in December 2014 and July 2015 in the 16 hospitals. The first two indicators under control of the hospitals fell in the target range at the end of the intervention; the indicators on medicine availability showed little improvement, because hospital medicine budgets were unavailable.

Table 4. Key inventory management indicators, Dec. 2014 and July 2015

Indicator	Dec. 2014	July 2015
1. Weighted average % of inventory variation ($\leq 1\%$)	12.9%	0.6%
2. Percentage of products where physical count matches records ($\geq 90\%$)	76.9%	94.3%
3. Percentage of products available on the day of the visit ($\geq 90\%$)	93.2%	73.3%
4. Average percentage of time out of stock ($\leq 10\%$)	17.8%	17.5%

SO 2.2: Coordination among the International Donor Community, the MoPH, and Other Relevant Stakeholders Strengthened

The public sector medical supply has a multitude of actors and stakeholders. Under the LWA the MoPH created a coordination platform for medical supply management, the CPDS. Throughout life of project, SPS provided ongoing support to the CPDS and its committees on a variety of initiatives and activities that contributed to increased information-sharing and coordinated approaches among stakeholders related to procurement and distribution of pharmaceuticals and medical supplies.

Interventions

- Facilitate activities to develop and sustain good governance by strengthening the coordination and capacity of CPDS stakeholders.
- Provide technical assistance to harmonize pharmaceutical supply management among stakeholders, and to build MoPH capacity toward the maintenance of a sustainable procurement and distribution system.
- Provide technical assistance to develop a pharmaceutical logistics information system (PLIS) and build stakeholder capacity to use the information in planning and decision-making.
- Provide technical assistance to selected MoPH officials and BPHS/EPHS implementers on the use of PLIS data for quantification and redistribution.
- Provide technical support to the private sector, building its capacity in stock and inventory management.
- Expand private sector contributions to commodity security.

Achievements and Major Activities

Coordinated Procurement and Distribution System

- SPS assisted in promoting the visibility of CPDS through the implementation of a communication strategy, which included publication of two newsletters, two factsheets, five semiannual reports, four annual reports, and sixty-two monthly activity reports.
- SPS assisted CPDS to finalize strategic roadmaps for 2013 to 2015, and for 2017 to 2019.
- SPS assisted CPDS in organizing and conducting National Management Commission meetings on September 26, 2012, and on August 06, 2014. From 2016 onwards, key MoPH staff were focused on the elaboration of the PPM.
- In the CPDS, SPS supported 11 joint committee meetings between 2013 and 2016. SPS also supported key CPDS committees—Advisory Committee for Systems Strengthening (ACSS), Data and Information Committee (DIC), and Commodity Security Committee (CSC)—to update stakeholders on the progress of different activities. Stakeholders expressed particular appreciation for technical sessions on Channel 10 software (by UNFPA), suppliers' performance evaluation (by HNTPO), quantification of pharmaceutical needs (by SPS), pharmaceutical procurement (by Merlin), and distribution of tuberculosis medicines (by National Tuberculosis Control Program, or NTP).

Public-Sector Pharmaceutical Service Directory

- In June 2013, SPS assisted a CPDS taskforce to collect basic identification and activity information on all entities contributing to the public pharmaceutical sector, and to publish from the information, a public-sector Pharmaceutical Services Directory (PSD) in English and Dari. The PSD was endorsed by the MoPH on March 01, 2014.
- SPS also assisted GDPA to develop a PSD database and database user manual; SPS handed these over to the GDPA Registration and License Issuing Department on July 22, 2014. SPS continued to provide support to GDPA in updating the database, and in extracting updated data for 40 entities for the second PSD in July 2015.

Procurement, Distribution, and Quantification Guidelines

- In April 2012, SPS assisted the GDPA to conduct a rapid assessment of existing procurement, distribution, and quantification (PDQ) procedures, guidelines, and tools from 26 CPDS stakeholders through CPDS's ACSS and CSC. Main findings included that the essential medicines supply system was working, but with little cohesion, coordination, or any significant degree of uniformity in approach and operation. The main recommendation was to develop coordinated procurement and supply management through dialogue and discussion among stakeholders. GDPA and CPDS approved the final report in December 2012.
- SPS assisted the CSC to develop a standard quantification guideline for essential medicines from August 2013 onwards. The MoPH approved the final version of the guidelines in September 2014. SPS conducted a training of trainers (ToT) workshop for 32 participants

from MoPH, GDPA, six NGOs, Pharmaceutical Enterprise, and Faculty of Pharmacy–Kabul University from November 09 to 20, 2014. All training materials were made available to GDPA and NGOs. By April 01, 2015, 134 staff of Provincial Public Health Offices (PPHOs) and BPHS-implementing NGOs had received training in use of the quantification guidelines.

- SPS likewise assisted ACSS to develop procurement and distribution guidelines for essential medicines. The final version of each guideline was approved in July 2015. Between December 2015 and August 2016, 281 staff from PPHDs, BPHS-implementing NGOs, Kabul hospitals, GDPA, MoI, MoD, National Security Department, NTP, and CMS completed the 10-day training in the use of both guidelines.
- Between December 2016 and September 2017, SPS assisted 15 NGOs in performing at least one systematic performance improvement assessment to identify the root causes of gaps in supply management and to plan concrete, time-bound activities for improvement. The NGOs learned how to use fishbone diagrams and prioritization methods for future performance self-evaluation.
- SPS conducted an additional training on the PDQ guidelines for 65 new staff of 15 BPHS/EPHS implementers from October 08 to 18, 2017.
- By FY2015, staff in 74% of visited BPHS facilities were able to give the standard quantification formula for defining their projected needs for cotrimoxazole tablets, compared to 39% in FY12. Due to a shift in USAID priority provinces and inclusion of facilities that had not previously received SPS technical assistance, this percentage was at 58% in BPHS facilities visited in FY2017. Among staff in NGO warehouses, 56% knew the formula in FY2012, 97% in FY2015, and 85% in FY2017.

Common Criteria for Supplier Performance Evaluation

- As indicated in the CPDS Strategic Roadmap, 2013 to 2015, SPS assisted ACSS to systematically collect members' experiences with pharmaceutical supplier performance. From October to December 2014, participants identified 14 common criteria for evaluating supplier performance; between September and November 2014, 29 CPDS stakeholders evaluated their suppliers using the identified criteria.
- The results showed reasonably good supplier performance in delivering the requested items, in a timely manner, in the requested quantities, at quoted cost, and with sufficient shelf life. However, documentation related to product quality was poor.
- The final report on supplier performance was approved in November 2015 and distributed to CPDS stakeholders.

Pharmaceutical Logistics Information System

- Throughout the life of the project, SPS assisted the CPDS DIC to develop a PLIS for BPHS/EPHS implementers. Based on results of the 2012 PDQ assessment of NGO capacity in pharmaceutical logistics data management, SPS and DIC developed a system consisting of a preformatted spreadsheet for quarterly data collection of stock data at aggregated facility level, provincial warehouse level, and national warehouse level. Collected data are pulled into a relational database, from which pre-defined reports in PDF format are generated on

quarterly basis. Initial testing and piloting took place in 2013 and 2014, and the MoPH endorsed and officially launched the PLIS on January 05, 2015.

- SPS provided initial PLIS data-entry trainings to 115 staff from MoPH, GDPA, PPHDs, and BPHS/EPHS-implementing NGOs in January 2015, and provided refresher training for 210 staff of the same entities between February and May 2016.
- In 2015, SPS provided on-the-job training to five GDPA staff in uploading data from quarterly reports into the database, data cleaning and verification, and production of pre-defined reports. These trained staff transitioned to the newly formed NMHRA, while the PLIS remains with the GDPS, thus SPS provided additional on-the-job training (total: 21 days) for six GDPS staff.
- SPS assisted GDPS to align the PLIS reporting cycle with the standard MoPH Health Management Information System (HMIS) quarterly reporting cycle.
- SPS assisted GDPA in posting 10 quarterly pre-defined PLIS reports on the GDPA website.
- On September 04, 2016, SPS oriented the MoPH/Health Economics and Finance Department in the use of PLIS pivot tables for obtaining quantities and costs of medicines consumed by BPHS/EPHS implementers; these data feed into the National Health Accounts for data-driven decision-making.
- Between December 2015 and November 2017, SPS assisted the Grants Contracts Management Unit (GCMU) and GDPA to pilot mSupply pharmaceutical supply management software in six preselected NGO warehouses. Subcontractor Sustainable Solutions assisted in the pilot and, after initial installation, provided web-based support. The generic mSupply software was adapted to the specific NGO needs (including the semi-automatic generation of PLIS quarterly datasheets) and set up to link into a central hub, which was temporarily based in the SPS office. All six NGOs were able to use mSupply routinely for warehouse stock management and to produce the PLIS datasheets.
- SPS trained six GPDS officers in mSupply central hub management in 2017, but uncertainty about the GPDS organizational structure prevented SPS from transferring the central hub from the SPS office to GDPS before end of project. In response, mSupply copies in the provinces were de-linked from the central hub and NGOs can continue to use it independently. When the central hub becomes active again, the NGOs copies can be re-linked.

Private-Sector Supply Management

- On February 01, 2013, SPS assisted the Afghanistan National Medicine Services Organization (ANMSO) to orient 47 representatives of private-sector pharmaceutical companies on good stock-management principles.
- Starting in September 2014, SPS assisted the MoPH and the Afghanistan Medicines Service Union (AMSU) in performing a rapid assessment of private pharmaceutical importers and wholesalers to determine their capacity to participate in public-sector procurement of pharmaceuticals. Nine GDPA staff collected data in Kabul, Herat, and Kandahar Provinces of 43 importers, 15 wholesalers, and 2 companies that were both wholesalers and importers.

The assessment found that there are some strong importers and wholesalers, based on volume of medicines ordered and financial flows through the business each year. However, many of their systems and practices are not fully aligned with proper protocols for ordering and procuring medicines. The main recommendations of the assessment were that the MoPH, with SPS assistance, identify importers, who are already strong and seek to build their capacity and capabilities in the following areas so that they can prequalify for public medicines procurements for BPHS and EPHS provision:

- Train staff in proper medicine-management procedures, according to national guidelines
- Introduce standard systems for selecting, quantifying, and procuring medicines
- Improve warehouse and inventory management systems
- Introduce standard PMIS

The final report was translated into Dari and Pashto, and made available on the GDPA website.

- Delay in PPM development and in redefining the GDPA's functions after the establishment of the NMHRA prevented implementation of specific actions based on the report.

TECHNICAL OBJECTIVE 3: BUILD HUMAN RESOURCE CAPACITY FOR EFFECTIVE SERVICE DELIVERY

IR3.1: Institutional and Human Resource Pharmaceutical Management Capacity Built

Under the LWA, SPS supported the first phase of a Pharmaceutical Human Resources Assessment. During the SPS-AA, the results of the assessment helped define the National Pharmaceutical Human Resources Strategic Framework and a Competency Framework for Pharmaceutical Services, which allowed systematic revision and improvement of in-service and pre-service pharmaceutical capacity building.

Interventions

- Strengthen MoPH capacity to plan pharmaceutical human resources and to improve pharmaceutical sector human resources management.
- Strengthen pharmaceutical human resources information system for planning, management, and development.
- Assist the MoPH with the development and implementation of a human resource strategy (competency development plan) to address deficiencies in pharmaceutical personnel.
- Provide technical assistance for development of pharmaceutical management training materials, and implement training for pharmacy staff on the relevant aspects of pharmaceutical management.

- Provide technical assistance for development, implementation, and improvement of pharmaceutical management trainings and training materials.
- Assist MoPH and NGOs to improve pharmaceutical human resources performance in the provision of pharmaceutical services.
- Provide technical assistance to the pharmacy education institutions for the incorporation of modern pharmaceutical management concepts in their curricula.
- Assist Avicenna Pharmaceutical Institute (API) and in-service and pre-service training providers to strengthen pharmaceutical human resources competencies.
- Assist the MoPH to establish a regulatory body and regulations for pharmaceutical cadres.

Achievements and Major Activities

Pharmaceutical Human Resources Planning and Management

- SPS assisted the MoPH in completing the second phase of the **Pharmaceutical Human Resource Assessment**, which assessed the competency of 265 health workers in 205 facilities in Herat, Balkh, Nangarhar, and Kabul Provinces; CMS; the Food and Drugs QC Laboratory; and seven private manufacturers in Kabul city. The report was completed on May 2012 and available on the GDPA website: <http://gdpa.gov.af/en/documents/category/assessment-reports> .
- Based on the assessment's findings, SPS assisted the MoPH to develop the **National Pharmaceutical Human Resources Strategic Framework** (<http://gdpa.gov.af/en/documents/category/policies-and-strategies>) through a consultative, participatory process involving national and international stakeholders from government, donors, UN agencies, and civil society organizations. The MoPH endorsed the National Pharmaceutical Human Resources Strategic Framework on September 28, 2013.
- SPS assisted the GDPA in reviewing the MoPH Human Resource for Health (HRH) Strategy, 2013-2020, to ensure adequate inclusion of pharmaceutical human resources (PHR) content. The MoPH General Directorate of Human Resources (GDHR) incorporated GDPA's comments in the HRH Strategy, 2013-2020.
- SPS assisted the PHR Core Group to finalize a costed **PHR operational plan, 2014-2015**. The GDHR endorsed the plan for implementation on February 03, 2014.
- SPS also assisted the PRH Core Group to reach agreement with GDHR on key data elements to add to the MoPH **Human Resources Information System**, including the data sources for the elements in the public and private sector.
- SPS assisted GDPA to develop the **Competency Framework for Pharmaceutical Services**, which was endorsed by the MoPH on April 21, 2013. In 2014, 1,500 copies of the document (<http://gdpa.gov.af/en/documents/category/sops-and-guidelines>) were distributed to the Faculty of Pharmacy, Ghazanfar Institute of Health Sciences (GIHS), MoPH GCMU, GDHR, GDPA, Policy and Planning Directorate, Office of Private Sector Coordination (OPSC), the Provincial Liaison Office (PLO), the GDHR Capacity Building Committee, and

BPHS-implementing NGOs. The framework was consequently used to identify performance gaps in pharmaceutical service delivery and to design trainings targeting the identified gaps.

- Starting July 2013, SPS assisted the MoPH to collect data from 3 private pharmacy faculties, 15 private training institutes, 40 private pharmacy outlets, 15 private hospitals, 4 government departments, 10 private manufacturers, 10 private importers/wholesalers, 4 national hospitals, 3 military hospitals, 3 specialty hospitals, 10 BPHS-implementing NGOs, 4 regional hospitals, 8 provincial hospitals, and 10 district hospitals. These data were used to develop a **PHR projection model** (<http://gdpa.gov.af/en/documents/category/assessment-reports>), which GDPA accepted in February 2014. Four GDPA and 19 GDHR staff were trained in the use of the model in the same month.

Institutional Human Resources Management

In November 2013, SPS assisted GDPA to perform a root cause analysis on identified gaps for achieving priority pharmaceutical performance objectives. The Registration and Licensing Issuing Department volunteered to perform a self-assessment of current structures, processes, and performance outcomes for identifying the inefficiencies, unclear steps, and other issues provoking delay in the work process. Two staff from each of the four units of the department were appointed to form a performance improvement committee to oversee and guide performance improvement in the future. The performance improvement committee ToR were finalized, but change in staff and transition of the department to NMHRA stopped the process late 2015.

In-Service Training Learning Resource Packages

- Between April and August 2013, SPS assisted the GDPA to conduct the PHR In-Service Training (IST) Providers Assessment (<http://gdpa.gov.af/en/documents/category/assessment-reports>) to identify pharmaceutical IST providers and to categorize the pharmaceutical ISTs offered currently by location, type, and subject. SPS and GDPA then used this information to guide planning of next steps.
- In June 2014, two API staff were included as members of the In-Service Training Committee (ISTC) of the MoPH Capacity Building and Organizational Development Directorate. SPS assisted the ISTC (at its request) to finalize the concept note on pharmaceutical IST, and, in collaboration with GCMU, identified 28 possible IST providers.
- SPS assisted the PHR Core Group to develop 18 chapter outlines for inclusion in the IST learning resource packages (LRPs). The LRPs address the four priority areas for capacity building identified in the Competency Framework: pharmaceutical procurement, supply chain management, outpatient hospital and private pharmacy dispensing, and hospital inpatient dispensing. The LRPs were bundled in two volumes: **Pharmaceutical Management Book**, containing nine chapters for Pharmaceutical Supply Chain Management and Procurement, and **Effective Pharmaceutical Services Book**, containing nine chapters for inpatient and outpatient dispensing. On June 03, 2015, the MoPH endorsed the two volumes and accompanying trainers' guide, participants' guide, and presentation slides.

- SPS assisted a team of master trainers from Faculty of Pharmacy (as identified by API and GDHR) to train 10 national IST trainers in the use of the IST LRPs; these master trainers, in turn, trained 268 pharmacy staff from PPHDs and NGOs in all 34 provinces.
- SPS assisted GDPA API to coordinate with GDHR Capacity Building Department (CBD), PLO, GCMU, and HMIS in order to establish an IST reporting mechanism. All parties agreed to use the existing Training Management Information System (TMIS) database developed by the MoPH HMIS unit, since NGOs and PPHDs had already been introduced to its data collection tools, analysis, and reporting forms. For other trainings, the NGOs agreed to update the GDHR training database, and GDHR will share a copy of the training database with the API for its specific analysis and reporting purposes. No separate reporting system was deemed necessary.
- SPS subcontracted a firm on July 13, 2016, to translate the Dari LRPs into Pashto. The subcontractor failed to deliver the products by the agreed-upon deadline (August 29, 2016) and then within an extension period. SPS terminated the contract on October 10, 2016. The IST LRPs remain available in Dari only.
- SPS assisted the ISTC to finalize its action plan for 2017 to 2019.

Faculty of Pharmacy Curriculum

- Under the SPS LWA, development of LRPs on Managing Drug Supply (MDS), rational medicine use (RMU), and antimicrobial resistance (AMR) began, and SPS helped the Faculty of Pharmacy to finalize the packages. (These packages were presented to the private faculties and schools, to GDPA, and to GIHS on August 18, 2013.) Faculty of Pharmacy trained its lecturers and professors in the adult learning methods used in the teaching modules, and started using the modules from March 2014 onwards. Three private faculties (Maihan, Dawat, and Khaboora) have incorporated MDS and RMU modules in their curricula from the 2015-16 academic year onwards (PY6, SO3.3).
- SPS assisted Kabul University Faculty of Pharmacy to establish the **PharmD** curricular working group in September 18, 2013, and assisted the working group to map the existing curriculum against the Competency Framework, the Faculty structure and available teaching staff, and the human resources needs of hospitals and pharmacies, and to benchmark the existing curriculum against the curricula of 24 foreign universities. By July 2014, the Faculty finalized the PharmD program mission, vision, goals, learning objectives, and new core curriculum (including subject names, syllabuses, number of semesters, and teaching hours). On December 20, 2015, SPS provided **34 volumes of international textbooks** on a variety of pharmacy subjects to help guide the revision. Kabul University started using the new curriculum in March 2016. MoHE officially endorsed the new curriculum in May 2017.
- SPS assisted the faculty's Curriculum Revision and Monitoring Committee (CRMC) to develop a five-year action plan (2017–2021) for monitoring implementation of the new curriculum.
- On request of Balkh University, SPS assisted the Kabul University Faculty of Pharmacy to assess possible implementation of the new PharmD curriculum in Balkh. Currently, the

Faculty of Pharmacy lacks the necessary staff to support this, thus PharmD curriculum implementation at Balk University was postponed until the school has the required staff.

- On July 21, 2014, the Deputy Ministers of MoPH and MoHE decided that a specific memorandum of understanding (MOU) was needed to outline the coordinating mechanism between MoPH and the Faculty of Pharmacy regarding curriculum revision and implementation. SPS assisted in drafting the MOU, but the MOU remains unsigned after disagreements on budget allocations for PharmD clinical practices at teaching hospitals, and a change in the leadership of both ministries.

Ghazanfar Institute of Health Sciences Curriculum Revision

- Between June 2012 and June 2015, SPS assisted GIHS in the revision of its Pharmacy Department curriculum. The GIHS curriculum working group mapped its existing curriculum and the curriculum from Abu Ali Sina Balkhi Private Pharmacy Institute against the Competency Framework to identify existing gaps. The working group identified 21 subjects for revision, and the need to introduce modern adult learning methods. Thirty-one writers were contracted to develop the 21 LRPs. The GIHS Pharmacy Section Curriculum Revision Working Group conducted an Introductory Seminar on New Curriculum of Pharmacy Department of GIHS on December 21, 2015, for 54 participants (10 females and 44 males) from MoPH, MoHE, Kabul Medical University, Kabul University, GDPA, Herat Public Institute of Health Sciences, Kandahar Public Institute of Health Sciences, private institutes of health sciences, and the Afghanistan Nationwide Pharmacists Association (ANPA), who requested assistance in introducing the new LRPs in their own institutions.
- From January to July 2016, SPS assisted the GIHS in conducting ten two-day orientation workshops in Kabul, Nangarhar, Balkh, Herat, Kandahar, and Badakhshan on the implementation, use, and monitoring of new LRPs. A total of 246 people from 6 public and 57 private institutes of health sciences (IHSs) participated.
- SPS assisted GIHS to establish a Curriculum Implementation and Monitoring Committee (CIMC), which is presently overseeing and monitoring the implementation of the new curriculum in 70 public and private institutes in Kabul, Herat, Kandahar, Balkh, Nangarhar, and Badakhshan Provinces.
- SPS assisted the CIMC to develop a certification question bank, which contains 1,812 questions that align with the new LRPs, and the 21 teaching subjects. The MoPH endorsed the question bank on August 01, 2017.
- SPS assisted the CIMC to finalize the three-year (2017–2019) action plan for GIHS departments' curricula activities.
- In response to a MoPH request, SPS assisted GIHS to translate the new LRPs from Dari to Pashto. By the end of the project, 22 out of 26 textbooks, and 18 out of 20 teacher guides had been translated.

Pharmacy Council

Based on recommendations from a stakeholders' consultative workshop on February 18, 2014, SPS supported GDPA to draft a Pharmacy Council proposal and its supporting documents. The MoPH accepted the proposal in June 2014, and nominated NMFB as a steering committee to oversee activities for establishing a Pharmacy Council. Establishment of the Pharmacy Council was made dependent on the establishment of a Medical Council, thus USAID suggested that SPS transfer all developed documents to NMFB by the end of 2014. The National Interim Medical Council of Afghanistan was established in early 2016; this was too late to pursue establishment of the Pharmacy Council under the SPS-AA project.

Afghanistan Nationwide Pharmacy Association

Based on an official request from ANPA's leadership team in August 2012, SPS started to provide ANPA with technical assistance, and has played a significant role in development of the association's management capacity. A 2013 organizational assessment of ANPA found that the organization's existing management team lacked adequate leadership, managerial skills, capacity, and commitment. A main recommendation was to change ANPA's leadership team by holding a national congress, during which the new management team would be elected. After assisting ANPA to develop a more-efficient organizational structure, SPS offered financial and technical support for conducting the national congress. In June 2015, the date for the congress was postponed indefinitely due to internal ANPA disagreement, and USAID agreed that SPS should postpone further technical assistance until the national congress elects new leadership. The national congress did not take place before EOP.

TECHNICAL OBJECTIVE 4: ENHANCE PHARMACEUTICAL SERVICES TO ACHIEVE DESIRED HEALTH OUTCOMES

IR4.1: Provide Assistance to Promote More Effective Pharmaceutical Services, Rational Medicine Use, and Medicines Safety

Interventions

- Support the appropriate functioning of national and institutional drug and therapeutics committees (DTCs) to oversee the implementation of RMU and pharmaceutical supply management (PSM) strategies and interventions
- Provide support for selected hospital DTCs to effectively implement RMU activities and relevant pharmaceutical services activities
- Develop a communications campaign for public education on important messages for the correct and safe use of medicines
- Support and document the development of specific medicines safety interventions at selected health service delivery sites in preparation for a comprehensive medicines safety program

- Facilitate the development, revision, dissemination, and use of national technical references and guidelines related to rational medicine use and pharmaceutical services

Achievements and Major Activities

Pharmacovigilance

- Between March and August 2013, SPS assisted the GDPA to perform a rapid assessment in six national hospitals on attitudes, knowledge, and practices towards adverse drug reactions (ADRs). Following assessment recommendations, the MoPH established the Medicine Safety Committee (MSC) with members from GDCM, GDPA, Kabul Medical University, Kabul University Faculty of Pharmacy, and ANPA. MSC transitioned to NMHRA in FY2016.
- Eight MSC members participated in two related courses in the Indian Institute of Health Management Research, Jaipur, India: Quality Management and Patient Safety in Hospital and Health Care (January 28 to February 01, 2014) and Pharmacovigilance and Patient Safety (February 03 to 05, 2014).
- SPS assisted GDPA to gain access to the VigiBase databases at the Uppsala Monitoring Centre (UMC), and two MSC members obtained their VigiFlow identification and passwords on June 23, 2015. Nine members of the Pharmacovigilance National Center also gained access to the VigiLyze tool. GDPA and UMC signed a licensing agreement for all UMC products⁶ in FY2015 Q4. SPS and GDPA sent Dari and Pashto versions of the VigiAccess guide to 369 stakeholder email addresses.
- SPS assisted the MoPH in obtaining full membership in the WHO Collaborating Center for International Drug Monitoring on January 26, 2016.
- SPS assisted the MSC to develop the ADR Reporting Form, ADR Case Review Report template, and ADR Case Management flowchart, and to start ADR reporting in four pilot sites (February 2015). Based on recommendations from the **Pharmacovigilance Pilot Phase Report**, ADR reporting was expanded to 27 hospitals in Kabul and four provinces, starting April 2016 (<http://gdpa.gov.af/Content/Media/Documents/AfgPVpilotphasereportE-final210629016-MA23620168340323553325325.pdf>).
- Starting in May 2016 and with support from the University of Washington, SPS assisted GDPA to develop a **National Policy for Pharmacovigilance** (endorsed by MoPH on February 11, 2017), a **Guideline for Pharmacovigilance** (endorsed by MoPH on July 04, 2017), and two **pharmacovigilance SOPs**. With SPS support, NMHRA printed 2,000 copies of the policy and guideline in September 2017 for distribution to the relevant stakeholders.

⁶ VigiBase is the [World Health Organization](#)'s global Individual Case Safety Report (ICSR) database that contains ICSRs submitted by the participating member states enrolled under WHO's international drug monitoring program. The [UMC](#) (established in [Uppsala, Sweden](#)) has been maintaining the database on behalf of WHO since 1978. VigiFlow allows domestic compilation of ICSRs, for uploading into VigiBase; VigiAccess allows public access to VigiBase; and VigiLyze allows members to search and analyze the VigiBase.

- From January 2014 through November 2017, SPS sponsored or facilitated 24 rounds of training sessions for a total of 932 health professionals on different pharmacovigilance and medicine safety topics.
- From February 2015 through October 2017, 21 hospitals sent 180 suspected ADR cases (related to more than 50 drugs) to the NMHRA Pharmacovigilance Department. The ICSRs have been uploaded into VigiBase.

National Standard Treatment Guidelines for Primary Level

- SPS support to development of National Standard Treatment Guidelines for the Primary Level (NSTG-PL) started under SPS LWA in 2009. SPS assisted the Standard Treatment Guideline Working Group to monitor, review, and complete individual monographs written by selected Afghan clinicians, and to compile monographs into one comprehensive document. MoPH approved the final English draft on May 05, 2013.
- SPS assisted GDPA to translate the NSTG-PL into Dari and Pashto, and to print 500 English, 7,000 Dari, and 3,000 Pashto copies.
- SPS assisted GDPA to conduct the national introductory workshop for NSTG-PL on December 23, 2014. A total of 120 participants attended, including high-ranking MoPH representatives, authorized representatives of national and international organizations, and BPHS/EPHS-implementing NGO authorities.
- GDPA and GCMU distributed 6,500 Dari copies and 3,500 Pashto copies of NSTG-PL to the BPHS/EPHS NGOs on January 14, 2015.
- Between December 24 and April 15, 2015, SPS assisted GDPA to conduct 12 regional trainings on the use of NSTG-PL; trainings were held in 8 provinces for 484 PPHO and NGO trainers for 34 provinces.
- By EOP, SPS supported additional distribution of NSTG-PL copies to EPHS hospitals, Kabul hospitals, 7 private hospitals, 34 PPHDs, MoI, MoD, National Security Department, MoHE, and Ministry of Finance Affairs (MoFA).
- The average availability of the NSTG-PL in 502 visited BPHS facilities in FY2017 was 93%.
- In FY2015, immediately after distribution of the guidelines, NSTG-PL adherence (as measured by the percentage of patients not prescribed antibiotics for conditions not requiring antibiotics) reached 89%. When SPS began to support new provinces in FY2016, NSTG-PL adherence dropped to 64% but it rebounded to 71% by EOP.

National Standard Treatment Guidelines for Secondary Level

The MoPH decided to develop an NSTG for the secondary level (NSTG-SL) on December 28, 2015. SPS assisted the MoPH General Directorate of Curative Medicine (GDCM) and the NSTG-SL working group to develop a first draft of the NSTG-SL. By October 30, 2017, 185 of the required 195 monographs were drafted by the individual writers, 138 were reviewed and edited by the working group, and 122 were finalized during 64 working group meetings. This

exceeds the initially projected 100 monographs for life of project. The MoPH working group is continuing to review and finalize drafts after SPS EOP.

Licensed Medicine Lists and Essential Medicine Lists

From July 2012 to September 2014, SPS assisted the Essential Medicine List (EML) / Licensed Medicine List (LML) Revision Working Group in the systematic review of more than 400 medicines proposed for inclusion in the EML and LML. SPS assistance followed a participatory process, involving public- and private-sector stakeholders. The existing lists were also aligned with the 2010 update of the BPHS. With SPS support, the updated English EML and LML (2014) was translated to Dari and Pashto; was printed in English, Dari, and Pashtu; and was widely distributed to public- and private-sector stakeholders from 2015 onwards. Electronic copies were also provided upon request, and the three versions are posted on the GPDA website. By end of project, a printed copy of the updated EML was present in 79% of BPHS/EPHS facilities visited during FY2017, and in all Kabul hospitals.

Afghan National Formulary

From September 2014, SPS assisted GDPA API to align the 2007 Dari Afghan National Formulary (ANF)—which contains 27 sections and 284 items—with the 2014 EML. The updated English and Dari versions of the ANF were introduced in a workshop on September 21, 2015, and SPS supported the printing of 3,060 English versions and 6,000 Dari versions that were distributed to different stakeholders. The updated ANF was available in 95% of BPHS facilities visited in FY2017.

Joint Field Visits of BPHS/EPHS Service Delivery Points

Between September 2011 and March 2012, SPS revised the tools previously used by TechServe monitors in order to reorient the monitoring visits to facilities into supportive mentoring visits, jointly performed by staff off SPS, GDPA, GCMU, PPHDs, and NGOs. (The participation of each counterpart is dependent on staff availability at the time of the visits.) The teams routinely applied four standard tools in each facility, where available records permitted collecting the data:

- The Inventory Management Assessment Tool, reviewing stock on record and physical stock of 30 agreed upon priority essential medicines;
- The Pharmaceutical Supply Management Assessment Questionnaire, assessing quality of medicines storage, handling and quantification of medicine needs;
- Order Completion Rate, assessing how complete and exact suppliers deliver orders to warehouses (upstream), and how complete and exact warehouses deliver orders to facilities (downstream);
- Rational Medicine Use assessment tool, reviewing 100 randomly selected out-patient curative encounters for correct prescribing.

The joint visits allowed different counterpart staff to address topics and issues with pharmaceutical supply management and rational prescribing in a systematic manner, thus providing the opportunity to indicate specific actions for improvement and to follow-up on implementation of those actions during subsequent visits. The joint team gave formal debriefings

at the PPHD after each provincial visit. Annex II.3 provides a detailed status report of each BPHS/EPHS implementer in the priority provinces, and Annex II.7 provides results of main pharmaceutical supply indicators and rational prescribing indicator by fiscal year. The narrative below indicates the main results of this intervention.

- Between April 2012 and October 2017, SPS assisted the counterparts in applying the RMU assessment tool in 495 BPHS and 7 EPHS facilities in 18 provinces. On average, a facility was visited three times during that period, with 341 facilities having the RMU tool applied more than once, resulting in joint 1,515 assessments performed.
- The main indicator measuring rational prescribing (the average proportion of curative outpatient encounters with at least one antibiotic prescribed) decreased from 51.1% in FY2012 to 41.0% in FY2015, reflecting a 20% decrease from baseline (meeting the SPS-AA target). Transition from PCH to SEHAT II contracts for BPHS implementers, and change in USAID priority provinces provoked a slight increase to 43.8% in FY2016. The proportion of visited facilities that reached the SPS-AA EOP target for this indicator (less than 40%) increased from 13.6% in FY2012 to 49.0% in FY2017.
- Between April 2012 and October 2017, SPS assisted counterparts in applying the Inventory Management Assessment Tool (IMAT) in 492 BPHS and 5 EPHS facilities in 18 provinces. On average, a facility was visited 3 times during that period, with 346 facilities having the IMAT applied more than once, resulting in 1,682 IMAT applications in BPHS/EPHS facilities.
- The IMAT allows monitors to evaluate the quality of inventory management through the weighted average percentage of inventory variance between records and physical stock. The EOP target for this indicator was less than 5%, and the average value in the visited facilities dropped from 12.8% in FY2012 to 3.4% in FY 2015. More than 80% of visited facilities reached the EOP target. Transition from PCH to SEHAT II contracts for BPHS implementers, and changes in USAID priority provinces provoked a slight increase to 9.5% in FY2016.
- The main persistent shortcoming in facility-based stock management concerned the timely and routine updating of stock cards; on average, only 70% of stock records in monitored facilities matched physical stock at the end of project. The most commonly mentioned reasons for this shortcoming are high staff turn-over and rigid adherence to task distribution in the health facilities.
- The IMAT indicated average availability of key essential drugs at facility level to be at reasonable levels, around 90% on the day of the visit, and less than 10% average percentage of time out of stock for key essential medicines, between FY2012 and FY2017 in USAID priority provinces.
- SPS assisted BPHS/EPHS implementers to evaluate the order completion rate of their pharmaceutical orders. In FY2017, 15 orders placed by NGO warehouses (containing, on average, 121 items) were reviewed. On average, 95.4% of the ordered items were ultimately received in the requested dosage and strength, but only 69.5% were received in the quantity ordered; only 51.7% were received in the quantity ordered and on time; and only 27.4% were

received in the quantity ordered, on time, and at the initially quoted cost. Several NGOs have started tracking their suppliers' performance using these indicators.

- Similarly, SPS assisted BPHS/EPHS implementers to evaluate the order completion rate of their pharmaceutical supply to facilities. In FY2017, 210 facility orders were reviewed (with an average of 72 items per order). On average, 87.3% of the ordered items were ultimately received at the facility in the requested dosage and strength, but only 60.5% were received in the quantity ordered, and only 41.7% in the quantity ordered and on time. This provides a baseline for future pharmaceutical supply improvement interventions.

National Drug and Therapeutics Committee

- The National Drug and Therapeutics Committee (NDTC) was established under the SPS LWA in 2009, with the Deputy Minister of Public Health as chair, but became virtually inactive from 2010 onwards, when the GDPA took over the chair. When the chair shifted to the General Directorate of Curative Medicine (GDCM) in 2012, SPS assisted the new chairperson to revive the NDTC by updating its ToR and composition, and by establishing a new NDTC subcommittee tasked with directly overseeing operations. SPS provided ongoing support to the new NDTC chair from FY2016, supporting promotion of individual DTCs as vehicle for improving quality of care in the hospitals.
- Specifically, SPS supported the NDTC to implement several key decisions from May 2016 onwards:
 - GDCM decided that Kabul hospitals should use the NSTG-PL for management of outpatient cases that are not referred in from primary facilities.
 - NDTC reviews individual Kabul hospital assessment results in its quarterly meetings, providing feedback to each hospital.
 - Deputy Minister for Health Services officially approved inclusion of DTC activities into the job description of hospital medical directors.
 - On August 09, 2017, GDCM included DTC performance indicators in the MoPH monitoring checklist for Kabul hospitals. On October 14, 2017, at the request of NDTC, the MoPH Monitoring and Evaluation (M&E) Department, GCMU, and PLO agreed to include the same indicators in the relevant MoPH monitoring checklist for provincial hospitals.
- GDPA, as chair of the NDTC subcommittee, officially assigned two points of contact to track, follow-up, collect, and aggregate reports and results of DTC activities from Kabul and provincial DTCs, and to present the aggregated results and findings in the NDTC meetings for further technical and political support. In the November 26, 2017, NDTC meeting, these points of contact prepared themselves and presented the aggregated average RMU and IMAT results from provincial and Kabul hospital DTCs, from April 2016 to September 2017.
- GDCM and the directors of tertiary and specialized hospitals have allocated 15 to 25 minutes of time for the NDTC subcommittee points of contact during the directors' monthly coordination meetings; this updates each hospital's director on its DTC's performance.

Institutionalization of Individual Hospital DTCs

- Because the DTC concept was new in Afghanistan, SPS faced several challenges in the first two project years with regard to responding to requests for supporting DTCs in individual hospitals: the need to bring project staff up to speed on the DTC concept, the need to adapt and translate generic tools to the Afghan reality, and a virtually inactive NDTC. In order to satisfy the demand for DTC establishment, SPS took a three-pronged approach:
 - Providing full support to a limited number of DTCs, with regular visits from the SPS officers, assisting the DTC to implement key activities and providing ongoing support by email and phone
 - Providing limited support to other DTCs, offering support only by email and phone, and document review and editing
 - Including a section on DTC in the MoPH strategy for hospital autonomy, and training TechServe consultants in DTC principles
- From the FY2014 onwards, SPS had built the capacity to respond systematically to requests for DTC support in the USAID priority provinces; tools and resources included:
 - Dari translation of the *WHO/MSH DTC Practical Guide* (500 printed copies) for use by hospital DTCs
 - Flow chart indicating priority DTC activities in Afghanistan
 - Availability of reference documents on PSM, RMU, and medicine safety (in Dari and Pashto)

Table 5. DTCs receiving TA from SPS throughout life of project

SPS support to DTCs	FY12	FY13	FY14	FY15	FY16	FY17
Total number of DTCs	18	15	14	12	30	19
In Kabul	6	6	6	6	17	6
In Provinces	12	9	8	6	13	13
Full SPS support to DTC	10	4	12	12	30	19
Limited SPS support to DTC	8	11	2	0	0	0

- Given the different levels of hospital functionality, in FY2014, SPS introduced DTCs to a six-month performance improvement cycle using root cause analysis techniques. This helped to identify specific priority areas for SPS assistance to each DTC. Table 6 summarizes the number of hospitals for each intervention area.

Table 6. Number of DTCs including intervention in a six-month action plan

Areas for Improvement	DTC in Kabul	DTC in Provinces
Formulary list adherence	1	10
OPD recording	6	
Rational medicine use	12	
Pharmaceutical supply management	16	

- SPS assisted individual DTCs to develop and, when requested, to update formulary lists tailored to the morbidity patterns presented at each hospital. By the end of project, 13 out of 17 Kabul hospital DTCs, and 11 out of 13 DTCs in the provinces had their hospital-specific formulary list.

- SPS assisted the DTCs to monitor formulary list adherence by clinicians and supply managers. Table 7 shows that most hospitals adhered to their formulary list for medicine prescribing and ordering.

Table 7. Formulary list used for different tasks

Kabul & Provincial DTCs	FY13	FY14	FY15	FY16	FY17
# DTCs have formulary list and perform monitoring	12	14	16	16	19
# monitoring assessments	NA	30	40	30	25
% non-EML drugs on formulary list	NA	18%	18%	24%	11%
% medicine procured in last 12 months on formulary list	NA	87%	79%	82%	91%
% medicines prescribed to outpatients on formulary list	NA	93%	96%	89%	98%
% medicines prescribed to inpatients on formulary list	NA	84%	88%	85%	92%

- SPS assisted DTCs in three hospitals in the provinces to investigate the cost implications of adhering to standard treatments. Each DTC selected the three most expensive antibiotics on the hospital procurement list (using ABC analysis), then checked if patients who received those antibiotics in the last six months should have been treated with another antibiotic (or none at all), according to the hospital treatment protocols. In all three hospitals, adherence to standard treatment protocols would have resulted in possible savings in treatments of more 50%. Table 8 gives the results for each hospital.

Table 8. Possible savings through NSTG-PL adherence

Hospital	# of cases	Actual cost (Afg)	Corrected cost (Afg)	Possible savings
Farkhar District Hospital	583	14,599	5,814	60.18%
Baghlan Provincial Hospital	600	560,840	179,987	67.91%
Nangarhar Regional Hospital	471	157,955	74,817	52.63%

- SPS assisted the DTC of Nangarhar Regional Hospital to develop a Surgical Infection Prophylaxis Guideline, the Noor Eye Hospital to develop an Eye Disease STG, and the Stomatology Hospital to develop a Dental and Orofacial Diseases STG, including a list of medicines with contraindications during pregnancy and breastfeeding.
- During the first project year, SPS assisted DTCs to implement Medicine Use Evaluation on the abuse of third-generation cephalosporin in inpatient department (IPD) wards, but this proved too challenging for the nascent DTCs. Instead, with SPS assistance, DTCs monitored RMU indicators in hospital outpatient departments (OPDs). Detailed results per hospital DTC are available in annexes II.4 and II.5. Between FY2014 and FY2017, the average number of drugs prescribed per outpatient encounter went down from 2.2 to 1.8, and the average percentage of outpatient encounters with at least one antibiotic prescribed went down from 55.8% to 47.1%. While both indicators still indicate room for more rational prescribing, they also show substantial improvement during life of project.
- On request of and with full support from the NDTC chairman, starting in FY2016, SPS assisted individual DTCs to set up weekly data collection schemes to allow the analysis of

aggregated monthly and quarterly data on rational medicine use, and to routinely monitor the completeness of patient records in IPDs and OPDs.

- DTCs applied IMAT quarterly, and confirmed good inventory management practices in the hospital pharmacies. Poor availability of essential medicines persisted in the Kabul hospitals; for example, the average percentage of time out of stock for key essential drugs was 22.5% in FY2017, mainly due to budget problems. The budget amounts remained insufficient to cover calculated needs, and purchases could only be made toward the end of the budget year.
- Hospitals in the provinces decreased the average percentage of time out of stock for key essential medicines from 22.1% in FY2012 to 6.9% in FY2017.
- SPS assisted the Kabul hospitals to develop revised receiving and distribution SOPs, including job aids for distribution of medicines from hospital pharmacy stock to dispensary and from dispensary to wards. By EOP, average adherence to receiving SOPs was 91% and to distribution SOPs was 85%.

Health Messages on Rational Medicine Use

- Starting under the LWA, and until December 2014, SPS provided ongoing assistance to the MoPH in developing and delivering five messages related to rational use of medicines:
 - Message 1: Ask pharmacist how, when, and how long to take the medicine.
 - Message 2: Do not request an injection for every illness.
 - Message 3: Complete the full course of antibiotic treatment.
 - Message 4: Don't use medicine without advice from the pharmacist or health provider.
 - Message 5: Keep medicine out of reach of children.
- Each message was broadcasted an average of 90 times on popular radio and television stations, and distributed as pictorial message on posters for use in health facilities nationwide: two posters per basic health center (BHC), three posters per comprehensive health center (CHC), four posters per district hospital (DH), and five posters per provincial hospital (PH).
- SPS assisted the GDPA to perform a rapid assessment of the outcome of the first message from April 7 to 12, 2012, through exit interviews with 240 patients in 16 health facilities in Kabul, Laghman, Herat, and Jawzjan Provinces. About one-third of patients interviewed recalled hearing or seeing the message, depending on radio and television ownership. More than 70% of those recalled the message correctly, and more than 90% confirmed having acted according to the message. This early assessment convinced the MoPH to pursue developing and broadcasting the other messages.
- Between September 30, 2016, and July 08, 2017, SPS subcontracted QARA Consulting, LLC, to evaluate the understanding and perceived appropriateness of the messages by different target groups. The evaluation used structured questionnaires, key informant interviews, and focus group discussions in Kabul, Balkh, Herat, Kandahar, and Bamyan Provinces. Results showed that, in general, the messages were well understood, but careful translation in local languages and extensive pilot testing with the different target groups could prevent misunderstanding by a minority of respondents in the future.

- In July 2013, SPS assisted the MoPH in printing and disseminating four health messages on rational medicine use in Kabul city, through 12,000 posters, 10,000 brochures, 21 banners, and 30 billboards.

TECHNICAL OBJECTIVE 5: ADDRESS THE INFORMATION FOR DECISION-MAKING CHALLENGE IN THE PHARMACEUTICAL SECTOR

IR5.1: Pharmaceutical Management Information System to Support Evidence-Based Decision-Making Strengthened

The MoPH Health Information Systems (HIS) Strategic Plan (2009-2013) highlighted gaps around data management for decision-making, in particular the absence of a well-developed PMIS. During life of project, SPS supported counterpart departments in the MoPH to develop, use, and maintain databases. This was done in close collaboration with the MoPH HMIS, which was the designated coordinating department in the MoPH for database development and maintenance. Special attention was paid to allowing departments to extract information from the databases for supervision, monitoring, and planning.

To complement the data obtained through routine pharmaceutical information systems, SPS also supported counterparts in the implementation of specific surveys and assessments.

Interventions

- Support the development of a comprehensive computerized PMIS
- Ensure collation of information related to medicine use outcomes for pharmaceutical policy, medicine selection decisions, and treatment options
- Ensure ready availability of key pharmaceutical information to MoPH and stakeholders

General

In a meeting with GDPA (on October 27, 2013) and with MoPH HMIS (on October 28, 2013), SPS supported making an inventory of the existing PMIS components and an agreement was reached to move forward with development of the PMIS strategic plan. SPS presented the draft PMIS strategy to the HIS Steering Committee on April 20, 2014, and guided GDPA in providing inputs on the PMIS sections of the overall MoPH HIS strategic plan revision in July 2014.

Pharmaceutical Registration Information System

- Throughout life of project, SPS assisted the GDPA and then the NMHRA in further developing the Pharmaceutical Registration Information System (PRIS). The Drug Importation Module was added to the Product Registration and Company Registration modules (developed under the SPS LWA). Registration forms and procedures were reviewed

during life of project, which necessitated several updates and modifications in the database modules to ensure that they matched the most recent forms.

- SPS assisted GDPA to create standard queries and reports, and pivot tables, enabling customized analysis by different users to respond to the different information needs of the GDPA. From 2015 onwards, GDPA produced standard quarterly reports on licensed manufacturers, importers, and products using PRIS.
- From 2012 to 2014, SPS assisted the Foreign Company Registration, Medicine Planning, Medicine Importation, and Proforma Registration units of the GDPA in reviewing and reorganizing their hard copy filing system (including the introduction of a systematic coding system) in preparation to extracting the data needed for entry in the Drug Registration and Drug Importation modules of the PRIS database. A total of 13,543 individual product files were verified, correctly coded, labeled, and archived in the GDPA manual filing system.
- SPS assisted GDPA to analyze PRIS records in March 2014; the analysis revealed that only 0.7% of 8,739 registered medicines, and only 5% of registered foreign companies had complete documentation. This motivated GDPA to implement the new registration procedures for products and companies, and to re-register previously registered products and companies (table 9).

Table 9. Status of re-registration and newly registered products and companies

PRIS module/content by EOP	Number of Items
1. PRIS Product Registration module	
1.1 Registered products in PRIS database on November 30, 2017	
Registered products (old registration procedures)	9,516
Registered products, re-registered following new registration system	935
Newly registered products following new registration system	32
Total products registered on November 30, 2017 (old and new registration procedures)	10,483
2. PRIS Manufacturing Company Registration module	
2.1. Registered foreign manufacturing companies on November 30, 2017	
Registered companies (old registration procedures)	455
Registered companies, re-registered following new registration system	33
Newly registered companies following new registration system	7
Total companies registered on November 30, 2017 (old and new registration procedures)	495
3. PRIS Importation module	
3.1. Registered importers	
Registered importers on November 30, 2017	432
3.2. Pro-forma invoices	
Pro-forma invoices computerized on November 30, 2017	5,796
3.3. Commercial invoices	
Commercial invoices computerized on November 30, 2017	3,411

- SPS trained 20 GDPA and NMHRA staff in the use and maintenance of the PRIS database during life of project.

Private Pharmaceutical Outlet Registration Database

- When updated pharmacy retail outlet registration procedures were finalized in October 2015, SPS assisted the GDPA to develop three data-entry modules of the Private Pharmaceutical Outlet Registration (PPOR) database: Establishment, Relocation, and Sell-Buy modules.
- SPS assisted GDPA in hiring data entry consultants for inputting detailed information on 1,702 pharmacies into the PPOR database from February 25, 2015, to October 30, 2016.
- After shifting regulatory activities from GDPA to NMHRA, SPS provided on-the-job training in November 2017 for four NMHRA staff on use and maintenance of the PPOR database.

Inspection Database Development for NMHRA

- SPS assisted the NMHRA Inspection Department to develop a web-based database for storing results of the national inspection checklists in 2016. The database contains three modules (Wholesaler, Retail Pharmacy, and Importer) and is hosted at: <http://nmhra-inspdb.com>.
- SPS trained 88 technical staff (85 males and 3 female) from 32 PPHDs and NMHRA in use of the Inspection Database.
- In October 2017, SPS provided on-the-job training for NMHRA technical staff for database administration and maintenance.

EML/LML Database

- Throughout life of project, SPS provided ongoing assistance to GDPA API in updating the various EDL/LDL database reference tables, including an update from 2007 Anatomical Therapeutic Chemical (ATC) codes to 2012 ATC codes during the EML/LML revision. The name of the database changed to EML/LML. SPS provided the newly assigned EML/LML database focal point in GDPA API with an introduction to database maintenance on October 21, 2017.
- SPS assisted the EML/LML database focal point in API to incorporate updates and corrections recommended by the EML/LML revision committee. Changes were made in the names and specifications of the medicine list in the EML/LML database and in the finalization of the EML/LML standard report.
- SPS provided on-the-job training for three GDPA API staff on the database use and maintenance.
- Afghanistan's EML and LML ATC coding needs to be updated with the first four levels of WHO's 2017 ATC classification system.

Morbidity Profile and Prescription Practices

- SPS assisted the GCMU, GDPA, and PCH NGOs to develop design and data collection tools for an assessment of prescription practices in outpatient settings of different health facilities. In all PCH provinces, a 10% random sample of active primary health care facilities—sub health centers (SHCs), BHCs, and CHCs—was selected. Trained NGO staff collected data in September 2012 and December 2012, noting the diagnosis and prescribed treatment of 10% of

outpatients for the months of January 2012 and July 2012 for each selected facility. The same was done for OPDs of three DHs and two PHs.

- The records of a total of 13,515 encounters were investigated—11,212 from primary health care facilities and 2,303 from hospitals. The results included average morbidity profiles for each type of BPHS facility, allowing pharmacy staff to fine-tune selection and quantification of essential medicines to be provided for use at these facilities.
- The results also provide baseline values for RMU prescribing indicators at public health facilities before introduction of the NSTG-PL. Average values for several indicators are at internationally acceptable levels. However, the percentage of encounters with an antibiotic prescribed is high (44.5%), one-third of diarrhea cases did not have oral rehydration solution (ORS) prescribed, and 42% of acute respiratory infection (ARI) cases not needing an antibiotic had an antibiotic prescribed. The final report was available in November 2014.

Private Retail Pharmacy Survey Report

- SPS assisted the GDPA to establish a baseline measure of service delivery quality at private-sector retail outlets. Through a competitive tender, the Afghan Center for Socio-Economic and Opinion Research (ACSOR) (a D3 Systems, Inc., subsidiary) was subcontracted to implement the field work and to perform a preliminary analysis, with ongoing technical support from SPS and in coordination with GDPA.
- The main survey objective was to set a baseline for specific conditions targeted for improvement. Survey questions had three major themes: pharmacy licensing and inspections; pharmacy service quality; and product availability, quality, and affordability.
- The survey included a sample of 879 PPROs, distributed across 10 provinces (Kabul, Nangarhar, Khost, Kandahar, Herat, Badakhshan, Kunduz, Balkh, Faryab, and Bamyan). Data were collected between April 15 and May 4, 2013, through structured interviews with the most-senior person working in the pharmacy on the day of the visit, and physical inspections of the premises.
- ACSOR performed a preliminary analysis ACSOR with extensive technical guidance and inputs from SPS, and a preliminary report was presented in February 2014. Based on the review by and feedback received from GDPA, SPS undertook a secondary analysis of the original dataset. The secondary analysis investigated differences between urban and rural PPROs, and between PPROs of different licensing classes. The consolidated report was made available on the GDPA website in August 2015.
- The survey results guided the development of the revised Pharmacy Regulation, Retail Pharmacy Establishment Guidelines, and Retail Pharmacy Inspection Lists.

Pharmaceutical Performance Indicators

From July 2013, SPS assisted the MoPH in compiling a set of pharmaceutical sector performance indicators, and revising, categorizing, and validating them with different

directorates and departments. In late 2015, NMFB was tasked with finalizing a prioritized list of indicators; this was indefinitely postponed after NMHRA was established.

PLIS Database

SPS assisted the CPDS in developing an automated Excel data collection form and creating the database Entity Relationship Diagram⁷ (ERD), Tables, and Data Dictionary for PLIS.

SPS assisted the QASC to develop a database for analyzing the results of samples collected for the implementation of GPHF-Minilab pilot project.

MoPH Data Warehouse

The Health System Resilience Project assisted the MoPH in the establishment of a data warehouse using the DHIS2 platform, which includes the development of dashboards for different users. From December 20, 2015, onwards, SPS participated in the MoPH Data Warehouse Taskforce. Inclusion of EML/LML and PRIS data in the warehouse is planned for the second half of 2018.

GDPA Website

- SPS assisted GDPA to develop a website in English, Dari, and Pashto through the Ministry of Communications and Information Technology (MoCIT), which is assigned to develop all governmental websites. SPS assisted the GDPA to identify and upload content and documents to the website, and trained two persons on maintenance of the website.
- SPS assisted GDPA in keeping the GDPA website (<http://www.gdpa.gov.af>) up to date on key activities until the end of project (<http://gdpa.gov.af/en>).

PROJECT M&E

SPS submitted annual project work plans for each for each fiscal year in a timely fashion to USAID.

SPS submitted a draft technical narrative for the SPS-AA Extension Proposal (covering the period from August 28, 2015, to July 10, 2017) on July 07, 2015; an SPS-AA Extension Proposal on August 09, 2015; and a FY2016 work plan on August 06, 2015. The proposal contained a results framework and corresponding PMP matrix, reflecting USAID's priorities for the extension period.

⁷ A data modeling technique that shows a graphical representation of objects or concepts within an information system and their relationship to one another.

SPS submitted the FY2017 (October 01, 2016, to July 10, 2017) work plan to USAID on August 05, 2016.

On USAID's request, SPS submitted a technical proposal and budget for a cost extension of the SPS-AA (from July 07 to December 28, 2017) on January 17, 2017. After responding to USAID's questions, SPS submitted a revised proposal on May 12, 2017, and a final budget on May 23, 2017. The extension was signed on July 07, 2017.

SPS collaborated fully with Checchi and Company Consulting, Inc., from August 10 to October 30, 2014. The recommendations of the report were included in the subsequent project work plans, as per USAID recommendations.

SPS provided the necessary resources and required documents to facilitate the execution of the data quality assessment performed annually by Checchi on behalf of USAID.

In early PY2, SPS started maintaining a separate folder on the internal network shared drive as repository for all project deliverables, outputs, and documents. This greatly facilitated the compilation of quarterly, annual, and final reports.

SPS held a successful EOP event that presented the achievements in the pharmaceutical sector to which SPS contributed. SPS developed a one-stop webpage containing key project deliverables and documents. SPS also developed the EOP digital video clip in which key stakeholders talk about the changes that they have seen since SPS started. The video clip was approved by USAID on December 26, 2017.

Regular Reporting to USAID

SPS developed standard templates for weekly, quarterly, and annual reporting to USAID. The templates were updated as per USAID's request.

USAID web-based TraiNet and Afghan Info were updated quarterly. SPS notified USAID of occasional problems with uploading reports into Afghan Info, in order to minimize delays in reporting.

Since the beginning of the project, SPS collected, reviewed, and submitted to Global Health Supply Chain Program the quarterly data of all USAID/global health supply chain program clients⁸ in Afghanistan. The Procurement Planning and Monitoring Report (PPMR) on contraceptives is the mechanism promoted by USAID/DELIVER to manage contraceptive supply challenges. SPS collected the quarterly reports of all USAID/DELIVER clients in Afghanistan, forwarded them to USAID/DELIVER, and shared feedback for improvement with the concerned partners.

⁸ Clients: Afghan Family Guidance Association (AFGA), Marie Stopes International-Afghanistan (MSI-A), Health Policy Project (HPP), and SPS. HPP and SPS stopped reporting from 2016 Q1 onward.

POST-SPS ACTIVITY CONTINUATION (AFTER DECEMBER 28, 2017)

Considerable effort and resources have been expended in Afghanistan to develop the fundamental, public-sector bodies, structures, and systems required for the safe and effective provision and use of essential medicines and health products. Key amongst these developments has been the development of major laws, regulations, and policies culminating in:

- The establishment of the NMHRA
- The decision to move towards a PPM to supply medicines to the operators providing public health care
- Recognition of the need to continue strengthening all aspects of pharmaceutical and health products operations within the country

The National Health Strategy, 2016-2020, indicates the key results in the health sector that the GIRA is aiming for in five years; these results are linked to the core functions of the MoPH. Key intervention areas and activities that will provide much-needed support after December 2017 for the implementation of the National Health Strategy include the following.

1. Support NMHRA to strengthen and improve its institutional and operational capacity to carry out its key functions of ensuring medicine quality and safety effectively, namely enforcement of premarket regulations; inspections; and ensuring adherence to legislation, international standards, and good practices for manufacturing, importing, exporting, distributing/storing, dispensing, and promotion of medicines and health products.

1.a. Considerable progress has been made on updating or developing regulations, guidelines, and SOPs for medicines regulation, but the NMHRA is still staffing up, and actual implementation of the SOPs has started only recently. Specifically, a licensure mechanism to organize the re-registration and rationalization of existing pharmaceutical establishments according to the revised Pharmacy Regulation will require outside assistance. The MoPH acknowledges that monitoring and enforcement of the regulations remains weak, and establishing an effective mechanism using the scarce available resources will require a major effort.

1.b. In addition to the medicines registration that requires continued external technical assistance, there is currently almost no control on other health supplies and equipment, ranging from aluminum splints to x-ray equipment. Sustained support will be needed to assist NMHRA and other MoPH entities to strengthen systematic and transparent assessment of medical products and devices, and to develop national standardized medical device lists, and the regulatory arsenal that will ensure their quality and safety. In tandem with pricing policy and price control which need to be developed, Health Technology Assessment (HTA) will help NMHRA make rational decision in the selection and evaluation of medical products and devices for market authorization.

1.c. Pharmacovigilance through routine ADR reporting, has been implemented in Kabul hospitals and some regional hospitals. Expansion of the system nationwide, as well as expanding the system to include medical device reporting, will require outside assistance.

1.d. To promote the transparency of the regulatory system, the NMHRA requires web-based technologies and open consultative forums.

1.e. National Quality Control Laboratory (NQCL) constitutes key part of the quality assurance system that needs to be strengthened. The existing NQCL and regional laboratories (which are under development) need technical and financial support to contribute to building viable quality assurance system in collaboration with WHO-prequalified QC laboratories of neighboring countries.

2. Support to pooled procurement mechanism

2.a. As lead agency for the public-sector pooled procurement, the MoPH has made good progress by establishing a PPMU, which has started to work out the implementation details of the PPM, under the oversight of and in close collaboration with the Joint Pooled Procurement Committee and its subcommittees. The MoPH will need support to complete all necessary procedures for inter-ministerial pooled procurement, for the in-country distribution mechanisms, and for a carefully planned and timely inclusion of all public health entities into the PPM.

JPPC and PPMU will require outside assistance in negotiating adherence to good international procurement practices with other government entities (i.e., provision of technical assistance for PPM governance issues). For example, in August 2016, the High Economic Council ordered MoPH PPMU to implement a restricted tender process for 2018, without reference to the prequalification criteria developed.

2.b. A priority area for support will be to help the Afghan government ensure judicious management of the financial resources needed to make the PPM viable in the long run.

2.c. One challenge in the centralized procurement of medicines is the meager knowledge amongst local suppliers about quality assurance standards and practices for medicines and health products. It will be necessary to bring about major interactions with national importers, distributors, and wholesalers to start to address quality issues. The impact of such interaction to improve medicines quality knowledge and practice has the potential to vastly improve the quality of medicines and health products available within the country, far beyond the scope of the pooled procurement operation.

2.d. The success of any PPM depends heavily on the development of efficient SOPs and associated user manuals for every step in the procurement process; the MoPH will need outside support for successfully placing its first order, and streamlining the future ordering processes based on that experience.

2.e. Likewise, support will be needed for the introduction and roll-out of a computerized system down to the provincial level, to facilitate the key functions of the pooled procurement.

3. Improve pharmaceutical services in the public sector to ensure increased access (physical accessibility, availability, affordability, and acceptability) and rational use of medicines and health commodities through the public health system.

3.a. Outside support will be required to strengthen and improve the institutional and operational capacity of the planned GDPS to carry out its key functions of ensuring a rational selection of essential medicines and medical devices; developing needed national standards for diagnosis, treatment, and dispensing; and ensuring regular updates to those standards to stay aligned with global best practices.

3.b. Support will be needed to build the capacity of the newly formed GDPS to provide assistance to BPHS/EPHS implementers to limit stock-outs at service delivery level, by improving their inventory management and firmly linking their peripheral medicine distribution systems with the PPM at provincial level. This will ensure quality of medicines down to the end-user level.

3.d. The MoPH has adopted the DTC concept as a valuable tool for improving pharmaceutical management and use at hospital level, and the NDTC presently oversees DTC activities in a selected number of hospitals. The NDTC will need support to expand well-functioning DTCs to all hospitals in Afghanistan.

4. Improve pharmaceutical services in the private sector by building on the experience of the Afghan Medical Council and promoting the establishment of the Afghan Pharmacy Council as a national independent body, committed to ensuring patient safety through improving and promoting the quality of services delivered by pharmacists, pharmacy assistants, and pharmacy training institutions. Support is needed to develop a concept paper, and upon approval, for the institutional development of an independent Pharmacy Council with clearly identified authority on accreditation of pharmacists, pharmacy training institutions, and pharmacies.

5. Improve public awareness on effectiveness and safety of pharmaceuticals and health products. This area of interventions has so far only been addressed occasionally, but should take on more importance now that the basis of the regulatory framework has been established.

5.a. Support targeted mass media campaigns on rational medicines use and medicine safety, and incorporate pharmacovigilance concepts into all health messaging.

5.b. Support community-based interventions.

5.c. Encourage involvement of civil society/NGOs and other health service providers.

6. Pharmaceutical management information systems have been developed for registration and regulatory functions, but integration into a consistent well-organized PMIS has been hampered

by the re-organization of GDPA the last two years. Consolidating the functioning database modules into an integrated system will require further support. Key areas for support include:

- 6.a.** Maintain and upgrade (as needed) the electronic support systems for registration, licensing, and inspection functions of NMHRA (see item 1).
- 6.b.** M&E support systems (e.g., routine and intermittent data collection for key pharmaceutical performance indicators)
- 6.c.** Computerize public-sector PLIS, at least to provincial level (see section 2.e).
- 6.d.** Ensure the embedding of pharmaceutical sector data for decision-making in the MoPH data warehouse

7. Human resources capacity building has progressed remarkably with the establishment of the Competency Framework, which allowed revision of PharmD and pharmacy assistant curricula, and development of competency-based in-service LRPs. Expanding curricula implementation, and promoting routine use of the in-service LRPs will require further support.

7.a. Facilitate long-term linkages and information exchange among university schools of pharmacy, particularly for new curriculum developments, and with other USAID-supported pharmacy curriculum activities, such as: Hanoi University of Pharmacy in Vietnam⁹ and Namibia National School of Pharmacy¹⁰; the WHO program of curriculum development, *Preparing the Future Pharmacist: Curricular Development*;¹¹ the WHO Seven Star Pharmacist concept;¹² and the FIP Developing Pharmacy Practice.¹³

7.b. Facilitate linkages and exchange of information for continuing professional development (CPD) programs for pharmacists, and encourage adoption of responsibility, management, and implementation of CPD by professional pharmacy associations.¹⁴

7.c. Encourage dissemination of WHO information and methodologies for IHSs and cooperation amongst players active in the collection and processing of data.

⁹ <http://apps.who.int/medicinedocs/documents/s21802en/s21802en.pdf>

¹⁰ <http://siapsprogram.org/2015/04/27/namibias-first-school-of-pharmacy-from-creation-to-graduation/>

¹¹ <http://apps.who.int/medicinedocs/en/d/Js2214e/>

¹² http://www.jyoungpharm.org/sites/default/files/10.5530_jyp.2014.2.1.pdf

¹³

<https://www.fip.org/files/fip/publications/DevelopingPharmacyPractice/DevelopingPharmacyPracticeEN.pdf>

¹⁴ <https://www.pharmacyregulation.org/education/continuing-professional-development> and https://www.fip.org/files/fip/PharmacyEducation/CPD_CE_report/FIP_2014_Global_Report_CPD_CE_online_version.pdf

ANNEXES

Please see supplemental documentation in Annexes I and II (separate documents).

**SPS Afghanistan Associate Award
Final Report, August 28, 2011 – December 28, 2017
Annexes I**

December 28, 2017



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About SPS

The Strengthening Pharmaceutical Systems (SPS) Program strives to build capacity within developing countries to effectively manage all aspects of pharmaceutical systems and services. SPS focuses on improving governance in the pharmaceutical sector, strengthening pharmaceutical management systems and financing mechanisms, containing antimicrobial resistance, and enhancing access to and appropriate use of medicines.

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ANNEX I.1: PMP MATRIX AND PERFORMANCE INDICATORS REFERENCE SHEETS

Like the final reports narrative, the PMP matrix groups the indicators by TO and SO of the original results framework. For cross-reference, the corresponding SO in the FY2016 and FY2017 results framework is added for each indicator.

Performance Indicators	BL Date	BL	Actual PY1 to PY6						LOP Target	LOP Actual	
			PY1	PY2	PY3	PY4	PY5	PY6			
Objective 1: Pharmaceutical regulatory system strengthened											
Sub-Objective 1.1: MoPH capacity to regulate medicines strengthened											
1.1a: Number of pharmaceutical sector laws or policy documents developed or updated (Ext. SO 1.1)	09/13/2011	0	0	0	1	1	3	1	6	6	
1.1b: Number of pharmaceutical standard operating procedures and terms of reference developed (or updated) (Ext. SO 1.1)	09/13/2011	0	0	0	0	5	1	6	9	12	
1.1b1: Number of pharmaceutical regulatory guidelines developed (or updated) (Ext. SO 1.1)	02/01/2013	0	0	0	0	2	0	4	5	6	
1.1c: Percent of available drugs in the market that are registered drug products. ¹ (Ext. SO 1.2)	02/01/2013	40%	NA	NA	NA	NA	NA	72%	≥50%	72%	
1.1d: Percent of available registered drugs in the market is matching LDL. Proxy: % of products in PRIS that are in LDL ¹ (Ext. SO 1.2)	02/01/2013	86%	NA	NA	NA	NA	NA	55%	95%	55%	
1.1e: Percent of Private retail pharmacy outlet that MoPH inspected last quarter (disaggregated by site structure type/province) ^{1,2} (Ext. SO 1.1)	02/01/2013	74%	NA	NA	NA	NA	NA	1007	89%	1007	
1.1f: Percent of inspected Private retail pharmacy outlet (disaggregated by site type) that meet minimum requirements according to MoPH standards Proxy: % of retail outlets in RO database that meet all requirements (Ext. SO 1.1)	02/01/2013	0%	NA	NA	NA	NA	NA	62%	5%	62%	
Sub-Objective 1.2: Public and private sector quality assurance systems strengthened											
1.2b: Percent of pharmacies that comply with waste management requirements (as determined by MoPH)	PY3 Q2	0%	NA	NA	69 %	NA	NA	NA	83%	69 %	

¹ Baseline for this indicator is taken from the Afghanistan Retail Pharmaceutical Survey 2013.

² Inspection with the updated inspection checklist only started in FY17 no denominator could be obtained from MoPH.

Performance Indicators	BL Date	BL	Actual PY1 to PY6						LOP Target	LOP Actual
			PY1	PY2	PY3	PY4	PY5	PY6		
1.2c: Percent of drug samples from retail pharmacy that meet quality standards for physical inspection and labeling (Ext. SO 1.1)	02/01/2013	90%	NA	NA	NA	NA	NA	85%	100%	85%
Objective 2: Pharmaceutical product availability improved										
<i>Sub-Objective 2.1: BPHS and EPHS providers' pharmaceutical supply chain management strengthened</i>										
2.1b: Percent of unexpired indicator drugs available in selected public storage and health facilities unexpired (BPHS HF+WHs)	PY1	89.4%	89.4%	91.1%	92.2%	93.1%	87.0%	90.4%	=>90%	90.0%
2.1bx: Percent of unexpired indicator drugs available in targeted public facilities ³ (Ext. TO 1)	07/08/2016	85%	88.4%	91.1%	91.0%	91.4%	85.7%	90.1%	=>90%	89.5%
2.1b2: Percent of unexpired indicator drugs available in targeted BPHS facilities. (Ext. SO 3.2)	09/01/2011	88%	88.9%	91.1%	92.0%	93.0%	87.4%	90.6%	90%	90.5%
2.1b3: Percent of unexpired indicator drugs available in targeted provincial and regional hospitals (Ext. SO 3.2)	PY5	90%	89.4%	93.3%	91.7%	86.8%	90.9%	93.9%	90%	91.0%
2.1b4: Percent of unexpired indicator drugs available in 16 ⁴ Kabul hospitals (Ext. SO 3.2)	PY5	76%	19.0%	70.0%	74.2%	84.2%	76.2%	77.7%	90%	78.4%
2.1d1: Percent of stock records that correspond with physical count in warehouses (Ext. SO 1.4)	09/02/2011	84%	92.1%	98.4%	94.7%	93.3%	79.7%	85.5%	≥90%	90.1%
2.1d2: Percent of stock records that correspond with physical count in targeted BPHS facilities (Ext. SO 3.2)	07/01/2016	71%	56.3%	62.0%	69.4%	78.0%	62.0%	71.4%	80%	68.0%
2.1d3: Percent of stock records that correspond with physical count in targeted provincial and regional hospitals (Ext. SO 3.2)	07/01/2016	88%	84.2%	67.1%	90.0%	88.8%	87.7%	97.2%	80%	89.3%
2.1d4: Percent of stock records that correspond with physical count in 16 Kabul hospitals. (Ext. SO 3.2)	PY3	89%	95.2%	100.0%	89.1%	85.6%	93.8%	98.5%	80%	91.7%
2.1e: Average percent of time out of stock for tracer drugs in the last 6 months in PCH HFs and warehouses. (BPHS+WHs)			4.5%	4.1%	4.4%	2.3%	8.9%	5.9%	=<10%	5.3%

³ Targeted Public Health Facilities = (BPHS, EPHS and Kabul Hospitals)

⁴ Number of Kabul hospitals directly supported by SPS varies by year (FY). In FY16 SPS fully supported 17, and in FY17 this was cut back to 6 in agreement with USAID to accommodate available budget.

Performance Indicators	BL Date	BL	Actual PY1 to PY6						LOP Target	LOP Actual
			PY1	PY2	PY3	PY4	PY5	PY6		
2.1ex: Average percent of time out of stock for tracer drugs in the last 6 months in targeted public facility (Ext. TO 1)	07/08/2016	13%	5.1%	4.1%	5.7%	4.4%	10.8%	6.9%	=<10%	6.6%
2.1e1: Average percent of time out of stock for tracer drugs in the last 6 months in targeted warehouses. (Ext. SO 3.2)	PY5	8%	3.4%	3.7%	3.1%	2.1%	9.5%	4.6%	10%	4.7%
2.1e2: Average percent of time out of stock for tracer drugs in the last 6 months in targeted BPHS facilities. (Ext. SO 3.2)	09/02/2011	3%	4.7%	4.1%	4.5%	2.3%	8.8%	6.0%	10%	5.4%
2.1e3: Average percent of time out of stock for tracer drugs in the last 6 months in targeted provincial and regional hospitals. (Ext. SO 3.2)	09/01/2011	3%	2.9%	1.3%	4.5%	8.9%	8.5%	7.5%	10%	6.7%
2.1e4: Average percent of time out of stock for tracer drugs in the last 6 months in 16 ³ Kabul hospitals. (Ext. SO 3.2)	PY5	23%	78.0%	27.3%	24.7%	14.4%	21.1%	22.5%	10%	20.0%
2.1fx: Weighted average percent of inventory variation for tracer drugs in targeted facilities ¹ (Ext. SO 3)	09/01/2011	9%	12.1%	7.5%	3.9%	3.4%	7.8%	4.6%	10%	5.9%
2.1f1: Weighted average percent of inventory variation for tracer drugs in targeted warehouses (Ext. SO 1.4)		5%	0.5%	0.1%	1.0%	3.8%	3.7%	5.6%	≤1%	2.7%
2.1f2: Weighted average percent of inventory variation for tracer drugs in targeted BPHS facilities (Ext. SO 3.2)	PY5	10%	12.8%	7.7%	4.2%	3.4%	9.5%	5.1%	5%	6.5%
2.1f3: Weighted average percent of inventory variation for tracer drugs in targeted provincial and regional hospitals (Ext. SO 3.2)	09/01/2011	4.6%	3.4%	1.6%	1.6%	0.6%	1.3%	0.1%	5%	1.0%
2.1f4: Weighted average percent of inventory variation for tracer drugs in 16 ⁵ Kabul hospitals	09/01/2011	1.5%	28.6%	0.0%	1.5%	4.7%	1.6%	0.3%	10%	2.5%
2.1g: Number of supportive monitoring visits to PCH HFs and warehoused by SPS (BPHS + EPHS + WHs)	09/03/2011	70	144	258	193	315	337	497	1,414	1,744

⁵ Number of Kabul hospitals directly supported by SPS varies by year (FY). In FY16 SPS fully supported 17, and in FY17 this was cut back to 6 in agreement with USAID to accommodate available budget.

Performance Indicators	BL Date	BL	Actual PY1 to PY6						LOP Target	LOP Actual
			PY1	PY2	PY3	PY4	PY5	PY6		
2.1g1: Number of supportive monitoring visits to targeted warehouses by SPS (Ext. SO 3.2)	09/04/2011	8	16	32	15	31	33	27	145	154
2.1g2: Number of supportive monitoring visits to targeted BPHS facilities by SPS (Ext. SO 3.2)	09/03/2011	56	117	219	166	262	285	439	1,190	1,488
2.1g3: Number of supportive monitoring visits to targeted provincial and regional hospitals by SPS (Ext. SO 3.2)	PY1	6	11	7	12	22	19	31	79	102
2.1h1: Percent of targeted warehouses managers who know the standard formula for determining order quantities for cotrimoxazole. (Ext. SO 3.2)	PY1	68%	56.3%	62.5%	93.3%	96.7%	59.3%	85.2%	80%	75.5%
2.1h2: Percent of targeted BPHS facility managers who know the standard formula for determining order quantities for cotrimoxazole. (Ext. SO 3.2)	PY5	46%	12.8%	38.9%	64.8%	74.3%	34.2%	57.5%	80%	50.1%
2.1h3: Percent of targeted provincial and regional hospital managers who know the standard formula for determining order quantities for cotrimoxazole. (Ext. SO 3.2)	PY1	67%	25.0%	0.0%	66.7%	66.7%	50.0%	NA	80%	38.7%
<i>Sub-Objective 2.2: Coordination among the international donor community, the MoPH, and other relevant stakeholders strengthened</i>										
2.2a: Number of pharmaceutical procurement plans shared between CPDS stakeholders	Sept. 2011	0	0	0	0	9	NA	NA	10	9
2.2c: Number of CPDS stakeholder participants trained on Pharmaceutical Logistic Information System quarterly reporting form	Sept. 2011	0	20	70	0	115	NA	NA	330	205
2.2d: Percent sites with under 15% product expiry or wastage in last quarter	Feb. 2013	0%	0%	0%	0%	100%	NA	NA	80%	100%
2.2e: Percent of BPHS contractors that submitted stock status reports last quarter	Feb. 2013	0%	0%	0%	0%	95%	NA	NA	80%	95%
2.2f: Number of wholesalers prequalified for public sector procurement ⁶ (Ext. SO 1.3)	PY5 Q1	0	NA	NA	NA	NA	NA	NA	5	NA
2.2g: Percent of service level of last NGO orders: specifications, quantity, lead time and price of received items match order (upstream) (WH) (Ext. SO 1.3)	07/01/2016	29%	NA	NA	NA	NA	37.7%	60.2%	≥35%	50.7%

⁶ PPM prequalification criteria not yet endorsed by the NPA.

Performance Indicators	BL Date	BL	Actual PY1 to PY6						LOP Target	LOP Actual
			PY1	PY2	PY3	PY4	PY5	PY6		
2.2h: Percent of service level of last NGO distributions on facility requests: specifications, quantity, lead time match facility request (downstream) (HF) (Ext. SO 1.3)	07/01/2016	30%	NA	NA	NA	NA	26.1%	46.8%	≥34%	43.9%
2.2i: Number of MOUs signed by MoPH and BPHS/EPHS NGOs under the public sector pooled procurement mechanism ⁴ (Ext. SO 1.5)	09/01/2016	0	NA	NA	NA	NA	NA	NA	20	NA
Objective 3: Human resource capacity for effective service delivery built										
<i>Sub-Objective 3.1: Institutional and human resource pharmaceutical management capacity built</i>										
3.1c: Number of teaching institutions incorporating modern pharmaceutical management concepts in their curricula (Ext. SO 3.3)	09/01/2011	0	0	1	0	0	64	0	41	65
3.1c1: Number of curricula updated with modern pharmaceutical subjects by the targeted teaching institutions. (Ext. SO 3.3)	09/01/2016	0	NA	NA	NA	NA	3	0	3	3
3.1d: Number of participants trained in pharmaceutical management principles and practices through SPS (Ext. SO 3.3)	09/01/2011	234	33	336	449	2,519	2,581	1,586	9,451	7,504
3.1e: % of SPS-supported sites visited by FIOs that have received pharmaceutical management supervision visit from local counterparts in past quarter (Ext. SO 3.3)	02/01/2013	76%	0.8%	0.0%	65.5%	88.3%	77.8%	78.6%	80%	59%
3.1f: Number of organizations/institutions that have received SPS assistance to strengthen their capacity to deliver training or technical assistance	09/01/2011	0	37	84	73	193	NA	NA	13	387
Objective 4: Pharmaceutical services enhanced										
<i>Sub-Objective 4.1: Provide assistance to promote more effective pharmaceutical services, rational medicine use, and medicines safety</i>										
4.1a: Percent of sites with DTCs that have implemented pharmaceutical services improvement activities (Ext. SO 3.1)	09/01/2011	94%	78%	74%	94%	100%	100%	97%	90%	97%
4.1b: Percent of patients in primary care facilities (BPHS) receiving at least one antibiotics (Ext. SO 3)	09/01/2011	49%	51.1%	46.7%	42.9%	41.2%	43.8%	40.4%	40%	43.3%
4.1c1: Percent of prescriptions complying with standard treatment guidelines in targeted BPHS health facilities (Ext. SO 3.1)	02/01/2013	72%	NA	NA	34.7%	NA	65.6%	72.5%	80%	69.9%

Performance Indicators	BL Date	BL	Actual PY1 to PY6						LOP Target	LOP Actual
			PY1	PY2	PY3	PY4	PY5	PY6		
4.1c2: Percent of prescriptions complying with standard treatment guidelines in targeted Provincial and regional hospitals (Ext. SO 3.1)	07/02/2016	65%	NA	NA	NA	NA	45.8%	71.2%	78%	65.9%
4.1c3: Percent of prescriptions complying with standard treatment guidelines in Kabul hospitals	07/02/2016	43%	NA	NA	NA	NA	56.2%	67.4%	52%	61.2%
4.1e: Percent of health facilities (BPHS) with approved set of pharmaceutical guidelines available (Ext. SO 3.1)	09/01/2011	0%	84.6%	75.1%	91.4%	69.4%	65.1%	75.3%	90%	70.7%
4.1f: Number of hospitals with functioning DTC that have implemented a medicine safety action (Ext. SO 3.1)	09/01/2011	0%	NA	NA	NA	NA	100%	100%	70%	100%
Objective 5: Information for pharmaceutical sector decision-making improved										
<i>Sub-Objective 5.1: Pharmaceutical management information systems to support evidence-based decision-making strengthened</i>										
5.1a: Percent of facilities submitting PLIS reports on time in the last quarter (Ext. TO 1)	09/01/2011	0	NA	NA	NA	NA	14%	22%	50%	16%
5.1b: Percent of hospitals with ADR reporting system that submitted ADR report last quarter (Ext. SO 3)	09/01/2011	0%	NA	NA	NA	100%	47%	32%	70%	40%
5.1d: Number of private retail pharmacies computerized (Ext. SO 1.6)	09/01/2011	0	0	0	0	0	1,528	174	2,464	1,702
5.1e: Number of medicine items submitted for registration computerized. (Ext. SO 1.6)	09/01/2011	0	1,407	6,393	1,979	829	366	301	13,500	11,275
5.1f: Number of Proforma and commercial invoices computerized. (Ext. SO 1.6)	09/01/2011	0	0	3,827	798	2,782	1,699	151	12,000	9,257
5.1g. % of previously registered medicine product were re-registered entered in the PRIS database (Ext. SO 1.6)	02/01/2013	0	NA	NA	NA	NA	353	300	942	653
5.1h. % of pharmacy inspection reports (checklist) of HLIED computerized into the HLIED Inspection database (Ext. SO 1.6)	02/02/2013	0	NA	NA	NA	NA	NA	100%	50%	100%

ANNEX I.2: ENVIRONMENTAL MITIGATION

Training, Education, and Technical Assistance

SPS provided training for the MoPH and NGO staff and health workers on the importance of periodic monitoring of stock availability and consumption. Referencing was made during training, supervision, and technical assistance to adhere to appropriate local government medicine disposal procedures and/or to WHO international standard guidelines for disposal.

Warehousing and Distribution of Essential Medicines

For storage, SPS incorporated the WHO good storage practices for pharmaceuticals and US Food and Drug Administration (FDA) guidelines in its training modules and operations. SPS facilitated disposition of pharmaceutical products that was performed by MoPH according to the regulations of the National Environmental Protection Department, which are in accordance with the WHO Guidelines for Safe Disposal of Unwanted Pharmaceuticals During and After Emergencies. SPS followed 2013 PERSUAP for use of pesticides or microbicides.

Facilitating Disposal of Pharmaceutical Products

During the life of project, SPS supported the MoPH to facilitate the disposition of pharmaceutical products in 2013 and 2016, as per regulations. The SPS warehouse operation was closed down at the end of September 2016. The disposition site selected by the GDPA was in Gazak area in Kabul Province, where there was no incinerator available at the times of disposition. The disposal method was burn and bury. The items listed in figure 1 were collected in the open-pit area (L x W x D: 100m x 100m x 1.5m approx.), burnt with diesel and then with petrol, and the pit was covered with sand once burnt out. The Environmental Mitigation and Monitoring Plan (EMMP) was cleared by USAID/Afghanistan on June 30, 2016.

Figure 1: Lists of Pharmaceutical Products that the project facilitated the disposition by MoPH in 2013 and in 2016

**GUIDELINES FOR COMPLETING
THE PHARMACEUTICAL WASTE MANAGEMENT FORM**

Name of organization: SPS/MSH
 Date: June 7th, 2012
 Time: 10:00 to
 Place of disposal:
 Method of disposal: Burn and bury

No	Description and counting unit	Pack size (number of Units)	Number of Packs	Expiry Date	Facility
1	Methyldopa 250 mg Tab	1000	180	01-Apr-10	SPS warehouse
2	Norgestrel 75mcg, cycle	1200	566	01-Jun-10	SPS warehouse
3	Albendazole 200mg tab	1000	19	01-Sep-10	SPS warehouse
4	Ergometrine 0.2mg inj 1ml	100	22	01-Sep-10	SPS warehouse
5	Norgestrel 75mcg, cycle	1200	258	01-Sep-10	SPS warehouse
6	Phenobarbital 100mg/ml inj 2ml	100	119	01-Sep-10	SPS warehouse
7	Lidocaine hcl (Lignocaine) 2% inj 20ml	50	234	01-Oct-10	SPS warehouse
8	Phenobarbital 100mg/ml inj 2ml	100	23	01-Oct-10	SPS warehouse
9	Ergometrine 0.2mg inj 1ml	100	655	31-Oct-10	SPS warehouse
10	Magnesium sulfate 50% inj 20ml	10	5234	31-Oct-10	SPS warehouse
11	Norgestrel 75mcg, cycle	1200	965.81	01-Nov-10	SPS warehouse
12	Phytomenadione (vit K) 10mg/ml inj 1ml	100	215	01-Nov-10	SPS warehouse
13	Sodium bicarbonate 8.4% 25ml inj	50	978	01-Nov-10	SPS warehouse
14	Quinine (bi)sulfate 300mg tab film coated	1000	41	30-Nov-10	SPS warehouse
15	Adrenalin 1mg/ml inj 1ml	100	258	01-Jan-11	SPS warehouse
16	Aminophyllin 25mg/ml inj 10ml	100	421	01-Jan-11	SPS warehouse
17	Suxamethonium cl 100mg/2ml inj	100	12	01-Jan-11	SPS warehouse
18	Zinc disperasable 20mg blister of 10 tab	1	117642	01-Jan-11	SPS warehouse
19	Artesunate 100mg + SP 500mg-25mg blister of 9 tab	1	4419	31-Jan-11	SPS warehouse
20	Artesunate 50mg +SP 500+25 mg blister of 8 tab	1	23986	31-Jan-11	SPS warehouse
21	Salbutamol respirator solution 5mg/ml 15 ml	1	31	01-Feb-11	SPS warehouse

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22	Artesunate 100mg + SP 500mg-25mg blister of 9 tab	1	40532	28-Feb-11	SPS warehouse
24	Retinol 200000IU capsule	1000	571	31-Mar-11	SPS warehouse
25	Oxytocin 10 IU/ml inj 1ml	100	338	01-Apr-11	SPS warehouse
26	Magnesium sulfate 50% inj 20ml	100	14	01-May-11	SPS warehouse
27	Norgestrel 75mcg , cycle	1200	2	01-May-11	SPS warehouse
28	Phytomenadione (vit K) 10mg/ml inj 1ml	100	63	01-May-11	SPS warehouse
29	Salbutamol respirator solution 5mg/ml 15 ml	1	1723	01-May-11	SPS warehouse
30	Artesunate 100mg + SP 500mg-25mg blister of 9 tab	1	2401	31-May-11	SPS warehouse
31	Chloramphenicol sod succ 1g inj	50	40	31-May-11	SPS warehouse
32	Retinol 200000IU capsule	1000	37	31-May-11	SPS warehouse
33	Ergometrine 0.2mg inj 1ml	100	318	01-Jun-11	SPS warehouse
34	Norgestrel 75mcg , cycle	1200	82	01-Jun-11	SPS warehouse
35	Mannitol 20% solution 500ml	20	1	30-Jun-11	SPS warehouse
36	Metoclopramide hcl 10mg/2ml inj	100	163	30-Jun-11	SPS warehouse
37	Haloperidol 5mg tab	1000	4	31-Jul-11	SPS warehouse
38	Chloramphenicol sod succ 1g inj	50	1612	01-Aug-11	SPS warehouse
39	Dextrose 50% inj 50ml	20	289	01-Aug-11	SPS warehouse
40	Isosorbide dinitrate 5mg subling tab	100	3222	01-Aug-11	SPS warehouse
41	Metoclopramide hcl 10mg tab	1000	40	01-Aug-11	SPS warehouse
42	Protamine sulfate 50mg/5ml inj	10	159	01-Aug-11	SPS warehouse
43	Oxytocin 10 IU/ml inj 1ml	100	116	01-Mar-11	SPS warehouse
44	Salbutamol 500mcg/ml inj 1ml	100	329	30-Nov-11	SPS warehouse
45	Morphine Sulphate 10mg/1ml inj	10	702	15-Dec-11	SPS warehouse
46	Diazepam 10mg/2ml inj 2ml	100	919	31-Dec-11	SPS warehouse
47	Retinol 200000IU capsule	1000	461	31-Dec-11	SPS warehouse
48	Atropine sulfate inj 1mg/1ml	10	6679	01-Jan-12	SPS warehouse
49	Chloroquine phosphate 50mg/5ml syrup 60ml	1	37266	01-Jan-12	SPS warehouse

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50	Chloroquine phosphate 150mg (base) tab	1000	643	31-Jan-12	SPS warehouse
51	Retinol 200000IU capsule	1000	3089	31-Jan-12	SPS warehouse
52	Heparin sodium 25000 IU/5ml inj	25	96	01-Feb-12	SPS warehouse
53	Metoclopramide hcl 10mg/2ml inj	100	40	01-Feb-12	SPS warehouse
54	Phenobarbital 30mg tab	1000	46	01-Feb-12	SPS warehouse
55	Procaine benzylpenicillin 3(MiU) inj	50	1254	01-Feb-12	SPS warehouse
56	Sulfadoxine 500mg + pyrimethamine 25mg tab	1000	71	01-Feb-12	SPS warehouse
57	Chloramphenicol sod succ 1g inj	50	48	28-Feb-12	SPS warehouse
58	Metoclopramide hcl 10mg/2ml inj	100	110	29-Feb-12	SPS warehouse
59	Quinine (bi)sulfate 300mg tab film coated	1000	290	29-Feb-12	SPS warehouse
60	Dextrose 50% inj 50ml	20	2245	01-Apr-12	SPS warehouse
61	Sulfadoxine 500mg + pyrimethamine 25mg tab	1000	124	01-Apr-12	SPS warehouse
62	Chlorphenamine hydrogen maleate 10mg/1ml inj	100	250	30-Apr-12	SPS warehouse
63	Magnesium sulfate 50% inj 20ml	10	4282	30-Apr-12	SPS warehouse
64	Chloroquine phosphate 150mg (base) tab	1000	378	01-May-12	SPS warehouse
65	Diazepam 10mg/2ml inj 2ml	100	747	01-May-12	SPS warehouse
66	Digoxin 500mcg/2ml inj	100	1	01-May-12	SPS warehouse
67	Water for injections 10ml	50	2322	01-May-12	SPS warehouse
68	Adrenalin 1mg/ml inj 1ml	100	183	01-Jun-12	SPS warehouse
69	Hydrochlorothiazide 50mg tab	1000	80	01-Jun-12	SPS warehouse
70	Mebendazole 100mg tab	1000	346	01-Jun-12	SPS warehouse
71	Procaine benzylpenicillin 3(MiU) inj	50	90	01-Jun-12	SPS warehouse
72	Quinine (bi)sulfate 300mg tab film coated	1000	18	01-Jun-12	SPS warehouse
73	Nifedipine 10 mg tab	100	930	31-Mar-14	SPS warehouse

Comments: Items 1-72 expired. Item 73 has quality issues according to supplier.

Authorized team:

Head of team	Job Title	Organization	Location	Signature

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Entered in mSupply Database	Disposal Approval
Name <i>Alamanda Fakhra</i>	Name
Title <i>Project Management Coordinator</i>	Title
Date <i>15 July 2012</i>	Date
Signature <i>[Signature]</i>	Signature

23 04 2013
 H. Mogen
 MSH/SPS
 fatim
 23/4/2013
 MSH/SPS

Table 1: Disposition, 2013 to 2016

SN	Description	Pack size	Quantity in packs	Expiry date	Method of disposal
1	Charcoal, activated powder 125mg tab	1,000	167	07/01/2012	Burn and bury
2	Morphine sulphate 10mg/1ml inj	10	230	09/30/2012	Burn and bury
3	Protamine sulfate 50mg/5ml inj	10	17	10/31/2012	Burn and bury
4	Chlorpromazine 50mg/2ml inj	100	98	10/31/2012	Burn and bury
5	Salbutamol 500mcg/ml inj 1ml	100	151	12/31/2012	Burn and bury
6	Adrenalin 1mg/ml inj 1ml	100	10	01/01/2013	Burn and bury
7	Haloperidol 5mg tab	1,000	98	01/01/2013	Burn and bury
8	Phenobarbital 200mg/ml, 1ml inj	100	566	01/01/2013	Burn and bury
9	Morphine sulphate 10mg/1ml inj	10	427	01/31/2013	Burn and bury
10	Haloperidol 5mg/1ml inj 1ml	100	26	02/01/2013	Burn and bury
11	Sodium bicarbonate 8.4% 25ml inj	50	136	02/01/2013	Burn and bury
12	Aminophyllin 25mg/ml inj 10ml	100	85	02/01/2013	Burn and bury
13	Procaine benzylpenicillin 3(MiU) inj	50	1,536	02/01/2013	Burn and bury
14	Multivitamin coated tab	1,000	9,954	02/01/2013	Burn and bury
15	Atropine sulfate inj 1mg/1ml	100	142	03/01/2013	Burn and bury
16	Nifedipine 20mg Retard tab	100	11,346	03/01/2013	Burn and bury
17	Thiopentone sodium 1gr inj	50	188	04/01/2013	Burn and bury
18	Atropine sulfate inj 1mg/1ml	100	122	11/30/2011	Burn and bury
19	Artemether 80mg/ml inj 1ml	30	44	04/30/2013	Burn and bury
20	Insulin (soluble, human) 100iu/ml 10ml	1	3,382	07/01/2013	Burn and bury
21	Phenobarbital 100mg tab	1,000	1	07/01/2013	Burn and bury
22	Sodium bicarbonate 8.4% 20ml inj	10	56	08/31/2013	Burn and bury
23	Ketamine hydroch. 50 mg/ml inj 10ml	25	347	01/01/2014	Burn and bury
24	Salbutamol 4mg tab	1,000	220	01/01/2014	Burn and bury
25	Paracetamol 100mg tab	1,000	27,465	02/01/2014	Burn and bury
26	Paracetamol 500mg tab	1,000	1,760	03/01/2014	Burn and bury
27	Ferrous sulf 200mg + folic acid 0.25mg Tab	1,000	5,448	02/28/2014	Burn and bury
28	Cotrimoxazole (sulfmthx+tmp) 120mg tab	1,000	1,702	02/01/2014	Burn and bury
29	Mebendazole 100mg tab	1,000	93	02/01/2014	Burn and bury
30	Nystatin pessaries 100000U	100	2,442	02/01/2014	Burn and bury
31	Phenobarbital 100mg tab	1,000	239	04/01/2014	Burn and bury
32	Phenobarbital 30mg tab	1,000	9	04/01/2014	Burn and bury
33	Tetracycline hcl 1% eye oint tube 5gr	50	663	04/01/2014	Burn and bury
34	Ketamine hydrochloride 50 mg/ml inj 10ml	25	45	05/01/2014	Burn and bury
35	Diazepam 5mg tab	1,000	0.94	12/01/2013	Burn and bury
36	Phenobarbital 30mg tab	1,000	0.94	05/31/2014	Burn and bury
37	Phenobarbital 100mg tab	1000	28	07/31/2014	Burn and bury
38	Ergometrine 0.2mg inj 1ml	100	421	06/30/2014	Burn and bury
39	Diazepam 5mg tab	1,000	50	12/31/2014	Burn and bury
40	Adrenalin 1mg/ml inj 1ml	100	93	01/31/2015	Burn and bury
41	Benzathine benzylpenicillin 2.4MIU/5ml inj	10	660	10/31/2014	Burn and bury
42	Chloroquine phosphate 50mg/5ml syrup 60ml	1	1,313	04/01/2015	Burn and bury
43	Hydralazine hydrochloride 20mg inj	5	27	02/01/2015	Burn and bury
44	Quinine (bi)sulfate 300mg tab film coated	1,000	17	03/31/2015	Burn and bury
45	Sulfadoxine 500mg + pyrimethamine 25mg tab	1,000	3	04/30/2015	Burn and bury

SN	Description	Pack size	Quantity in packs	Expiry date	Method of disposal
46	Chlorphenamine hydrogen maleate 10mg/1ml inj	100	252	05/01/2015	Burn and bury
47	Benzathine benzylpenicillin 1.2MIU/5ml inj	100	11	05/31/2015	Burn and bury
48	Ergometrine 0.2mg tab	1,000	10	06/30/2015	Burn and bury
49	Chlorphenamine hydrogen maleate 10mg/1ml inj	100	192	08/01/2015	Burn and bury
50	Nystatin pessaries 100000U	100	2,027	08/01/2015	Burn and bury
51	Benzathine benzylpenicillin 2.4MIU/5ml inj	50	32	08/31/2015	Burn and bury
52	Magnesium sulphate 50%, 10ml	100	63	09/01/2015	Burn and bury
53	Magnesium sulfate 50% inj 20ml	10	5,810	02/29/2016	Burn and bury
54	Acetylsalicylic acid 500mg tab	1,000	1935.5	07/01/2015	Burn and bury
55	Ferrous sulf 200mg + folic acid 0.25mg tab	1,000	1,160	05/31/2013	Burn and bury
56	Paracetamol 120mg/5ml, 100ml	1	2,500	Nov. 2014	Burn and bury
57	Multivitamin tablets	5,000	2	No label	Burn and bury
58	ORS	1	56,400	Oct. 2015	Burn and bury
59	ORS	1	996,677	Jan. 2016	Burn and bury
60	ORS	1	382,267	Nov. 2015	Burn and bury
61	ORS	1	226,905	Nov. 2015	Burn and bury
62	ORS	1	144,600	Dec. 2015	Burn and bury
63	Ferrous sulphate 200mg+folic acid 0.25mg, sugar-coated	1	928,950	Mar. 2016	Burn and bury
64	Ferrous sulphate 200mg+folic acid 0.4mg, sugar-coated	1	256,000	Mar. 2016	Burn and bury

ANNEX I.3 SECURITY

MSH does not maintain detailed records of the specific reasons that individual districts are considered unsafe at a given time. Each request for travel/activities in individual districts is reviewed on a case-by-case basis at the time of request. However, given the trends of security risks and threats in each district, the MSH security department maintains its district security status report in order to inform staff of which districts are most likely to be denied for security clearance. In response to the data call by Regional Coordination Unit of USAID, the project reported, on a monthly basis, the activities that were directly or indirectly affected by security incidents.

Field visit destinations were vetted district by district by MSH security before departure from Kabul, and again with provincial authorities upon arrival in the province. Individual locations in a district were vetted again with district and local authorities before MSH staff would travel to the destination.

Table 1 summarizes the incidences by province and by type of incidence.

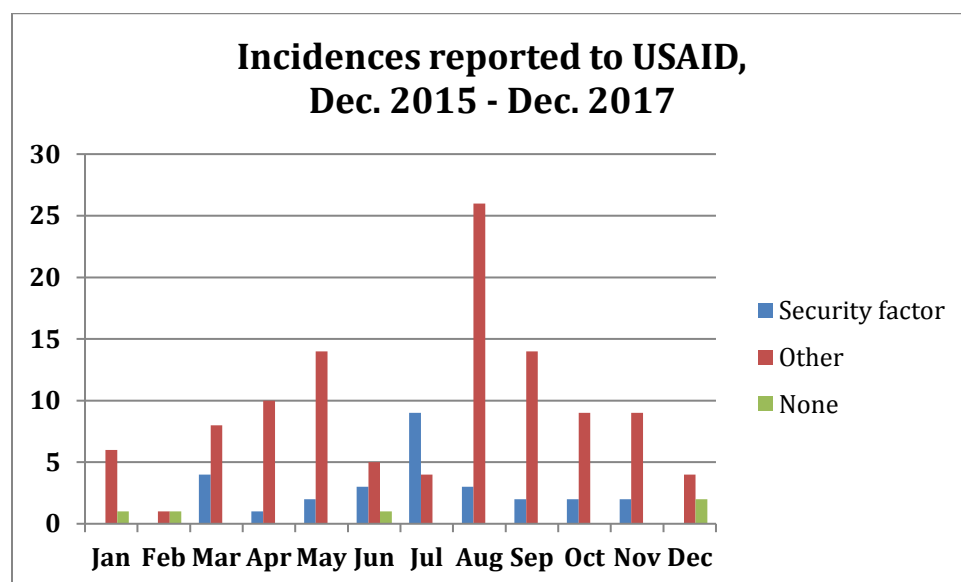
During the reporting period between December 01, 2015, and December 28, 2017, a total of 143 changes in the activity schedule were reported to USAID. Note that the “security factor” category includes road blockages, resulting from insurgency activities *in or on the way to* the area, that affected the facility where the project planned to conduct an event; effects of meteorological phenomenon on project implementation; or warning of likely insurgency activities obtained from local authorities. The “other” category includes operational and administrative factors such as unavailability of counterpart(s), internal project management issues, and unplanned national holidays.

Table 1: Frequency of incidence reported to USAID by province, by type of incidence, between December 2015 and December 2017

Province	Type of incidence reports			
	Security factor	Other	Report without incident	Total
Badakhshan	2	5		7
Baghlan	1			1
Balkh	2	4		6
Faryab		3		3
Ghazni	2	1		3
Helmand	3			3
Herat	2	6		8
Kabul	10	73	1	84
Kandahar		5		5
Kapisa	1	2		3

Province	Type of incidence reports			
	Security factor	Other	Report without incident	Total
Khost	2	1		3
Kunduz	1			1
Laghman	1	1		2
Nangarhar	1	4		5
Parwam		1		1
Takhar		4		4
Other provinces			4	4
Total:	28	110	5	143

The effects of security factors are reported more frequently for the activities in Kabul Province than other provinces. This appears to be proportional to the total number of project activities that took place in Kabul relative to that of other provinces. In terms of seasonal change, July had the largest number of changes in the activities attributed to security factor (32.1% or 9/28), which generally aligns with other statistics.⁷



Since the SPS LWA started in 2008, the project has never experienced an incident that injured or killed a project staff in Kabul and provinces. Knowledge, experience, and networks that local MSH staff retain contribute greatly to detecting possible incidents that are likely to result in serious consequences.

⁷ International NGO Safety Organization: <http://www.ngosafety.org/country/afghanistan>

ANNEX I.4 SUMMARY OF TRAININGS, BY SO

The tables below contain a summary of formal trainings and workshops, with gender breakup of participants. As mentioned in the narrative, many competency-based capacity building efforts provided by SPS involved ongoing on-the-job mentoring, rather than formal “trainings”.

SO1.1 Capacity of MoPH to Regulate medicines strengthened							
DESCRIPTION OF TRAINING	# Sessions	# Male	# Female	Where	Between		Targeted participants
Food Regulatory System Development	1	12	1	Kabul	1-Apr-13	2-Apr-13	MoPH staff
Food Sampling and Food Safety	1	32	0	Kabul	19-May-14	20-May-14	MoPH and stakeholders
Data Analysis Training Course	1	7	1	Kabul	11-Feb-12	14-Feb-12	GDPA/MoPH staff
GDPA Strategic Planning Workshop	1	38	12	Kabul	21-Jan-14	23-Jan-14	MoPH technical staff
Pharmaceutical Regulatory System	2	50	9	Kabul	30-Apr-13	6-May-13	MoPH staff
Quantification of Essential Medicines Training Course	2	17	0	Kabul	17-Dec-11	25-Jan-12	MoPH/GDPA staff
NMHRA Strategic Plan Workshop_20161009	1	47	7	Kabul	9-Oct-16	9-Oct-16	MoPH and NGOs
Establishment of Modern Medicines Registration System in Afghanistan	1	29	2	Kabul	18-Oct-14	22-Oct-14	MoPH staff
Informative Workshop on New Medicines Registration System for Private and Public Sector	1	122	7	Kabul	27-Oct-14	28-Oct-14	Private and public-sector staff
Medicine Registration SOPs Training	1	14	2	Kabul	14-Dec-15	14-Dec-15	GDPA technical staff
Workshop on Granting the Registration Certificate for the Companies and Products	2	194	16	Kabul	10-Dec-14	5-Jun-16	GDPA and stakeholders
Orientation Workshop on National Pharmaceutical Establishment Inspection Checklists for Public and Private Sectors	1	161	18	Kabul	21-Nov-16	21-Nov-16	Government and private sectors

SO1.2 Public- and Private-Sector Quality Assurance Systems Strengthened							
DESCRIPTION OF TRAINING	# Session	# Male	# Female	Where	Between		Targeted participants
Introductory Workshop on National Pharmaceutical Quality Assurance Policy and Minilab Findings	1	87	8	Kabul	23-Feb-16	23-Feb-16	MoPH, NGOs, private sector, and related ministries
Minilab Training	3	42	12	Kabul	24-Mar-15	5-Aug-15	MoPH, Faculty of Pharmacy, GIHS, NGOs
Quality Assurance Overview	2	81	14	Kabul	13-May-13	22-May-13	MoPH staff

SO2.1 BPHS and EPHS Providers' Pharmaceutical Supply Chain Management Strengthened							
DESCRIPTION OF TRAINING	# Session	# Male	# Female	Where	Between		Targeted participants
Workshop to Introduce PPM and Review the Lists of Medical Products under the PPM	2	127	21	Kabul	22-Aug-17	6-Nov-17	Kabul, MoHE, Reform Hospitals
ABC/VEN Analysis Training	2	21	0	Kabul, Baghlan	19-May-14	19-May-14	Hospital DTC member staff
Capacity Building Root Cause Analysis	19	171	33	Kabul, Faryab, Jawzjan, Khost, Takhar, Herat, Badakhshan, Baghlan, Paktika, Paktya	3-Mar-14	13-May-15	PPHO and BPHS/EPHS in 13 provinces
Management Drug Supply	2	39	17	Kabul	2-Nov-13	28-Apr-14	Kabul hospitals
Management Drug Supply	2	42	5	Kabul, Jawzjan	17-May-15	16-Jun-15	BRAC, SAF
MDS Training Course	2	54	12	Kabul	18-Sep-11	29-Sep-11	Staff of MoPH HFs supported by JICA
Medicine Supply System Training	1	17	2	Kabul	9-Jun-15	10-Jun-15	SEHAT NGOs
PCH NGOs Coordination Meeting (Workshop)	1	54	5	Kabul	27-Aug-14	27-Aug-14	NGO technical staff
Stock Management	1	42	0	Paktika	28-Oct-14	28-Oct-14	NGOs technical supervisors and health facilities
ABC/VEN Analysis Training	2	10	3	Kabul	29-Apr-14	21-May-14	MoPH technical staff
Pharmaceutical Management Training	11	331	25	Kabul, Kandahar, Herat, Balkh, Nangarhar, Takhar	3-Aug-14	1-Jun-16	Kabul hospitals, national pharmaceutical management trainers, PPHD, and EPHS in provinces

SO2.1 BPHS and EPHS Providers' Pharmaceutical Supply Chain Management Strengthened							
DESCRIPTION OF TRAINING	# Session	# Male	# Female	Where	Between		Targeted participants
Pharmacy Stock Data Sheet Use	1	15	2	Kabul	28-Mar-17	28-Mar-17	Kabul hospitals pharmacy stock staff
Standard Operating Procedure (SOP) Workshop	1	26	9	Kabul	10-Jun-15	10-Jun-15	Kabul 16 Autonomy Hospital pharmacy staff
Good Dispensing Training Course	4	91	18	Kabul, Balkh, Herat	2-Oct-11	14-Mar-12	GDPS, Pharmaceutical Enterprise, and MoPH staff
Stock Management	1	47	0	Kabul	11-Feb-13	12-Feb-13	Private pharmaceutical companies staff
Workshop on Strengthening the Role of Private Sector on Procurement and Distribution of Essential Medicine	1	32	2	Kabul	21-Sep-16	21-Sep-16	GDPA/NMHRA and private sector
Capacity Building Root Cause Analysis	12	188	18	Kabul, Badakhshan, Faryab, Takhar, Bamyan	10-Dec-14	10-Aug-15	DTC members of 4 provincial and 6 Kabul hospitals

SO2.2 Coordination among the International Donor Community, the MoPH, and Other Relevant Stakeholders Strengthened							
DESCRIPTION OF TRAINING	# Session	# Male	# Female	Where	Between		Targeted participants
Introductory Workshop of PIA	2	76	7	Kabul, Kapisa	30-May-16	30-Jul-16	PPHOs (18 prov) and BPHS/EPHS (34 prov)
PDQ Questionnaire Application Training	1	9	0	Kabul	28-Oct-11	1-Nov-11	MoPH/GDPA staff
Performance Improvement Analysis on PDQ	20	129	11	Kabul, Balkh, Khost, Nangarhar	20-Jul-16	23-Aug-17	Staff of 16 NGOs
Procurement and Distribution Training Course	10	244	35	Kabul, Kandahar, Herat, Balkh, Nangarhar, Badakhshan	7-Feb-16	10-Aug-16	GDPA, PPHD, and NGOs of 34 provinces
Quantification of Essential Medicines	7	179	21	Kabul, Herat, Balkh, Nangarhar	9-Nov-14	25-Feb-15	MoPH, Kabul hospitals, PPHDs, BPHS/EPHS NGOs
ToT on Procurement and Distribution of Essential Medicines	1	30	2	Kabul	16-Dec-15	30-Dec-15	Pharmacists, doctors, nurses, and admins
Introductory Workshop of Afghanistan National Formulary and PLIS Findings	1	54	10	Kabul	21-Sep-15	21-Sep-15	BPHS and EPHS NGOs representative staff

SO2.2 Coordination among the International Donor Community, the MoPH, and Other Relevant Stakeholders Strengthened							
DESCRIPTION OF TRAINING	# Session	# Male	# Female	Where	Between		Targeted participants
PLIS - mSupply Training	1	23	2	Kabul	25-Jun-16	30-Jun-16	BPHS/EPHS in 6 provinces
PLIS Training	8	180	13	Kabul, Kandahar, Herat, Balkh, Nangarhar, Badakhshan	6-Feb-16	21-May-16	GDPA, BPHS/EPHS implementers, PPHOs in all provinces
PLIS Quarterly Reporting Training	8	217	13	Kabul	11-Sep-12	18-Nov-15	BPHS/EPHS implementers all provinces

SO3.1 Institutional and Human Resource Pharmaceutical Management Capacity Built							
DESCRIPTION OF TRAINING	# Session	# Male	# Female	Where	Between		Targeted participants
HR Assessment Training Course	1	18	10	Kabul	28-Nov-11	30-Nov-11	MoPH data collectors and supervisors
Pharmaceutical Human Resource Projection Orientation	1	15	1	Kabul	24-Feb-14	24-Feb-14	MoPH technical staff
Fifth Coordination Workshop of PPHDs	1	44	10	Kabul	20-Dec-15	21-Dec-15	GIHS, KU, Private HI, MoPH, MoPH staff
RMU and MDS Training	2	27	6	Baghlan, Kabul	1-Jun-13	12-Jun-13	Health facilitator staff
Finalizing the PharmD Curriculum Core Competencies Workshop	1	46	11	Kabul	5-Aug-15	5-Aug-15	MoPH and Faculty of Pharmacy staff
Introductory Seminar of Revised PharmD Curriculum of Faculty of Pharmacy	1	37	11	Kabul	9-May-16	9-May-16	Lecturers of Kabul Faculty of Pharmacy
Managing Drug Supply and Rational Medicines Use	3	96	38	Kabul	10-Dec-11	28-Dec-11	Faculty of Pharmacy students
Capacity Building Training on New Curriculum for Pharmacy Assistants	7	171	61	Kabul, Kandahar, Herat, Balkh, Nangarhar, Badakhshan	26-Jan-16	13-Apr-16	Public and private IHS teachers
IHSs Pharmacy Curriculum Monitoring Workshop	1	55	15	Kabul	18-Jan-17	18-Jan-17	Dean and lecturers of pvt and gvt IHSs
RMU & MDS Training	17	601	108	Kabul	25-Sep-11	20-Aug-15	GIHS and private IHS teachers and students in Kabul
Pharmacy Council Establishing Workshop	1	50	6	Kabul	10-Aug-14	10-Aug-14	All stakeholder staff

Evaluation and Strengthening of ANPA Workshop	1	33	10	Kabul	6-Jan-14	6-Jan-14	MoPH technical staff
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SO4.1 Provide Assistance to Promote More Effective Pharmaceutical Services, Rational Medicine Use, and Medicines Safety							
DESCRIPTION OF TRAINING	# Session	# Male	# Female	Where	Between		Targeted participants
MDS/RMU Training Course	3	56	14	Kabul, Badakhshan, Bamyan	22-Oct-11	17-Sep-12	WAKH staff and MoPH staff
PCH NGOs Coordination Meeting	1	44	1	Kabul	3-Jun-15	3-Jun-15	NGOs staff
Drugs Therapeutic Committee and Pharmacovigilance Course	1	13	1	Kabul	30-Jan-16	3-Feb-16	SPS regional FIOs and technical staff
Orientation on Pharmacovigilance	2	84	16	Kabul	29-Oct-14	9-Mar-15	MoPH, GDPA, HLIED, hospital, and FMIC staff
Pharmacovigilance Training	13	497	180	Kabul, Laghman, Kandahar, Herat, Nangarhar, Balkh	21-Sep-14	5-Apr-16	Staff of 16 Kabul hospitals and 11 hospitals in the provinces
Introductory Workshop of NSTG-PL	14	429	55	Kabul, Herat, Balkh, Nangarhar, Kunduz, Kandahar, Bamyan	23-Dec-14	15-Apr-15	PPHOs, BPHS/EPHS implementers in 18 provinces
IMAT and RMU Assessment Orientation	6	59	5	Takhar, Paktya, Khost, Bamyan, Khost	14-Mar-13	30-Jul-16	PPHO and NGO staff
IMAT Training	1	7	0	Herat	4-May-13	4-May-13	MoPH staff
RMU Assessment Training	9	144	45	Jawzjan, Bamyan, Kabul, Badakhshan, Parwan	29-Aug-13	13-Sep-17	MoPH and BPHS/EPHS staff
Capacity Building Workshop in Pharmaceutical Area	1	27	2	Kabul	7-Jan-14	7-Jan-14	MoPH technical staff
Drug Therapeutics Committee and Pharmacovigilance Course	2	69	12	Kabul	15-Dec-15	22-Dec-15	MoPH and Kabul hospital staff
Drugs and Therapeutics Committee (DTC) Course	9	182	50	Kabul, Bamyan, Kandahar, Herat, Balkh, Khost, Ghazni, Paktika	8-Sep-13	27-May-16	MoPH, DTC members of Kabul and provincial hospitals
Formulary List Orientation	8	112	110	Paktya, Baghlan, Takhar, Kabul, Badakhshan, Ghazni	5-Dec-13	19-May-14	MoPH, PPHO, DTC members
Improving NGO Performance in Provision of Pharmaceutical Services	1	8	1	Kabul	12-Feb-14	12-Feb-14	MoPH technical staff

SO4.1 Provide Assistance to Promote More Effective Pharmaceutical Services, Rational Medicine Use, and Medicines Safety							
DESCRIPTION OF TRAINING	# Session	# Male	# Female	Where	Between		Targeted participants
Orientation Workshop on Pharmaceutical Services for the Staff of Tertiary Hospital	9	225	86	Kabul	12-Oct-15	27-Oct-15	Kabul hospital staff
Orientation Workshop on Use of NSTG for OPD Clinicians	5	157	25	Kabul	22-Aug-16	5-Sep-16	Kabul hospital staff
RMU Assessment Training	1	36	8	Kabul	30-Jan-17	1-Feb-17	Kabul hospitals and GDPA pharmacy staff
STG and Formulary List Orientation Workshop	2	49	12	Kabul	24-Mar-14	26-Mar-14	MoPH technical staff
Surgical Antibiotic Prophylaxis STG Introduction	1	31	2	Nangarhar	23-Apr-14	23-Apr-14	Surgical War Health staff
Orientation on RMU Message and Poster Dissemination to PCH and Non-PCH NGOs	1	12	1	Kabul	28-Oct-14	28-Oct-14	NGO staff
RMU Health Message Evaluation Training Course	1	18	0	Kabul	4-Apr-12	4-Apr-12	GDPA/MoPH staff

SO5.1 Pharmaceutical Management Information System to Support Evidence-Based Decision-Making Strengthened							
DESCRIPTION OF TRAINING	# Session	# Male	# Female	Where	Between		Targeted participants
EML/LML Database Training	1	0	3	Kabul	14-Sep-15	14-Sep-15	API technical staff
HMIS Database and Data Use	2	24	6	Kabul	1-Mar-15	9-Jun-15	GDPA and SPS technical staff
HMIS HR Database Training	1	5	1	Kabul	2-Mar-13	3-Mar-13	MoPH staff
Inspection Database Training	2	85	3	Kabul	12-Sep-17	13-Sep-17	NMHRA and PPHD technical staff
Training Database Data Collection Form	1	7	0	Kabul	14-Jan-14	14-Jan-14	MoPH technical staff
Workshop on TMIS Database for GDPA/API TMIS Database Committee_20160906		4	1	Kabul	6-Sep-16	6-Sep-16	TMIS committee staff members of GDPA/API

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Final Report, August 28, 2011 – December 28, 2017
Annexes II**

December 28, 2017



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About SPS

The Strengthening Pharmaceutical Systems (SPS) Program strives to build capacity within developing countries to effectively manage all aspects of pharmaceutical systems and services. SPS focuses on improving governance in the pharmaceutical sector, strengthening pharmaceutical management systems and financing mechanisms, containing antimicrobial resistance, and enhancing access to and appropriate use of medicines.

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ANNEX II.1: USAID PHARMACEUTICAL POOLED PROCUREMENT LEAD TIMES FY2009–FY2016

Summary Lead Time Analysis of USAID Pooled Pharmaceutical Orders for BPHS/EPHS
Prepared by: Abdullah Masoud and Paul Ickx

Date: December 08, 2017

This summary can serve as reference for estimating probable lead times for future international pooled procurement operations in Afghanistan.

TechServe Period

Over life of project, TechServe placed 10 regular pharmaceutical orders in support of the BPHS/EPHS under USAID-funded contracts.

Main milestones in the procurement process were:

- **Initial order request.** TS/Kabul finalized quantification with the BPHS implementers, corrected quantities needed for unexpired stock on hand and stock on order. This is the date that TS/Kabul submitted the order request to TS/US for tendering.
- **USAID waiver concurrence.** This covered an iterative process, whereby MSH obtained quotations from two suppliers pre-qualified by USAID, compared the quoted price of each item with the average US price in the Red Book, certified those items with quoted price less than 50% of the Red Book price, submitted certified items to USAID for waiver approval, and USAID contracts officer approved the waiver. For items not certified less than 50% of Red Book price, new quotations were obtained from US suppliers.
- **First purchase order (PO)/task order (TO) placed.** Date on which the first PO or TO with any supplier was placed against the order request. If the time needed for the waiver process exceeded the validity period of the initial quotations, new quotations were needed, and if different from the initial ones, a new Red Book comparison was performed.
- **First item delivered.** Date on which the first shipment arrived at TS warehouse in Kabul. The lead time between first PO/TO placed and first delivery is artificially low, since it includes partial air shipments, which often prevented stock-outs. Air shipping complete orders would be prohibitively expensive.
- **Last item delivered.** Date on which last shipment arrived at TS warehouse in Kabul. The time between first delivery and complete delivery is largely dependent on factors beyond direct control of the different actors in the process. These include transport strikes in Pakistan, Pakistan government putting a ban on US government shipments, insurgent attacks on US shipments in Pakistan, customs disputes between Afghanistan and Pakistan, and Afghan government changing importation rules and regulations without notice.

Milestone dates in the procurement process are listed in tables 2 to 7 (end of section). There are three main periods with different parameters for the procurement process.

Period I: Order 1-3

Based on USAID requirements, a waiver was needed for each item in each order, based on Red Book comparison analysis. The process from initial order request to waiver concurrence took, on average, 5.5 months, with a low of 3.5 months and a high of 7.9 months. On average, 75% of the total lead time between initiating an order and first delivery in TS warehouse was taken up by this process. After investigating different option to shorten the length of this process, USAID decided to grant an approval for procurement of restricted goods from foreign origin for the list of medicines that TS generally procured, thus avoiding the waiver request and approval process for each order. Note that, in this period, suppliers were able to preposition items when submitting quotations for the waiver process, thus drastically diminishing the lead time between order requests and receipt at the warehouse.

Period II: Order 4-7

This period could be considered “normal.” No individual waivers were needed and, except for Order 6, funding for the requested pharmaceuticals was readily available. Only factors beyond control of the actors influenced lead time.

Period III: Order 8-9

The normal procurement process was delayed by incremental extensions of TS and the corresponding budget increases, which led to considerable delays in ready availability of funds. This explains, for example, the long lead time between initial order request and first TO placed for Order #9. Note that most items of Order #9 arrived in Kabul when SPS managed the in-country distribution.

Table 1 summarizes lead-times from initial order request to the milestones for each period.

Table 1: Lead times, in months

Milestones	TechServe Order Period		
	I	II	III
Waiver concurrence	5.5		
First PO/TO placed	5.9	2.1	6.4
First delivery	7.8	5.9	10.0
Complete delivery	14.5	13.5	26.9

Examples of factors that interfered with smooth arrival of shipments include:

- In 2010 to 2011, circulation of goods in Pakistan Federally Administered Tribal Areas was prohibited several times for relatively short periods (days to weeks) due to insurgent attacks on US government shipments. Delayed arrival at Afghan-Pakistan border provoked expiry of Afghan importation license, thus further provoking delays in delivery.
- Delayed controlled substances importation license procedures: TS applied for the Order 7 license in June 2010 and finally obtained the license in December 2011.

- From early 2011, the Afghan government applied new procedures for obtaining importation licenses, thus extending a two-week process to six weeks.
- From April to June 2011, due to a ban on moving US government goods out of Karachi port, several containers of Order 7 remained blocked.
- From September 2011 to September 2012, one container with tetracycline eye ointment of Order 8 was blocked in Karachi.
- From November 06, 2011, to July 04, 2012, a ban on moving US government goods through Pakistan could have blocked many shipments, but Order 9 was delayed due to TS funding issues.
- From September 11 to 22, 2012, the US consulate in Karachi closed and customs clearance of Order 9 was delayed.
- From November 27, 2012, to February 05, 2013, a transporters' strike in Karachi delayed arrival of Order 9, which was stuck in Karachi port.

SPS Period

Since SPS's mandate prohibited procurement of pharmaceuticals, USAID started using global USAID-funded procurement operations DELIVER and Supply Chain Management System (SCMS). Under this setup, SPS forwarded forecasted needs as an order request to USAID/Afghanistan, who then placed the order with DELIVER or SCMS. Neither DELIVER nor SCMS had a physical presence in Kabul; both relied on local forwarders. Tables 5 to 7 illustrate the time needed for orders to arrive.

Initial expectations were that the average lead time between initial order requests and delivery would be reduced, given blanket waivers in place for purchasing from USAID pre-qualified suppliers. Instead, the average lead time increased considerably from 7.2 to 8.9 months for the first shipment to arrive, and from 14.0 to 17.5 months for the last shipment to arrive. Reasons for the long lead time, in addition to those related to Pakistan and mentioned above, include the following:

- Initially SPS could not track the status of an order request; once submitted to USAID/Afghanistan, delays in the process became apparent only after active inquiries by USAID/Afghanistan.
- Ultimately, each step in the process needed an explicit agreement between SPS and DELIVER or SCMS.
- Funding streams and ceilings of the global supply projects delayed initiating the procurement on occasions.
- Local forwarders needed constant reminders to keep SPS updated on progress of goods in transit.

Conclusion

Factors related to transit in Pakistan are beyond control of those managing the pooled procurement.

Adding a global supply project experienced in international procurement was expected to diminish the total lead time, however, the effect was increased lead time because of additional administrative procedures, and the global supply projects' lack of presence in Afghanistan.

Each actor that started the procurement process indicated initially a three-to-six-month lead time between order request and delivery. Future procurement actors should probably estimate 9 to 18 months lead time for ground transport.

Table 2: Timeline of TechServe Orders

Milestone	Order 1	Order 2a	Order 2	Order 3	Order 4	Order 5	Order 6	Order 7	Order 8	Order 9
Initial order request submitted	28-Aug-06	27-Jan-07	13-Mar-07	27-Nov-07	24-Oct-08	25-Feb-09	3-Nov-09	17-Mar-10	13-Oct-10	21-Sep-11
USAID waiver concurrence	14-Feb-07	28-Jun-07	28-Jun-07	24-Jul-08	NA	NA	NA	NA	NA	NA
First PO/TO placed	28-Feb-07	18-Jul-07	18-Jul-07	24-Jul-08	31-Dec-08	15-Apr-09	12-Jan-10	20-May-10	15-Feb-11	12-Jun-12
First delivery in Kabul	15-Apr-07	20-Aug-07	1-Oct-07	1-Oct-08	12-May-09	08-Sep-09	11-Apr-10	24-Aug-10	23-May-11	22-Jul-12
Delivery complete in Kabul	8-Nov-07	2-Mar-08	15-May-08	16-Apr-09	25-Nov-09	15-Apr-10	22-Sep-10	08-Aug-11	06-Sep-12	23-Apr-14

Table 3: Days needed from initial order request submission to milestone

Milestone	Order 1	Order 2a	Order 2	Order 3	Order 4	Order 5	Order 6	Order 7	Order 8	Order 9	Average
Waiver concurrence	170	152	107	240	NA	NA	NA	NA	NA	NA	167
First PO/TO placed	184	172	127	240	68	49	70	64	125	265	136
First delivery in Kabul	230	205	202	309	200	195	159	160	222	305	219
Complete delivery Kabul	437	400	429	506	397	414	323	509	694	945	427

Table 4: Months needed from initial order request submission to milestone

Milestone	Order 1	Order 2a	Order 2	Order 3	Order 4	Order 5	Order 6	Order 7	Order 8	Order 9	Average
Waiver concurrence	5.6	5.0	3.5	7.9	NA	NA	NA	NA	NA	NA	5.5
First PO/TO placed	6.0	5.6	4.2	7.9	2.2	1.6	2.3	2.1	4.1	8.7	4.5
First delivery in Kabul	7.5	6.7	6.6	10.1	6.6	6.4	5.2	5.2	7.3	10.0	7.2
Complete delivery in Kabul	14.3	13.1	14.1	16.6	13.0	13.6	10.6	16.7	22.8	31.0	14.0

Table 5: Timeline of SPS Orders

Milestone	Order 9b	Order 10	Order 11	Order 12
Initial order request submitted	21-Sep-11	29-May-13	20-Dec-13	26-Nov-14
First delivery in Kabul	31-Dec-12	21-Jan-14	18-May-14	12-Jul-15
Delivery complete in Kabul	24-Mar-13	19-Mar-15	23-Feb-15	30-Mar-16

Table 6: Days needed from Initial Order Request submission to milestone

Milestone	Order 9b	Order 10	Order 11	Order 12	Average
First delivery in Kabul	467	237	149	228	270
Delivery complete in Kabul	550	659	430	490	532

Table 7: Months needed from Initial Order Request submission to milestone

Milestone	Order 9b	Order 10	Order 11	Order 12	Average
First delivery in Kabul	15.3	7.8	4.9	7.5	8.9
Delivery complete in Kabul	18.0	21.6	14.1	16.1	17.5

ANNEX II.2: USAID PHARMACEUTICAL POOLED PROCUREMENT WAREHOUSE AND DISTRIBUTION

Background on Pharmaceutical Warehouse Operations

The USAID/REACH project started the pharmaceutical warehouse operation for the pooled procurement of essential drugs for the USAID funded BPHS/EPHS contracts in Afghanistan in 2003. At the end of REACH in July 2006, this operation, including the staff running the warehouse, transitioned over to the USAID/Tech-Serve (TS) project. MSH managed the operation under the TechServe project until October 2011, when the responsibility of managing the warehouse operations transitioned to the USAID/SPS project, which managed the warehouse from November 2011 till September 2016. The actual procurement of essential medicines for the USAID-funded BPHS/EPHS contracts was gradually shifted to USAIDs' global supply projects starting September 2011. When SPS took over the warehouse and distribution management, SPS's involvement in procurement included transmitting estimated needed quantities to USAID for purchase through DELIVER and then SCMS, and facilitating customs clearance for the forwarders contracted by DELIVER and SCMS.

The physical premises of the warehouse shifted several times under the different projects, prompted by the need for additional storage space, non-renewal of lease agreements, and separating bulk storage from distribution for efficiency and security reasons:

- From Pul-i-Charkhi Industrial Zone to Dar-ul-Aman for bulk stock (around 2400 square meter) in 2005;

- A smaller distribution warehouse on the K3 office premises from December 2006 till December 2008.

- From Dar-ul-Aman to Gozargah, in January 2007, ultimately incorporating bulk and distribution warehouses into one complex of around 2700 sq meter

- From Gozargah to Qasaba in May-June 2012, incorporating bulk and distribution warehouses into one complex of 6000 sq meter, of which 4500 sq meter actual storage space.

USAID requested SPS to manage the pharmaceuticals warehouse and medicines distribution for the benefit of over 540 BPHS/EPHS health facilities and over 6,600 health posts. These facilities were managed by 10 national and international NGOs contracted by the Partnership Contracts for Health (PCH) project of the MoPH. The facilities were in the 13 USAID funded provinces (Kabul, Bamyan, Baghlan, Takhar, Badakhshan, Jawzjan, Faryab, Herat, Kandahar, Ghazni, Paktika, Paktya, and Khost). Distribution took place on quarterly basis, with NGOs requesting and picking up estimated needed quantities of essential medicines and contraceptives needed for the next quarter.

Close-out of the Pharmaceutical Warehouse

USAID indicated a first planned warehouse close-out date for July 1st, 2015, when USAID would transition its support of BPHS/EPHS contracts to the SEHAT II project: the funding for

medicines and the procurement responsibility would go directly to the NGOs that were contracted through the SEHAT project.

SPS identified the risk of a delay in the transition of the PCH project to the SEHAT project as well as possible delays in the procurement of medicines by NGOs in the early stage of transition. As a risk mitigation measure, SPS therefore recommended to USAID to procure:

- A 6 months' buffer stock to cover the health facilities' needs in all 13 provinces until the end of December 2015, and
- An additional 3 months' buffer stock (until the end of March 2016) to cover needs of health facilities with difficult access during winter.

USAID adopted the recommendation and added the suggested buffer stock quantities in the last medicines' order for SPS, placed on December 3, 2014. SPS supplied the health facilities of the PCH NGOs with SEHAT – II contracts effective from July 1st 2015 in the 13 provinces until December 2015 and March 2016.

When the last supply to the NGOs had been completed, on January 4, 2016, value of the remaining stock in the warehouse was \$ 1.9 million. The leftover stock was largely due to delays in arrival in Kabul of the medicines previously requested for the PCH NGOs. In order to avoid any possibility of double-funding to the NGOs now contracted through the SEHAT II project, USAID requested SPS to distribute the remaining stock to Kabul based national hospitals and to the health facilities that are managed by the Strengthening Mechanism project of MoPH in three provinces (Kapisa, Parwan, Panjshir), with a new projected close-out date by the end of March 2016.

Since medicines were procured to cater to the needs of primary and secondary health facilities, not all medicines could be absorbed by the Kabul-based hospitals, which are mostly tertiary level and specialty hospitals. While many products were welcomed since they filled stock-outs provoked by delays in budget allocation to the tertiary hospitals, by the end of March 2016, there was still stock remaining in the warehouse. USAID recommended to use distribute the medicines to regional hospitals that could use the medicines, and were not being funded by the SEHAT II project, extending the close-out date to May 31st, 2016.

In April 2016, the MoPH had requested USAID to keep the warehouse operation functioning for at least one more year for the Pooled Procurement Mechanism. The intention of the MoPH was that after that the first year, the MoPH would continue the warehouse operations with government support. On May 1st, 2016. USAID agreed to keep the warehouse functioning until September 2016, with possibility of further extension, on condition that the MoPH actively pursued the creation of a PPM. Continuation beyond September 2016 was made subject to progress in the implementation of the PPM.

SPS prolonged the Warehouse staffs' contracts to end September. The staff was to provide technical assistance to MoPH staff to enable them to manage the warehouse operation after September 2016. The warehouse would stock MoPH products and program related items funded by UNDP, WHO, GF and others.

MoPH formed a working group (WG) with its partners to find the necessary financial support to operate the warehouse after September 2016. In spite of genuine efforts by the MoPH, the WG failed to find the alternative non-USAID financial support for future warehouse operations. As agreed with USAID, the remaining stock, supplies and equipment in the SPS warehouse was distributed to recipients accepted by USAID.

In September 2016, there were still 19 items with 67 different batches for which no acceptable recipients could be found, a stock valued at \$ 240,857. USAID recommended that SPS incinerate the remaining stock.

SPS contracted a certified waste management company (Kamyab Waste Management) to organize the incineration of the remaining stock. The company moved the medicines from the SPS warehouse on Sept. 27 and 28 for incineration, which allowed SPS to close the warehouse on Sept. 29, 2016, with keys handed over to the landlord on October 4, 2016. On November 30, 2016, SPS received an official report from Kamyab Waste Management, attesting that the incineration of all the products had been finalized.

Values of Medicines Distributed under the SPS-AA

SPS took over unexpired essential medicines, including contraceptives, for a total value of 8.97 million USD and expired items for a value of 0.74 million USD from TechServe on December 13, 2011. During life of project, SPS received additional medicines for a total worth of 18.20 million USD.

Table 1 illustrates the total value of medicines distributed and destroyed between December 2011 and the closing of the warehouse in September 2016.

Table 1: Value of medicines distributed and destroyed, in million USD

Fiscal Year	Distributed	Destroyed
FY2012	\$4.72	
FY2013	\$5.83	\$0.95
FY2014	\$6.38	
FY2015	\$7.49	
FY2016	\$2.32	\$0.28
SPS-AA	\$26.74	\$1.23¹

¹ Another 0.24 million USD worth of medicine destroyed by Kamyab company early FY17.

Details of the Medicine Distribution to Non-PCH Facilities during Warehouse Close-out

SPS distributed the medicines to Kabul hospitals, Kabul provincial Public Health Directorate run health facilities, the Balkh regional hospital (MoPH), the Strengthening Mechanism project of

MoPH, Ministry of Higher education, Ministry of Agriculture, ASMO and the Ministry of Women Affairs. These distributions were done in three rounds:

Round 1 took place in Quarter 2 of PY5, from January 12th through March 30 2016, details are available in Table 7.1.

Round 2 took place in quarter 3 of PY5, from April 3rd through June 20 2016, details are available in Table 7.2.

Round 3 took place in quarter 4 of PY5, from July 28th through September 18, 2016, details are available in Table 7.3 in annex.

Details of the Equipment Distribution

Following USAID instructions, SPS distributed warehouse equipment to Central Medical Stores, ASMO, Afghan Veterinary Association and HNP-AFG.

Equipment Distributed to the MoPH Central Medical Stores

The distribution to the CMS took place from September 21st to October 3rd, 2016. The list of items distributed is given in Table 7.4.

Equipment Distributed to ASMO

The items that were delivered to ASMO on September 22nd, 2016 are listed in Table 7.5.

ASMO stock: The warehouse contract of Afghan Social Marketing Organization (ASMO) ended in January; USAID requested that SPS temporarily store social marketing items (e.g., medicines, repackaging, and promotional material) until Abt Associates could take them. SPS received all items from ASMO on February 2, 2016 and stored for Abt Associate till August 20, 2016. On August 31, ASMO moved all items back to its stock, except the expired medicines, which were destroyed (see 6.2)

Equipment Distributed to Afghan Veterinary Association

Personal Protection Equipment (PPE): Based on USAID's recommendation, SPS transferred the 246 boxes of personal protection equipment (PPE) to the Afghan Veterinary Association on March 17, 2016. On USAID request, the boxes had been stored by TechServe and SPS, since November 2009.

Other Equipment Distribution

Pallets to HNP AFG: Delivery of 1,492 pallets completed on October 3rd, 2016. The remaining equipment was moved to the MSH stock located at the MSH office on September 28.

Transfer of MoPH/RH kits to MoPH stock: MoPH/Reproductive Health department transferred its kits from SPS warehouse back to MoPH stock in Sept. 2016 These kits had been temporary stored in the SPS warehouse since June 23, 2016, on request of MoPH.

Disposed Medicine during the Warehouse Close-out

There have been three rounds of destruction of medicines:

Expired medicines that were taken from the SPS warehouse

Expired medicines that were part of ASMO

Stock of medicines that was left in the SPS warehouse after the distribution rounds had been finalized.

For the expired medicines the ‘burn and bury’ method was used. It was done by the SPS team following the MOPH protocols for the destruction of medicines.

For the stock remaining in the warehouse after the third distribution round, a certified company was contracted to incinerate the products.

Destruction of Expired Medicines from the SPS Warehouse

Table 7.6 shows the details on the expired items from the SPS warehouse stock that were destroyed on April 13, 2016. The method used for all products was ‘burn and bury’ following MoPH protocols for medicine destruction.

Destruction of Expired Medicines from the ASMO

The details of the ASMO expired items are listed in Table 7.7. The destruction took place on April 13, 2016. The method used for all products was ‘burn and bury’ following MoPH protocols for medicine destruction.

Items Incinerated by Kamyab Waste Management Company

At the date of closure of the SPS warehouse, a stock of expired pharmaceuticals remained at the SPS warehouse. On the request of USAID these were incinerated. SPS contracted a certified waste management company (Kamyab Waste Management) to organize the incineration of the remaining stock. The company moved the medicines from the SPS warehouse on Sept. 27th and 28th for incineration, and provided the report on the incineration of the medicines on November 30, 2016. Details are listed in Table 7.8

Warehouse Close-out Tables

Table 2: Distribution of medicines to non-PCH entities in FY16, Round 1

Benefitting entity	Distribution date	Value
Afghan-Japan Hospital	15 Mar 2016	\$ 2,222.58
Ataturk Children Hospital	29 Mar 2016	\$ 6,274.12
Dasht-e-Barchi 50-bed hospital	24 Mar 2016	\$ 13,947.05
Dasht-e-Barchi 100-bed hospital	23 Mar 2016	\$ 98,846.37
Central Polyclinic	28 Mar 2016	\$ 11,958.99
Ibn-e-Sina Emergency Hospital	27 Mar 2016	\$ 3,697.14

Benefitting entity	Distribution date	Value
Ibn-e-Sina Chest Hospital	27 Mar 2016	\$ 13,314.49
Indira Gandhi Institute for Child Health	22 Mar 2016	\$ 79,662.97
Infectious Diseases Hospital	28 Mar 2016	\$ 5,580.34
Istiqlal Hospital	14 Jan 2016	\$ 71511.12
Jamhuriat Hospital	22 Mar 2016	\$ 19,398.01
Khair Khana 102-bed hospital	16 Mar 2016	\$ 22,103.16
Mental Health Hospital	15 Mar 2016	\$ 451.74
Noor Eye Hospital	15 Mar 2016	\$ 18,483.37
Rabia Balkhi	12 Jan 2016	\$ 18092.14
Stomatology Hospital	28 Mar 2016	\$ 12,412.71
Wazir Akbar Khan Hospital	30 Mar 2016	\$ 23,339.92
SM project provinces	13 Mar 2016	\$ 574,309.75
Total:		\$995,605.97

Table 3: Distribution of medicines to non-PCH entities in FY16, Round 2

Benefitting entity	Distribution date	Value (USD)
Ali Abad Hospital	13-Jun-16	\$230.40
Ataturk Children Hospital	3-Apr-16	\$560.00
Balkh Regional Hospital	5-May-16	\$216,562.87
Barchi 50 bed Hospital	3-Apr-16	\$27.58
Central Polyclinic	3-Apr-16, 11-Apr-16, 24-May-16	\$4,028.75
Dashti Barchi 100 bed Hospital	3-Apr-16	\$1,234.00
Disabled Hospital	11-Apr-16	\$563.33
Emergency and Health service clinic	17-Apr-16	\$12,830.49
Ibn-e-Sina Emergency Hospital	3-Apr-16, 11-Apr-16	\$1,655.58
Ibn-e-Sina Chest Hospital	3-Apr-16, 11-Apr-16	\$1,451.83
Indira Gandhi Institute for Child Health	3-Apr-16, 11-May-16	\$11,980.74
Infectious Diseases Hospital	3-Apr-16, 11-Apr-16	\$5,151.03
Jamhuriat Hospital	3-Apr-16, 11-Apr-16	\$9,730.27
Kabul Provincial Health Directorate	15-May-16, 22-May-16	\$69,939.81
Kapisa Health Directorate (SM)	26-Apr-16	\$9,083.36
Maiwand Hospital	13-Jun-16	\$1,297.18
Malalai Hospital	3-Apr-16, 24-May-16	\$28,668.65
Mental Health hospital Kabul	11-Apr-16	\$868.44
Ministry of Higher Education Poly clinic	13-Jun-16	\$7,374.49
Noor Eye Hospital	11-Apr-16	\$845.02
Parwan Health Directorate (SM)	26-Apr-16	\$9,643.36
Sar-i-kotal DH Hospital	13-Apr-16	\$56,385.96
Stomatology Hospital	3-Apr-16	\$168.00
Strengthening Mechanism (SM central)	3-Apr-16, 17-May-16, 22-May-16, 20-Jun-16	\$383,665.63
Wazir Akbar Khan Hospital	3-Apr-16	\$1,758.80
Total:		\$835,705.57

Table 4: Distribution of medicines to non-PCH entities in FY16, Round 3

Benefitting entity	Distribution date	Value (USD)
Infectious Diseases Hospital	28 Jul 2016	10.90
Malalai Hospital	28 Jul 2016	5,046.50

Benefitting entity	Distribution date	Value (USD)
Kabul Provincial Public Health Directorate	24 Aug 2016	17,699.87
Ministry of Agriculture	13 July 2016	841.97
Ministry of Women's Affairs	1 Sep 2016	57.60
SHOPS/Social Marketing (ASMO)	18 Sep 2016	52,912.70
Total:	\$ 76,569.54	

Table 5: List of items distributed to CMS (from Sept. 21st to Oct. 3rd, 2016)

#	Item	Tag/Asset #	Description	Make	Specification	Serial #
1	Mobile Phone	14206	Mobile Phone- 1EA	Nokia	RM-1011-225	33368807268473 G
2	Container	14222	Container 40 Foot-1EA	Koria	1AH-03	SAH1002554
3	Container	14221	Container 40 Foot-1EA	Koria	187A5G	938199
4	Container	14223	Container 40 Foot-1EA	Koria	FO068-09	14223
5	USP	14136	Santak- 1EA	1000VA	NA	14223
6	Pallet Jack	14258	Pallet Jack- 1EA	China	Mitalic	N/A
7	Pallet Jack	14259	Pallet Jack- 1EA	China	Mitalic	14223
8	Pallet Jack	14260	Pallet Jack- 1EA	China	Mitalic	N/A
9	Pallet Jack	14261	Pallet Jack- 1EA	China	Mitalic	14223
10	Pallet Jack	14262	Pallet Jack- 1EA	China	Mitalic	N/A
11	Pallet Jack	14263	Pallet Jack- 1EA	China	Mitalic	14223
12	Stabilizer	12973	Stabilizer- 1EA	Stavol	3000VA	N/A
13	Stabilizer	12975	Stabilizer- 1EA	CNI	2000VA	14223
14	Camera	12789	Digital Camera- 1EA	Sony	W320	N/A
15	Printer	12949	Printer- 1EA	HP	P2055d	VNC3F26888
16	Printer	12948	Printer- 1EA	HP	1102	VNC3829653
17	UPS	13012	UPS- 1EA	Santak	1000VA	N/A
18	Vacuum Cleaner	13014	Vacuum Cleaner - 1EA	HITACHI	2000VA	N/A
19	Boiler	14365	Boiler- 1EA	Themix	80LTRs	N/A
20	Boiler	12765	Boiler- 1EA	Themix	80LTRs	N/A
21	Freezer	12758	Freezer -1EA	Dawlance	Cooltec	Dcm001157
22	Freezer	12760	Freezer -1EA	Dawlance	DF 400	DCM001188
23	Freezer	12761	Freezer -1EA	Dawlance	Cooltec	DCM001188
24	Freezer	12762	Freezer -1EA	Dawlance	Cooltec	DCM001973
25	Freezer	12763	Freezer -1EA	Dawlance	Cooltec	DCmoo1162
26	Freezer	12764	Freezer -1EA	Dawlance	Cooltec	DCmoo1965
27	Freezer	13333	Freezer -1EA	Dawlance	Nil	N/A
28	Freezer	13334	Freezer -1EA	Waves	Nil	N/A
29	Freezer	12755	Freezer -1EA	Waves	Nil	N/A
30	Freezer	13608	Freezer -1EA	Waves	Nil	N/A
31	Freezer	12757	Freezer -1EA	Waves	Nil	N/A
32	Printer	12770	Printer	HP	PL505	VNF3837912
33	Mobile Phone	14441	Mobile Phone	Nokia	230	356893-00-000000-0
34	Mobile Phone	12913	Mobile Phone	Nokia	5030	355393-04-035129-8
35	Water	14265	Water Dispenser	Nobel	Nil	N/A

#	Item	Tag/Asset #	Description	Make	Specification	Serial #
	Dispenser					
36	Pallets	N/A	Pallets Wooden	N/A	500 Pieces	N/A
37	Metal Shelving	N/A	Metal Shelving Fabricated	N/A	421 Units	N/A
38	Cabinet	MSH-AF-2515	Cabinet	Metallic	2 Door	NA
39	Cabinet	MSH-AF-6115	Cabinet	Metallic	2 Door	NA
40	Chair	MSH-AF-2519	Chair – dining	wooden	w/o arm, seat cushion	NA
41	Chair	MSH-AF-2520	Chair	Metallic	swivel	NA
42	Chair	MSH-AF-2516	Chair	Metalic	for meeting table	NA
43	Chair	MSH-AF-3856	Chair	Metallic	swivel	NA
44	Chair	MSH-AF-3070	Chair	Metallic	for meeting table	NA
45	Chair	MSH-AF-2517	Chair – conference	Metallic	w/steel stands	NA
46	Chair	MSH-AF-2518	Chair – conference	Metallic	w/steel stands	NA
47	Chair	MSH-AF-2521	Chair	Metallic	swivel	NA
48	Desk	MSH-AF-2682	Desk	wooden	Single pedestal	NA
49	Desk	MSH-AF-3095	Desk	wooden	single pedestal	NA
50	Desk	MSH-AF-2522	Desk	wooden	Double pedestal	NA
51	Desk	msh-af-3076	Desk	wooden	Double pedestal	NA
52	Desk	MSH-AF-2523	Desk	wooden	Double pedestal	NA
53	Desk	MSH-AF-3071	Desk	wooden	single pedestal	NA
54	Desk	MSH-AF-3072	Desk	wooden	single pedestal	NA
55	Fan	MSH-AF-2032	Fan	Royal	Louver Pedestal	NA
56	Heater, gas	MSH-AF-20186	Heater, gas	Aygaz	NIL	NA
57	Heater, gas	MSH-AF-20187	Heater, gas	Aygaz	NIL	NA
58	Heater, gas	MSH-AF-20188	Heater, gas	Aygaz	NIL	NA
59	Heater, gas	MSH-AF-20189	Heater, gas	Aygaz	NIL	NA
60	Partition screen	MSH-AF-3073	Partition screen, wooden	wooden	NIL	NA
61	Partition screen	MSH-AF-20157	Partition screen, wooden	wooden	NIL	NA
62	Partition screen	MSH-AF-0654	Partition screen, wooden	wooden	NIL	NA
63	Partition screen	MSH-AF-0954	Partition screen, wooden	wooden	NIL	NA
64	Partition screen	MSH-AF-0631	Partition screen, wooden	wooden	NIL	NA
65	Partition screen	MSH-AF-3074	Partition screen, wooden	wooden	NIL	NA
66	Shelf	MSH-AF-20192	Shelf	Wooden	3 Section	NA
67	Shelf	MSH-AF-20193	Shelf	Wooden	3 Section	NA
68	Shelf	MSH-AF-20194	Shelf	Wooden	3 Section	NA
69	Shelf	MSH-AF-20195	Shelf	Wooden	3 Section	NA
70	Table	MSH-AF-20063	Table	wooden	for medicine distribution	NA
71	Table	MSH-AF-20064	Table	wooden	for medicine distribution	NA
72	Table	MSH-AF-20190	Table	Wooden	single	NA
73	Pallets	NA	Pallets	Wooden	2000 pieces	NA

Table 6: List of items distributed to ASMO on September 22, 2016

No	Item	Tag/Asset No	Description	Make/Model		Serial
1	Camera	13960	Digital Camera	Canon	SX260HS	N/A
2	Stabilizer	12991	Stavol	2000VA	NA	N/A
3	Pallet Jack	14257	Fort lift	China	Mitalic	N/A
4	Copier	12769	Copier	Muratec	MF2010	DC225190062003
5	Scanner	12967	Scanner	HP	G2710	CNO6DA51WY
6	Freezer	12759	Deep Freezer	Dawlance	Cooltec	DCM001151
7	Refrigerator	12775	Refrigerator	Cooltech	NIL	NIL
8	Water dispenser	14256	Water dispenser	Nobel	NIL	N/A

Table 7: List of medicines destroyed on April 13, 2016

No	International Non-proprietary Name (INN)	Pack size	Quantity (in packs)	Expiry date
1	Acetylsalicylic acid 500mg tab	1000	1,935.48	1-Jul-15
2	Adrenalin 1mg/ml inj 1ml	100	10	1-Jan-13
3	Adrenalin 1mg/ml inj 1ml	100	93	31-Jan-15
4	Aminophyllin 25mg/ml inj 10ml	100	85	1-Feb-13
5	Artemether 80mg/ml inj 1ml	30	44	30-Apr-13
6	Atropine sulfate inj 1mg/1ml	100	142	1-Mar-13
7	Atropine sulfate inj 1mg/1ml	100	122	30-Nov-11
8	Benzathine benzylpenicillin 1.2MIU/5ml inj	100	11	31-May-15
9	Benzathine benzylpenicillin 2.4MIU/5ml inj	10	660	31-Oct-14
10	Benzathine benzylpenicillin 2.4MIU/5ml inj	50	32	31-Aug-15
11	Charcoal, activated powder 125mg tab	1000	167	1-Jul-12
12	Chloroquine phosphate 50mg/5ml syrup 60ml	1	1,313	1-Apr-15
13	Chlorphenamine hydrogen maleate 10mg/1ml inj	100	252	1-May-15
14	Chlorphenamine hydrogen maleate 10mg/1ml inj	100	192	1-Aug-15
15	Chlorpromazine 50mg/2ml inj	100	98	31-Oct-12
16	Cotrimoxazole (sulfmthx+tmp) 120mg tab	1000	1,702	1-Feb-14
17	Diazepam 5mg tab	1000	0.94	1-Dec-13
18	Diazepam 5mg tab	1000	50	31-Dec-14
19	Ergometrine 0.2mg inj 1ml	100	421	30-Jun-14
20	Ergometrine 0.2mg tab	1000	10	30-Jun-15
21	Ferrous sulf 200mg + folic acid 0.25mg Tab	1000	5,448	28-Feb-14
22	Ferrous sulf 200mg + folic acid 0.25mg tab	1000	1,160	31-May-13
23	Haloperidol 5mg tab	1000	98	1-Jan-13
24	Haloperidol 5mg/1ml inj 1ml	100	26	1-Feb-13
25	Hydralazine hydrochloride 20mg inj	5	27	1-Feb-15
26	Insulin (soluble, human) 100iu/ml 10ml	1	3,382	1-Jul-13
27	Ketamine hydroch. 50 mg/ml inj 10ml	25	347	1-Jan-14
28	Ketamine hydrochloride 50 mg/ml inj 10ml	25	45	1-May-14
29	Magnesium sulfate 50% inj 20ml	10	5,810	29-Feb-16
30	Magnesium sulphate 50%, 10ml	100	63	1-Sep-15
31	Mebendazole 100mg tab	1000	93	1-Feb-14
32	Morphine Sulphate 10mg/1ml inj	10	230	30-Sep-12
33	Morphine Sulphate 10mg/1ml inj	10	427	31-Jan-13
34	Multivitamin coated tab	1000	9,954	1-Feb-13
35	Multivitamin tablets	5000	2	No label

No	International Non-proprietary Name (INN)	Pack size	Quantity (in packs)	Expiry date
36	Nifedipine 20mg Retard tab	100	11,346	1-Mar-13
37	Nystatin pessaries 100000U	100	2,442	1-Feb-14
38	Nystatin pessaries 100000U	100	2,027	1-Aug-15
39	Paracetamol 100mg tab	1000	27,465	1-Feb-14
40	Paracetamol 120mg/5ml, 100ml	1	2,500	Nov-14
41	Paracetamol 500mg tab	1000	1,760	1-Mar-14
42	Phenobarbital 100mg tab	1000	1	1-Jul-13
43	Phenobarbital 100mg tab	1000	239	1-Apr-14
44	Phenobarbital 100mg tab	1000	28	31-Jul-14
45	Phenobarbital 200mg/ml, 1ml inj	100	566	1-Jan-13
46	Phenobarbital 30mg tab	1000	9	1-Apr-14
47	Phenobarbital 30mg tab	1000	1	31-May-14
48	Procaine benzylpenicillin 3(MIU) inj	50	1,536	1-Feb-13
49	Protamine sulfate 50mg/5ml inj	10	17	31-Oct-12
50	Quinine (bi)sulfate 300mg tab film coated	1000	17	31-Mar-15
51	Salbutamol 4mg tab	1000	220	1-Jan-14
52	Salbutamol 500mcg/ml inj 1ml	100	151	31-Dec-12
53	Sodium bicarbonate 8.4% 20ml inj	10	56	31-Aug-13
54	Sodium bicarbonate 8.4% 25ml inj	50	136	1-Feb-13
55	Sulfadoxine 500mg + pyrimethamine 25mg tab	1000	3	30-Apr-15
56	Tetracycline hcl 1% eye oint tube 5gr	50	663	1-Apr-14
57	Thiopentone sodium 1gr inj	50	188	1-Apr-13

Table 8: List of ASMO medicines destroyed on April 13, 2016

No.	INN	Pack size	Quantity (in packs)	Expiry dates
1	ORS	1	56,400	Oct-15
2	ORS	1	996,677	Jan-16
3	ORS	1	382,267	Nov-15
4	ORS	1	226,905	Nov-15
5	ORS	1	144,600	Dec-15
6	Ferrous Sulphate 200mg+Folic Acid 0.25mg,sugar-coated	1	928,950	Mar-16
7	Ferrous Sulphate 200mg+Folic Acid 0.4mg,sugar-coated	1	256,000	Mar-16

Table 9: List of medicines incinerated by Kamyab Waste Management Company

#	INN	Quantity	Pack size	Batch #	Expiry date	Values in USD
1	Chloramphenicol 250mg cap	187	1000	CHA14009	30-Apr-17	\$3,960.66
2	Chloroquine phosphate 150mg (base) tab	351	1000	4ME114	30-Apr-17	\$3,839.94
3	Chloroquine phosphate 150mg (base) tab	17	1000	4ME114	30-Apr-17	\$185.98
4	Chloroquine phosphate 50mg/5ml syrup 60ml	1038	1	5140360	1-Dec-17	\$633.18
5	Dextrose 5% iv 500ml btl with nipple (no set)	4	1	82HG106004	30-Jun-17	\$1.56
6	Dextrose 5% iv 500ml btl with nipple (no set)	2	1	51278	31-Dec-17	\$1.36
7	Dextrose 5% iv 500ml btl with	1	1	51270	31-Dec-17	\$0.68

#	INN	Quantity	Pack size	Batch #	Expiry date	Values in USD
	nipple (no set)					
8	Dextrose 5% iv 500ml btl with nipple (no set)	1	1	51271	31-Dec-17	\$0.68
9	Dextrose 5% iv 500ml btl with nipple (no set)	3	1	52156	31-Dec-18	\$2.04
10	Ferrous sulf 200mg + folic acid 0.25mg tab	890	1000	F1-11/14	31-Dec-16	\$1,886.80
11	Ferrous sulf 200mg + folic acid 0.25mg tab	1512	1000	F1-12/14	31-Jan-17	\$3,205.44
12	Ferrous sulf 200mg + folic acid 0.25mg tab	2013	1000	F1-13/14	31-Jan-17	\$4,267.56
13	Ferrous sulf 200mg + folic acid 0.25mg tab	2009	1000	F1-14/14	31-Jan-17	\$4,259.08
14	Ferrous sulf 200mg + folic acid 0.25mg tab	2012	1000	F1-15/14	31-Jan-17	\$4,265.44
15	Ferrous sulf 200mg + folic acid 0.25mg tab	1911	1000	F1-16/14	31-Jan-17	\$4,051.32
16	Ferrous sulf 200mg + folic acid 0.25mg tab	2011	1000	F1-18/14	31-Jan-17	\$4,263.32
17	Ferrous sulf 200mg + folic acid 0.25mg tab	1862	1000	F1-19/14	31-Jan-17	\$3,947.44
18	Ferrous sulf 200mg + folic acid 0.25mg tab	1962	1000	F1-20/14	31-Jan-17	\$4,159.44
19	Ferrous sulf 200mg + folic acid 0.25mg tab	2012	1000	F1-21/14	31-Jan-17	\$4,265.44
20	Ferrous sulf 200mg + folic acid 0.25mg tab	1961	1000	F1-22/14	31-Jan-17	\$4,157.32
21	Ferrous sulf 200mg + folic acid 0.25mg tab	2062	1000	F1-23/14	31-Jan-17	\$4,371.44
22	Ferrous sulf 200mg + folic acid 0.25mg tab	1963	1000	F1-24/14	31-Jan-17	\$4,161.56
23	Ferrous sulf 200mg + folic acid 0.25mg tab	1960	1000	F1-25/14	31-Jan-17	\$4,155.20
24	Ferrous sulf 200mg + folic acid 0.25mg tab	1961	1000	F1-26/14	31-Jan-17	\$4,157.32
25	Ferrous sulf 200mg + folic acid 0.25mg tab	1962	1000	F1-27/14	31-Jan-17	\$4,159.44
26	Ferrous sulf 200mg + folic acid 0.25mg tab	1911	1000	F1-28/14	31-Jan-17	\$4,051.32
27	Ferrous sulf 200mg + folic acid 0.25mg tab	2013	1000	F1-29/14	31-Jan-17	\$4,267.56
28	Ferrous sulf 200mg + folic acid 0.25mg tab	1961	1000	F1-30/14	31-Jan-17	\$4,157.32
29	Ferrous sulf 200mg + folic acid 0.25mg tab	978	1000	F1-31/14	31-Jan-17	\$2,073.36
30	Ferrous sulf 200mg + folic acid 0.4mg tab	744	1000	FI-109/14	30-Jun-17	\$1,785.60
31	Ferrous sulf 200mg + folic acid 0.4mg tab	1050	1000	FI-111/14	30-Jun-17	\$2,520.00
32	Ferrous sulf 200mg + folic acid 0.4mg tab	1212	1000	FI-110/14	30-Jun-17	\$2,908.80
33	Ferrous sulf 200mg + folic acid	823	1000	FI-113/14	30-Jun-17	\$1,975.20

#	INN	Quantity	Pack size	Batch #	Expiry date	Values in USD
	0.4mg tab					
34	Ferrous sulf 200mg + folic acid 0.4mg tab	1950	1000	FI-114/14	30-Jun-17	\$4,680.00
35	Ferrous sulf 200mg + folic acid 0.4mg tab	1950	1000	FI-115/14	30-Jun-17	\$4,680.00
36	Ferrous sulf 200mg + folic acid 0.4mg tab	1950	1000	FI-116/14	30-Jun-17	\$4,680.00
37	Ferrous sulf 200mg + folic acid 0.4mg tab	1950	1000	FI-117/14	30-Jun-17	\$4,680.00
38	Ferrous sulf 200mg + folic acid 0.4mg tab	1950	1000	FI-118/14	30-Jun-17	\$4,680.00
39	Ferrous sulf 200mg + folic acid 0.4mg tab	1950	1000	FI-119/14	30-Jun-17	\$4,680.00
40	Ferrous sulf 200mg + folic acid 0.4mg tab	1950	1000	FI-120/14	30-Jun-17	\$4,680.00
41	Ferrous sulf 200mg + folic acid 0.4mg tab	1950	1000	FI-121/14	30-Jun-17	\$4,680.00
42	Ferrous sulf 200mg + folic acid 0.4mg tab	900	1000	FI-123/14	31-Jul-17	\$2,160.00
43	Ferrous sulf 200mg + folic acid 0.4mg tab	1950	1000	FI-124/14	31-Jul-17	\$4,680.00
44	Ferrous sulf 200mg + folic acid 0.4mg tab	1950	1000	FI-125/14	31-Jul-17	\$4,680.00
45	Ferrous sulf 200mg + folic acid 0.4mg tab	1363	1000	FI-126/14	31-Jul-17	\$3,271.20
46	Hydrochlorothiazide 50mg tab	203	1000	4ME109	30-Apr-17	\$ 812.00
47	Lidocaine Hcl 2%,30g, gel	2116	1	KF14007	31-Jul-16	\$2,221.80
48	Methyldopa 250mg tab (L) coated	7	1000	MTA14003	31-May-17	\$174.16
49	Metoclopramide hcl 10mg tab	2	1000	4ME110	30-Apr-17	\$ 12.50
50	Metoclopramide hcl 10mg tab	7	1000	KT3490	30-Nov-16	\$ 70.91
51	Metronidazol 125mg/5ml susp 100ml	13400	1	MP4071	31-Jul-16	\$4,824.00
52	Metronidazol 125mg/5ml susp 100ml	16366	1	MP4072	31-Jul-16	\$5,891.76
53	Metronidazol 125mg/5ml susp 100ml	16500	1	MP4073	31-Jul-16	\$5,940.00
54	Metronidazol 125mg/5ml susp 100ml	9090	1	MP4074	31-Jul-16	\$3,272.40
55	Metronidazole 250mg tab	1858	1000	MEA14019	30-Apr-17	\$9,680.18
56	Metronidazole 250mg tab	242	1000	MEA14020	30-Apr-17	\$1,260.82
57	Multivitamin coated tab	152	5000	KG0390	1-Jul-16	\$4,256.00
58	Nystatine 100,000IU/g oint 30g	322.5	10	GR15003	30-Jun-18	\$2,647.73
59	Oral Rehydration Salts 20.5g	1068	100	140620	31-May-17	\$6,942.00
60	Quinine dihydrochloride 600mg/2ml inj	42	100	30830	30-Nov-17	\$1,732.92
61	Retinol (Vitamin A) 200000IU Cap	494	500	S151114	30-Apr-18	\$5,384.60
62	Sulfadoxine 500mg + pyrimethamine 25mg tab	13	1000	SPTH0023	1-Jul-18	\$ 468.00
63	Tetracycline hcl 1% eye oint tube 5gr	749	50	TEE14057	1-Nov-17	\$4,846.03

#	INN	Quantity	Pack size	Batch #	Expiry date	Values in USD
64	Tetracycline hcl 1% eye oint tube 5gr	1088	50	TEE14058	1-Nov-17	\$7,039.36
65	Tetracycline hcl 1% eye oint tube 5gr	1167	50	TEE14059	1-Nov-17	\$7,550.49
66	Tetracycline hcl 1% eye oint tube 5gr	1165	50	TEE14060	1-Nov-17	\$7,537.55
67	Tetracycline hcl 1% eye oint tube 5gr	1170	50	TEE14061	1-Nov-17	\$7,569.90
Total value:						\$238,465.11

ANNEX II.3: INDIVIDUAL BPHS/EPHS IMPLEMENTER STATUS SHEET

Pharmaceutical Management Performance Status Report of BPHS Implementers

This annex contains an overview of the pharmaceutical management performance status of the BPHS implementers, active in the USAID priority provinces during the SPS-AA extension period (FY16–FY17). The change in priority provinces in FY16, and the change in lead implementing agency under the SEHAT II contracts in several provinces, limit the time frame of the review to FY16–FY17 in several provinces. Annex II.7 provides an analysis of key pharmaceutical management performance indicators at the service delivery level over a longer period of time, and including all provinces and implementers that received SPS-AA technical assistance for a period of time between FY12 and FY17.

This annex is primarily intended to provide a baseline for post-SPS activities.

Inventory management and rational prescribing practices are evaluated against the SPS EOP targets for a set of quantifiable indicators, agreed upon with the MoPH and the BPHS implementers. Additional information was obtained through joint review of procurement and distribution practices and performance improvement assessment sessions.

Inventory management indicators are calculated for 30 tracer drugs—that is, key medicines that are needed for implementing the BPHS priority interventions. The list of drugs was agreed upon with the MoPH and BPHS implementers. Inventory management indicators are the following:

- Weighted average percentage of inventory variance (WAPIV): indicates the overall correspondence of stock records with real physical stock. The higher the WAPIV, the less useful stock on record will be to use for planning and forecasting.
- Average percentage of items where stock on record matches physical stock (MATCH): reflects the quality of stock keeping (accuracy and timeliness of updating) and allow determining whether a higher WAPIV is due to a few items with a large difference between stock on record and physical count, or due to inaccuracies for all items.
- Average percentage of items available on the day of the visit (AVAILABLE): indicates whether at least one unexpired unit of the medicine was available.
- Average percentage of time out of stock (POTOS): time out of stock is the number of days an items had zero balance in the inventory records, usually reviewed for a period of 12 months prior to the day of the visit. This indicates the ability of the procurement and distribution system to maintain a constant supply up to facility level.

Rational prescribing indicators, how to measure them, and their EOP target value were agreed upon with MoPH and BPHS implementers. Most commonly, joint SPS/MoPH/PPHD/NGO teams visiting a facility selected 100 curative encounters from the patient records through systematic random sampling, over a 12-month period. The rational prescribing indicators are the following:

- Average number of drugs prescribed per encounter (NUMBER): indicates possible problems with polypharmacy.
- Average percentage of encounters with at least one antibiotic prescribed (ANTIBIO): indicates possible problems with antibiotic abuse for general curative encounters, without the need to know the diagnosis. The EOP target value was agreed upon with MoPH and implementers to be between 20% and 40%, which corresponds with 20% improvement from baseline.
- Average percentage of encounters not requiring antibiotics without antibiotic prescribed (CC&WD): the proportion of encounters with acute watery diarrhea or common cold (acute respiratory infection) without symptoms of a condition that would require antibiotic treatment but which did not get antibiotics prescribed. These encounters are a subset of the 100 encounters investigated.
- Average percentage of diarrhea cases with ORS prescribed (DIAR): the proportion of all diarrhea cases with ORS prescribed. These encounters are a subset of the 100 encounters investigated.
- Average percentage of selected encounters prescribed according to NSTG-PL (NSTG): the proportion of the following:
 - CC&WD and DIAR with no antibiotic prescribed
 - DIAR with ORS prescribed
 - Pneumonia with antibiotic prescribed

These encounters are a subset of the 100 encounters investigated.

Where available in warehouses and facilities, the joint teams reviewed the records of one or more recent medicine orders to evaluate upstream (supplier to warehouse) and downstream (warehouse to facility) order completion rates (proportion of ordered items ultimately received, proportion of ordered received in the requested quantity, proportion of ordered items received by the requested delivery date, proportion of ordered items received at the initially quoted cost).

The availability of national reference documents on different aspects of pharmaceutical supply management, and the staff's familiarity with them is indicated as well.

Status Report on BPHS Facilities of AKHS in Badakhshan Province

Nine joint field visits by SPS, GDPA, PPHO, and NGO staff providing on-site support to BPHS facilities managed by AKHS in Badakhshan took place between June 2012 and November 2016. In total, 44 facility visits took place in 13 different facilities.

During each facility visit, the visiting team applied the IMAT and the RMU assessment tool, where available records allowed collecting the necessary data.

IMAT results for BPHS facilities managed by AKHS in Badakhshan							
	Target	FY12	FY13	FY14	FY15	FY16	FY17
Number of visits with IMAT applied		4	10	7	9	5	7
Weighted average percentage of inventory variance (WAPIV)	≤5%	7.1%	15.5%	10.1%	4.1%	11.9%	5.2%
Percentage of facilities with WAPIV on SPS EOP target	80%	0.0%	50.0%	14.3%	77.8%	40.0%	57.1%
Average percentage of items where stock on record match physical stock (MATCH)	≥90%	67.5%	57.3%	41.0%	80.0%	40.0%	48.1%
Percentage of facilities with MATCH on SPS EOP target	80%	0.0%	10.0%	0.0%	66.7%	0.0%	14.3%
Average percentage of items available on the day of the visit (AVAILABLE)	≥90%	93.3%	83.7%	95.7%	83.3%	91.3%	98.1%
Percentage of facilities with AVAILABLE on SPS EOP target	80%	75.0%	60.0%	85.7%	33.3%	60.0%	100.0%
Average percentage of time out of stock (POTOS)	≤10%	2.9%	5.1%	4.0%	2.7%	6.4%	6.0%
Percentage of facilities with POTOS on SPS EOP target	80%	100.0%	80.0%	100.0%	100.0%	100.0%	85.7%

Comments on the IMAT results:

- The WAPIV and MATCH indicators, reflecting general quality of inventory management and accuracy of stock record keeping, did not reach the EOP target values.

Nevertheless, the AVAILABLE and POTOS indicators were close to or within the EOP target range throughout life of project, indicating that AKHS manages procurement and distribution without serious interruption of medicine supply to facilities.

RMU assessment results for BPHS facilities managed by AKHS in Badakhshan							
	Tar-get	FY12	FY13	FY14	FY15	FY16	FY17
Number of visits with RMU assessment applied		5	10	7	10	5	7
Average number of drugs prescribed per encounter (NUMBER)	≤2	1.8	1.9	2.0	2.0	1.6	1.7
Percentage of facilities with NUMBER on SPS EOP target	≥80%	100.0%	70.0%	42.9%	70.0%	100.0%	85.7%

Average percentage of encounters with at least one antibiotic prescribed (ANTIBIO)	>20% and ≤40%	42.6%	41.0%	55.4%	46.8%	47.6%	45.6%
Percentage of facilities with ANTIBIO on SPS EOP target	≥80%	20.0%	40.0%	0.0%	20.0%	20.0%	14.3%
Average percentage of encounters not requiring antibiotics without antibiotic prescribed (CC&WD)	≥80%	NA	4.4%	34.2%	9.4%	31.6%	30.3%
Percentage of facilities with CC&AWD on SPS EOP target	≥80%	NA	85.7%	42.9%	80.0%	0.0%	28.6%
Average percentage of diarrhea cases with ORS prescribed (DIAR)	100%	NA	NA	NA	NA	56.2%	51.4%
Average percentage selected encounters prescribed according to NSTG-PL (NSTG)	≥80%	NA	NA	NA	NA	67.8%	70.4%
Percentage of facilities with NSTG on SPS EOP target	≥80%	NA	NA	NA	NA	20.0%	14.3%

Comments on the RMU assessment results:

- On average, fewer than two medicines were prescribed per encounter throughout the life of the project
- However, the average value of the indicators on antibiotic prescribing and on adherence to NSTG-PL do not reach the EOP target values, and only a minority of facilities reaches the EOP target value for these indicators.

Other observations from field visits and performance improvement assessments between FY15 and FY17:

- Review of one recent order in seven facilities showed that AKHS supplied on average 78% of requested items to facilities, but only 27% in the quantity requested. No data were available to evaluate timeliness of supply to facilities.
- Only two of five visited facilities where the knowledge of staff was checked, had staff who know a standard consumption-based medicine quantification formula.
- NSTG-PL and ANF were available in 100% of visited facilities, but staff were not trained in their use, nor did they receive general RMU training.
- The standard reference guide for medical supply management at the facility level, MDS, was available in only 20% of the visited facilities, and staff had not been oriented on how to use it routinely. There were no SOPs for pharmaceutical stock management, quantification of needs, or procurement and distribution. AKHS did not have an annual procurement plan.

Priority areas for post-SPS performance improvement:

- Provide standard SOPs for pharmaceutical stock management, quantification of needs, procurement and distribution, train staff in their use, and support their use during supportive supervision visits.
- Mentor facility staff in quantifying medicine needs based on past consumption.
- Train facility staff in the use of NSTG-PL for clinical work.

Status Report on BPHS Facilities of CAF in Badakhshan Province

Eleven joint field visits by SPS, GDPA, PPHO, and NGO staff providing on-site support to BPHS facilities managed by CAF in Badakhshan took place between January 2012 and June 2017. In total, 70 facility visits took place in 22 different facilities.

During each facility visit, the visiting team applied the IMAT and the RMU assessment tool, where available records allowed collecting the necessary data. The team also assessed general facility-based medicine supply management practices, and quantification, and procurement and distribution practices.

IMAT results for BPHS facilities managed by CAF in Badakhshan							
	EOP target	FY12	FY13	FY14	FY15	FY16	FY17
Number of visits with IMAT applied		6	10	6	23	11	13
Weighted average percentage of inventory variance (WAPIV)	≤5%	26.0%	10.0%	5.4%	3.9%	8.9%	3.4%
Percentage of facilities with WAPIV on SPS EOP target	80%	0.0%	30.0%	66.7%	82.6%	36.4%	76.9%
Average percentage of items where stock on record match physical stock (MATCH)	≥90%	32.8%	54.7%	56.7%	71.0%	52.4%	86.7%
Percentage of facilities with MATCH on SPS EOP target	80%	0.0%	10.0%	33.3%	52.2%	18.2%	84.6%
Average percentage of items available on the day of the visit (AVAILABLE)	≥90%	91.7%	85.7%	95.6%	81.6%	89.7%	93.2%
Percentage of facilities with AVAILABLE on SPS EOP target	80%	66.7%	60.0%	100.0%	47.8%	63.6%	84.6%
Average percentage of time out of stock (POTOS)	≤10%	6.6%	5.0%	3.3%	3.4%	8.0%	4.4%
Percentage of facilities with POTOS on SPS EOP target	80%	66.7%	90.0%	100.0%	100.0%	81.8%	100.0%

Comments on the IMAT results:

- The largest majority (77%) of visited facilities had a weighted average percentage of inventory variance (WAPIV) of less than 5% in FY17, with an average WAPIV value of 3.4% for all facilities visited in FY17.
- The average percentage of items where stock on record match physical stock increased from 33% in FY12 to 87% FY17, while the percentage of facilities reaching the target 90% of items matching increased from 0% to 85%.
- Throughout life of project, both indicators reflecting availability of essential medicines were close to or better than the EOP target, indicating that CAF in Badakhshan managed the transition from the USAID pooled procurement to the SEHAT II procurement without serious interruption of the supply chain.

RMU assessment results for BPHS facilities managed by CAF in Badakhshan							
	EOP target	FY12	FY13	FY14	FY15	FY16	FY17
Number of visits with RMU assessment applied		7	11	6	22	11	7
Average number of drugs prescribed per encounter (NUMBER)	≤2	2.1	1.9	1.9	2.0	1.6	1.6
Percentage of facilities with NUMBER on SPS EOP target	≥80%	42.9%	72.7%	66.7%	50.0%	90.9%	92.3%
Average percentage encounters with at least one antibiotic prescribed (ANTIBIO)	>20% and ≤40%	49.9%	41.2%	42.0%	47.1%	47.0%	46.3%
Percentage of facilities with ANTIBIO on SPS EOP target	≥80%	14.3%	63.6%	66.7%	27.3%	18.2%	23.1%
Average percentage encounters not requiring antibiotics without antibiotic prescribed (CC&WD)	≥80%	NA	87.5%	73.0%	81.1%	69.1%	68.4%
Percentage of facilities with CC&AWD on SPS EOP target	≥80%	NA	75.0%	50.0%	57.1%	45.5%	30.8%
Average percentage of diarrhea cases with ORS prescribed	100%	NA	NA	NA	NA	65.9%	67.1%
Average percentage of selected encounters prescribed according to NSTG-PL (NSTG)	≥80%	NA	NA	NA	NA	70.5%	74.3%
Percentage of facilities with NSTG on SPS EOP target	≥80%	NA	NA	NA	NA	36.4%	46.2%

Comments on the RMU assessment results:

- From FY13 onward, the average number of drugs prescribed per encounter reached the EOP target of ≤2 for the large majority of visited facilities.
- However, indicators on antibiotic prescribing and on general adherence to NSTG-PL do not reach the EOP target values.

Other observations from field visits and performance improvement assessments in FY16 and FY17:

- Review of five medicine orders showed that CAF warehouse received 99% of medicine ordered, but only 28% in the exact quantity ordered, and by the requested delivery date. No cost data were available. Availability and timely delivery of the ordered medicine was the main problem encountered when ordering from suppliers.
- Review of a 15 recent medicine orders in eight facilities (at least one in each facility) showed that CAF supplied on average 93% of requested items to facilities, but only 34% in the quantity and within the time frame requested. This reflects the problems encountered with the suppliers.
- Only 33% of 12 visited facilities have staff who know a standard consumption-based medicine quantification formula.
- NSTG-PL and ANF were available in virtually all visited facilities, but few staff were trained in their use.

- The standard reference guide for medical supply management at the facility level, MDS, was available in two-thirds of the visited facilities, but staff had not been oriented on how to use them routinely. There were no SOPs for pharmaceutical stock management, quantification of needs, or procurement and distribution.

Priority areas for post-SPS performance improvement:

- Maintain supportive supervision and on-the-job training for inventory management and general pharmaceutical supply management at the facility level, in collaboration with GDPS.
- CAF would benefit at the main office level from a designating a committee for quantifying pharmaceutical needs, to draft a detailed annual procurement plan and oversee needs-based quantification of medicines at all levels.
- CAF would benefit from technical assistance to ensure that all existing and newly hired clinical staff receives training in the use of the NSTG-PL for rational prescribing.
- NGOs should follow the developed performance improvement action plan and update it regularly with the support of GDPS.

Status Report on BPHS Facilities of BDN in Baghlan Province

Thirteen joint field visits by SPS, GDPA, PPHO, and NGO staff providing on-site support to BPHS facilities managed by BDN in Baghlan took place between January 2012 and May 2017. In total, 83 facility visits took place in 29 different facilities.

During each facility visit, the visiting team applied the IMAT and the RMU assessment tool, where available records allowed collecting the necessary data.

IMAT results for BPHS facilities managed by BDN in Baghlan							
	Target	FY12	FY13	FY14	FY15	FY16	FY17
Number of visits with IMAT applied		9	18	11	21	10	14
Weighted average percentage of inventory variance (WAPIV)	≤5%	13.2%	2.6%	1.3%	1.1%	2.8%	0.1%
Percentage of facilities with WAPIV on SPS EOP target	80%	77.8%	72.2%	100.0%	95.2%	80.0%	100.0%
Average percentage of items where stock on record match physical stock (MATCH)	≥90%	75.6%	66.7%	79.1%	78.6%	67.3%	88.5%
Percentage of facilities with MATCH on SPS EOP target	80%	55.6%	44.4%	72.7%	42.9%	30.0%	78.6%
Average percentage of items available on the day of the visit (AVAILABLE)	≥90%	84.8%	91.5%	90.0%	97.6%	83.3%	95.0%
Percentage of facilities with AVAILABLE on SPS EOP target	80%	55.6%	88.9%	81.8%	95.2%	50.0%	92.9%
Average percentage of time out of stock (POTOS)	≤10%	5.9%	2.8%	5.2%	1.8%	5.4%	5.8%
Percentage of facilities with POTOS on SPS EOP target	80%	77.8%	100.0%	100.0%	100.0%	90.0%	100.0%

Comments on the IMAT results:

- Except in FY12, the weighted average percentage of inventory variance (WAPIV) was constantly less than 5%, with an average WAPIV value of 0.1% for the facilities visited in FY17. All facilities visited in FY17 reached the EOP target.
- The average percentage of items where stock on record match physical stock increased from 76% in FY12 to 89% FY17, while the percentage of facilities reaching the target 90% of items matching increased from 33% to 50%.
- Throughout the life of project, both indicators reflecting availability of essential medicines were close to or better than the EOP target, indicating that BDN in Baghlan managed the transition from the USAID pooled procurement to the SEHAT II procurement without serious interruption of the supply chain.

RMU assessment results for BPHS facilities managed by BDN in Baghlan							
	EOP target	FY12	FY13	FY14	FY15	FY16	FY17
Number of visits with RMU assessment applied		9	18	11	21	10	14
Average number of drugs prescribed per encounter (NUMBER)	≤2	1.9	1.8	1.9	1.7	1.6	1.5

Percentage of facilities with NUMBER on SPS EOP target	≥80%	55.6%	66.7%	72.7%	90.5%	90.0%	92.9%
Average percentage encounters with at least one antibiotic prescribed (ANTIBIO)	>20% and ≤40%	46.6%	44.4%	45.7%	41.0%	49.9%	40.9%
Percentage of facilities with ANTIBIO on SPS EOP target	≥80%	22.2%	33.3%	27.3%	52.4%	10.0%	64.3%
Average percentage encounters not requiring antibiotics without antibiotic prescribed (CC&WD)	≥80%	NA	87.2%	89.6%	95.8%	54.7%	77.6%
Percentage of facilities with CC&AWD on SPS EOP target	≥80%	NA	70.6%	80.0%	95.2%	0.0%	57.1%
Average percentage of diarrhea cases with ORS prescribed	100%	NA	NA	NA	NA	45.8%	63.0%
Average percentage of selected encounters prescribed according to NSTG-PL (NSTG)	≥80%	NA	NA	NA	NA	58.9%	76.3%
Percentage of facilities with NSTG on SPS EOP target	≥80%	NA	NA	NA	NA	0.0%	50.0%

Comments on the RMU assessment results:

- On average, fewer than two medicines were prescribed per encounter throughout life of project, and fewer encounters received at least one antibiotic in FY17 than in FY12, coming close to the EOP target of 40% in FY17.
- However, indicators on antibiotic prescribing and on general adherence to NSTG-PL do not reach the EOP target values.

Other observations from field visits and performance improvement assessments in FY16 and FY17:

- Review of a recent order indicated that the BDN warehouse received 98% of medicine ordered, and only 75% in the exact quantity ordered, by the requested delivery date, and at the initially quoted cost. Timely delivery of ordered medicine was the main problem encountered with suppliers.
- Review of one recent order in nine facilities indicated that BDN supplied on average 78% of requested items to facilities, but only 54% in the quantity and within the time frame requested.
- Only 43% of visited facilities have staff who know a standard consumption-based medicine quantification formula.
- NSTG-PL and ANF were available in virtually all visited facilities, but few staff were trained in their use.
- The standard reference guide for medical supply management at the facility level, MDS, was available in 80% of the visited facilities, but staff had not been oriented on how to use it routinely. There were no SOPs for pharmaceutical stock management, quantification of needs, or procurement and distribution. There was no annual procurement plan.

Priority areas for post-SPS performance improvement:

- Provide standard SOPs for pharmaceutical stock management, quantification of needs, procurement and distribution, train staff in their use, and support their use during supportive supervision visits.
- Mentor facility staff in quantifying medicine needs based on past consumption.

Status Report on BPHS Facilities of BDN in Balkh Province

Ten joint field visits by SPS, GDPA, PPHO, and/or NGO staff providing on-site support to BPHS facilities managed by BDN in Balkh took place between January 2016 and September 2017. In total, 59 facility visits took place in 46 different BPHS facilities. BDN profited from the presence of a regional SPS team in Mazar-i-Sharif in FY16 and FY17.

During each facility visit, the visiting team applied the IMAT and the RMU assessment tool, where available records allowed collecting the necessary data.

IMAT results for BPHS facilities managed by BDN in Balkh			
	Target	FY16	FY17
Number of visits with IMAT applied		21	38
Weighted average percentage of inventory variance (WAPIV)	≤5%	1.4%	0.4%
Percentage of facilities with WAPIV on SPS EOP target	80%	95.2%	100.0%
Average percentage of items where stock on record match physical stock (MATCH)	≥90%	64.3%	88.3%
Percentage of facilities with MATCH on SPS EOP target	80%	19.0%	76.3%
Average percentage of items available on the day of the visit (AVAILABLE)	≥90%	92.5%	94.2%
Percentage of facilities with AVAILABLE on SPS EOP target	80%	81.0%	94.7%
Average percentage of time out of stock (POTOS)	≤10%	4.8%	6.8%
Percentage of facilities with POTOS on SPS EOP target	80%	90.5%	94.7%

Comments on the IMAT results:

- The weighted average percentage of inventory variance (WAPIV) reached the SPS EOP target of ≤5% in all of the visited facilities in FY17.
- The average percentage of items where stock on record match physical stock increased from 64% in FY16 to 88% FY17, with more than three-quarters of visited facilities reaching the ≥90% target value.
- Both indicators reflecting availability of essential medicines reached the EOP target, indicating that BDN was managing the SEHAT II procurement without serious interruption of the supply chain.

RMU Assessment results for BPHS facilities managed by BDN in Balkh			
	Target	FY16	FY17
Number of visits with RMU assessment applied		21	38
Average number of drugs prescribed per encounter (NUMBER)	≤2	1.5	1.5
Percentage of facilities with NUMBER on SPS EOP target	≥80%	95.2%	97.4%
Average percentage of encounters with at least one antibiotic prescribed (ANTIBIO)	>20% and ≤40%	37.5%	33.4%
Percentage of facilities with ANTIBIO on SPS EOP target	≥80%	66.7%	81.6%

Average percentage of encounters not requiring antibiotics without antibiotic prescribed (CC&WD)	≥80%	81.8%	86.2%
Percentage of facilities with CC&AWD on SPS EOP target	≥80%	66.7%	76.3%
Average percentage of diarrhea cases with ORS prescribed	100%	44.4%	70.8%
Average percentage selected encounters prescribed according to NSTG-PL (NSTG)	≥80%	75.0%	83.1%
Percentage of facilities with NSTG on SPS EOP target	≥80%	28.6%	63.2%

Comments on the RMU assessment results:

- On average, fewer than two medicines were prescribed per encounter throughout life of project, and BDN in Balkh was one of the few implementers that reached the EOP target of ≤40% for the percentage encounters with at least one antibiotic prescribed in FY17 in more than 80% of the visited facilities.
- The BDN project in Balkh also reached the EOP target of ≥80% for the percentage of selected encounters prescribed, according to NSTG-PL.

Other observations from field visits and performance improvement assessments in FY16 and FY17:

- Although Balkh province was only added to USAID priority provinces in FY16, BDN duly applied its experience in pharmaceutical management acquired in Herat and Baghlan.
- Review of three recent orders showed that the BDN warehouse received on average 74% of items ordered, and only 38% in the exact quantity ordered, by the requested delivery date, and at the initially quoted cost. Timely delivery of ordered medicines was the main problem encountered with suppliers.
- Review of a recent order in one facility showed that BDN supplied on average 78% of requested items to facilities, but only 65% in the quantity and within the time frame requested.
- Only 2% of visited facilities have staff who know a standard consumption-based medicine quantification formula.
- NSTG-PL and ANF were available in more than 80% of visited facilities, but few staff were trained in their use.
- The standard reference guide for medical supply management at the facility level, MDS, was available in two-thirds of the visited facilities, but staff had not been oriented on how to use it routinely. There were no SOPs for pharmaceutical stock management, quantification of needs, or procurement and distribution.

Priority areas for post-SPS performance improvement:

- Provide standard SOPs for pharmaceutical stock management, quantification of needs, procurement and distribution, train staff in their use, and support their use during supportive supervision visits.
- Negotiate compliance with order requests with suppliers.
- Mentor facility staff in quantifying medicine needs based on past consumption.

Status Report on BPHS Facilities of BARAN in Bamyan Province

Five joint field visits by SPS, GDPA, PPHO, and NGO staff providing on-site support to BPHS facilities managed by BARAN in Bamyan took place between March 2016 and February 2017. In total, 29 facility visits took place in 19 different BPHS facilities. During each facility visit, the visiting team applied the IMAT and the RMU assessment tool, where available records allowed collecting the necessary data.

IMAT results for BPHS facilities managed by BARAN in Bamyan			
	Target	FY16	FY17
Number of visits with IMAT applied		17	12
Weighted average percentage of inventory variance (WAPIV)	≤5%	9.9%	4.8%
Percentage of facilities with WAPIV on SPS EOP target	80%	76.5%	58.3%
Average percentage of items where stock on record match physical stock (MATCH)	≥90%	63.9%	77.8%
Percentage of facilities with MATCH on SPS EOP target	80%	35.3%	25.0%
Average percentage of items available on the day of the visit (AVAILABLE)	≥90%	87.3%	75.9%
Percentage of facilities with AVAILABLE on SPS EOP target	80%	70.6%	83.3%
Average percentage of time out of stock (POTOS)	≤10%	4.2%	7.0%
Percentage of facilities with POTOS on SPS EOP target	80%	94.1%	91.7%

Comments on the IMAT results:

- BARAN brought the weighted average percentage of inventory variance (WAPIV) down from 10% in FY16 to 5% in FY17, but the percentage of visited facilities reaching the ≤5% target remains low.
- The average percentage of items where stock on record match physical stock increased from 64% in FY16 to 78% FY17, but the percentage of visited facilities reaching the ≤5% target remains low.
- By FY17, both indicators reflecting availability of essential medicines reached the EOP target, indicating that BARAN was managing the SEHAT II procurement without serious interruption of the supply chain.

RMU assessment results for BPHS facilities managed by BARAN in Bamyan			
	Target	FY16	FY17
Number of visits with RMU assessment applied		17	12
Average number of drugs prescribed per encounter (NUMBER)	≤2	2.0	1.7
Percentage of facilities with NUMBER on SPS EOP target	≥80%	52.9%	91.7%
Average percentage of encounters with at least one antibiotic prescribed (ANTIBIO)	>20% and ≤40%	49.8%	44.9%
Percentage of facilities with ANTIBIO on SPS EOP target	≥80%	17.6%	41.7%
Average percentage of encounters not requiring antibiotics without antibiotic prescribed (CC&WD)	≥80%	58.0%	63.7%

Percentage of facilities with CC&AWD on SPS EOP target	≥80%	11.8%	33.3%
Average percentage of diarrhea cases with ORS prescribed	100%	67.5%	58.7%
Average percentage of selected encounters prescribed according to NSTG-PL (NSTG)	≥80%	68.2%	65.1%
Percentage of facilities with NSTG on SPS EOP target	≥80%	17.6%	16.7%

Comments on the RMU assessment results:

- On average, fewer than two medicines were prescribed per encounter throughout life of project, and fewer encounters received at least one antibiotic in FY17 than in FY12, coming close to the EOP target of 40% in FY17.
- However, indicators on antibiotic prescribing and on general adherence to NSTG-PL do not reach the EOP target values.

Other observations from field visits and performance improvement assessments in FY16 and FY17:

- BARAN took over a project that had good medicine supply management at the facility level, and was able to maintain that level.
- Review of a recent order showed that BARAN warehouse received 100% of medicine ordered, and 94% in the exact quantity ordered and by the requested delivery date. Cost data were not available.
- Review of eight orders in seven facilities (at least one in each facility) showed that BARAN supplied on average 90% of requested items to facilities, but only 26% in the quantity and within the time frame requested. The procurement was not based on the projected needs of the facilities; staff were not trained in quantification.
- Only 33% of visited facilities have staff who know a standard consumption-based medicine quantification formula.
- NSTG-PL and ANF were available in almost all facilities, but few staff were trained in their use, since the BPHS project budget did not include this activity.
- The standard reference guide for supply management at the facility level, MDS, was available in two-thirds of the visited facilities, but staff had not been oriented on how to use it routinely. There were no SOPs for pharmaceutical stock management, quantification of needs, or procurement and distribution. Supervisors do not routinely monitor stock management practices at the facility level.

Priority areas for post-SPS performance improvement:

- Provide standard SOPs for pharmaceutical stock management, quantification of needs, procurement and distribution, train staff in their use, and support their use during supportive supervision visits.
- Include budget for training in the use of NSTG-PL in the next BPHS budget proposal.

Status Report on BPHS Facilities of MOVE in Bamyan Province

Four joint field visits by SPS, GDPA, PPHO, and NGO staff providing on-site support to BPHS facilities managed by MOVE in Bamyan took place between March 2016 and September 2017. In total, 18 facility visits took place in 10 different BPHS facilities.

During each facility visit, the visiting team applied the IMAT and the RMU assessment tool, where available records allowed collecting the necessary data.

IMAT results for BPHS facilities managed by MOVE in Bamyan			
	Target	FY16	FY17
Number of visits with IMAT applied		9	9
Weighted average percentage of inventory variance (WAPIV)	≤5%	6.9%	1.5%
Percentage of facilities with WAPIV on SPS EOP target	80%	55.6%	88.9%
Average percentage of items where stock on record match physical stock (MATCH)	≥90%	63.3%	88.8%
Percentage of facilities with MATCH on SPS EOP target	80%	11.1%	88.9%
Average percentage of items available on the day of the visit (AVAILABLE)	≥90%	93.7%	94.5%
Percentage of facilities with AVAILABLE on SPS EOP target	80%	88.9%	88.9%
Average percentage of time out of stock (POTOS)	≤10%	5.0%	2.7%
Percentage of facilities with POTOS on SPS EOP target	80%	88.9%	100.0%

Comments on the IMAT results:

- MOVE brought the weighted average percentage of inventory variance (WAPIV) down from 7% in FY16 to 1.5% in FY17, and 90% of the visited facilities reached the EOP target of ≤5% in FY17.
- The average percentage of items where stock on record matches physical stock increased from 63% in FY16 to 89% FY17, and 90% of the visited facilities reached the EOP target of ≥90% in FY17.
- During the two years, both indicators reflecting availability of essential medicines reached the EOP target, indicating that BARAN was managing the SEHAT II procurement without serious interruption of the supply chain.

RMU assessment results for BPHS facilities managed by MOVE in Bamyan			
	Target	FY16	FY17
Number of visits with RMU assessment applied		9	9
Average number of drugs prescribed per encounter (NUMBER)	≤2	1.8	1.6
Percentage of facilities with NUMBER on SPS EOP target	≥80%	77.8%	100.0%

Average percentage of encounters with at least one antibiotic prescribed (ANTIBIO)	>20% and ≤40%	46.8%	30.3%
Percentage of facilities with ANTIBIO on SPS EOP target	≥80%	0.0%	100.0%
Average percentage encounters not requiring antibiotics without antibiotic prescribed (CC&WD)	≥80%	58.6%	85.7%
Percentage of facilities with CC&AWD on SPS EOP target	≥80%	33.3%	77.8%
Average percentage of diarrhea cases with ORS prescribed	100%	36.4%	65.2%
Average percentage selected encounters prescribed according to NSTG-PL (NSTG)	≥80%	65.7%	82.7%
Percentage of facilities with NSTG on SPS EOP target	≥80%	22.2%	66.7%

Comments on the RMU assessment results:

- On average, fewer than two medicines were prescribed per encounter throughout life of project, and all facilities had less than 40% of encounters with an antibiotic prescribed in FY17.
- The MOVE project in Bamyan also reached the EOP target of ≥80% for percentage of selected encounters prescribed according to NSTG-PL.

Other observations from field visits and performance improvement assessments in FY16 and FY17:

- Review of a recent order showed that the MOVE warehouse received 96% of medicine ordered, but only 33% in the exact quantity ordered, none by the requested delivery date. Cost data were not available.
- Review of 10 orders in seven facilities (at least one in each facility) showed that MOVE supplied on average 93% of requested items to facilities, and 79% in the quantity and within the time frame requested.
- Only 50% of visited facilities have staff who know a standard consumption-based medicine quantification formula.
- NSTG-PL and ANF were available in all facilities. Staff was trained in general RMU principles, but only few staff were trained in the use of NSTG-PL.
- The standard reference guide for supply management at the facility level, MDS, was available in 70% of visited facilities, but staff had not been oriented on how to use it routinely. There were no SOPs for pharmaceutical stock management, quantification of needs, or procurement and distribution. Supervisors do not routinely monitor stock management practices at the facility level.

Priority areas for post-SPS performance improvement:

- Provide standard SOPs for pharmaceutical stock management, quantification of needs, procurement and distribution, train staff in their use, and support their use during supportive supervision visits.
- Train all clinical staff in the use of NSTG-PL.

Status Report on BPHS Facilities of AADA in Faryab Province

Six joint field visits by SPS, GDPA, PPHO, and NGO staff providing on-site support to BPHS facilities managed by AADA in Faryab took place between August 2015 and December 2016. In total, 30 facility visits took place in 17 different facilities.

During each facility visit, the visiting team applied the IMAT and the RMU assessment tool, where available records allowed collecting the necessary data.

IMAT results for BPHS facilities managed by AADA in Faryab				
	Target	FY15	FY16	FY17
Number of visits with IMAT applied		6	13	11
Weighted average percentage of inventory variance (WAPIV)	≤5%	1.1%	0.2%	0.8%
Percentage of facilities with WAPIV on SPS EOP target	80%	100.0%	100.0%	100.0%
Average percentage of items where stock on record match physical stock (MATCH)	≥90%	85.6%	89.0%	81.2%
Percentage of facilities with MATCH on SPS EOP target	80%	83.3%	100.0%	63.6%
Average percentage of items available on the day of the visit (AVAILABLE)	≥90%	93.9%	94.6%	95.6%
Percentage of facilities with AVAILABLE on SPS EOP target	80%	83.3%	92.3%	100.0%
Average percentage of time out of stock (POTOS)	≤10%	1.4%	6.2%	6.3%
Percentage of facilities with POTOS on SPS EOP target	80%	100.0%	92.3%	90.9%

Comments on the IMAT results:

- The weighted average percentage of inventory variance (WAPIV) was constantly less than 5%, with an average WAPIV value of less than 1% for the facilities visited in FY17, with all visited facilities reaching the EOP target of ≤5%.
- The average percentage of items where stock on record match physical stock was more than 80% during the period, but only two-thirds of the visited facilities reached the ≥90% target in FY17.
- Throughout life of project, both indicators reflecting availability of essential medicines exceeded the EOP target, indicating that AADA in Faryab managed the transition from the USAID pooled procurement to the SEHAT II procurement without serious interruption of the supply chain.

RMU assessment results for BPHS facilities managed by AADA in Faryab				
	Target	FY15	FY16	FY17
Number of visits with RMU assessment applied		5	10	11
Average number of drugs prescribed per encounter (NUMBER)	≤2	1.9	1.5	1.5
Percentage of facilities with NUMBER on SPS EOP target	≥80%	60.0%	90.0%	100.0%

Average percentage of encounters with at least one antibiotic prescribed (ANTIBIO)	>20% and ≤40%	34.8%	37.8%	36.5%
Percentage of facilities with ANTIBIO on SPS EOP target	≥80%	80.0%	50.0%	63.6%
Average percentage of encounters not requiring antibiotics without antibiotic prescribed (CC&WD)	≥80%	99.5%	65.7%	77.9%
Percentage of facilities with CC&AWD on SPS EOP target	≥80%	100.0%	20.0%	63.6%
Average percentage of diarrhea cases with ORS prescribed	100%	NA	57.9%	60.9%
Average percentage of selected encounters prescribed according to NSTG-PL (NSTG)	≥80%	NA	68.6%	74.8%
Percentage of facilities with NSTG on SPS EOP target	≥80%	NA	10.0%	27.3%

Comments on the RMU assessment results:

- On average, fewer than two medicines were prescribed per encounter throughout life of project.
- The average percentage of encounters with at least one antibiotic prescribed reached the EOP target value of ≤40% in all three years, but only two-thirds of visited facilities reached the EOP target by early FY17.
- Indicators related to adherence to NSTG-PL came close to, but did not reach the EOP target values.

Other observations from field visits and performance improvement assessments in FY16 and FY17:

- Facilities do not routinely perform physical inventory, and consumption data were inaccurate and were not reported in a timely manner.
- Review of two recent orders showed that the AADA warehouse received 97% of medicines ordered, but only 34% in the exact quantity ordered, by the requested delivery date and at the initially quoted cost.
- No documentation was available to review orders from or deliveries to facilities.
- Only 25% of visited facilities have staff who know a standard consumption-based medicine quantification formula.
- NSTG-PL and ANF were available in all facilities, and staff were trained in general RMU principles, but not specifically in the use of NSTG-PL.
- Standard reference materials for supply management (EML, MDS) were available in most facilities, but not all staff had been oriented on how to use them routinely. There were no SOPs for pharmaceutical stock management, quantification of needs, or procurement and distribution.

Priority areas for post-SPS performance improvement:

- Provide standard SOPs for pharmaceutical stock management, quantification of needs, procurement and distribution, train staff in their use, and support their use during supportive supervision visits.
- Include budget for training in the use of NSTG-PL in the next BPHS budget proposal and train staff.

Status Report on BPHS Facilities of MMRCA in Ghazni Province

Three joint field visits by SPS, GDPA, PPHO, and NGO staff providing on-site support to BPHS facilities managed by MMRAC in Ghazni took place between November 2015 and January 2017. In total, 15 facility visits took place in 12 different BPHS facilities.

During each facility visit, the visiting team applied the IMAT and the RMU assessment tool, where available records allowed collecting the necessary data.

IMAT results for BPHS facilities managed by MMRCA in Ghazni			
	Target	FY16	FY17
Number of visits with IMAT applied		3	12
Weighted average percentage of inventory variance (WAPIV)	≤5%	3.5%	8.5%
Percentage of facilities with WAPIV on SPS EOP target	80%	66.7%	75.0%
Average percentage of items where stock on record match physical stock (MATCH)	≥90%	72.8%	75.5%
Percentage of facilities with MATCH on SPS EOP target	80%	0.0%	66.7%
Average percentage of items available on the day of the visit (AVAILABLE)	≥90%	95.7%	96.2%
Percentage of facilities with AVAILABLE on SPS EOP target	80%	100.0%	100.0%
Average percentage of time out of stock (POTOS)	≤10%	1.3%	2.6%
Percentage of facilities with POTOS on SPS EOP target	80%	100.0%	100.0%

Comments on the IMAT results:

- Between FY16 and FY17, the weighted average percentage of inventory variance (WAPIV) increased from 4% in to 9%, but the percentage of the visited facilities that reached the EOP target increased.
- There was little change in the average percentage of items where stock on record match physical stock increased from between FY16 and FY17, but the percentage of the visited facilities that reached the EOP target increased.
- By FY17, both indicators reflecting availability of essential medicines reached the EOP target, indicating that MMRAC was managing the SEHAT II procurement without serious interruption of the supply chain.

RMU assessment results for BPHS facilities managed by MMRCA in Ghazni			
	EOP Target	FY16	FY17
Number of visits with RMU assessment applied		3	12
Average number of drugs prescribed per encounter (NUMBER)	≤2	2.2	1.9
Percentage of facilities with NUMBER on SPS EOP target	≥80%	33.3%	91.7%
Average percentage encounters with at least one antibiotic prescribed (ANTIBIO)	>20% and ≤40%	34.7%	53.9%
Percentage of facilities with ANTIBIO on SPS EOP target	≥80%	0.0%	16.7%

Average percentage encounters not requiring antibiotics without antibiotic prescribed (CC&WD)	≥80%	76.8%	40.6%
Percentage of facilities with CC&AWD on SPS EOP target	≥80%	33.3%	0.0%
Average percentage of diarrhea cases with ORS prescribed	100%	NA	67.9%
Average percentage selected encounters prescribed according to NSTG-PL (NSTG)	≥80%	NA	53.3%
Percentage of facilities with NSTG on SPS EOP target	≥80%	NA	0.0%

Comments on the RMU assessment results:

- By FY17, more than 90% of the visited facilities had fewer than two medicines were prescribed per encounter.
- In FY17, the average of all other RMU indicators does not reach the EOP target, and only a minority of individual facilities does.
- In FY16, one of three visited facilities had less than 20% of encounters with at least one antibiotic prescribed, which is considered too low. The average of the two other facilities was 43% in FY16.

Other observations from field visits and performance improvement assessments in FY16 and FY17:

- Review of a recent order showed that MMRCa warehouse received 96% of medicine ordered, in the exact quantity ordered, by the requested delivery date, and at the initially quoted cost.
- Review of six orders in six facilities (one in each facility) showed that MMRCa supplied on average 88% of requested items to facilities, but only 43% in the quantity and within the time frame requested. High turnover of pharmacy staff interferes with distribution and inventory management.
- Only 60% of visited facilities have staff who know a standard consumption-based medicine quantification formula.
- NSTG-PL and ANF were available in all facilities, but few staff were trained in their use.
- The standard reference guide for supply management at the facility level, MDS, was available in 60% of visited facilities, but staff had not been oriented on how to use it routinely. There were no SOPs for pharmaceutical stock management, quantification of needs, or procurement and distribution. Supervisors do not routinely monitor stock management practices at the facility level.

Priority areas for post-SPS performance improvement:

- Provide standard SOPs for pharmaceutical stock management, quantification of needs, procurement and distribution, train staff in their use, and support their use during supportive supervision visits.
- Include budget for training in the use of NSTG-PL in the next BPHS budget proposal.
- Train newly appointed pharmacy staff.

Status Report on BPHS Facilities of BDN in Herat Province

Twenty-four joint field visits by SPS, GDPA, PPHO, and NGO staff providing on-site support to BPHS facilities managed by BDN in Herat took place between April 2012 and August 2017. In total, 164 facility visits took place in 53 different facilities. In FY16 and FY17, BDN Herat profited from the presence of a SPS regional office in Herat City.

During each facility visit, the visiting team applied the IMAT and the RMU assessment tool, where available records allowed collecting the necessary data.

IMAT results for BPHS facilities managed by BDN in Herat							
	Target	FY12	FY13	FY14	FY15	FY16	FY17
Number of visits with IMAT applied		10	13	13	27	39	63
Weighted average percentage of inventory variance (WAPIV)	≤5%	6.3%	0.5%	0.7%	0.6%	1.7%	0.6%
Percentage of facilities with WAPIV on SPS EOP target	80%	80.0%	100.0%	100.0%	100.0%	92.3%	96.8%
Average percentage of items where stock on record match physical stock (MATCH)	≥90%	75.3%	87.4%	82.1%	82.7%	85.0%	94.2%
Percentage of facilities with MATCH on SPS EOP target	80%	60.0%	84.6%	76.9%	85.2%	82.1%	95.2%
Average percentage of items available on the day of the visit (AVAILABLE)	≥90%	93.7%	95.9%	98.7%	99.5%	98.7%	94.8%
Percentage of facilities with AVAILABLE on SPS EOP target	80%	80.0%	92.3%	100.0%	100.0%	100.0%	92.1%
Average percentage of time out of stock (POTOS)	≤10%	1.9%	1.6%	1.0%	0.5%	3.1%	2.5%
Percentage of facilities with POTOS on SPS EOP target	80%	100.0%	100.0%	100.0%	100.0%	94.9%	96.8%

Comments on the IMAT results:

- Except in FY12, the weighted average percentage of inventory variance (WAPIV) was constantly less than 5% during life of project, with an average WAPIV value of 0.6% for the facilities visited in FY17.
- The average percentage of items where stock on record match physical stock increased from 75% in FY12 to 94% in FY17; more than 90% of facilities visited in FY17 reached the target of 90% of stock on record matching physical stock.
- Throughout the life of project, both indicators reflecting availability of essential medicines were better than the EOP target, indicating that BDN in Herat managed the transition from the USAID pooled procurement to the SEHAT II procurement without serious interruption of the supply chain.

RMU assessment results for BPHS facilities managed by BDN in Herat							
	EOP Target	FY12	FY13	FY14	FY15	FY16	FY17
Number of visits with RMU assessment applied		10	13	13	27	38	63
Average number of drugs prescribed per encounter (NUMBER)	≤2	2.1	2.2	2.1	2.0	1.9	1.5
Percentage of facilities with NUMBER on SPS EOP target	≥80%	20.0%	15.4%	38.5%	40.7%	65.8%	98.4%
Average percentage of encounters with at least one antibiotic prescribed (ANTIBIO)	>20% and ≤40%	42.9%	36.5%	27.1%	28.1%	30.4%	29.1%

Percentage of facilities with ANTIBIO on SPS EOP target	≥80%	40.0%	76.9%	100.0%	85.2%	50.0%	73.0%
Average percentage of encounters not requiring antibiotics without antibiotic prescribed (CC&WD)	≥80%	NA	88.0%	97.9%	100.0%	79.2%	85.1%
Percentage of facilities with CC&AWD on SPS EOP target	≥80%	NA	66.7%	100.0%	100.0%	58.3%	69.8%
Average percentage of diarrhea cases with ORS prescribed	100%	NA	NA	NA	NA	74.0%	64.4%
Average percentage selected encounters prescribed according to NSTG-PL (NSTG)	≥80%	NA	NA	NA	NA	80.1%	81.6%
Percentage of facilities with NSTG on SPS EOP target	≥80%	NA	NA	NA	NA	55.6%	65.1%

Comments on the RMU assessment results:

- The average number of medicines prescribed per encounter reached the EOP target value from FY15 onward, and for almost all visited facilities in FY17.
- The average percentage of encounters with at least one antibiotic prescribed reached the EOP target value from FY13 onward.
- By FY17, the indicators reflecting adherence to the NSTGT-PL reached the EOP target, except for prescribing for diarrhea cases, of which only two-thirds had ORS prescribed.

Other observations from field visits and performance improvement assessments in FY16 and FY17:

- Review of three recent orders showed that the BDN warehouse received 93% of medicines ordered, but only 44% in the exact quantity ordered, by the requested delivery date, and at the initially quoted cost. Getting the suppliers to deliver at the requested time was the biggest problem.
- Review of 70 orders in 39 facilities (at least one in each facility) showed that BDN supplied on average 86% of requested items to facilities, but only 25% in the quantity and within the time frame requested.
- Ninety-one percent of visited facilities have staff who know a standard consumption-based medicine quantification formula.
- NSTG-PL and ANF were available in virtually all facilities, and most staff were trained in their use.
- Standard reference materials for supply management (EML, MDS) were available in most facilities, and staff had been oriented on how to use them routinely. There were no SOPs for pharmaceutical stock management, quantification of needs, or procurement and distribution. Supervisors do not routinely monitor stock management practices at the facility level, nor do they determine facility staff's capacity in quantifying and forecasting medicine needs.

Priority areas for post-SPS performance improvement:

- Provide SOPs for pharmaceutical stock management, quantification of needs, procurement and distribution, train staff in their use, and support their use during supportive supervision visits.
- Mentor facility staff in quantifying medicine needs based on past consumption.

Status Report on BPHS Facilities of MOVE in Kabul Province

Seven joint field visits by SPS, GDPA, PPHO, and NGO staff providing on-site support to BPHS facilities managed by MOVE in Kabul took place between September 2015 and July 2017. In total, 43 facility visits took place in 24 different facilities.

During each facility visit, the visiting team applied the IMAT and the RMU assessment tool, where available records allowed collecting the necessary data.

IMAT results for BPHS facilities managed by MOVE in Kabul				
	Target	FY15	FY16	FY17
Number of visits with IMAT applied		9	8	24
Weighted average percentage of inventory variance (WAPIV)	≤5%	4.3%	15.4%	14.2%
Percentage of facilities with WAPIV on SPS EOP target	80%	66.7%	50.0%	45.8%
Average percentage of items where stock on record match physical stock (MATCH)	≥80%	68.1%	49.6%	67.8%
Percentage of facilities with MATCH on SPS EOP target	80%	44.4%	0.0%	54.2%
Average percentage of items available on the day of the visit (AVAILABLE)	≥90%	87.4%	91.3%	90.2%
Percentage of facilities with AVAILABLE on SPS EOP target	80%	66.7%	75.0%	75.0%
Average percentage of time out of stock (POTOS)	≤10%	2.4%	6.5%	3.7%
Percentage of facilities with POTOS on SPS EOP target	80%	100.0%	75.0%	100.0%

Comments on the IMAT results:

- The weighted average percentage of inventory variance (WAPIV) went up from less than 5% in FY15 to 14% in the facilities visited in FY17; less than one-half of the facilities met the EOP target in FY17.
- The average percentage of items where stock on record matches physical stock was more than 80% during the period, but barely one-half of the visited facilities reached the EOP target of 80%.
- Throughout life of project, both indicators reflecting availability of essential medicines were close to or better than the EOP target, indicating that MOVE in Kabul managed the transition from the USAID pooled procurement to the SEHAT II procurement without serious interruption of the supply chain. However, not all facilities reach the EOP target for these indicators.

RMU assessment results for BPHS facilities managed by MOVE in Kabul				
	Target	FY15	FY16	FY17
Number of visits with RMU assessment applied		10	8	25
Average number of drugs prescribed per encounter (NUMBER)	≤2	1.9	1.7	1.7
Percentage of facilities with NUMBER on SPS EOP target	≥80%	70.0%	100.0%	100.0%
Average percentage encounters with at least one antibiotic prescribed (ANTIBIO)	>20% and ≤40%	38.4%	46.0%	44.1%
Percentage of facilities with ANTIBIO on SPS EOP target	≥80%	60.0%	25.0%	32.0%
Average percentage encounters not requiring antibiotics without antibiotic prescribed (CC&WD)	≥80%	93.3%	67.3%	72.9%
Percentage of facilities with CC&AWD on SPS EOP target	≥80%	87.5%	37.5%	48.0%
Average percentage of diarrhea cases with ORS prescribed	100%		88.7%	57.1%
Average percentage selected encounters prescribed according to NSTG-PL (NSTG)	≥80%	NA	76.6%	72.3%
Percentage of facilities with NSTG on SPS EOP target	≥80%	NA	37.5%	40.0%

Comments on the RMU assessment results:

- On average, fewer than two medicines were prescribed per encounter during the period, with all visited facilities reaching the EOP target from FY16 onward.
- The average percentage of encounters with at least one antibiotic prescribed had reached the EOP target value of ≤40% in FY15, but went up to 44% in FY17, with less than one-third of visited facilities reaching the EOP target.
- The indicators related to adherence to NSTG-PL did not reach the EOP target values in FY17, and actually worsened compared to FY15.

Other observations from field visits and performance improvement assessments in FY16 and FY17:

- Health facilities do not perform regular physical inventory for medicine stocks, and supervision of pharmaceutical supply management at facilities was irregular.
- Review of three recent orders showed that the MOVE warehouse received 97% of medicines ordered, in the exact quantity ordered, and by the requested delivery date. Cost data were not available.
- Review of 18 orders in 17 facilities (at least one in each facility) showed that MOVE supplied on average 90% of requested items to facilities, but only 71% in the quantity and within the time frame requested. Consumption reports of facilities were inaccurate and not timely transmitted.
- Only 47% of visited facilities have staff who know a standard consumption-based medicine quantification formula.
- NSTG-PL and ANF were available in all facilities, but few staff were trained in their use, since the BPHS project budget did not include this activity.

- Standard reference materials for supply management (EML, MDS) were available in most facilities, but staff had not been oriented on how to use them routinely. There were no SOPs for pharmaceutical stock management, quantification of needs, or procurement and distribution.

Priority areas for post-SPS performance improvement:

- Provide standard SOPs for pharmaceutical stock management, quantification of needs, procurement and distribution, train staff in their use, and support their use during supportive supervision visits.
- Train facility staff in drug supply management and the use of NSTG-PL.

Status Report on BPHS Facilities of BARAN in Kandahar Province

Sixteen joint field visits by SPS, GDPA, PPHO, and BARAN staff providing on-site support to BPHS facilities managed by BARAN in Kandahar took place between February 2016 and August 2017. In total, 90 facility visits took place in 33 different BPHS facilities. BARAN profited from the presence of an SPS regional office in Kandahar City.

During each facility visit, the visiting team applied the IMAT and the RMU assessment tool, where available records allowed collecting the necessary data.

IMAT results for BPHS facilities managed by BARAN in Kandahar			
	Target	FY16	FY17
Number of visits with IMAT applied		26	64
Weighted average percentage of inventory variance (WAPIV)	≤5%	15.7%	4.4%
Percentage of facilities with WAPIV on SPS EOP target	80%	38.5%	75.0%
Average percentage of items where stock on record match physical stock (MATCH)	≥90%	46.9%	57.5%
Percentage of facilities with MATCH on SPS EOP target	80%	15.4%	21.9%
Average percentage of items available on the day of the visit (AVAILABLE)	≥90%	78.1%	92.5%
Percentage of facilities with AVAILABLE on SPS EOP target	80%	30.8%	75.0%
Average percentage of time out of stock (POTOS)	≤10%	10.2%	8.2%
Percentage of facilities with POTOS on SPS EOP target	80%	53.8%	76.6%

Comments on the IMAT results:

- BARAN brought the weighted average percentage of inventory variance (WAPIV) down from 16% in FY16 to 4% in FY17, with three out of four of the visited facilities reaching the EOP target of ≤5% in FY17.
- The average percentage of items where stock on record match physical stock increased from 47% in FY16 to 58% FY17, but less than one-third of visited facilities reached the ≥90% target in FY17.
- By FY17, both of the indicators reflecting availability of essential medicines reached or were close to the EOP target, indicating that BARAN was addressing initial difficulties managing medical procurement, and thus limiting interruptions of the supply chain.

RMU assessment results for BPHS facilities managed by BARAN in Kandahar			
	Target	FY16	FY17
Number of visits with RMU assessment applied		26	64
Average number of drugs prescribed per encounter (NUMBER)	≤2	1.8	1.7

Percentage of facilities with NUMBER on SPS EOP target	≥80%	88.5%	96.9%
Average percentage encounters with at least one antibiotic prescribed (ANTIBIO)	>20% and ≤40%	56.1%	40.0%
Percentage of facilities with ANTIBIO on SPS EOP target	≥80%	11.5%	62.5%
Average percentage encounters not requiring antibiotics without antibiotic prescribed (CC&WD)	≥80%	50.5%	66.6%
Percentage of facilities with CC&AWD on SPS EOP target	≥80%	7.7%	25.0%
Average percentage of diarrhea cases with ORS prescribed	100%	57.4%	66.8%
Average percentage selected encounters prescribed according to NSTG-PL (NSTG)	≥80%	56.2%	68.1%
Percentage of facilities with CC&AWD on SPS EOP target	≥80%	12.5%	20.3%

Comments on the RMU assessment results:

- On average, fewer than two medicines were prescribed per encounter during the period in the large majority of the visited facilities.
- The average percentage of encounters with at least one antibiotic prescribed reached the EOP target of ≤40% by FY17.
- The average values of the other RMU indicators improved, but none reached EOP target values by FY17, and only a minority of individual facilities did.

Other observations from field visits and performance improvement assessments in FY16 and FY17:

- Review of three recent orders showed that the BARAN warehouse received 90% of medicine ordered, but only 15% in the exact quantity ordered, by the requested delivery date, and at the initially quoted cost.
- Review of 16 orders in 16 facilities (one in each facility) showed that BARAN supplied on average 97% of requested items to facilities, and 93% in the quantity and within the time frame requested.
- Eighty-five percent of visited facilities have staff who know a standard consumption-based medicine quantification formula.
- NSTG-PL and ANF were available in all facilities, and BARAN had actively trained staff in their use.
- The standard reference materials for supply management at the facility level, MDS, was available in only 9% of visited facilities. Staff need training in recently developed SOPs for pharmaceutical stock management. There were no SOPs for quantification of needs, or procurement and distribution. Supervisors do not routinely monitor stock management practices at the facility level.

Priority areas for post-SPS performance improvement:

- Provide standard reference materials and corresponding SOPs for pharmaceutical stock management, quantification of needs, procurement and distribution, train staff in their use, and support their use during supportive supervision visits.
- Include budget to continue training in the use of NSTG-PL in the next BPHS budget proposal.

Status Report on BPHS Facilities of SM in Kapisa Province

Five joint field visits by SPS, GDPA, PPHO, and SM staff providing on-site support to BPHS facilities managed by SM in Kapisa took place between May 2016 and May 2017. In total, 24 facility visits took place in 18 different BPHS facilities.

During each facility visit, the visiting team applied the IMAT and the RMU assessment tool, where available records allowed collecting the necessary data.

IMAT results for BPHS facilities managed by SM in Kapisa			
	Target	FY16	FY17
Number of visits with IMAT applied		9	13
Weighted average percentage of inventory variance (WAPIV)	≤5%	20.6%	16.5%
Percentage of facilities with WAPIV on SPS EOP target	80%	22.2%	38.5%
Average percentage of items where stock on record match physical stock (MATCH)	≥90%	54.4%	64.6%
Percentage of facilities with MATCH on SPS EOP target	80%	0.0%	7.7%
Average percentage of items available on the day of the visit (AVAILABLE)	≥90%	69.3%	65.1%
Percentage of facilities with AVAILABLE on SPS EOP target	80%	22.2%	0.0%
Average percentage of time out of stock (POTOS)	≤10%	30.7%	22.6%
Percentage of facilities with POTOS on SPS EOP target	80%	0.0%	38.5%

Comments on the IMAT results:

- SM brought the weighted average percentage of inventory variance (WAPIV) down from 21% in FY16 to 17% in FY17, with 39% of the visited facilities reaching the EOP target of ≤5% in FY17.
- The average percentage of items where stock on record match physical stock increased from 54% in FY16 to 65% FY17, but less than 10% of visited facilities reached the ≥90% target in FY17.
- By FY17, neither of the indicators reflecting availability of essential medicines reached the EOP target, indicating that SM was having difficulties managing medical procurement, which causes serious interruptions of the supply chain to the facilities.

RMU assessment results for BPHS facilities managed by SM in Kapisa			
	Target	FY16	FY17
Number of visits with RMU assessment applied		9	15
Average number of drugs prescribed per encounter (NUMBER)	≤2	1.6	1.6
Percentage of facilities with NUMBER on SPS EOP target	≥80%	100.0%	100.0%
Average percentage encounters with at least one antibiotic prescribed (ANTIBIO)	>20% and ≤40%	41.2%	46.6%

Percentage of facilities with ANTIBIO on SPS EOP target	≥80%	22.2%	20.0%
Average percentage encounters not requiring antibiotics without antibiotic prescribed (CC&WD)	≥80%	47.3%	55.9%
Percentage of facilities with CC&AWD on SPS EOP target	≥80%	0.0%	13.3%
Average percentage of diarrhea cases with ORS prescribed	100%	41.8%	64.2%
Average percentage selected encounters prescribed according to NSTG-PL (NSTG)	≥80%	52.2%	64.4%
Percentage of facilities with NSTG on SPS EOP target	≥80%	0.0%	13.3%

Comments on the RMU assessment results:

- On average, fewer than two medicines were prescribed per encounter during the period in all visited facilities.
- None of the average values of the other RMU indicators reached EOP target values by FY17, and few individual facilities did.
- Progress was made in adherence to NSTG-PL and routinely prescribing ORS for diarrhea.

Other observations from field visits and performance improvement assessments in FY16 and FY17:

- SM-Kapisa started updating stock cards and performing physical inventory regularly, but supervisory visits were few.
- Records about past orders received or distributed did not allow analysis of order completeness.
- Only 8% of visited facilities visited had staff who know a standard consumption-based medicine quantification formula, and medicine consumption was not reported from the health facilities to the provincial level.
- NSTG-PL and ANF were available in the majority of facilities, but few staff were trained in their use.
- The standard reference guide for supply management at the facility level, MDS, was available in only one of the visited facilities. There were no SOPs for pharmaceutical stock management, quantification of needs, or procurement and distribution. Supervisors do not routinely monitor stock management practices at the facility level.

Priority areas for post-SPS performance improvement:

- Provide standard reference materials and corresponding SOPs for pharmaceutical stock management, quantification of needs, procurement and distribution, and train staff in their use at all levels.
- Train staff in consumption-based quantification of medicine needs.
- Support facilities in stock management through more regular supervision visits.
- Include training in the use of NSTG-PL in the next action plan.

Status Report on BPHS Facilities of OHPM in Khost Province

Six joint field visits by SPS, GDPA, PPHO, and OHPM staff providing on-site support to BPHS facilities managed by OHPM in Khost took place between November 2015 and July 2017. In total, 33 facility visits took place at 16 different BPHS facilities.

During each facility visit, the visiting team applied the IMAT and the RMU assessment tool, where available records allowed collecting the necessary data.

IMAT results for BPHS facilities managed by OHPM in Khost			
	Target	FY16	FY17
Number of visits with IMAT applied		9	20
Weighted average percentage of inventory variance (WAPIV)	≤5%	3.5%	3.2%
Percentage of facilities with WAPIV on SPS EOP target	80%	77.8%	70.0%
Average percentage of items where stock on record match physical stock (MATCH)	≥90%	73.8%	72.5%
Percentage of facilities with MATCH on SPS EOP target	80%	33.3%	40.0%
Average percentage of items available on the day of the visit (AVAILABLE)	≥90%	86.3%	98.2%
Percentage of facilities with AVAILABLE on SPS EOP target	80%	55.6%	100.0%
Average percentage of time out of stock (POTOS)	≤10%	5.1%	5.6%
Percentage of facilities with POTOS on SPS EOP target	80%	88.9%	80.0%

Comments on the IMAT results:

- The weighted average percentage of inventory variance (WAPIV) was within the EOP target range of ≤5% in both years, with more than two-thirds of the visited facilities reaching the EOP target of ≤5% in FY17.
- The average percentage of items where stock on record matches physical stock was 73% in FY17, but only 40% of visited facilities reached the ≥90% target in FY17.
- By FY17, both of the indicators reflecting availability of essential medicines reached the EOP target, indicating that OHPM was managing medical procurement, without causing serious interruptions of the supply chain.

RMU assessment results for BPHS facilities managed by OHPM in Khost			
	Target	FY16	FY17
Number of visits with RMU assessment applied		13	20
Average number of drugs prescribed per encounter (NUMBER)	≤2	1.8	1.6
Percentage of facilities with NUMBER on SPS EOP target	≥80%	84.6%	100.0%
Average percentage encounters with at least one antibiotic prescribed (ANTIBIO)	>20% and ≤40%	42.5%	40.9%
Percentage of facilities with ANTIBIO on SPS EOP target	≥80%	38.5%	45.0%

Average percentage encounters not requiring antibiotics without antibiotic prescribed (CC&WD)	≥80%	76.2%	76.4%
Percentage of facilities with CC&AWD on SPS EOP target	≥80%	46.2%	45.0%
Average percentage of diarrhea cases with ORS prescribed	100%	80.8%	63.7%
Average percentage selected encounters prescribed according to NSTG-PL (NSTG)	≥80%	66.8%	75.1%
Percentage of facilities with NSTG on SPS EOP target	≥80%	14.3%	40.0%

Comments on the RMU assessment results:

- On average, fewer than two medicines were prescribed per encounter during the period, and by FY17 in all of the visited facilities.
- The percentage of encounters with at least one antibiotic prescribed almost reached the EOP target of ≤40% by FY17, but less than one-half of the visited facilities did.
- None of the average values of the other RMU indicators reached EOP target values by FY17, and only a minority of individual facilities did.

Other observations from field visits and performance improvement assessments in FY16 and FY17:

- Review of three recent orders showed that OPHM warehouse received 96% of medicine ordered, but only 33% in the exact quantity ordered, and none by the requested delivery date. Cost data were not available.
- Review of 27 orders in 15 facilities (at least one in each facility) showed that OPHM supplied on average 96% of requested items to facilities, but only 26% in the quantity and within the time frame requested.
- Only 38% of visited facilities have staff who know a standard consumption-based medicine quantification formula.
- NSTG-PL and ANF were available in all facilities, but few staff were trained in their use, since the BPHS project budget did not include this activity.
- Standard reference materials for supply management (EML, MDS) were available in most facilities, but staff had not been oriented on how to use them routinely. There were no SOPs for pharmaceutical stock management, quantification of needs, or procurement and distribution. Supervisors do not routinely monitor stock management practices at the facility level.

Priority areas for post-SPS performance improvement:

- Provide standard SOPs for pharmaceutical stock management, quantification of needs, procurement and distribution, train staff in their use, and support their use during supportive supervision visits.
- Include budget for training in the use of NSTG-PL in the next BPHS budget proposal.

Status Report on BPHS Facilities of SCA in Laghman Province

Six joint field visits by SPS, GDPA, PPHO, and SCA staff providing on-site support to BPHS facilities managed by SCA in Laghman took place between April 2016 and July 2017. In total, 40 facility visits took place in 18 different BPHS facilities.

During each facility visit, the visiting team applied the IMAT and the RMU assessment tool, where available records allowed collecting the necessary data.

IMAT results for BPHS facilities managed by SCA in Laghman			
	Target	FY16	FY17
Number of visits with IMAT applied		15	25
Weighted average percentage of inventory variance (WAPIV)	≤5%	12.7%	5.1%
Percentage of facilities with WAPIV on SPS EOP target	80%	13.3%	72.0%
Average percentage of items where stock on record match physical stock (MATCH)	≥90%	28.0%	52.6%
Percentage of facilities with MATCH on SPS EOP target	80%	6.7%	8.0%
Average percentage of items available on the day of the visit (AVAILABLE)	≥90%	92.9%	89.2%
Percentage of facilities with AVAILABLE on SPS EOP target	80%	80.0%	64.0%
Average percentage of time out of stock (POTOS)	≤10%	6.8%	2.7%
Percentage of facilities with POTOS on SPS EOP target	80%	73.3%	100.0%

Comments on the IMAT results:

- The weighted average percentage of inventory variance (WAPIV) reached the EOP target range of ≤5% by FY17, with more than two-thirds of the visited facilities reaching the EOP target of ≤5% in FY17.
- The average percentage of items where stock on record match physical stock was 53% in FY17, with 8% of visited facilities reaching the EOP target of ≥90% in FY17.
- In both years, both of the indicators reflecting availability of essential medicines were very close to or reached the EOP target, indicating that SCA was managing medical procurement, without causing serious interruptions of the supply chain.

RMU assessment results for BPHS facilities managed by SCA in Laghman			
	Target	FY16	FY17
Number of visits with RMU assessment applied		14	25
Average number of drugs prescribed per encounter (NUMBER)	≤2	1.5	1.5
Percentage of facilities with NUMBER on SPS EOP target	≥80%	100.0%	100.0%

Average percentage encounters with at least one antibiotic prescribed (ANTIBIO)	>20% and ≤40%	37.0%	35.6%
Percentage of facilities with ANTIBIO on SPS EOP target	≥80%	64.3%	48.0%
Average percentage encounters not requiring antibiotics without antibiotic prescribed (CC&WD)	≥80%	76.2%	81.2%
Percentage of facilities with CC&AWD on SPS EOP target	≥80%	35.7%	56.0%
Average percentage of diarrhea cases with ORS prescribed	100%	59.8%	70.0%
Average percentage selected encounters prescribed according to NSTG-PL (NSTG)	≥80%	73.0%	80.5%
Percentage of facilities with NSTG on SPS EOP target	≥80%	35.7%	52.0%

Comments on the RMU assessment results:

- In both years, all visited facilities reached the EOP target of on average ≤2 drugs per encounter prescribed.
- The average percentage of encounters with at least one antibiotic prescribed reached the EOP target of ≤40% in both years.
- The average values of the other RMU indicators reached EOP target values by FY17, but barely more than one-half of visited individual facilities did.

Other observations from field visits and performance improvement assessments in FY16 and FY17:

- SCA facilities started implementing regular physical inventory taking and updating stock cards on daily basis, and stock keeping practices were reinforced during supervisory visits.
- SCA supplies medicines from a central warehouse in Kabul to the provincial store, and then to facilities using a “push” system, which does not take into account the actual needs at the facility level. Only 7% of visited facilities had staff who know a standard consumption-based medicine quantification formula.
- NSTG-PL and ANF were available in all facilities, but not all staff have been trained in their use.
- Standard reference materials for supply management at the facility level, MDS, was absent in most facilities, and facility staff were not involved in quantification and forecasting of medicine needs.
- There was no standard procurement plan.

Priority areas for post-SPS performance improvement:

- SCA should consider moving toward a modified “push” supply system, which allows correcting projected quantities based on needs of facilities, or transition toward a needs-based “pull” supply system. Careful planning of a step-wise transition process should limit stock-outs at the facility level due to disruption of the present supply system.

Status Report on BPHS Facilities of AADA in Nangarhar Province

Twelve joint field visits by SPS, GDPA, PPHO, and AADA staff providing on-site support to BPHS facilities managed by AADA in Nangarhar took place between May 2016 and September 2016. In total, 70 facility visits took place in 42 different BPHS facilities.

During each facility visit, the visiting team applied the IMAT and the RMU assessment tool, where available records allowed collecting the necessary data.

IMAT results for BPHS facilities managed by AADA in Nangarhar			
	Target	FY16	FY17
Number of visits with IMAT applied		21	45
Weighted average percentage of inventory variance (WAPIV)	≤5%	10.9%	12.4%
Percentage of facilities with WAPIV on SPS EOP target	80%	28.6%	46.7%
Average percentage of items where stock on record match physical stock (MATCH)	≥90%	26.3%	33.5%
Percentage of facilities with MATCH on SPS EOP target	80%	0.0%	6.7%
Average percentage of items available on day of the visit (AVAILABLE)	≥90%	92.4%	90.7%
Percentage of facilities with AVAILABLE on SPS EOP target	80%	85.7%	68.9%
Average percentage of time out of stock (POTOS)	≤10%	4.4%	3.3%
Percentage of facilities with POTOS on SPS EOP target	80%	95.2%	95.6%

Comments on the IMAT results:

- The weighted average percentage of inventory variance (WAPIV) did not reach the EOP target range of ≤5% in both years, with less than one-half of the visited facilities reaching the EOP target of ≤5% in FY17.
- The average percentage of items where stock on record match physical stock was 34% in FY17, with 7% of visited facilities reaching the EOP target of ≥90% in FY17.
- In both years, both of the indicators reflecting availability of essential medicines reached the EOP target, indicating that AADA was managing medical procurement, without causing serious interruptions of the supply chain.

RMU assessment results for BPHS facilities managed by AADA in Nangarhar			
	Target	FY16	FY17
Number of visits with RMU assessment applied		21	49
Average number of drugs prescribed per encounter (NUMBER)	≤2	1.5	1.5
Percentage of facilities with NUMBER on SPS EOP target	≥80%	95.2%	98.0%
Average percentage encounters with at least one antibiotic prescribed (ANTIBIO)	>20% and ≤40%	45.3%	44.8%

Percentage of facilities with ANTIBIO on SPS EOP target	≥80%	28.6%	36.7%
Average percentage encounters not requiring antibiotics without antibiotic prescribed (CC&WD)	≥80%	65.2%	67.9%
Percentage of facilities with CC&AWD on SPS EOP target	≥80%	9.5%	28.6%
Average percentage of diarrhea cases with ORS prescribed	100%	52.9%	66.0%
Average percentage selected encounters prescribed according to NSTG-PL (NSTG)	≥80%	65.2%	71.1%
Percentage of facilities with NSTG on SPS EOP target	≥80%	4.8%	30.6%

Comments on the RMU assessment results:

- In both years, almost all visited facilities reached the EOP target of on average ≤ 2 drugs per encounter prescribed.
- Although progress was made toward more rational prescribing, none of the average values of the other RMU indicators reached EOP target values by FY17, and only a minority of individual visited facilities did.

Other observations from field visits and performance improvement assessments in FY16 and FY17:

- The majority of the joint facility visits were first-time visits, with very few previously visited facilities receiving a follow-up visit by the joint teams, which may skew the indicator values negatively. AADA provided follow-up visits on their own, and claims to have observed more improvement.
- Review of 28 orders in 24 facilities (at least one in each facility) showed that AADA supplied on average 92% of requested items to facilities, but only 12% in the quantity and within the time frame requested. Timely delivery to facilities seems problematic.
- Facility consumption reports were incomplete, inaccurate, and not provided in a timely manner for forecasting of needs.
- Only 53% of visited facilities had staff who know a standard consumption-based medicine quantification formula.
- NSTG-PL and ANF were available in almost all facilities, but AADA had not yet trained all staff in their use, partly due to high staff turnover in the facilities.
- The standard reference guide for supply management, MDS, was available in one-quarter of visited facilities, and staff had not been oriented on how to use it routinely. Facility staff do not use SOPs for pharmaceutical stock management, quantification of needs, or procurement and distribution. Supervisors do not routinely monitor stock management practices at the facility level.

Priority areas for post-SPS performance improvement:

- Provide standard reference materials and corresponding SOPs for pharmaceutical stock management, quantification of needs, procurement and distribution, train staff in their use, and support their use during supportive supervision visits.
- Provide training to all staff in the use of NSTG-PL.

Status Report on BPHS Facilities of OHPM in Paktika Province

Five joint field visits by SPS, GDPA, PPHO, and OHPM staff providing on-site support to BPHS facilities managed by OHPM in Paktika took place between April 2016 and December 2016. In total, 24 facility visits took place in 11 different BPHS facilities. During each facility visit, the visiting team applied the IMAT and the RMU assessment tool, where available records allowed collecting the necessary data.

IMAT results for BPHS facilities managed by OHPM in Paktika			
	Target	FY16	FY17
Number of visits with IMAT applied		10	14
Weighted average percentage of inventory variance (WAPIV)	≤5%	7.2%	2.1%
Percentage of facilities with WAPIV on SPS EOP target	80%	60.0%	92.9%
Average percentage of items where stock on record match physical stock (MATCH)	≥90%	72.7%	87.6%
Percentage of facilities with MATCH on SPS EOP target	80%	60.0%	85.7%
Average percentage of items available on the day of the visit (AVAILABLE)	≥90%	98.0%	97.8%
Percentage of facilities with AVAILABLE on SPS EOP target	80%	90.0%	100.0%
Average percentage of time out of stock (POTOS)	≤10%	0.5%	2.0%
Percentage of facilities with POTOS on SPS EOP target	80%	100.0%	100.0%

Comments on the IMAT results:

- The weighted average percentage of inventory variance (WAPIV) was within the EOP target range of ≤5% in both years, with more than 90% of the visited facilities reaching the EOP target of ≤5% in FY17.
- The average percentage of items where stock on record match physical stock was 88% in FY17, with 88% of visited facilities reaching the EOP target of ≥90% in FY17.
- In both years, both of the indicators reflecting availability of essential medicines reached the EOP target, indicating that OHPM was managing medical procurement, without causing serious interruptions of the supply chain.

RMU assessment results for BPHS facilities managed by OHPM in Paktika			
	Target	FY16	FY17
Number of visits with RMU assessment applied		10	14
Average number of drugs prescribed per encounter (NUMBER)	≤2	2.1	2.0
Percentage of facilities with NUMBER on SPS EOP target	≥80%	30.0%	64.3%
Average percentage encounters with at least one antibiotic prescribed (ANTIBIO)	>20% and ≤40%	56.1%	53.8%

Percentage of facilities with ANTIBIO on SPS EOP target	≥80%	10.0%	7.1%
Average percentage encounters not requiring antibiotics without antibiotic prescribed (CC&WD)	≥80%	34.2%	52.0%
Percentage of facilities with CC&AWD on SPS EOP target	≥80%	0.0%	21.4%
Average percentage of diarrhea cases with ORS prescribed	100%	60.4%	60.7%
Average percentage selected encounters prescribed according to NSTG-PL (NSTG)	≥80%	41.1%	58.3%
Percentage of facilities with NSTG on SPS EOP target	≥80%	0.0%	14.3%

Comments on the RMU assessment results:

- By FY17, two-thirds of the visited facilities reached the EOP target of on average ≤ 2 drugs per encounter prescribed.
- Progress was made in the two-year period, but none of the average values of the other RMU indicators reached EOP target values by FY17, and only a minority of individual facilities did.

Other observations from field visits and performance improvement assessments in FY16 and FY17:

- Review of a recent order showed that the OHPM warehouse received 97% of medicines ordered in the quantity ordered, on time, and at the initially quoted price.
- Review of 15 orders in 11 facilities (at least one in each facility) showed that OHPM supplied on average 93% of requested items to facilities, but only 16% in the quantity and within the time frame requested.
- Seventy-three percent of visited facilities visited had staff who know a standard consumption-based medicine quantification formula.
- NSTG-PL and ANF were available in almost all facilities, but not all staff were trained in their use.
- One standard reference guide for supply management, MDS, was not available in the facilities. There were no SOPs for pharmaceutical stock management, quantification of needs, or procurement and distribution. Supervision takes place irregularly and supervisors do not routinely monitor stock management practices at the facility level.

Priority areas for post-SPS performance improvement:

- Provide standard reference materials and corresponding SOPs for pharmaceutical stock management, quantification of needs, procurement and distribution, train staff in their use, and support their use during supportive supervision visits.
- Include training in pharmaceutical supply management at the facility level in the next BPHS budget proposal.
- Monitor the implementation of the developed performance improvement plan.
- Mentor staff in the use of NSTG-PL.

Status Report on BPHS Facilities of SM in Parwan Province

Seven joint field visits by SPS, GDPA, PPHO, and SM staff providing on-site support to BPHS facilities managed by SM in Parwan took place between March 2016 and August 2017. In total, 47 facility visits took place in 35 different BPHS facilities.

During each facility visit, the visiting team applied the IMAT and the RMU assessment tool, where available records allowed collecting the necessary data.

IMAT results for BPHS facilities managed by SM in Parwan			
	Target	FY16	FY17
Number of visits with IMAT applied		20	23
Weighted average percentage of inventory variance (WAPIV)	≤5%	38.8%	6.7%
Percentage of facilities with WAPIV on SPS EOP target	80%	10.0%	56.5%
Average percentage of items where stock on record match physical stock (MATCH)	≥90%	65.7%	76.9%
Percentage of facilities with MATCH on SPS EOP target	80%	25.0%	56.5%
Average percentage of items available on the day of the visit (AVAILABLE)	≥90%	61.3%	71.8%
Percentage of facilities with AVAILABLE on SPS EOP target	80%	15.0%	21.7%
Average percentage of time out of stock (POTOS)	≤10%	42.9%	14.0%
Percentage of facilities with POTOS on SPS EOP target	80%	0.0%	39.1%

Comments on the IMAT results:

- SM brought the weighted average percentage of inventory variance (WAPIV) down from 39% in FY16 to 7% in FY17, with few more than one-half of the visited facilities reached the EOP target of ≤5% in FY17.
- The average percentage of items where stock on record match physical stock increased from 66% in FY16 to 77% FY17, but just above one-half of visited facilities reached the ≥90% in FY17.
- By FY17, neither of the indicators reflecting availability of essential medicines reached the EOP target, indicating that SM was having difficulties managing medical procurement, which causes serious interruptions of the supply chain.

RMU assessment results for BPHS facilities managed by SM in Parwan			
	Target	FY16	FY17
Number of visits with RMU assessment applied		21	26
Average number of drugs prescribed per encounter (NUMBER)	≤2	1.7	1.7
Percentage of facilities with NUMBER on SPS EOP target	≥80%	81.0%	92.3%
Average percentage encounters with at least one antibiotic prescribed (ANTIBIO)	>20% and ≤40%	42.5%	44.8%

Percentage of facilities with ANTIBIO on SPS EOP target	≥80%	38.1%	23.1%
Average percentage encounters not requiring antibiotics without antibiotic prescribed (CC&WD)	≥80%	41.6%	53.5%
Percentage of facilities with CC&AWD on SPS EOP target	≥80%	14.3%	25.0%
Average percentage of diarrhea cases with ORS prescribed	100%	58.4%	51.2%
Average percentage selected encounters prescribed according to NSTG-PL (NSTG)	≥80%	47.0%	56.5%
Percentage of facilities with NSTG on SPS EOP target	≥80%	7.1%	16.7%

Comments on the RMU assessment results:

- On average, fewer than two medicines were prescribed per encounter during the period in all visited facilities.
- Although progress was made in the two-year period, none of the average values of the other RMU indicators reached EOP target values by FY17, and only a minority of individual facilities did.

Other observations from field visits and performance improvement assessments in FY16 and FY17:

- Review of a recent order showed that the SM-Parwan warehouse received 100% of medicines ordered in the quantity ordered, at the quoted cost, but all items arrived later than requested from SM-Kabul.
- Review of six orders in six facilities (one in each facility) showed that SM-Parwan supplied on average 60% of requested items to facilities, but only 6% in the quantity and within the time frame requested. This delay is largely due to a delay in receiving supplies at the warehouse.
- Only 28% of visited facilities had staff who know a standard consumption-based medicine quantification formula.
- NSTG-PL and ANF were available in most facilities, but few staff were trained in their use.
- Standard reference materials for supply management (EML, MDS) were available in few facilities, but staff had not been oriented on how to use them routinely. There were no SOPs for pharmaceutical stock management, quantification of needs, or procurement and distribution. Supervisors do not routinely monitor stock management practices at the facility level.

Priority areas for post-SPS performance improvement:

- Provide standard reference materials and corresponding SOPs for pharmaceutical stock management, quantification of needs, procurement and distribution, train staff in their use, and support their use during supportive supervision visits.
- Start initiating staff in the use of consumption-based quantification and forecasting
- Continue mentoring staff in the use of NSTG-PL.

Status Report on BPHS Facilities of AADA in Takhar Province

Six joint field visits by SPS, GDPA, PPHO, and NGO staff providing on-site support to BPHS facilities managed by AADA in Takhar took place between August 2015 and August 2017. In total, 37 facility visits took place in 23 different facilities.

During each facility visit, the visiting team applied the IMAT and the RMU assessment tool, where available records allowed collecting the necessary data.

IMAT results for BPHS facilities managed by AADA in Takhar				
	Target	FY15	FY16	FY17
Number of visits with IMAT applied		8	13	16
Weighted average percentage of inventory variance (WAPIV)	≤5%	8.6%	6.7%	8.6%
Percentage of facilities with WAPIV on SPS EOP target	80%	50.0%	53.8%	37.5%
Average percentage of items where stock on record match physical stock (MATCH)	≥80%	74.6%	73.8%	67.5%
Percentage of facilities with MATCH on SPS EOP target	80%	37.5%	61.5%	43.8%
Average percentage of items available on the day of the visit (AVAILABLE)	≥90%	91.7%	64.4%	79.2%
Percentage of facilities with AVAILABLE on SPS EOP target	80%	50.0%	15.4%	25.0%
Average percentage of time out of stock (POTOS)	≤10%	1.6%	9.9%	12.0%
Percentage of facilities with POTOS on SPS EOP target	80%	100.0%	46.2%	37.5%

Comments on the IMAT results:

- The weighted average percentage of inventory variance (WAPIV) stayed at 9%, with about one-third of visited facilities reaching EOP target of ≤5% in FY17.
- The average percentage of items where stock on record match physical stock went down from 75% in FY15 to 68% in FY17, with less than one-half of visited facilities reaching the EOP target of 80% in FY17.
- Both indicators reflecting availability of essential medicines had reached EOP target values in FY15, but worsened significantly by FY17, indicating that AADA was having difficulties with procurement and distribution under SEHAT II, which interrupts medicine supply to the facilities.

RMU assessment results for BPHS facilities managed by AADA in Takhar				
	Target	FY15	FY16	FY17
Number of visits with RMU assessment applied		9	14	18
Average number of drugs prescribed per encounter (NUMBER)	≤2	2.3	2.0	2.0

Percentage of facilities with NUMBER on SPS EOP target	≥80%	33.3%	57.1%	50.0%
Average percentage encounters with at least one antibiotic prescribed (ANTIBIO)	>20% and ≤40%	44.2%	55.6%	53.6%
Percentage of facilities with ANTIBIO on SPS EOP target	≥80%	44.4%	7.1%	16.7%
Average percentage encounters not requiring antibiotics without antibiotic prescribed (CC&WD)	≥80%	92.1%	50.3%	51.7%
Percentage of facilities with CC&AWD on SPS EOP target	≥80%	85.7%	28.6%	22.2%
Average percentage of diarrhea cases with ORS prescribed	100%		61.0%	71.7%
Average percentage selected encounters prescribed according to NSTG-PL (NSTG)	≥80%		60.6%	62.7%
Percentage of facilities with NSTG on SPS EOP target	≥80%		15.4%	27.8%

Comments on the RMU assessment results:

- On average, the EOP target of two or less medicines prescribed per encounter was reached from FY16 onward, with one-half of the visited facilities reaching that EOP target.
- All indicators reflecting general rational prescribing and adherence to the NSTG-PL worsened during the period.

Other observations from field visits and performance improvement assessments in FY16 and FY17:

- AADA reported routinely not receiving the ordered medicine in full quantity and within time requested from suppliers.
- Review of 13 orders in 12 facilities (at least one in each facility) showed that AADA supplies on average 84% of requested items to facilities, but only 53% in the quantity and within the time frame requested.
- Facility consumption reports were incomplete, inaccurate, and not provided promptly when requested.
- Only 53% of visited facilities had staff who know a standard consumption-based medicine quantification formula.
- Standard reference materials (NSTG-PL and ANF) were available in most facilities, but staff had not been oriented on how to use them routinely.
- The standard reference material for medical supply management at the facility level, MDS, was available in 79% of visited facilities. In particular, there were no SOPs for pharmaceutical stock management, quantification of needs, or procurement and distribution.

Priority areas for post-SPS performance improvement:

- Provide SOPs for pharmaceutical stock management, quantification of needs, procurement and distribution, train staff in their use, and support their use during supervision visits.
- Mentor staff in the use of NSTG-PL.

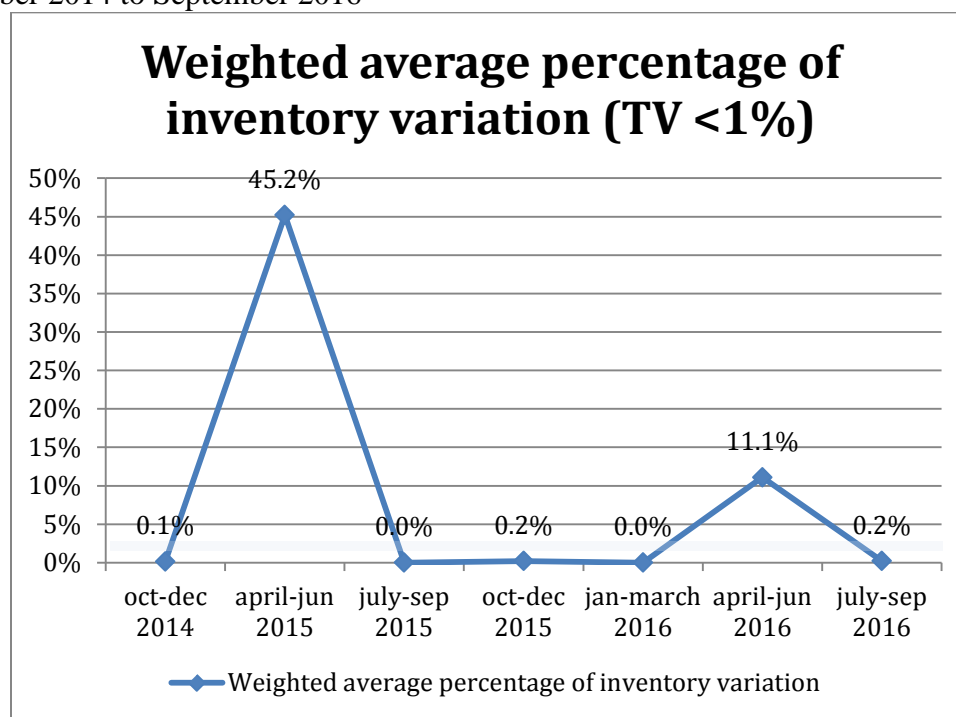
ANNEX II.4: INDIVIDUAL KABUL HOSPITAL DTC STATUS SHEET

Afghanistan National Blood Safety and Transfusion Services (ANBSTS) DTC

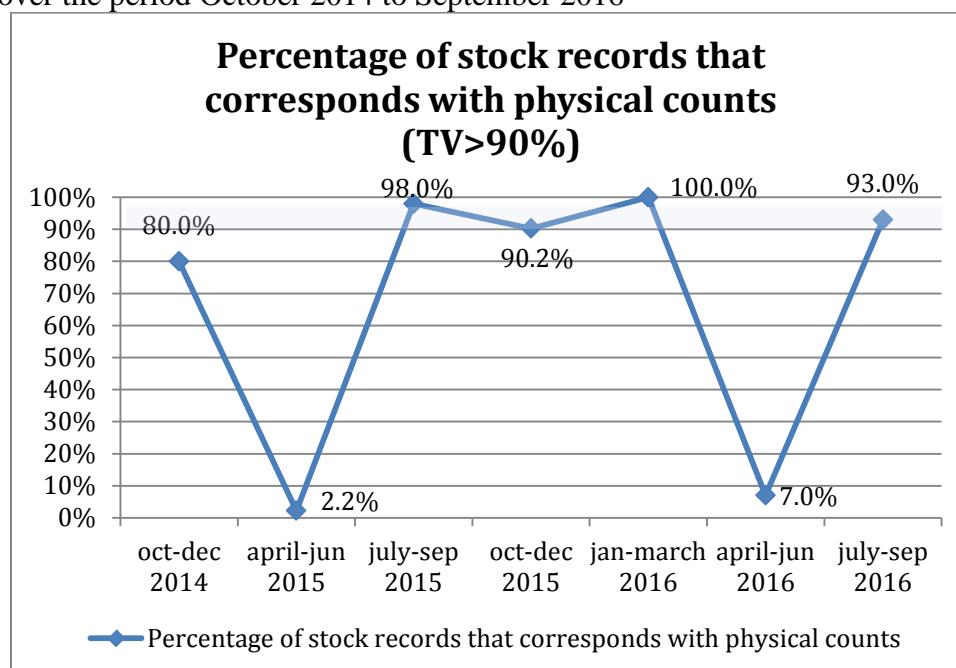
November 2017

- 1) Time period of SPS technical support to DTC: SPS technical support to ANBSTS started in November 2015 and ended in October 2016 (totally 11 months)
- 2) Number of DTC monthly meetings documented held during that period: 8 DTC monthly meetings
- 3) Number of DTC monthly meetings attended by SPS representative during that period: 8 DTC monthly meetings
- 4) Date of last revised ToR: 27 January 2016
- 5) Specific activities undertaken by DTC:
 - Quantification of medicines through the SPS introduced QSS performed in 2016
 - No Formulary System developed
- 6) Status report of routine DTC assessments based on available data:

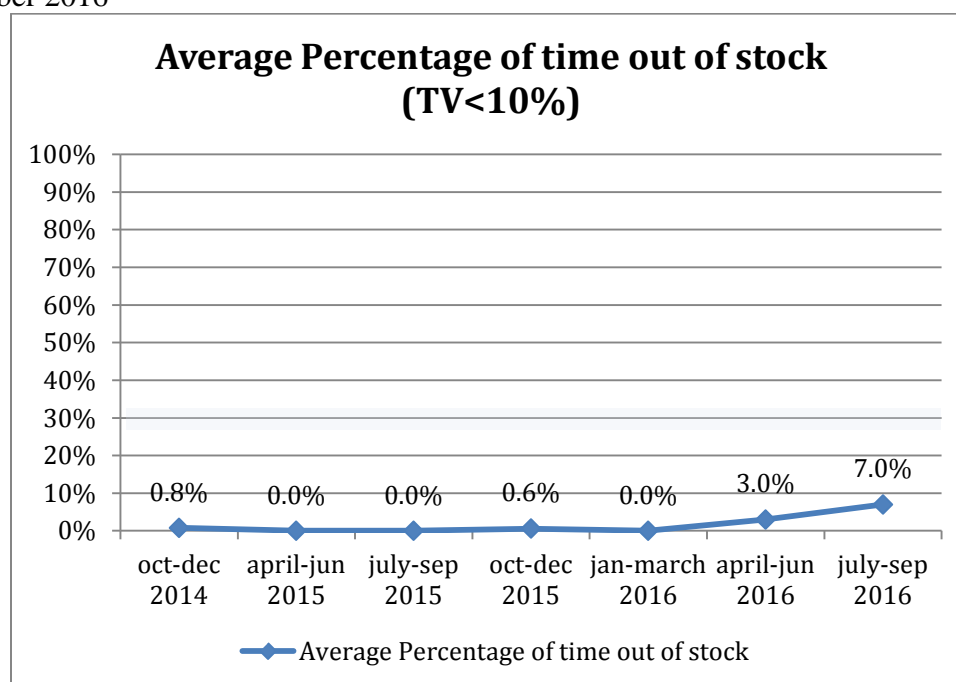
Graph 1: IMAT shows the Weighted Average Percentage of Inventory Variation in ANBSTS from October 2014 to September 2016



Graph 2: IMAT shows Percentage of stock records that corresponds with physical counts in ANBSTS over the period October 2014 to September 2016



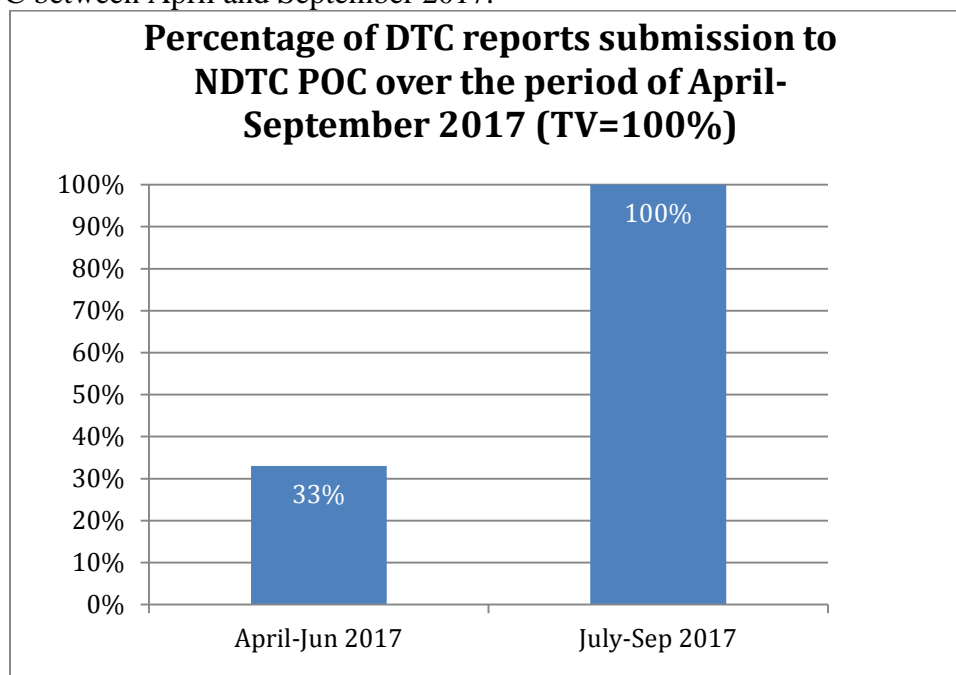
Graph 3: IMAT shows Average Percentage of time out of stock in ANBSTS from October 2014 to September 2016



Rational Medicine Use in ANBSTS: RMU assessment is not performed in ANBSTS as there are no OPD wards.

7) Submission status of DTC deliverables to NDTC POC by DTC April to September 2017:

Graph 4: Shows the percentage of DTC activities reports that have been submitted by DTC to NDTC POC between April and September 2017.



8) Priority focus areas recommended by SPS for NDTC POCs:

- Ensure IMAT assessment is performed quarterly and corrective actions followed, particularly proper use of stock cards
- Ensure medicines quantification is updated on quarterly basis.
- ToR needs to be revised on annual basis

Antani DTC (National/Specialized Hospital)

1) Time period of SPS technical support to DTC:

- SPS support was limited from April 2012 to December 2013
- Full SPS support was provided from January 2014 to October 2017 (totally 46 months
- *Note:* during the period November 2014 through July 2015 this DTC was also supported by SPS through HPMC.

2) Number of DTC monthly meetings held during period January 2014 through October 2017: 34 DTC monthly meetings

3) Number of DTC monthly meetings attended by SPS representative during that period: 32 DTC monthly meetings

4) Date of last revised ToR: April 10, 2017

5) Specific activities undertaken by DTC:

Development of injection guideline (approved by Deputy Minister Dr. Najia Tariq, printed and is in use in the hospital).

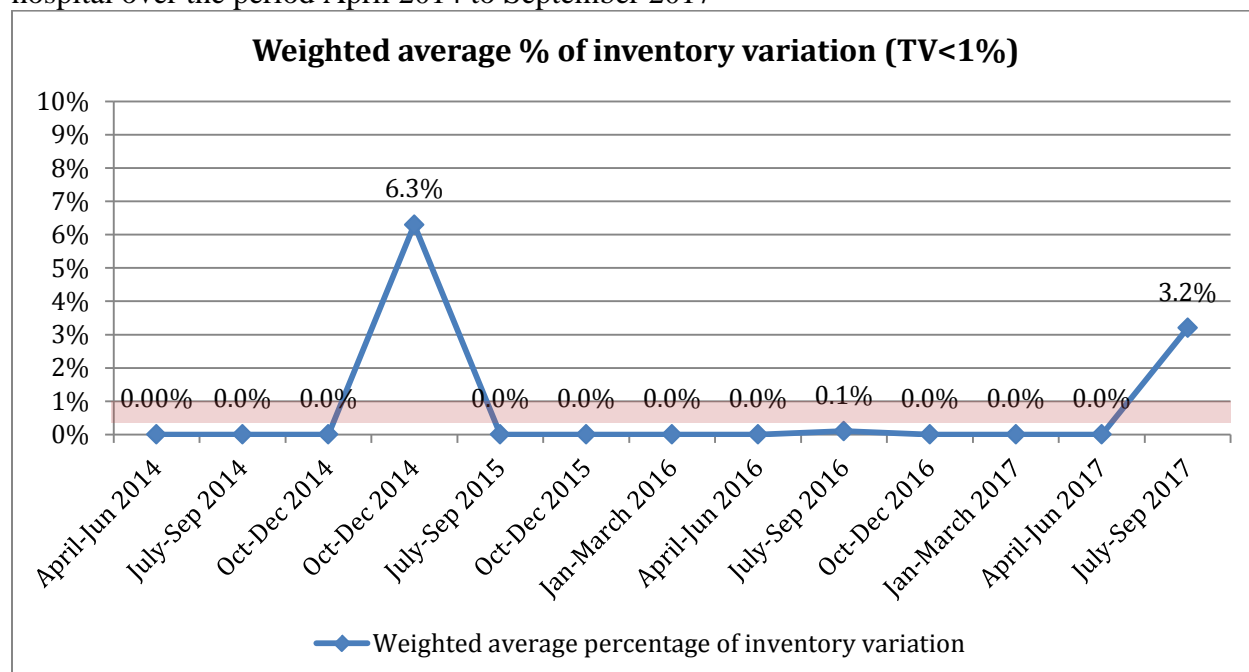
Development and update (second edition April 2017) of hospital formulary list (approved by GDPS, printed and copies lately distributed on September 11, 2017 to the hospital staff for use);

Monitoring Adherence to formulary list is performed by DTC.

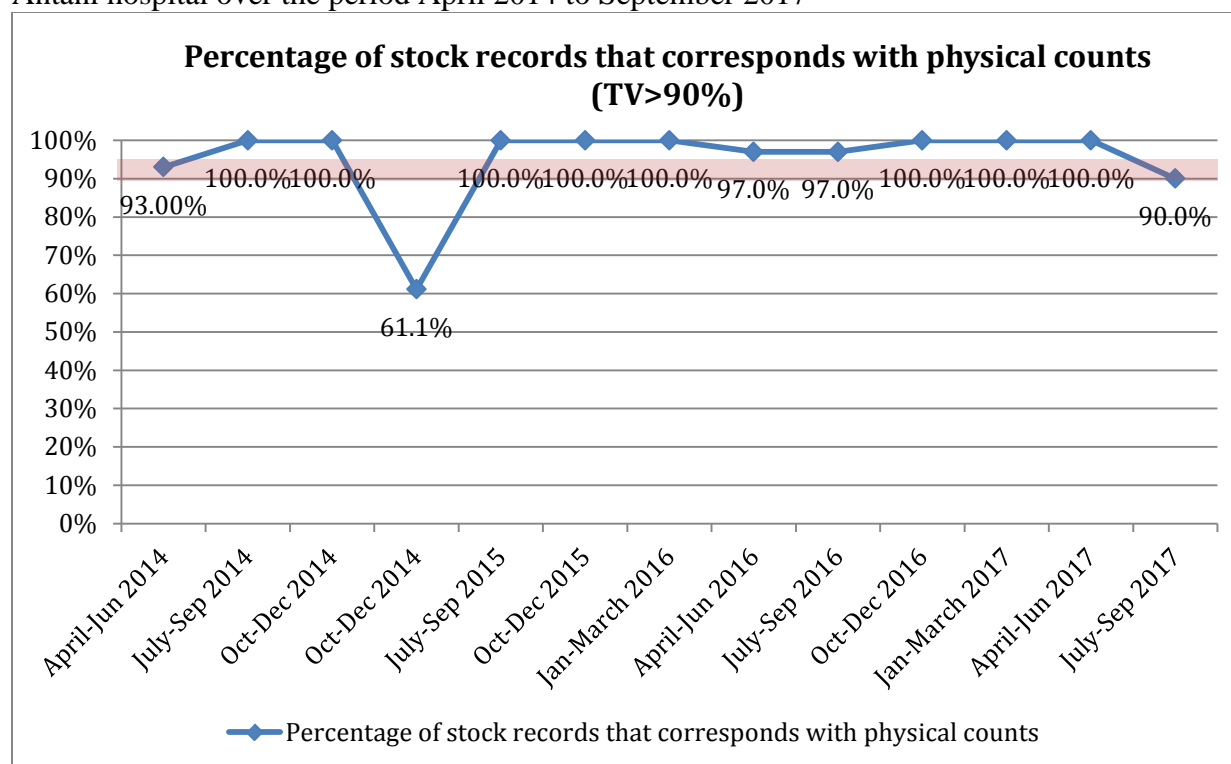
Root cause Analysis on gaps in pharmaceutical supply management and rational medicine use performed in August 2015 followed by the development of a three-year DTC action plan for the period September 2015- September 2018

6) Status report of routine DTC assessments based on available data

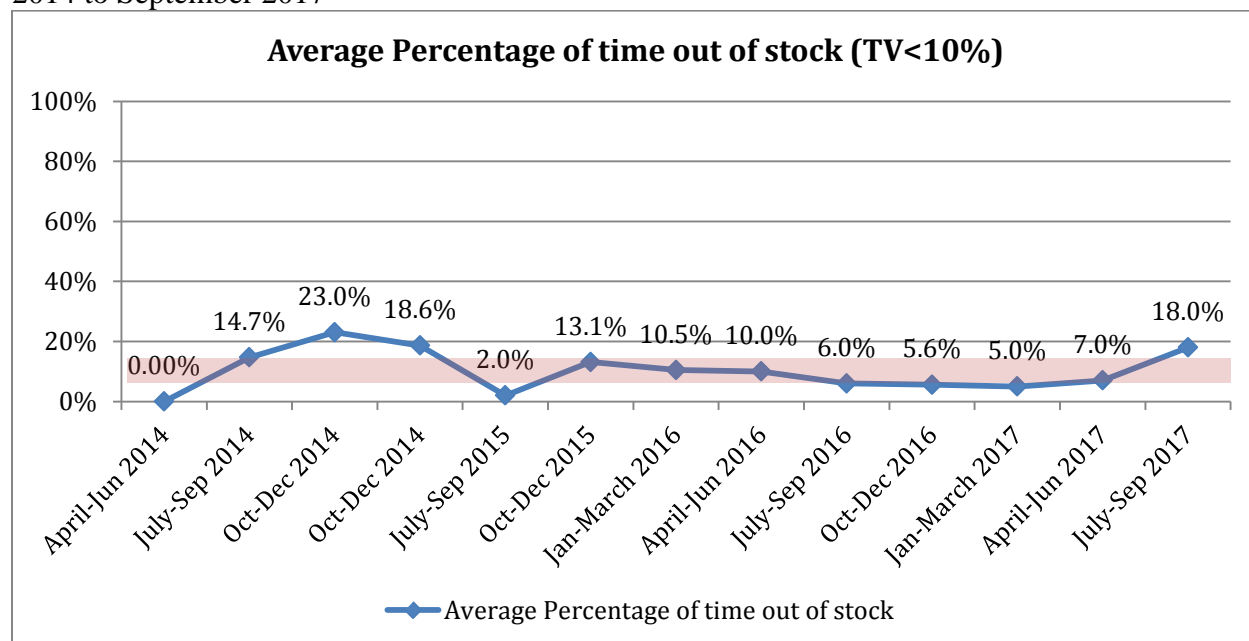
Graph 1: IMAT shows the Weighted Average Percentage of Inventory Variation in Antani hospital over the period April 2014 to September 2017



Graph 2: IMAT shows Percentage of stock records that corresponds with physical counts in Antani hospital over the period April 2014 to September 2017



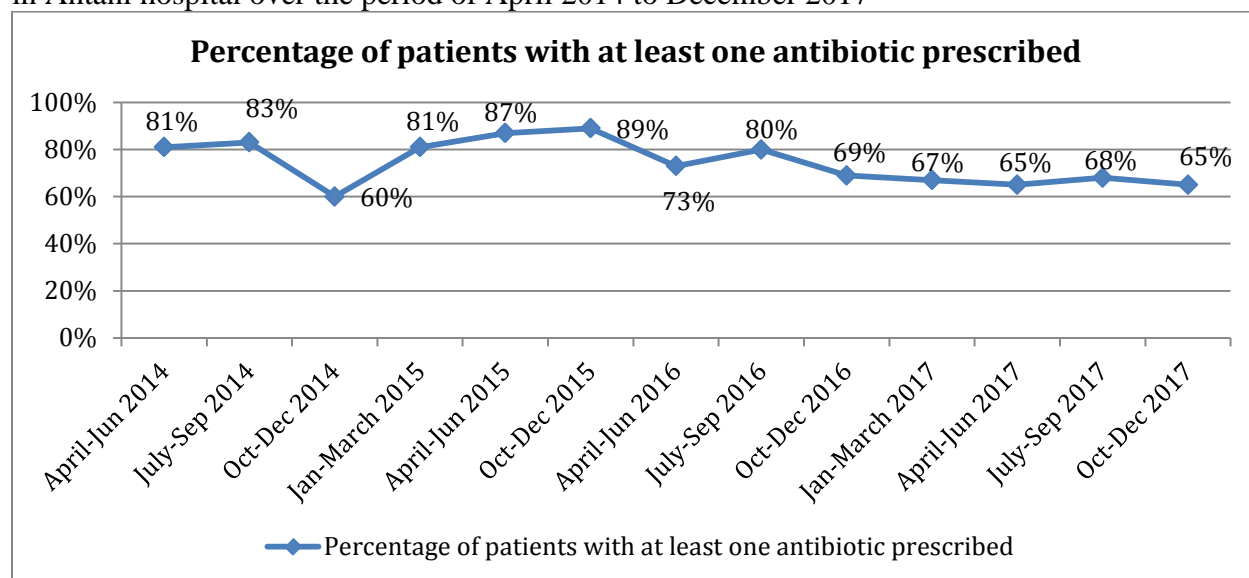
Graph 3: IMAT shows Average Percentage of Time Out of Stock in Antani hospital from April 2014 to September 2017



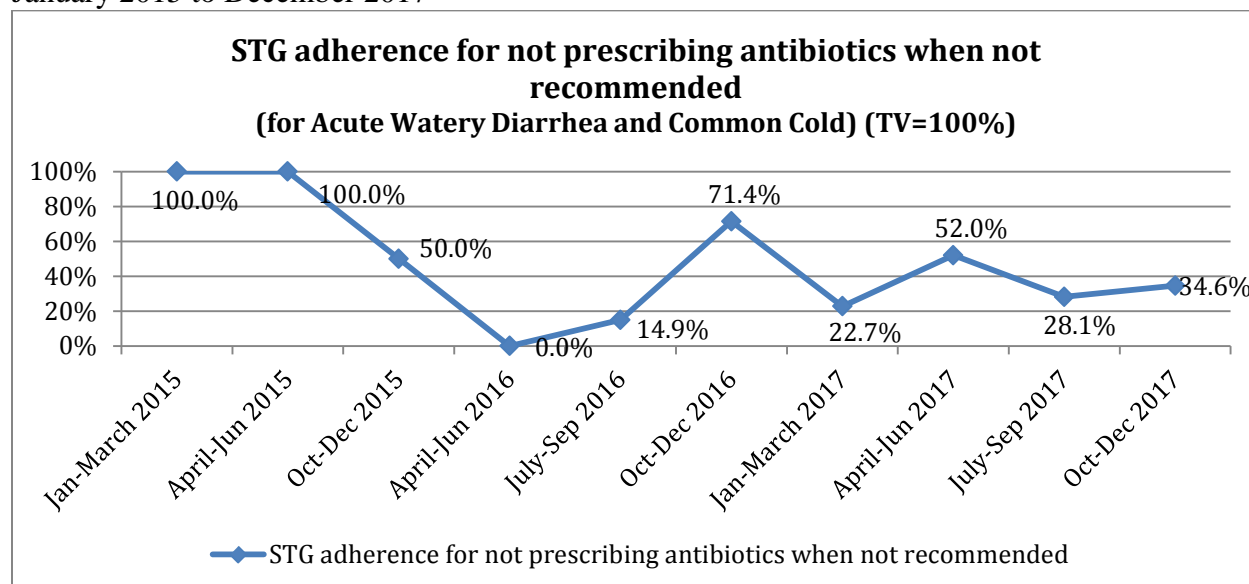
Rational Medicine Use in Antani Hospital: Trends of some RMU weak indicators over the period April 2014 to December 2017 in Antani hospital are illustrated below to show the progress.

Note: Last quarter “October-Dec 2017” RMU assessment has been performed by DTC alone and the results are included in the below three graphs:

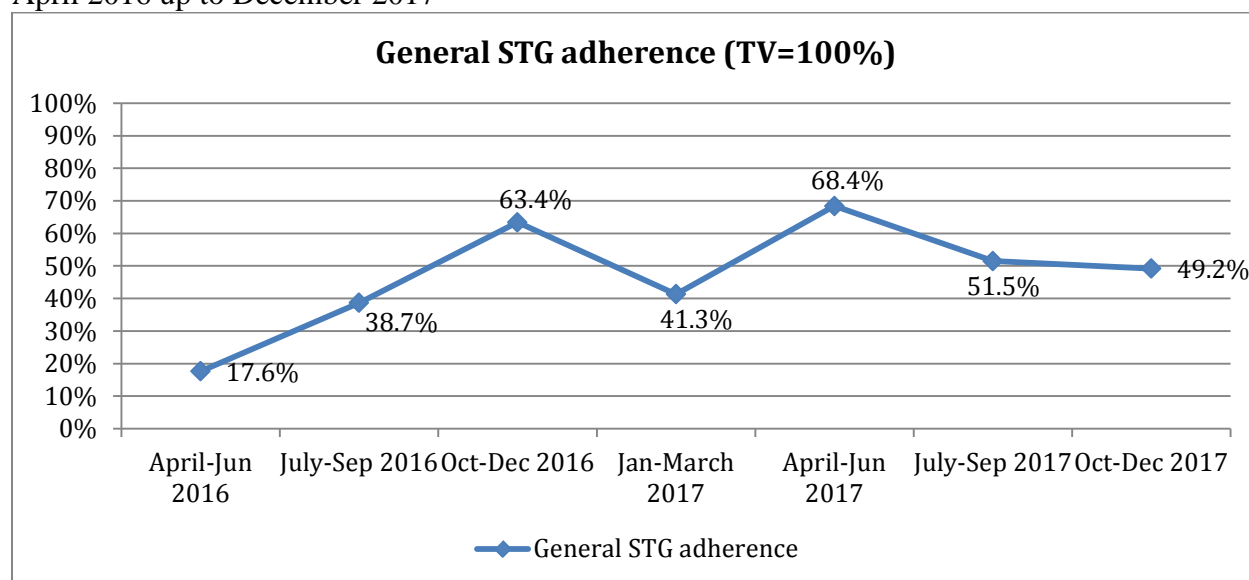
Graph 4: RMU assessment shows percentage of patients with at least one antibiotic prescribed in Antani hospital over the period of April 2014 to December 2017



Graph 5: RMU assessment shows STG adherence for not prescribing antibiotics when not recommended (for Acute Watery Diarrhea and Simple ARI) in Antani hospital over the period of January 2015 to December 2017

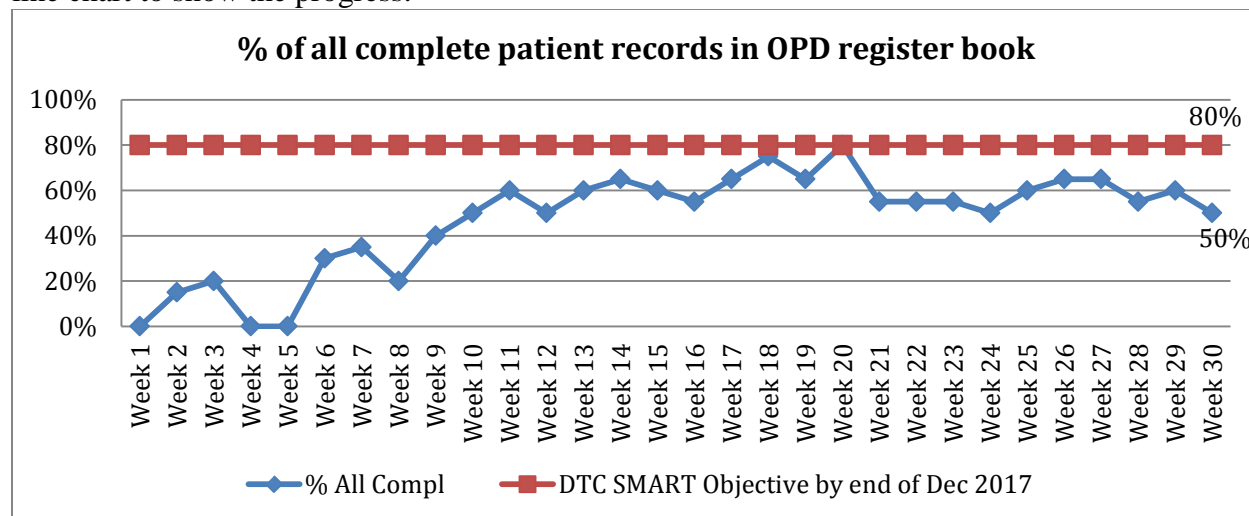


Graph 6: RMU assessment shows General NSTG adherence in Antani hospital over the period April 2016 up to December 2017

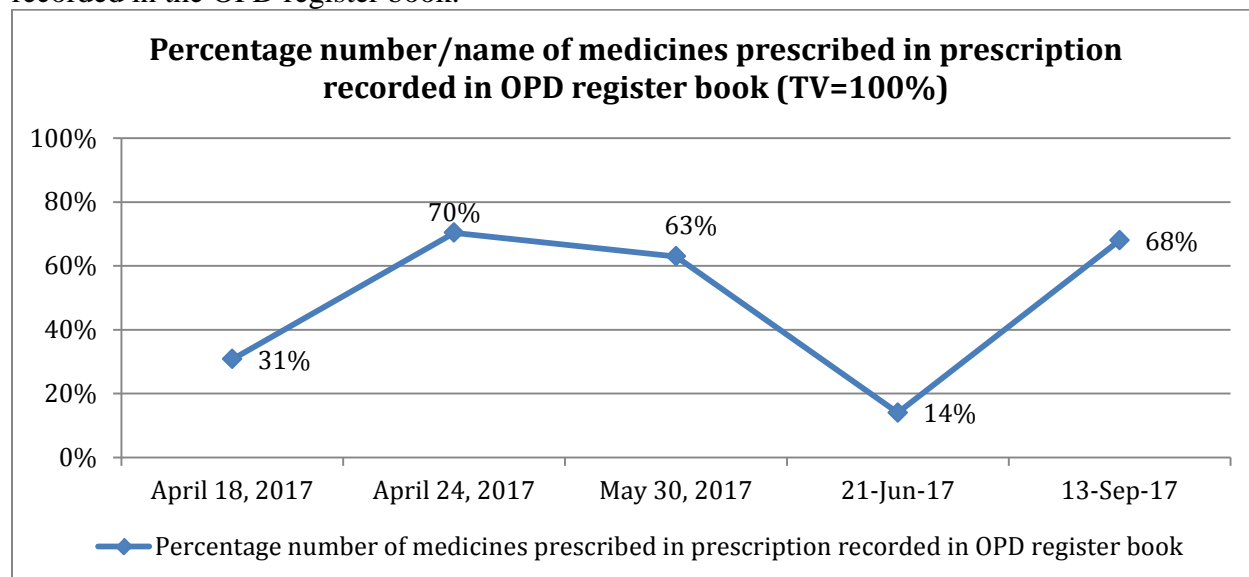


Patient and treatment data recording in the OPD register book:

Graph 7: Shows percentage of complete recording of encounter and treatment data in the OPD register book over the period August 2016 to October 2017 and is illustrated through the below line chart to show the progress.

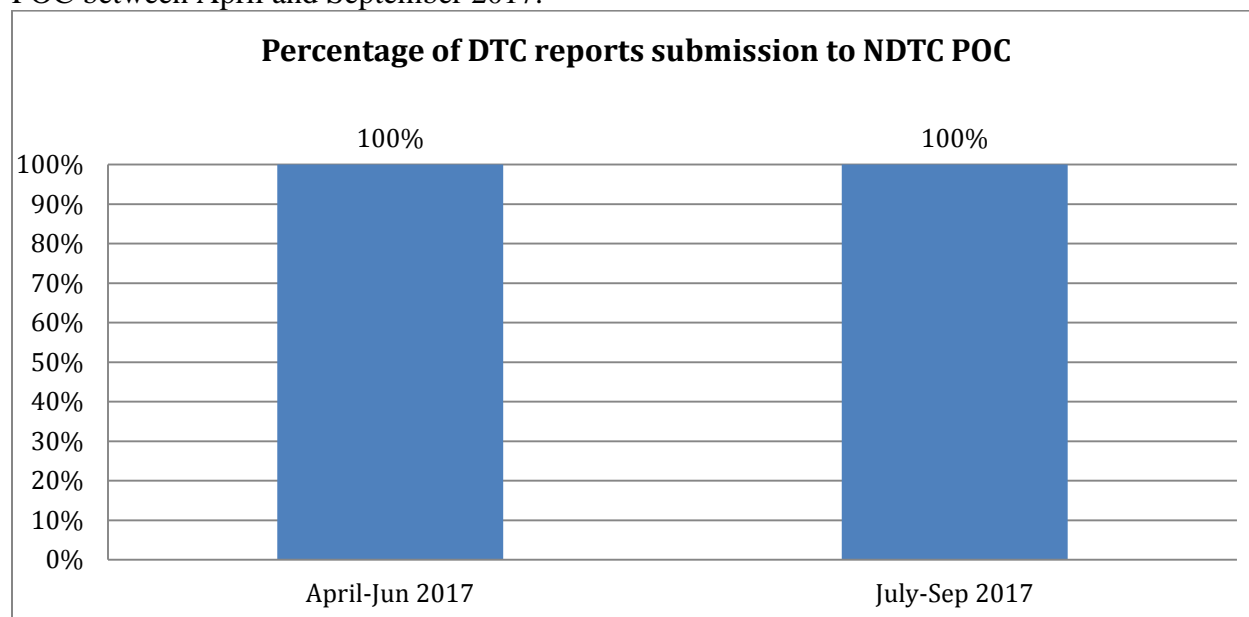


Graph 8: Show the percentage of number/name of medicines from prescriptions that are recorded in the OPD register book.



7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 to September 2017:

Graph 9: Shows the percentage of DTC activities reports that are submitted by DTC to NDTC POC between April and September 2017.



8) Priority focus areas recommended by SPS for NDTC POCs:

- Re-orientation of OPD clinicians on Anti-Microbial Resistance (AMR)
- Improving NSTG adherence for not prescribing antibiotics when not recommended for AWD and Simple ARI through re-training of trainees by the hospital trainers.
- NDTC POCs to ensure the availability and use of NSTG-PL in the OPD
- Perform bi-weekly cross-check of prescriptions with OPD register book for complete recording of all medicines prescribed in the OPD register book
- NDTC POC to ensure implementation of DTC activities delegation sheet by hospital director and DTC chairman.
- NDTC POC to ensure that pharmacy stock datasheet is being updated systematically after each transaction of medicines.

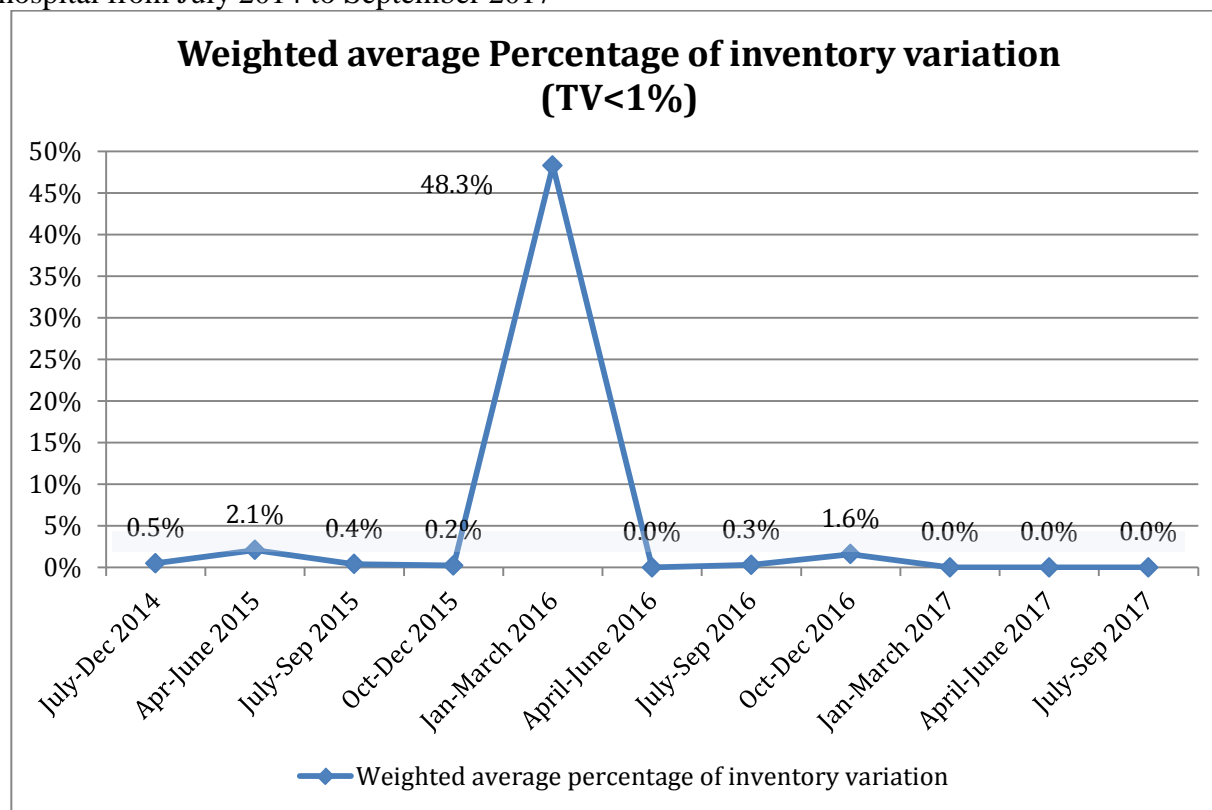
Ataturk DTC (National/Specialized Hospital)

November 2017

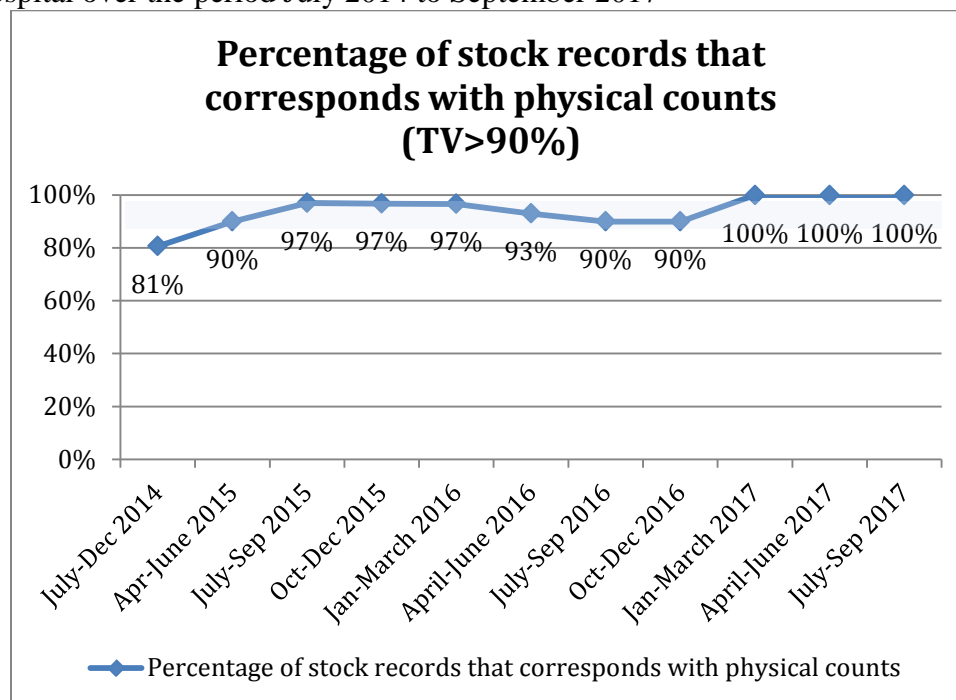
- 1) Time period of SPS technical support to DTC:
SPS support in Pharmaceutical Supply Management to Ataturk Hospital by HPMC: October 2014 to September 2015
Direct and full SPS support to DTC: From October, 2015 to October 31, 2017 (totally 25 months)
- 2) Number of DTC monthly meetings documented with SPS during that period: 29 DTC monthly meetings
- 3) Number of DTC monthly meetings attended by SPS representative during that period: 26 DTC monthly meetings
- 4) Date of last revised ToR: February 20, 2017
- 5) Specific activities undertaken by DTC:
Development of hospital formulary list Edition May 24, 2017 (which has been approved by GDPS, printed and distributed in October 2017 to the hospital staff for use). No monitoring of adherence to FL has been performed.
RCA on 2 weak indicators (percentage of AWD patients and simple ARI patients not prescribed with antibiotic) and six month action plan to update every 6 months
Development of 6 months improvement cycle for complete recording in OPD register books
Formal introduction of pharmacy and dispensary stock datasheet; monitoring performed by DTC
- 6) Status report of routine DTC assessments based on available data:

IMAT assessment in the pharmacy:

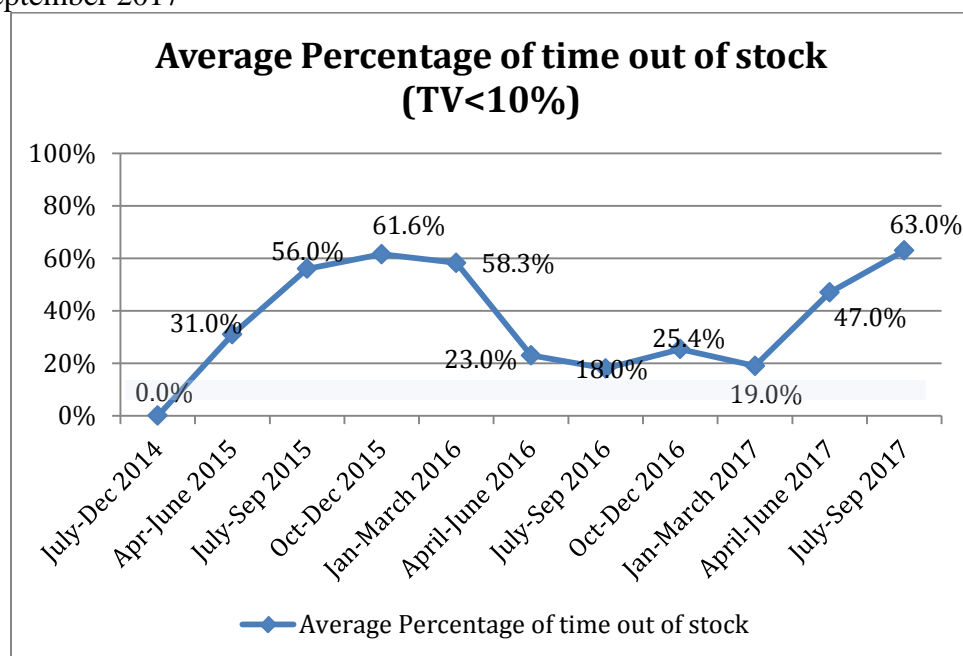
Graph 1: IMAT shows the Weighted Average Percentage of Inventory Variation in Ataturk hospital from July 2014 to September 2017



Graph 2: IMAT shows Percentage of stock records that corresponds with physical counts in Ataturk hospital over the period July 2014 to September 2017



Graph 3: IMAT shows Average Percentage of Time Out of Stock in Ataturk hospital from July 2014 to September 2017

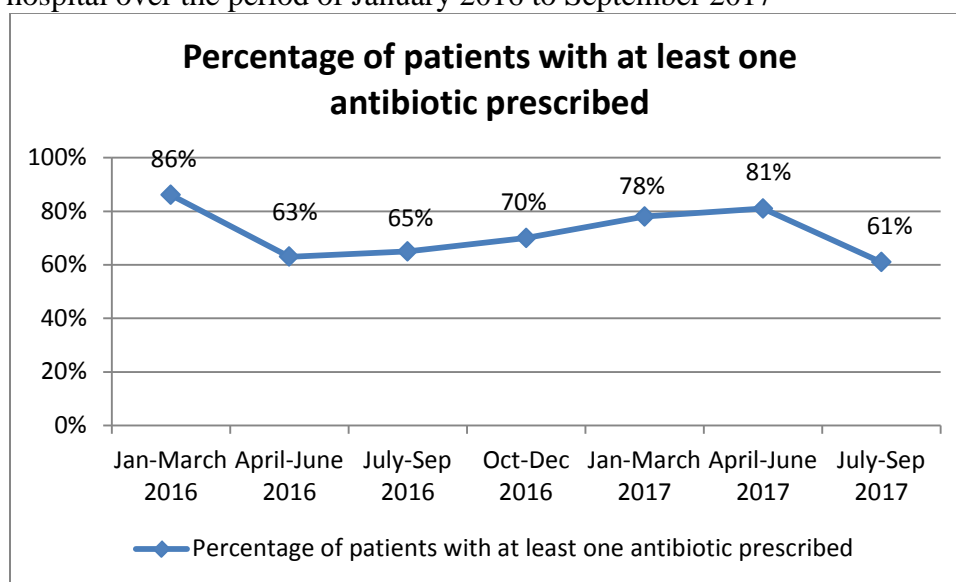


Rational Medicine Use in Ataturk hospital:

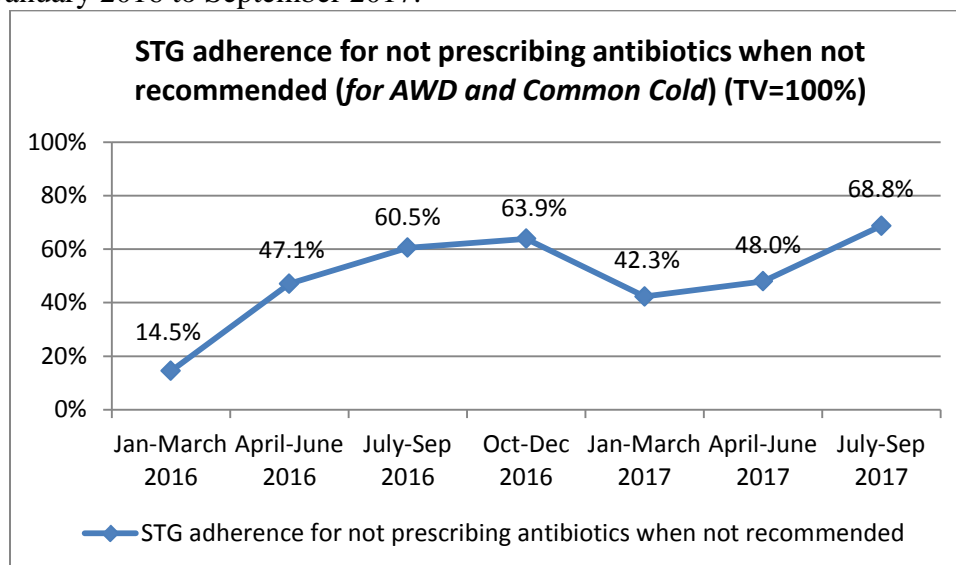
Ataturk DTC uses the generic RMU assessment tool.

Trends of some RMU weak indicators over the period January 2016 to September 2016 in Ataturk hospital are illustrated below through line charts to display trends over time.

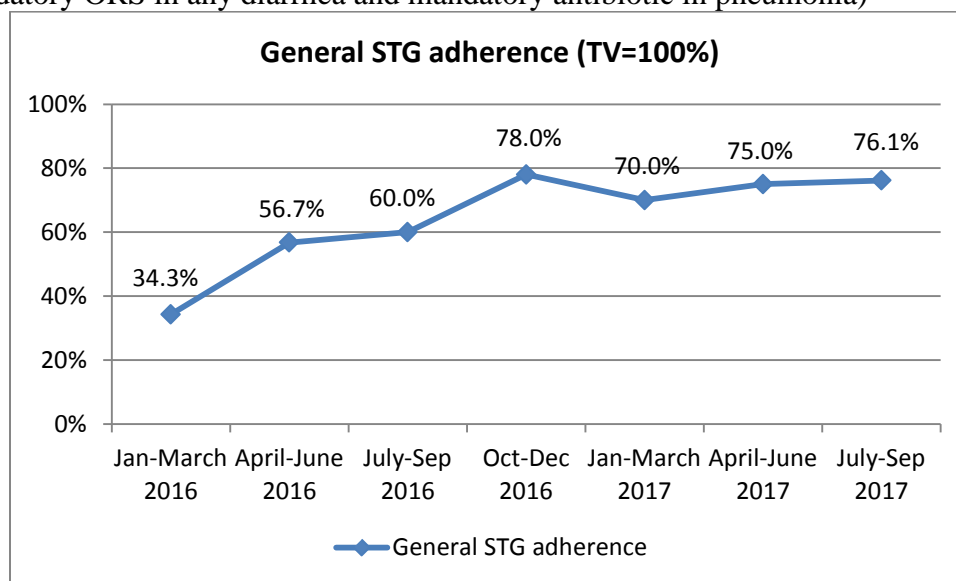
Graph 4: RMU assessment shows percentage of patients with at least one antibiotic prescribed in Ataturk hospital over the period of January 2016 to September 2017



Graph 5: RMU assessment shows STG adherence for not prescribing antibiotics when not recommended (*in Acute Watery Diarrhea and in Common Cold*) in Ataturk hospital over the period of January 2016 to September 2017.

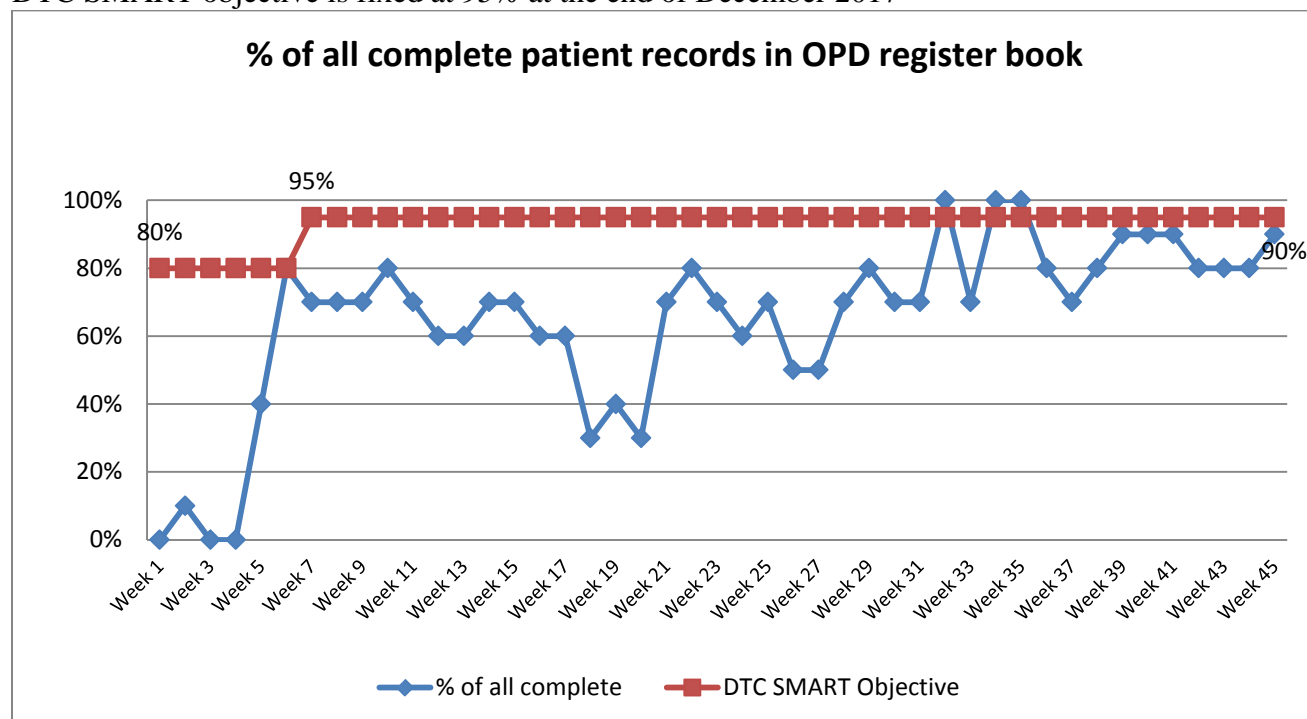


Graph 6: RMU assessment shows General NSTG adherence in Ataturk hospital over the period of January 2016 to September 2017 (covering no prescription of antibiotic in AWD and common cold, mandatory ORS in any diarrhea and mandatory antibiotic in pneumonia)

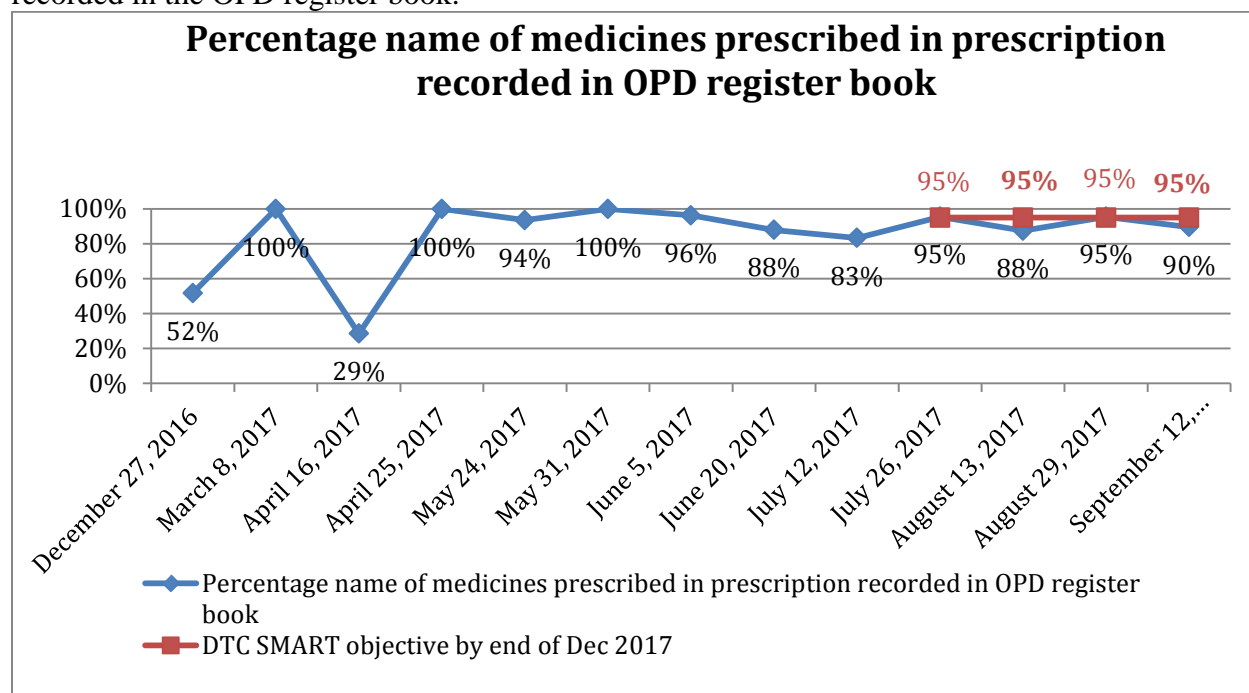


Patient and treatment data recording in the OPD register book: Complete encounter and treatment data recording in the OPD register book was followed through weekly monitoring over the period of August 03, 2016 through September 25, 2017 (45 monitoring).

Graph 7: Shows percentage of complete recording of encounter and treatment data in the OPD register book over that period and is illustrated through the below line chart to display trends. DTC SMART objective is fixed at 95% at the end of December 2017

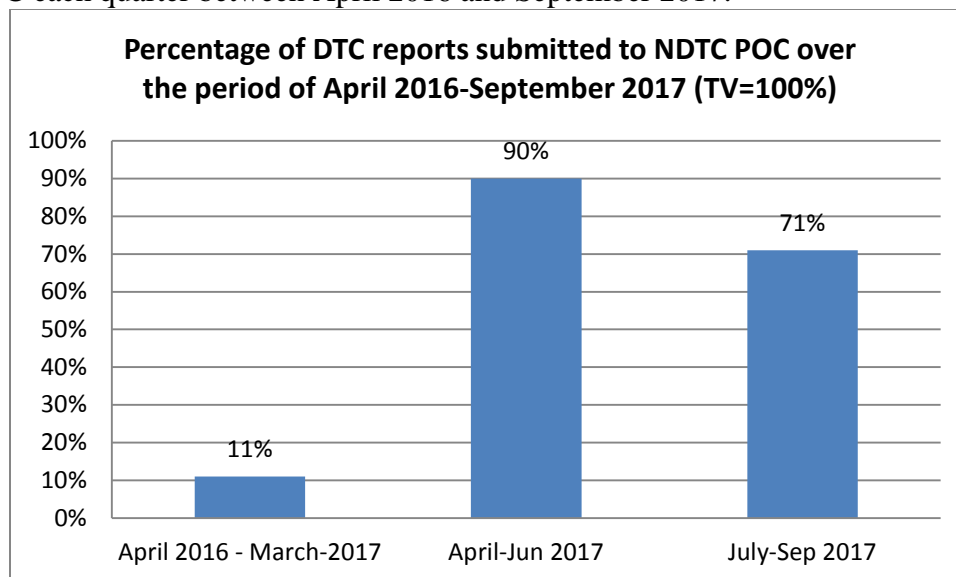


Graph 8: Show the percentage of number/name of medicines from prescriptions that are recorded in the OPD register book.



7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 through September 2017:

Graph 9: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April 2016 and September 2017.



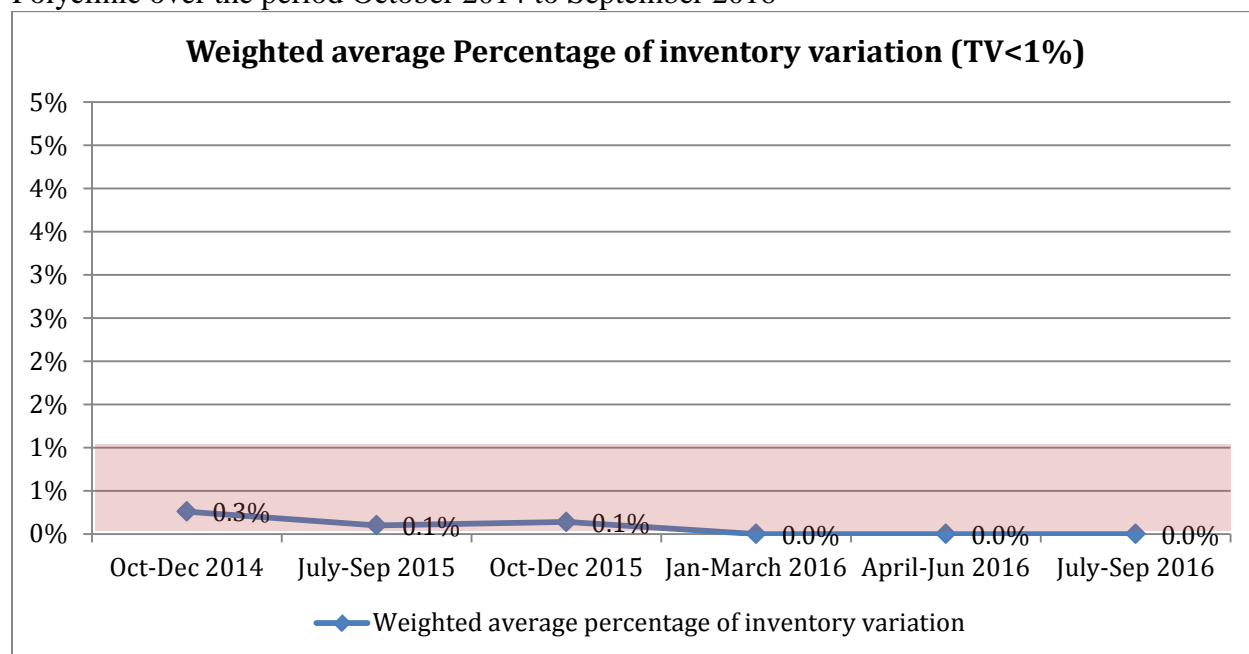
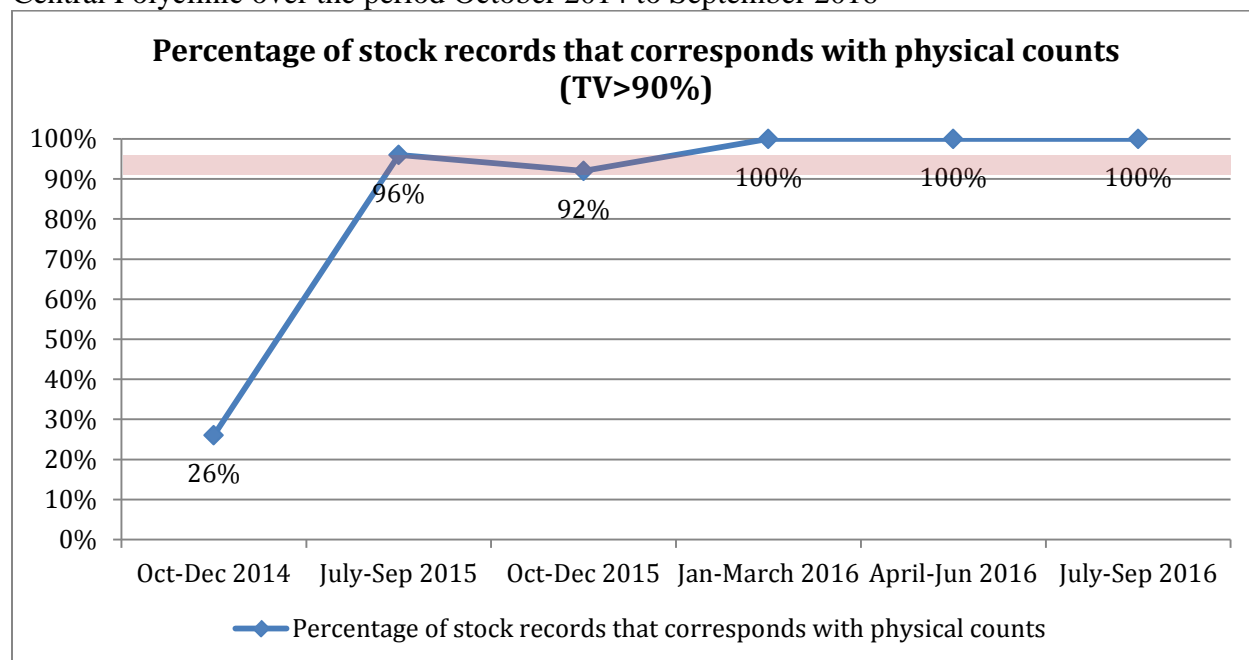
8) Priority focus areas recommended by SPS for NDTC POCs:

- POC should ensure that the stock cards are updated immediately and accurately after each transaction
- POC should ensure that the DTC is updating the pharmacy and dispensary stock datasheets
- Request DTC to submit updated medicines quantification sheet on quarterly basis
- Raise the issue of need of coordination between NDTC and PPMU for the procurement process of national hospitals.
- STG adherence for not prescribing antibiotics irrationally in Acute Watery Diarrhea and Common Cold: encourage re-training sessions on proper treatment of those 2 conditions, particularly to new medical trainees and encourage DTC in updating the action plans.
- POC should ensure that the DTC activities delegation sheet is followed by DTC chairman and Hospital director
- POC should ensure that DTC sends on time all due deliverables

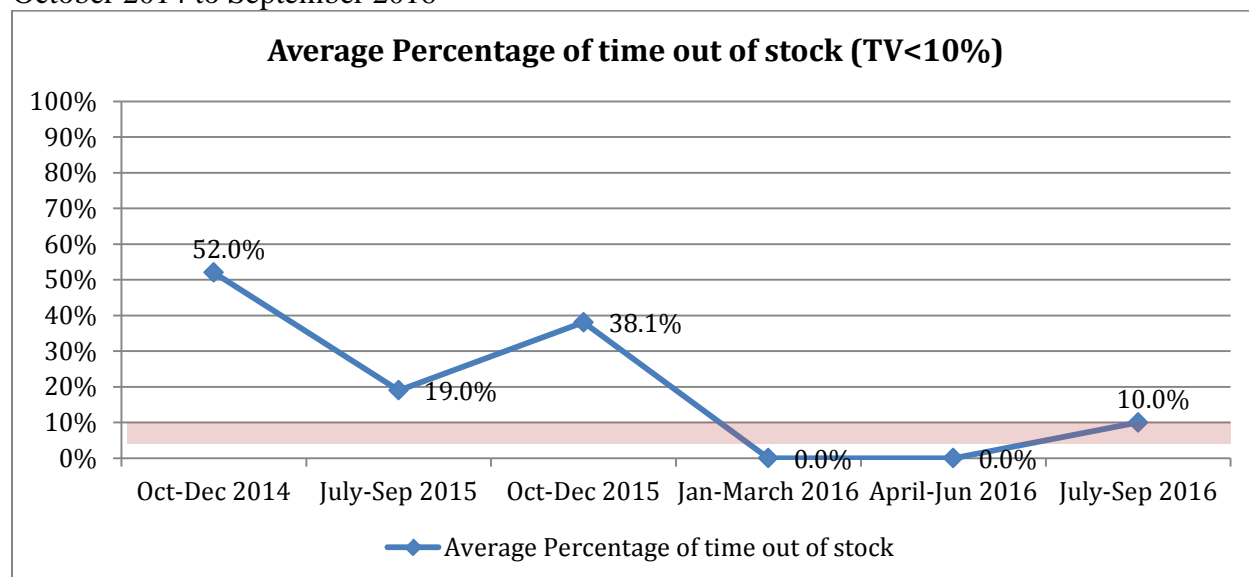
Central Polyclinic DTC (National/Specialized Hospital)

November 2017

- 1) Time period of SPS technical support to DTC:
SPS support in Pharmaceutical Supply Management to Central Polyclinic by HPMC:
October 2014 to September 2015
Direct SPS support to DTC: From October 2015 to end of October 2016 (totally 13 months)
- 2) Number of DTC monthly meetings held during that period: 10 DTC monthly meetings
- 3) Number of DTC monthly meetings attended by SPS representative during that period: 10 DTC monthly meetings
- 4) Date of last revised ToR: Jun 13, 2016
- 5) Specific activities undertaken by DTC:
Development (Edition December 2014) and update (Second Edition September 2016) of hospital formulary list (which has been approved by GDPS, printed and distributed to the polyclinic staff for use)
Monitoring of Adherence to formulary list is being performed by DTC.
Root cause analysis performed on two weak RMU indicators and six month (October 2016-March 2017) improvement cycle action plan has been developed.
- 6) Status report of routine DTC assessments based on available data:

IMAT assessments in pharmacy:**Graph 1:** IMAT shows the Weighted Average Percentage of Inventory Variation in Central Polyclinic over the period October 2014 to September 2016**Graph 2:** IMAT shows Percentage of stock records that corresponds with physical counts in Central Polyclinic over the period October 2014 to September 2016

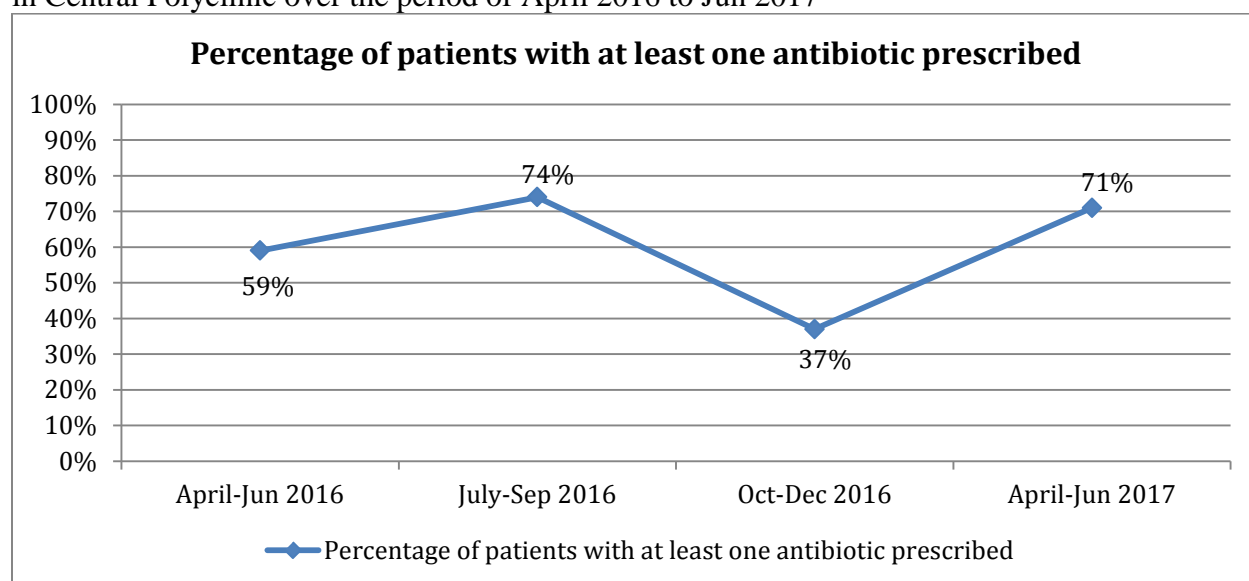
Graph 3: IMAT shows Average Percentage of Time Out of Stock in Central Polyclinic from October 2014 to September 2016



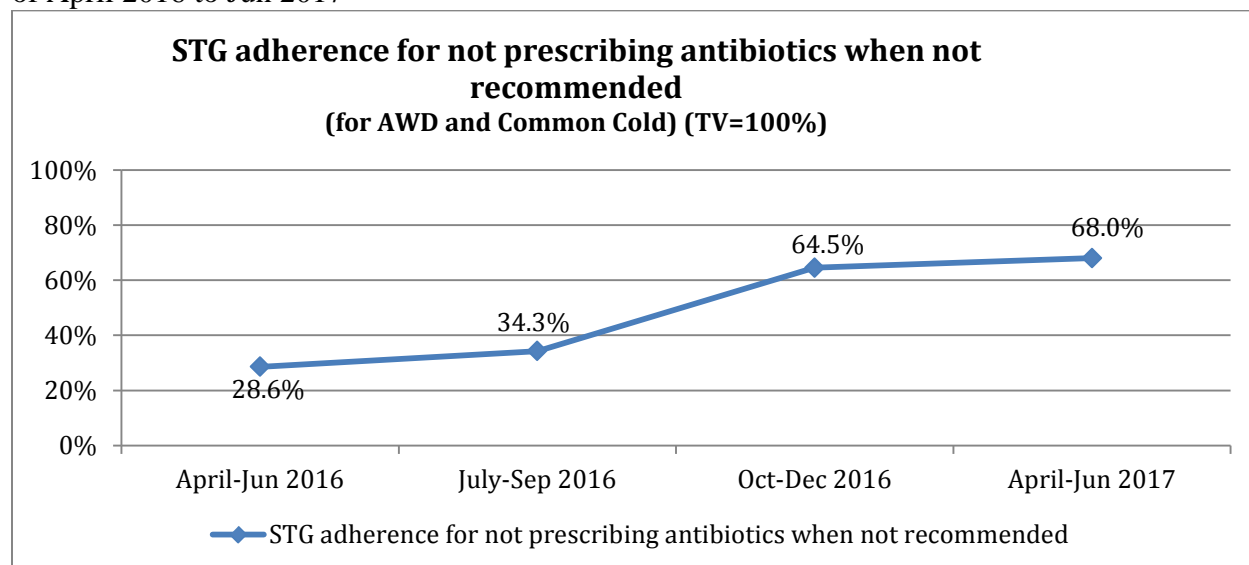
Rational Medicine Use in Central Polyclinic hospital: Central polyclinic DTC is using the generic RMU assessment tool (i.e., “Acute watery diarrhea, Simple ARI, Any diarrhea and Pneumonia”)

Note: Last quarter “April-Jun 2017” RMU assessment has been performed by DTC alone. Results are included in the 3 below graphs.

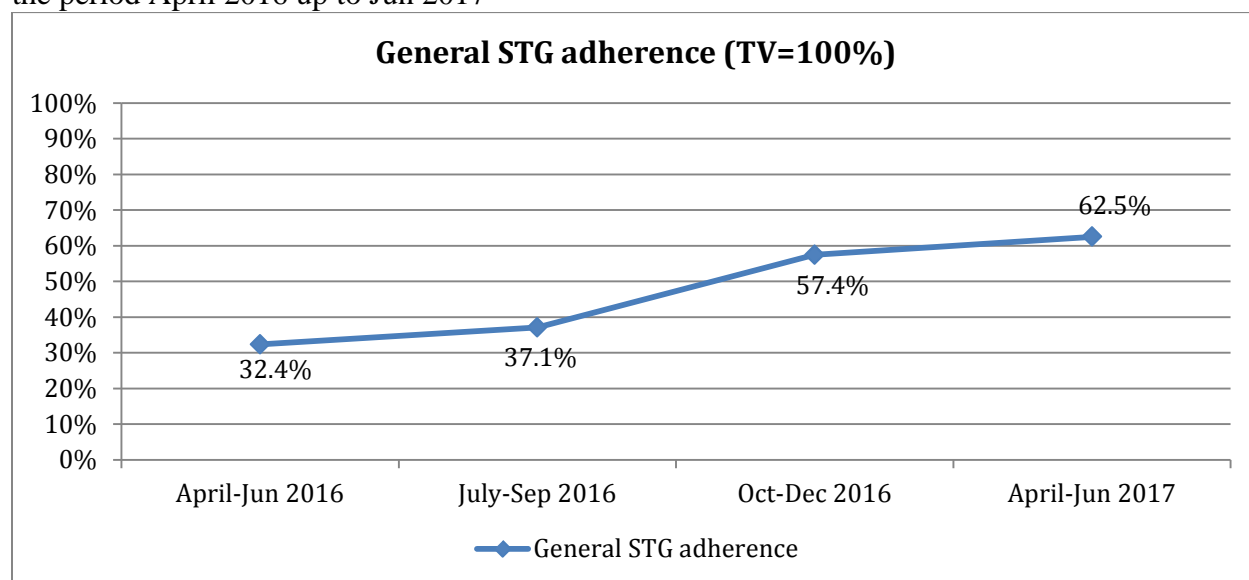
Graph 4: RMU assessment shows percentage of patients with at least one antibiotic prescribed in Central Polyclinic over the period of April 2016 to Jun 2017



Graph 5: RMU assessment shows STG adherence for not prescribing antibiotics when not recommended (for Acute Watery Diarrhea and Simple ARI) in Central Polyclinic over the period of April 2016 to Jun 2017

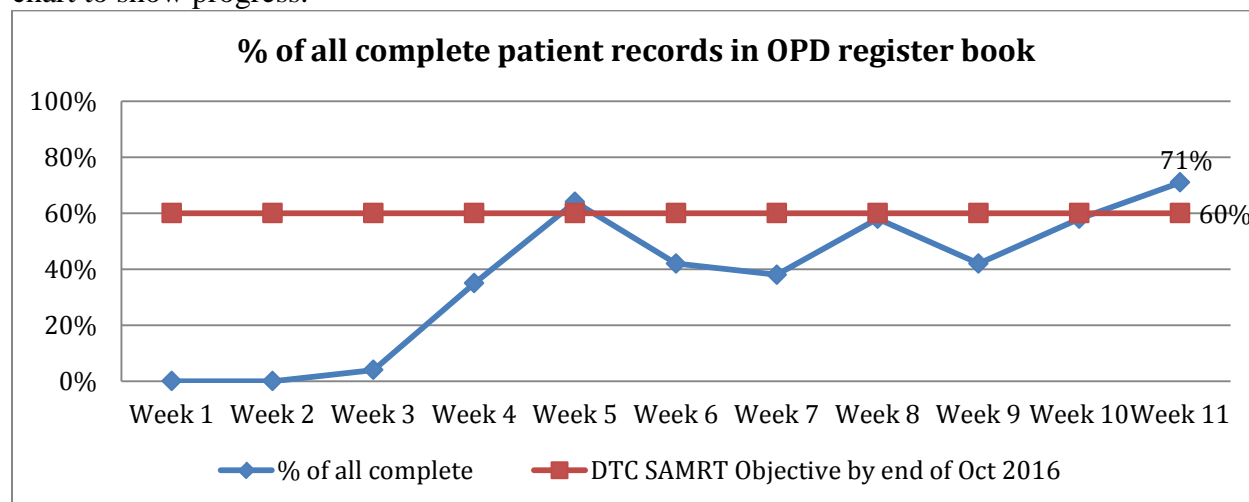


Graph 6: RMU assessment shows General NSTG adherence in Central Polyclinic hospital over the period April 2016 up to Jun 2017



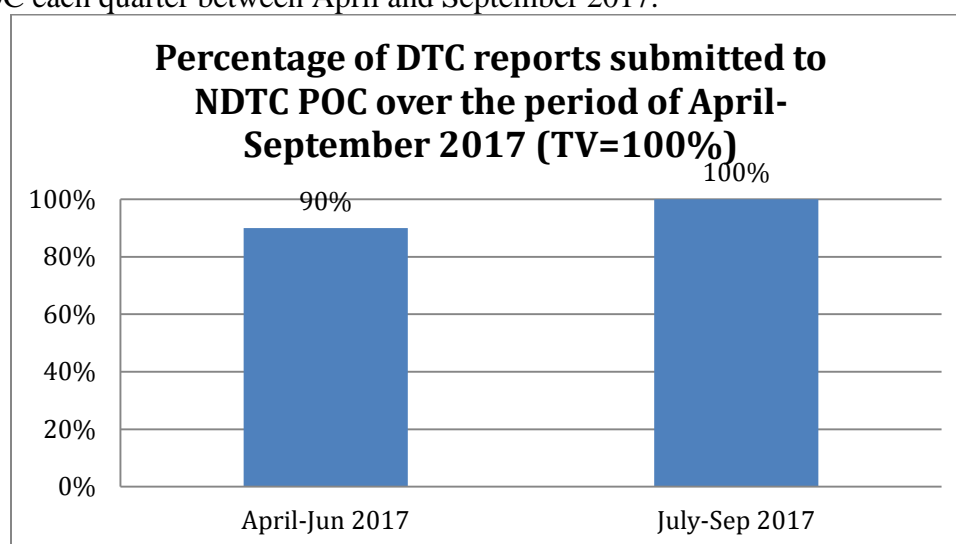
Patient and treatment data recording in the OPD register book:

Graph 7: Shows percentage of complete recording of encounter and treatment data in the OPD register book over the period July 2016 to October 2016 and is illustrated through the below line chart to show progress.



7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 through September 2017:

Graph 8: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April and September 2017.



8) Priority focus areas recommended by SPS for NDTC POCs:

- Recording complete patient encounter and treatment data in the OPD register book
- Strengthening weekly monitoring system on data recording in OPD register book and RMU weak indicators
- NDTC POCs to ensure that polyclinic OPD clinicians are oriented on rational treatment of RMU health conditions by their chief of wards through using NSTG-PL
- To ensure implementation of DTC activities delegation sheet are strongly followed by medical director and hospital director.

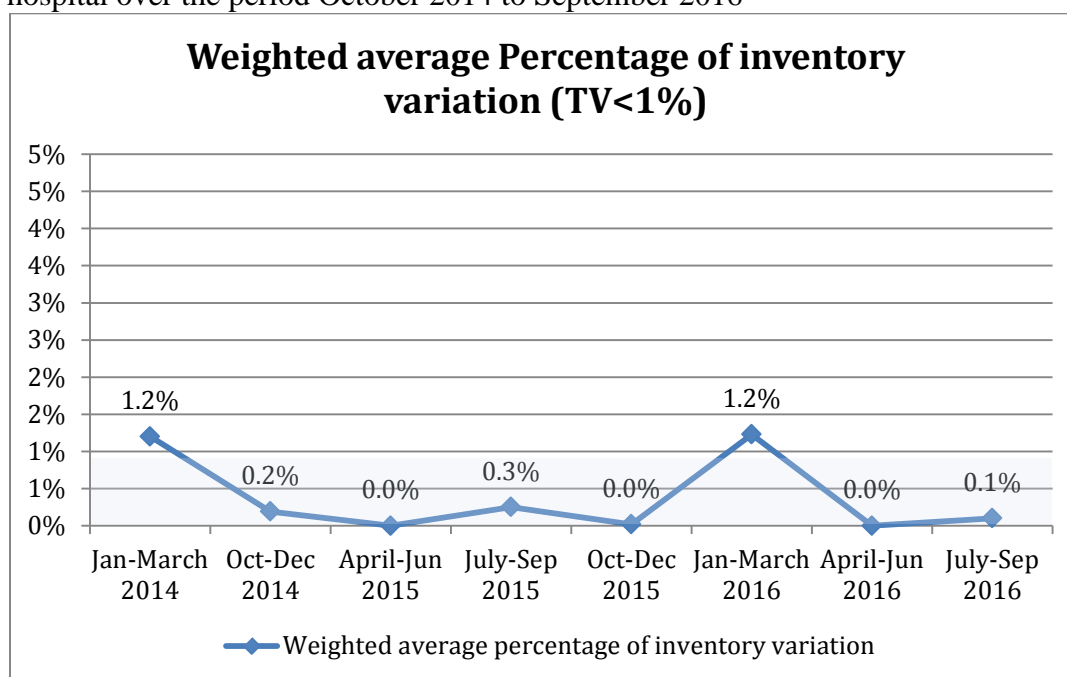
Dashti Barchi DTC (National/Specialized Hospital)

November 2017

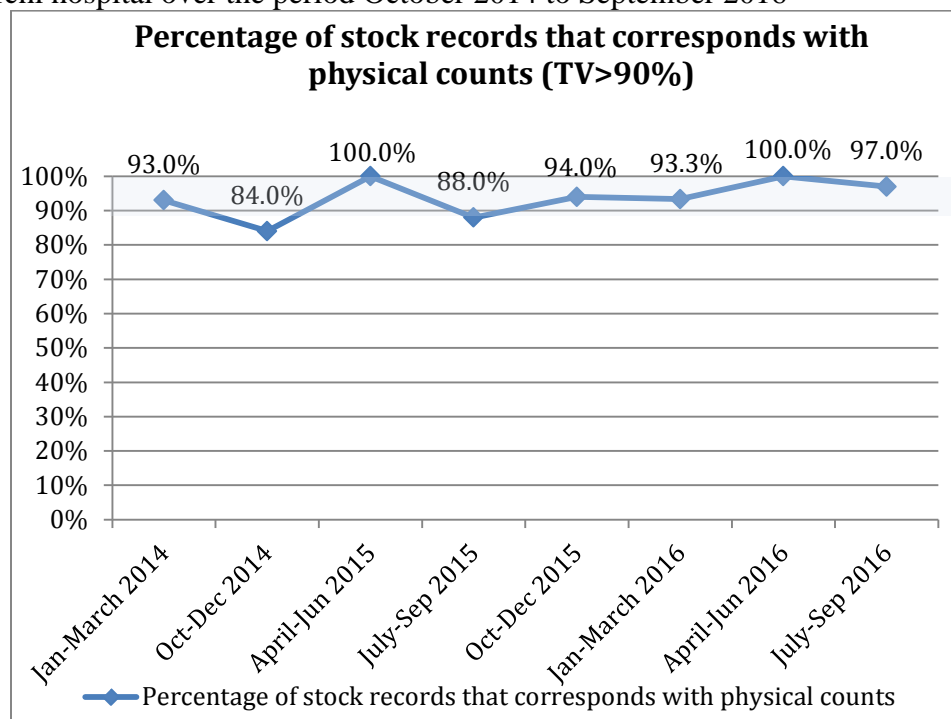
- 1) Time period of SPS technical support to DTC:
SPS support in Pharmaceutical Supply Management to Dashti Barchi Hospital by HPMC:
October 2014 to Jun 2015
Direct SPS support to DTC: From July 2015 to October 2016 (totally 16 months)
- 2) Number of DTC monthly meetings held during that period: 12 DTC monthly meetings
- 3) Number of DTC monthly meetings attended by SPS representative during that period: 12 DTC monthly meetings
- 4) Date of last revised ToR: January 24, 2016
- 5) Specific activities undertaken by DTC:
A Root Cause Analysis on weak RMU indicators was performed followed by the development of a six month improvement cycle action plan (for the period May 2016 to October 2016).
Hospital Formulary List is not developed
- 6) Status report of routine DTC assessments based on available data:

IMAT assessments in pharmacy:

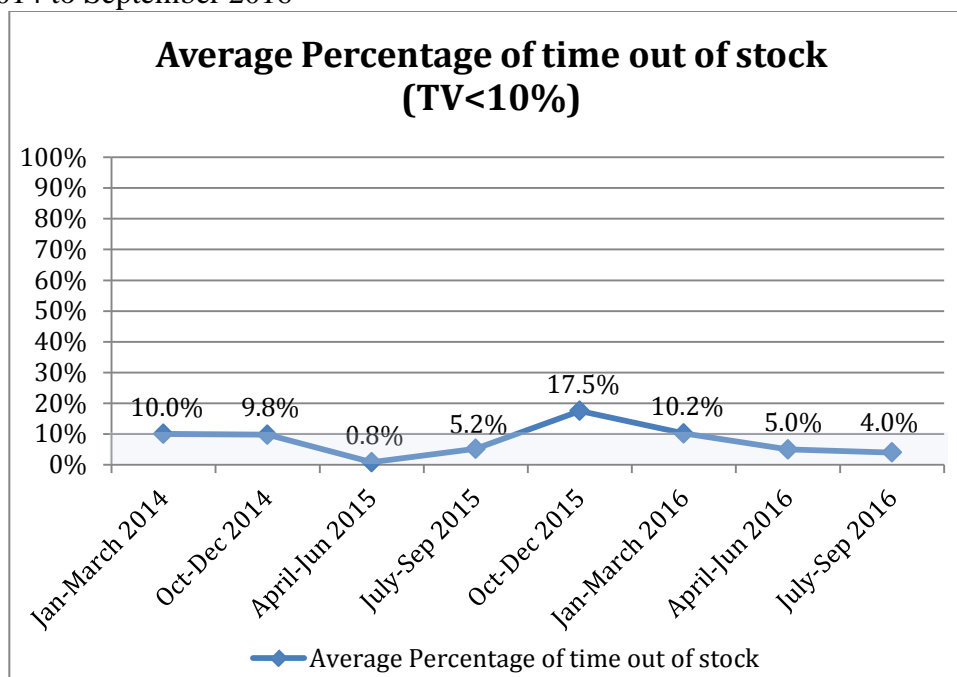
Graph 1: IMAT shows the Weighted Average Percentage of Inventory Variation in Dashti Barchi hospital over the period October 2014 to September 2016



Graph 2: IMAT shows Percentage of stock records that corresponds with physical counts in Dashti Barchi hospital over the period October 2014 to September 2016

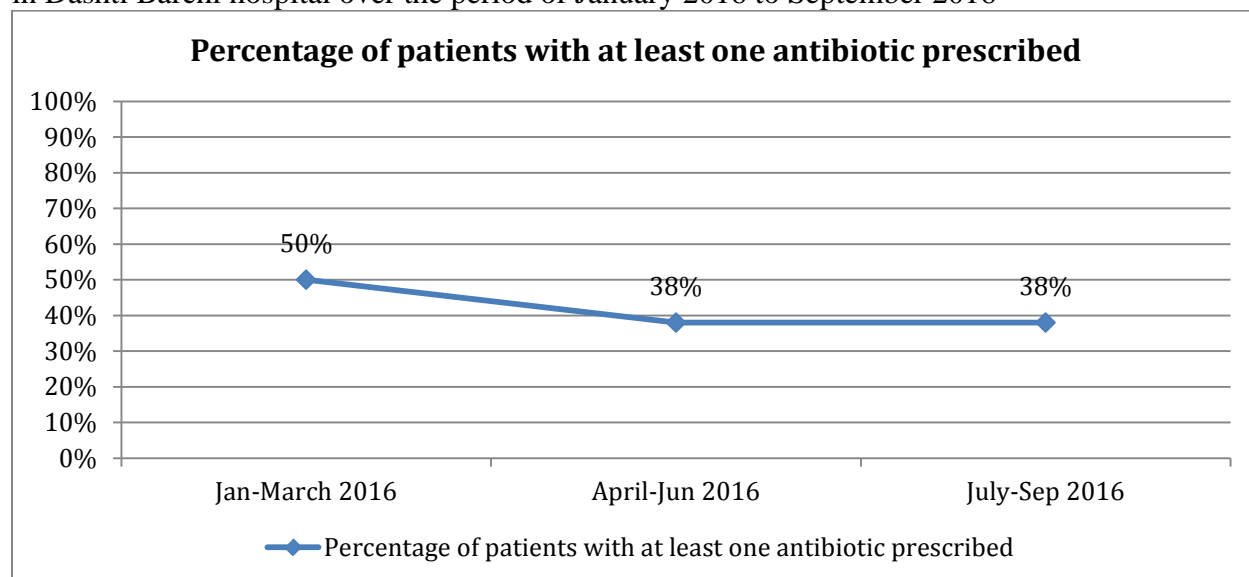


Graph 3: IMAT shows Average Percentage of Time Out of Stock in Dashti Barchi hospital from October 2014 to September 2016

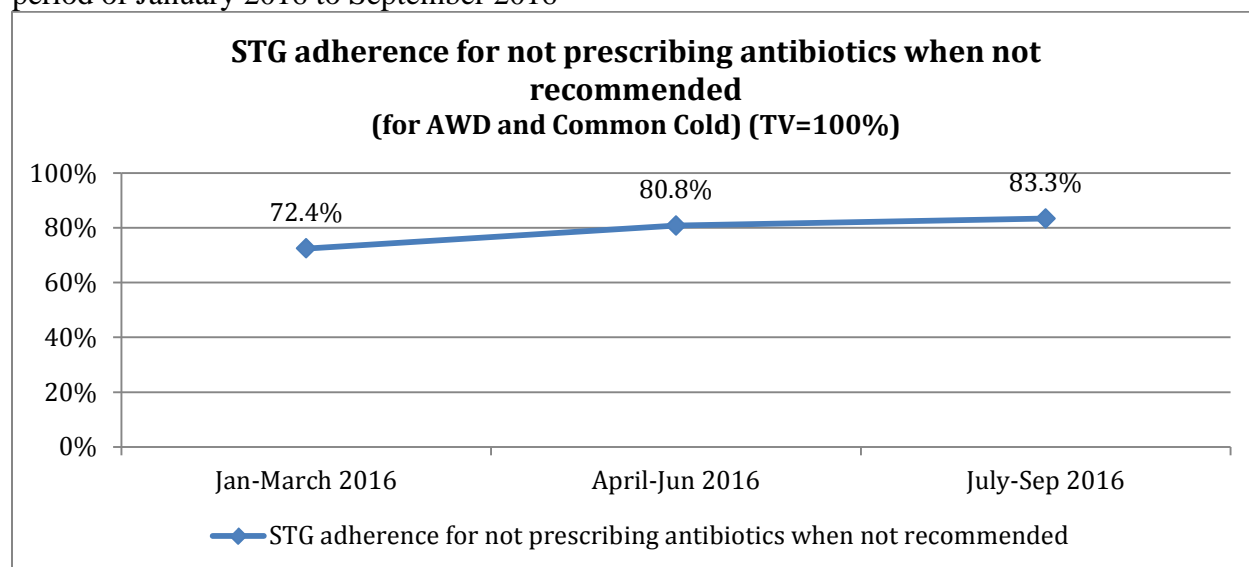


Rational Medicine Use in Dashti Barchi hospital: DTC of Dashti Barchi uses the generic RMU assessment tool (i.e., AWD, Simple ARI, Any Diarrhea and Pneumonia)

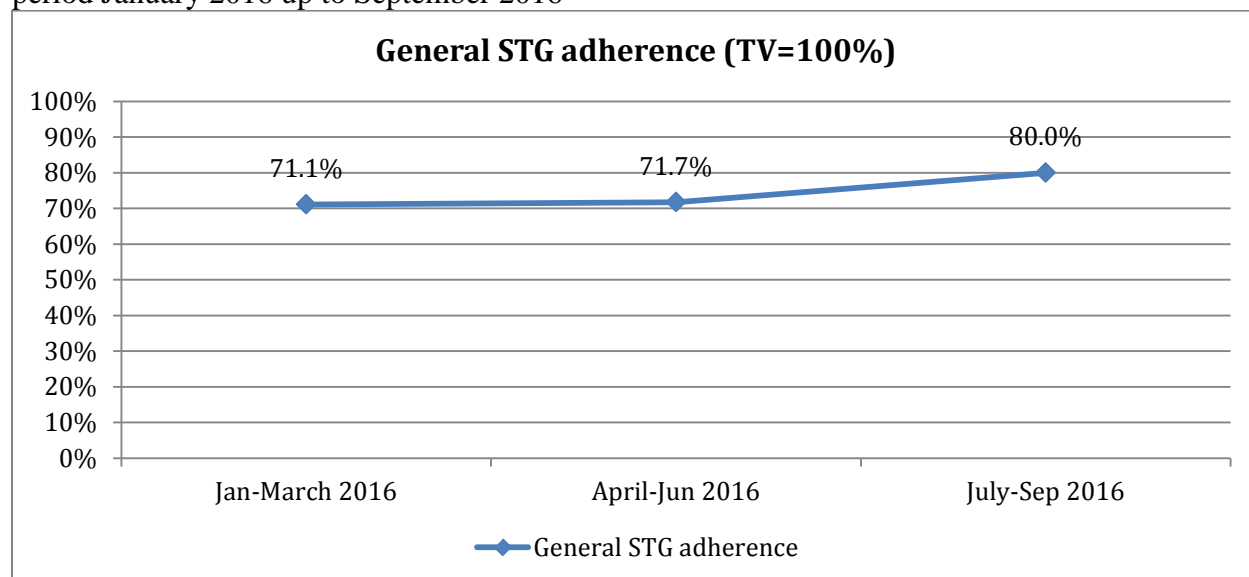
Graph 4: RMU assessment shows percentage of patients with at least one antibiotic prescribed in Dashti Barchi hospital over the period of January 2016 to September 2016



Graph 5: RMU assessment shows STG adherence for not prescribing antibiotics when not recommended (for *Acute Watery Diarrhea* and *Simple ARI*) in Dashti Barchi hospital over the period of January 2016 to September 2016

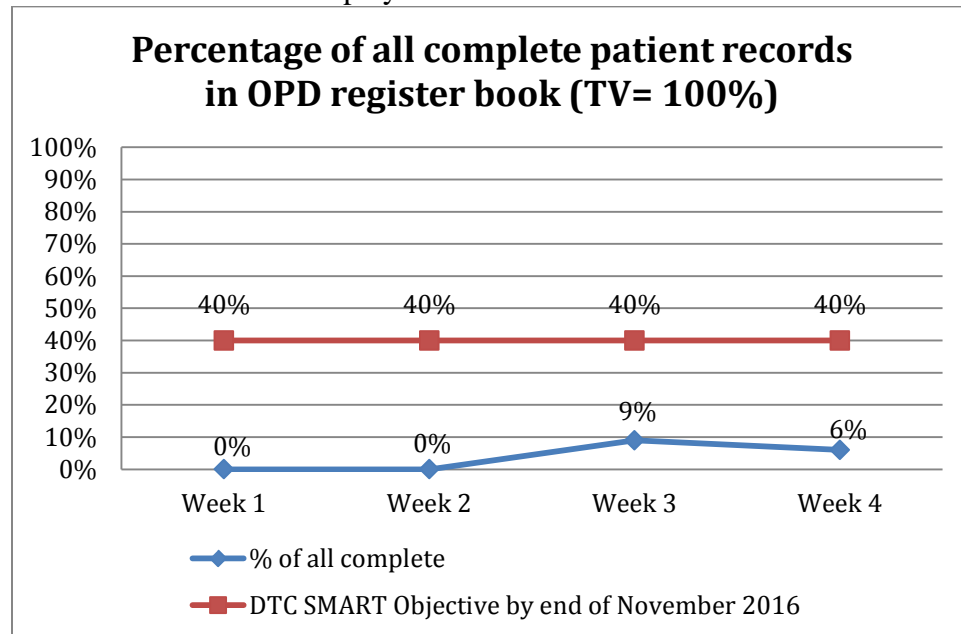


Graph 6: RMU assessment shows General NSTG adherence in Dashti Barchi hospital over the period January 2016 up to September 2016



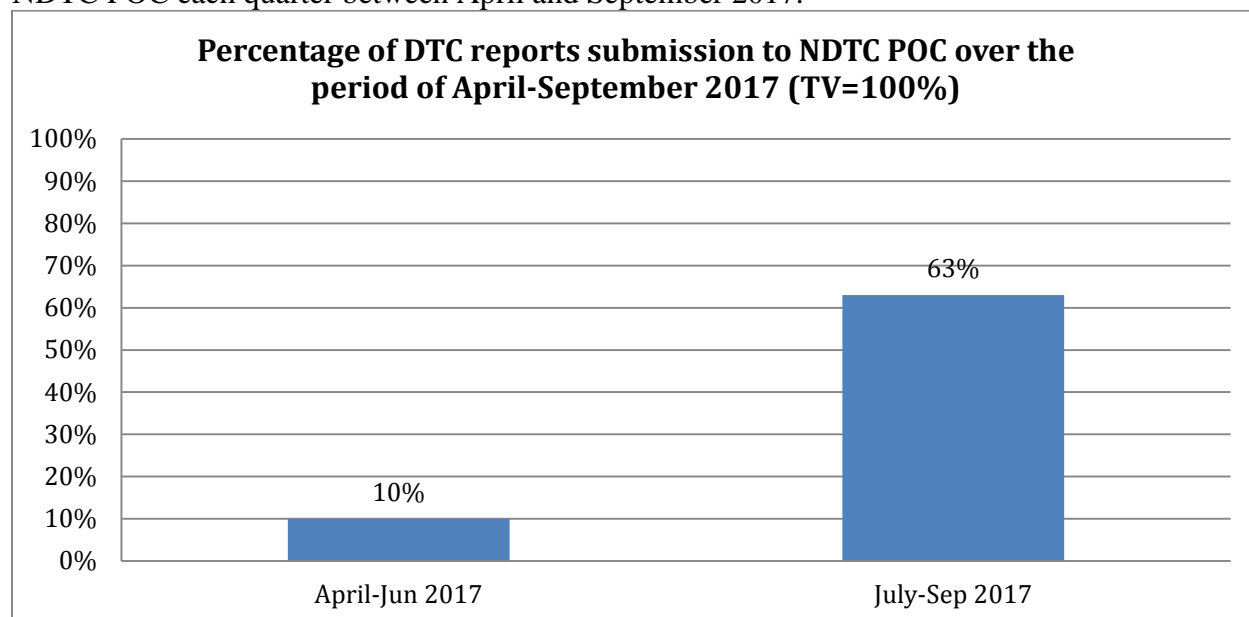
Patient encounter and treatment data recording in the OPD register book:

Graph 7: Shows percentage of complete recording of encounter and treatment data in the OPD register book between July 27, 2016 and 22 August 2016 (i.e., 4 weeks) and is illustrated through the below line chart to display trend.



7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 through September 2017:

Graph 8: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April and September 2017.



8) Priority focus areas recommended by SPS for NDTC POCs:

Strengthening the reporting system of DTC activities by DTC to NDTC POCs on timely manner.

To develop hospital formulary list

Regular updating of DTC TOR each year

Ensure that monitoring of complete recording patient encounter and treatment in the OPD register books is performed +++

NDTC POCs ensure that implementation of DTC activities delegation sheet is closely followed by DTC chairman and hospital director.

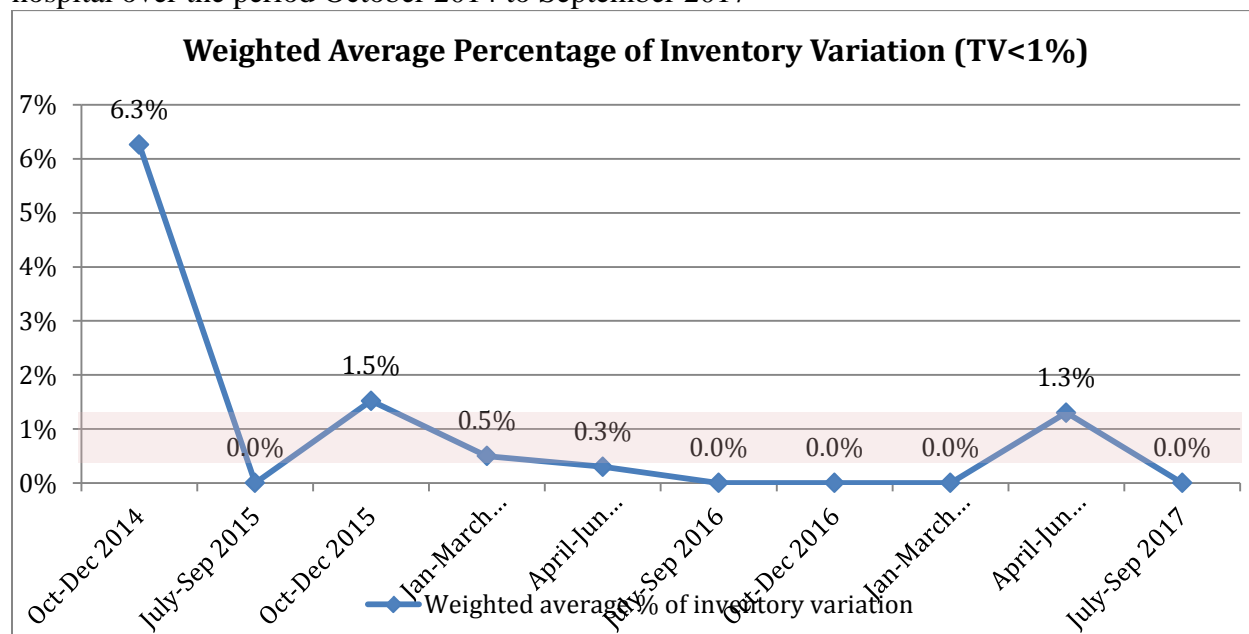
IbnSina Chest DTC (National/Specialized Hospital)

November 2017

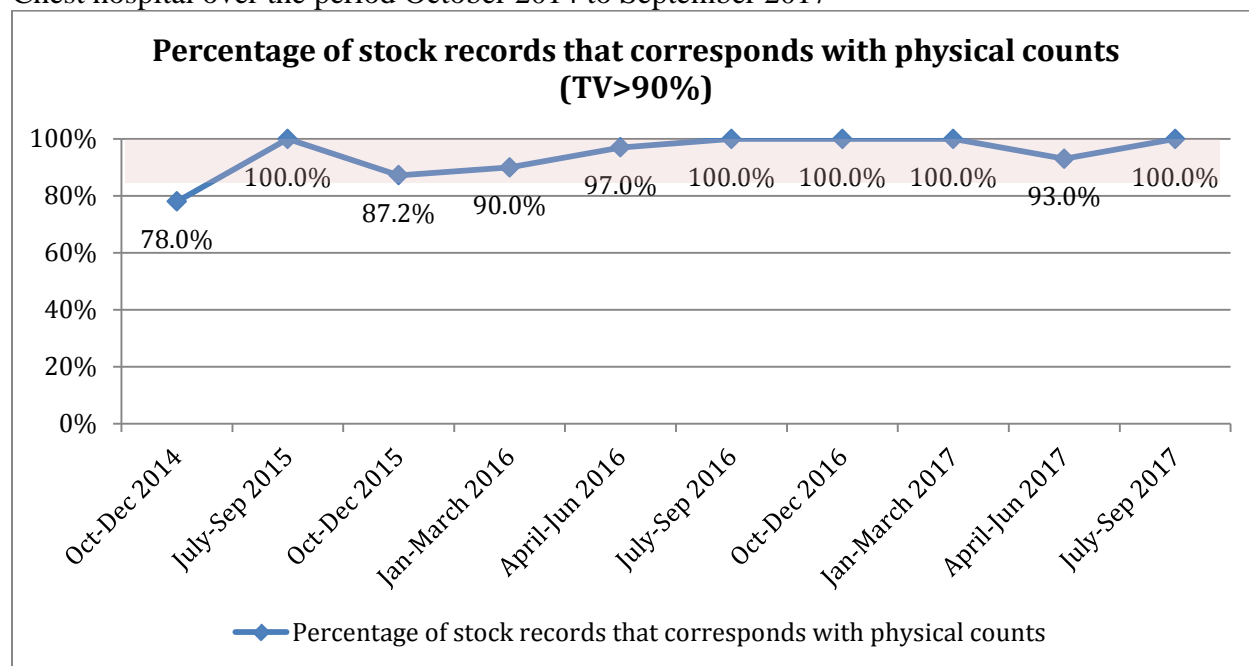
- 1) Time period of SPS technical support to DTC:
 - SPS support in Pharmaceutical Supply Management to Chest Hospital by HPMC: October 2014 to October 2015
 - Direct SPS support to DTC: From Oct 14, 2015 to Oct 31, 2017 (totally 24.5 months)
- 2) Number of DTC monthly meetings held during that period: 22 DTC monthly meetings
- 3) Number of DTC monthly meetings attended by SPS representative during that period: 22 DTC monthly meetings
- 4) Date of last revised ToR: April 23, 2017
- 5) Specific activities undertaken by DTC:
 - Development of hospital formulary list (which has been approved by GDPS, printed and recently distributed to the hospital staff for use), no monitoring of adherence to FL performed.
 - Adaptation of the RMU assessment to specific conditions commonly seen in OPD i.e., “COPD without exacerbation and Bronchial Asthma.”
- 6) Status report of routine DTC assessments based on available data:

IMAT assessments in pharmacy:

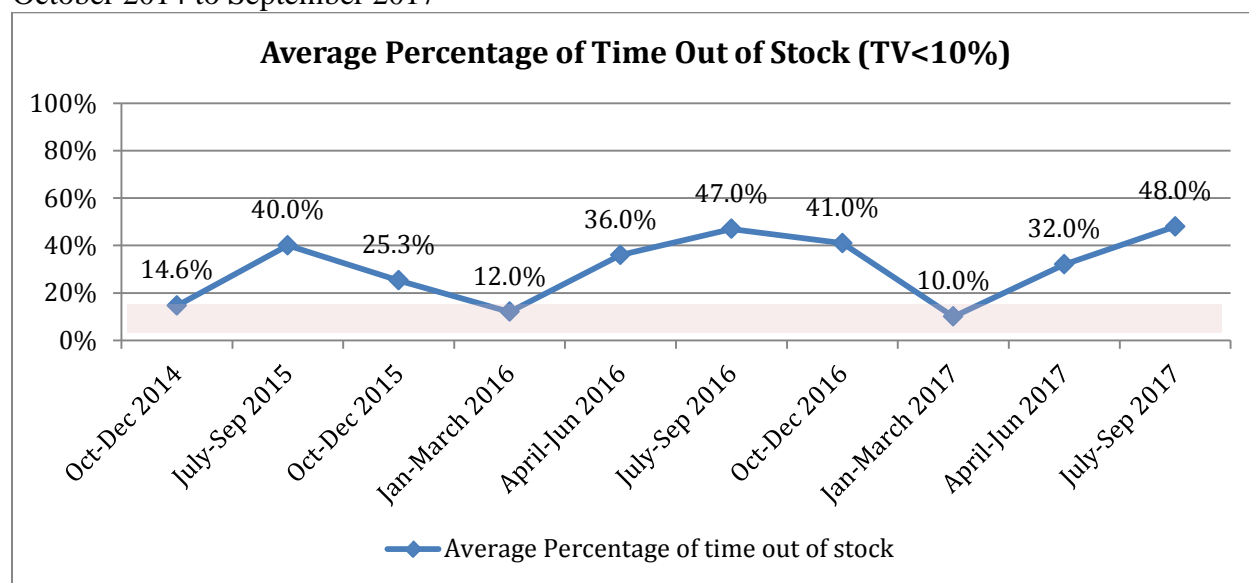
Graph 1: IMAT shows the Weighted Average Percentage of Inventory Variation in Chest hospital over the period October 2014 to September 2017



Graph 2: IMAT shows Percentage of stock records that corresponds with physical counts in Chest hospital over the period October 2014 to September 2017



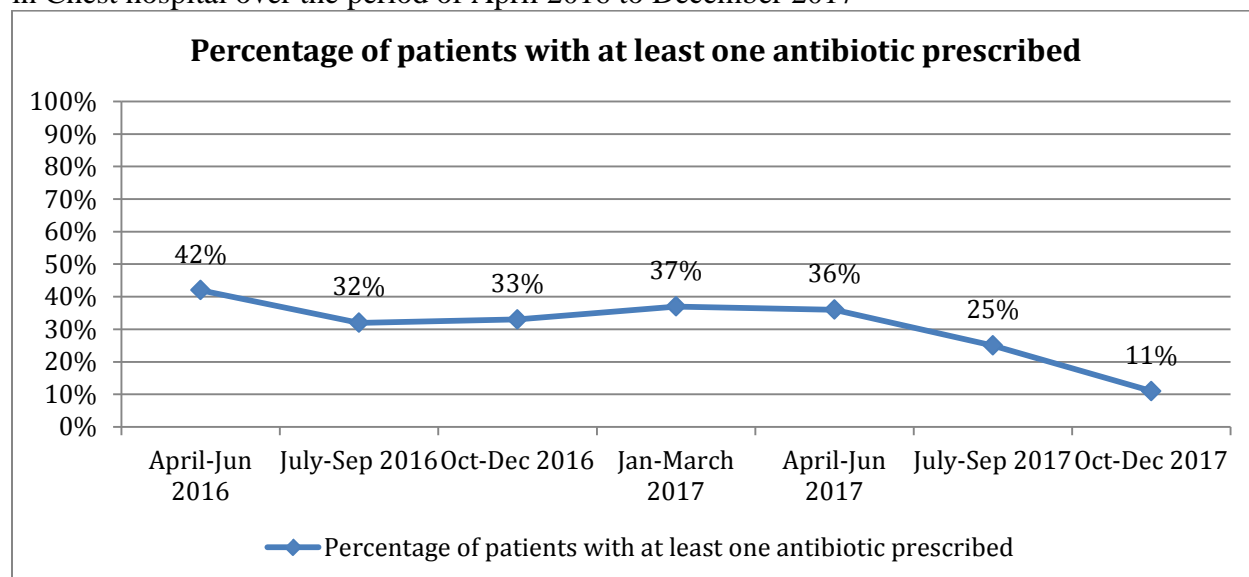
Graph 3: IMAT shows Average Percentage of Time Out of Stock in Chest hospital from October 2014 to September 2017



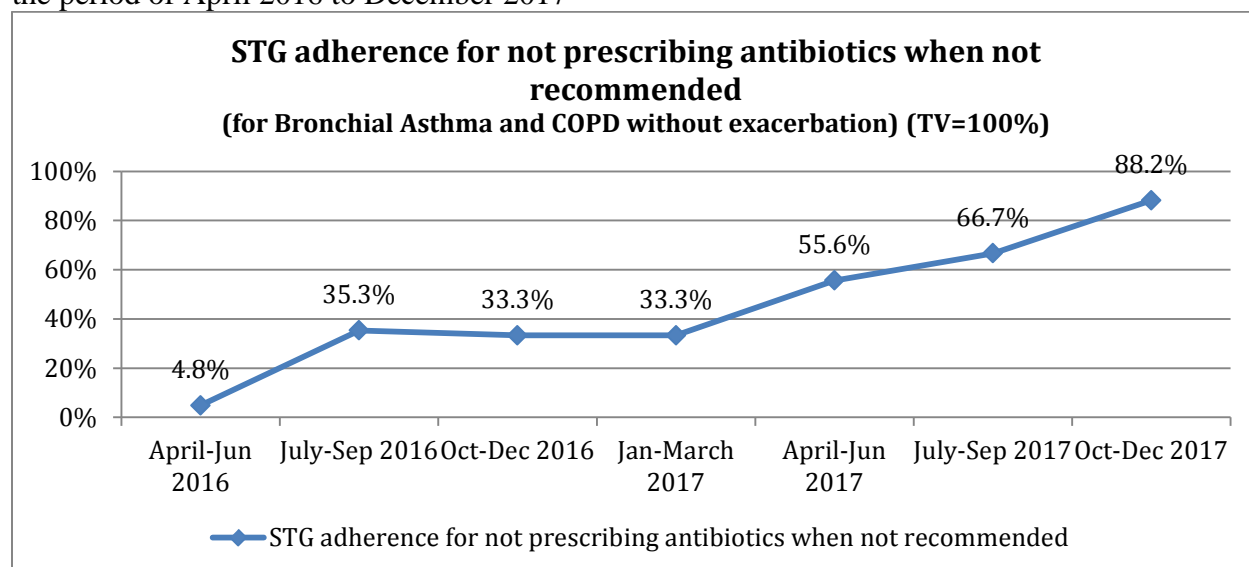
Rational Medicine Use in Chest hospital: Trends of some RMU weak indicators over the period October 2015 to October 2017 in Chest hospital are illustrated below through line charts to display trends over time.

Note: Last quarter “October-Dec 2017” RMU assessment has been performed by DTC alone. Results are included in the 3 below graphs

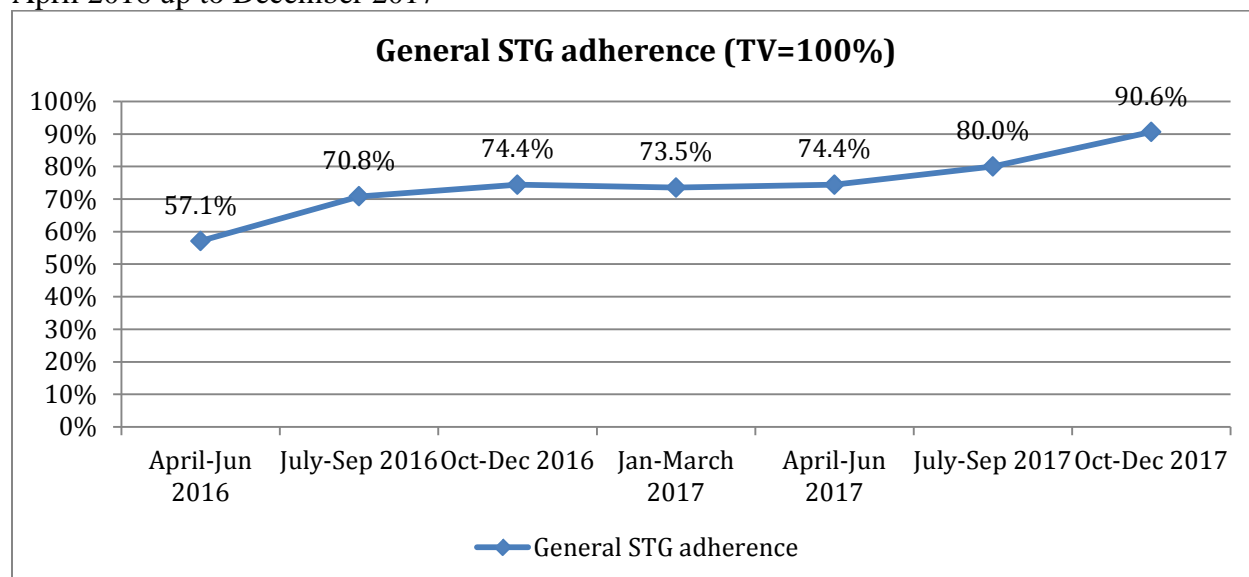
Graph 4: RMU assessment shows percentage of patients with at least one antibiotic prescribed in Chest hospital over the period of April 2016 to December 2017



Graph 5: RMU assessment shows STG adherence for not prescribing antibiotics when not recommended (for Bronchial Asthma and COPD without exacerbation) in Chest hospital over the period of April 2016 to December 2017

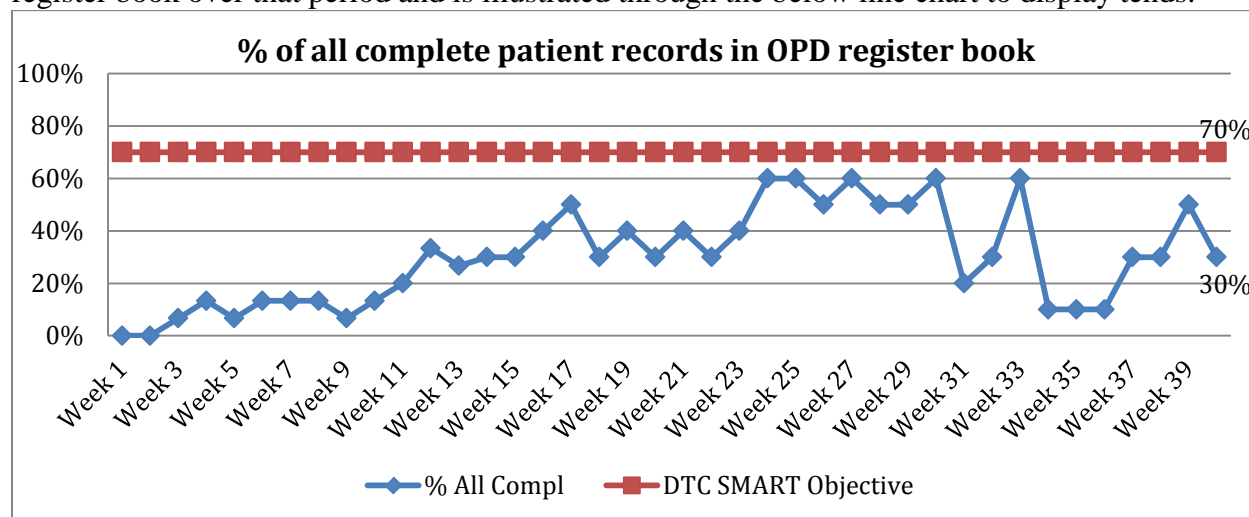


Graph 6: RMU assessment shows General NSTG adherence in Chest hospital over the period April 2016 up to December 2017

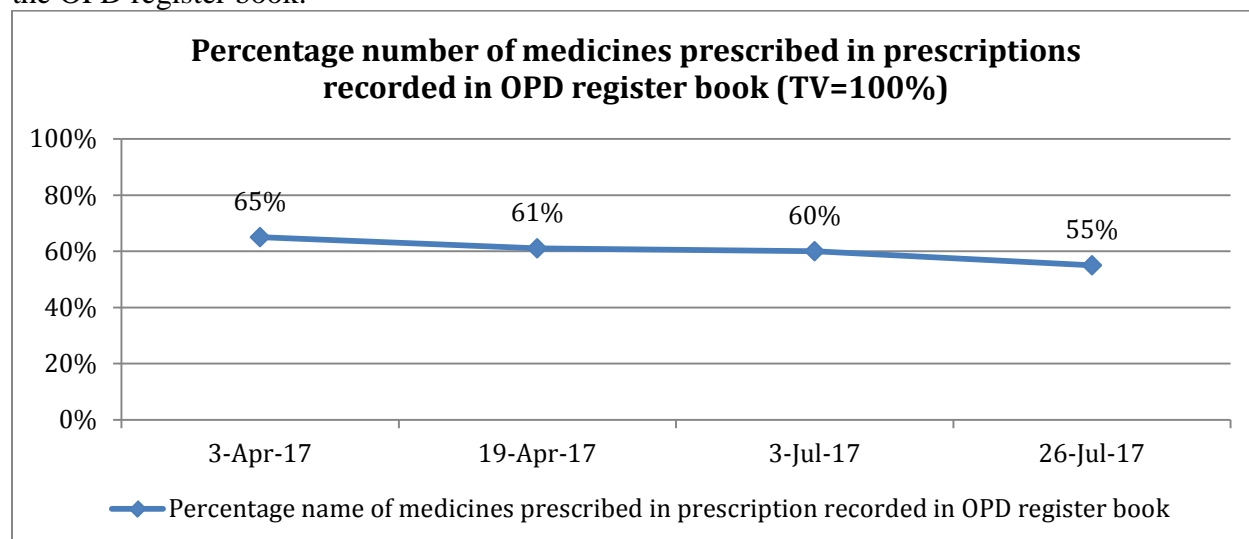


Patient and treatment data recording in the OPD register book: Complete encounter and treatment data recording in the OPD register book was followed through weekly monitoring over the period of 01 August 2016 through 30 September 2017.

Graph 7: Shows percentage of complete recording of encounter and treatment data in the OPD register book over that period and is illustrated through the below line chart to display trends.

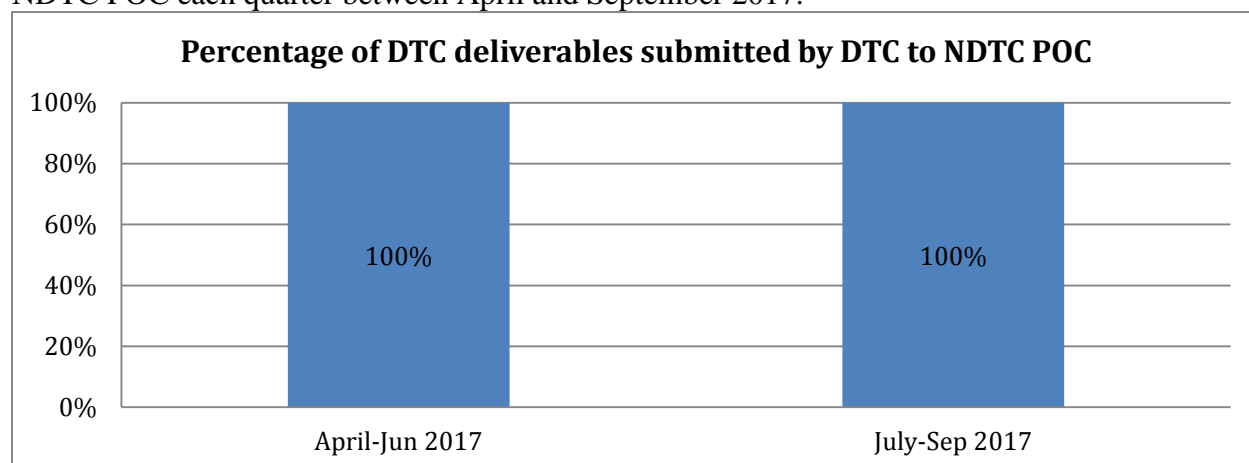


Graph 8: Shows the percentage of number of medicines from prescriptions that are recorded in the OPD register book.



7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 through September 2017:

Graph 9: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April and September 2017.



8) Priority focus areas recommended by SPS for NDTC POCs:

Recording complete encounter and treatment data in the OPD register book

STG adherence for not prescribing antibiotics in Bronchial Asthma and COPD without exacerbation: encourage re-training sessions on proper treatment of those 2 conditions, particularly to new medical trainees.

POC should ensure that the DTC activities delegation sheet is followed by DTC chairman and Hospital director

Request DTC to submit updated medicines quantification sheet on quarterly basis

Raise the issue of need of coordination between NDTC and PPMU for the procurement process of national hospitals.

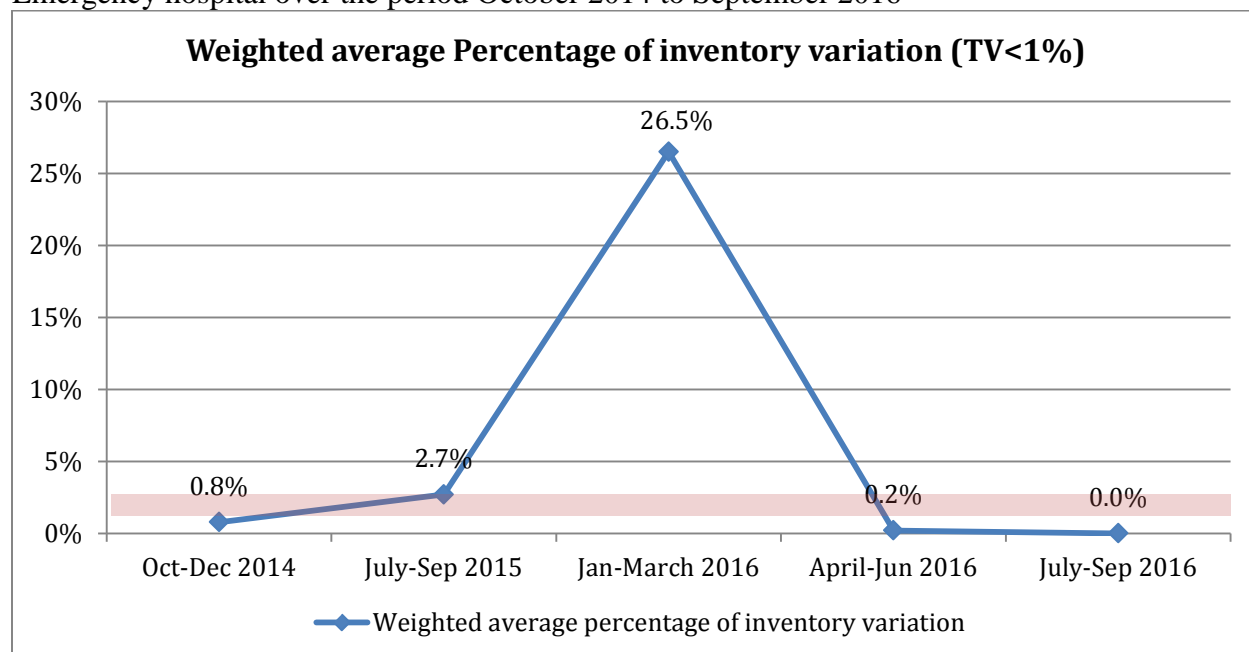
Ibn-Sina Emergency DTC (National/Specialized Hospital)

November 2017

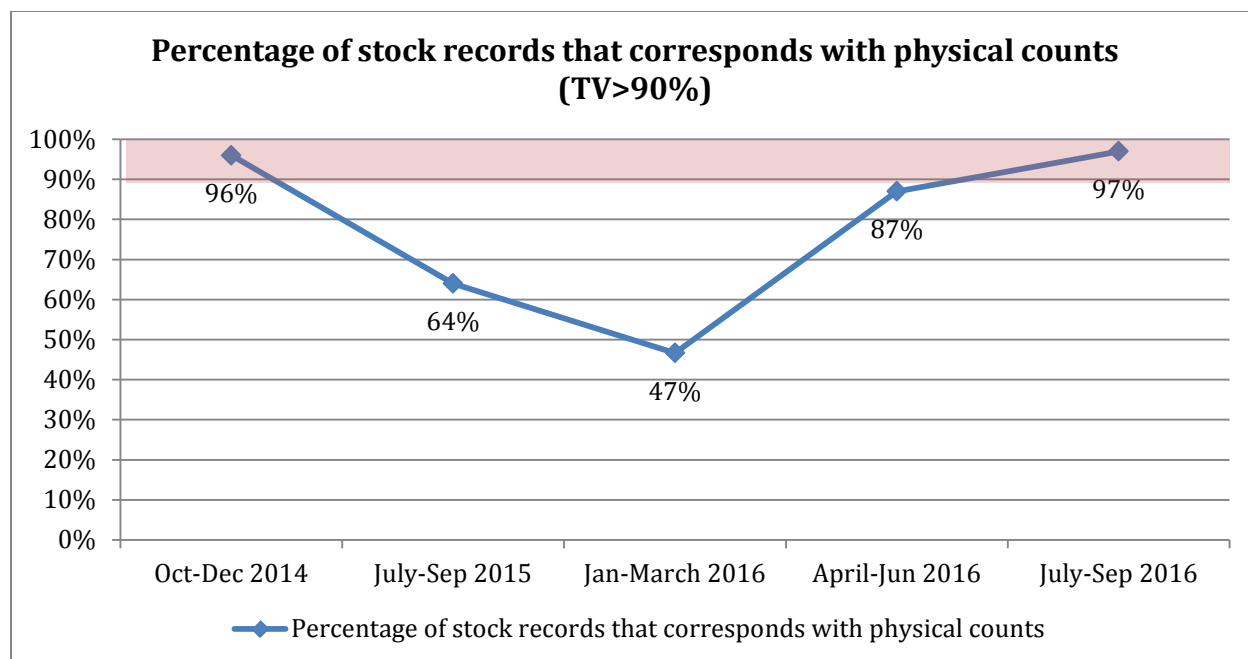
- 1) Time period of SPS technical support to DTC:
 SPS limited support in Pharmaceutical Supply Management to Ibn-Sina Emergency Hospital by HPMC: October 2014 to September 2015
 Full SPS support to DTC: From October 2015 to October 2016 (totally 13 months)
- 2) Number of DTC monthly meetings held during that period: 9 DTC monthly meetings
- 3) Number of DTC monthly meetings attended by SPS representative during that period: 9 DTC monthly meetings
- 4) Date of last revised ToR: January 24, 2016
- 5) Specific activities undertaken by DTC:
 Only one RMU assessment has been performed due to a serious lack of completeness of data in the OPD register books
 Formulary list not developed so far
- 6) Status report of routine DTC assessments based on available data:

IMAT assessments in pharmacy

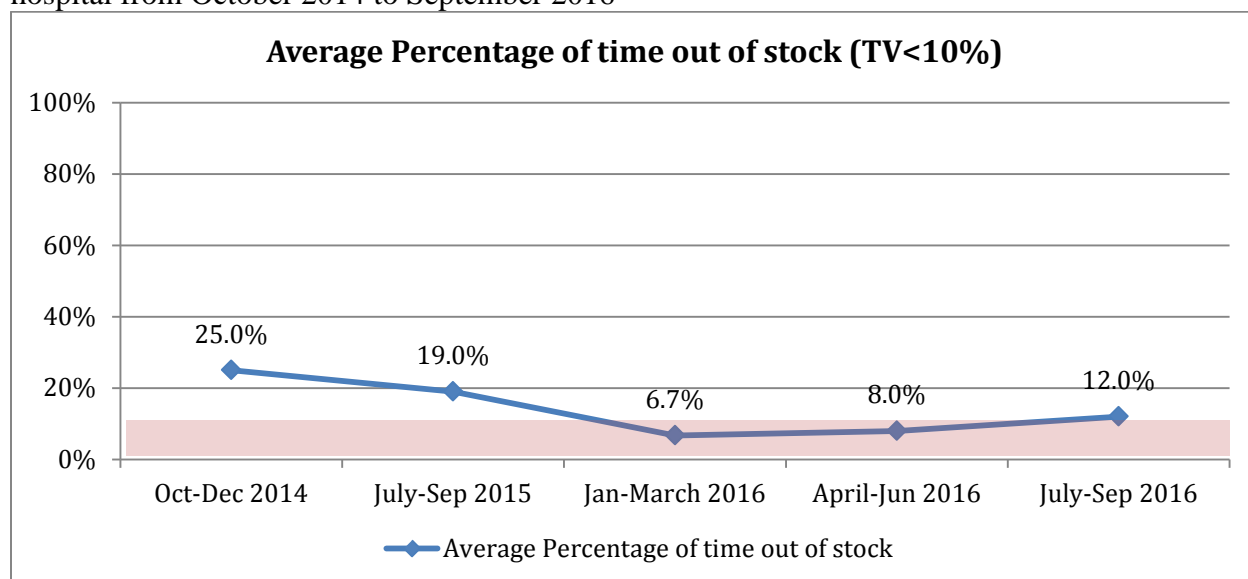
Graph 1: IMAT shows the Weighted Average Percentage of Inventory Variation in Ibn-Sina Emergency hospital over the period October 2014 to September 2016



Graph 2: IMAT shows Percentage of stock records that corresponds with physical counts in Ibn-Sina Emergency hospital over the period October 2014 to September 2016



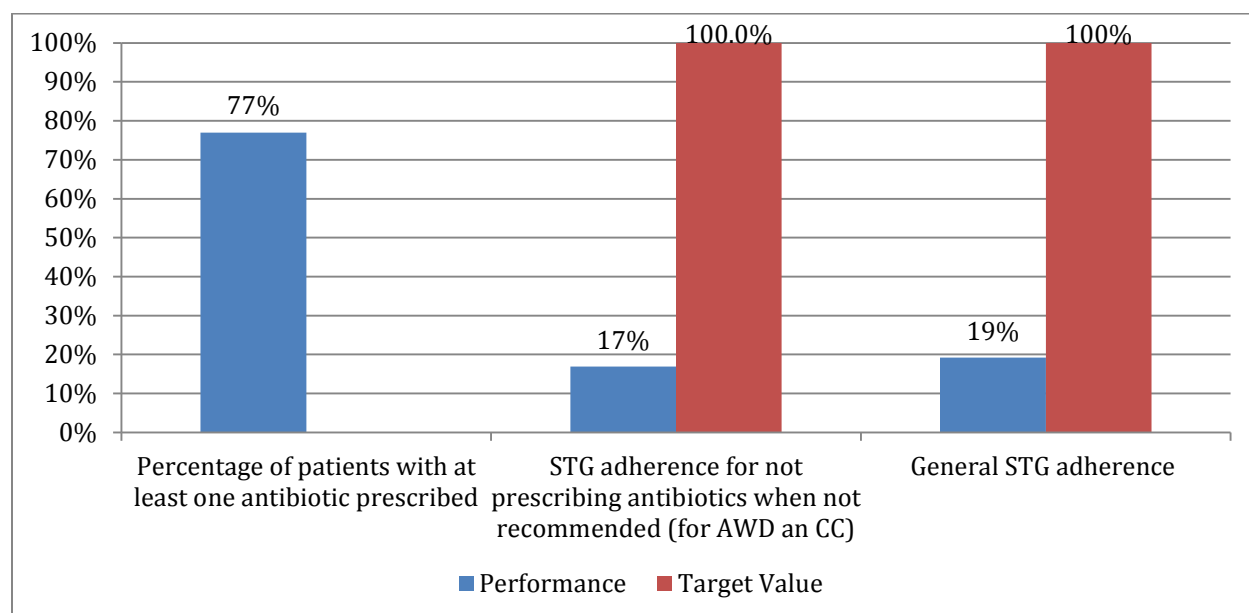
Graph 3: IMAT shows Average Percentage of Time Out of Stock in Ibn-Sina Emergency hospital from October 2014 to September 2016



Rational Medicine Use in Ibn-Sina Emergency hospital: DTC of IbnSina Emergency hospital uses the generic RMU assessment tool (i.e., AWD, Simple ARI, any diarrhea and pneumonia) . Unfortunately DTC could not implement RMU assessment on regular quarterly basis due to a serious lack of recording patient and treatment data in the OPD register books

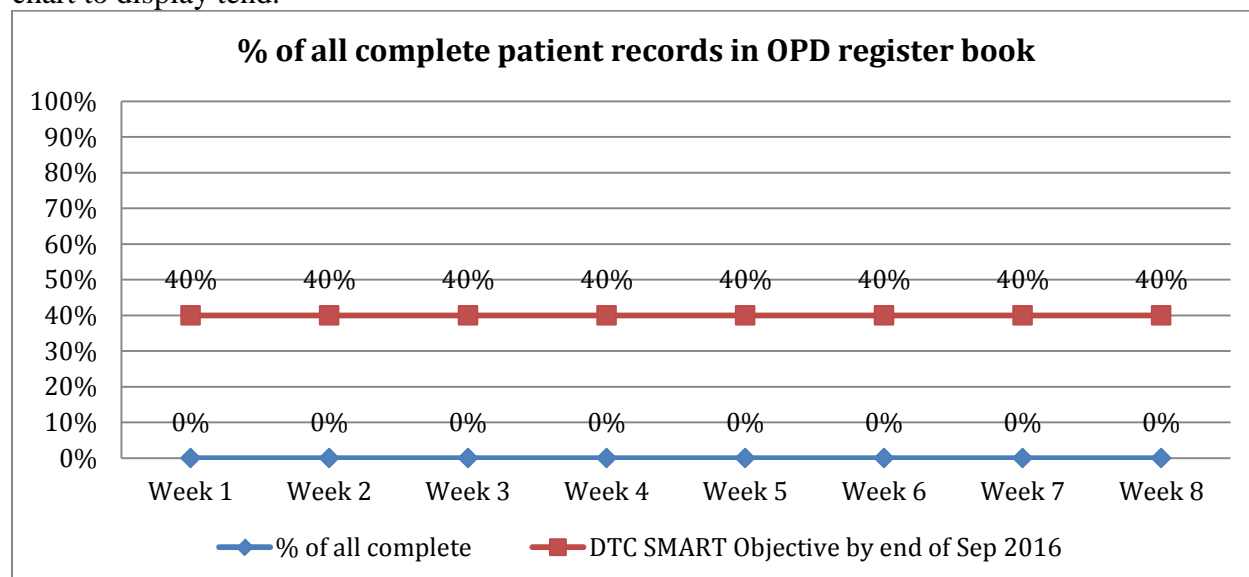
Graph 4: Shows the results of three indicators of RMU assessment performed on July 12, 2016:

- Percentage of patients with at least one antibiotic prescribed
- STG adherence for not prescribing antibiotics when not recommended (*for AWD and CC*) (TV=100%)
- General NSTG adherence at Ibn-Sina Emergency hospital (TV=100%)



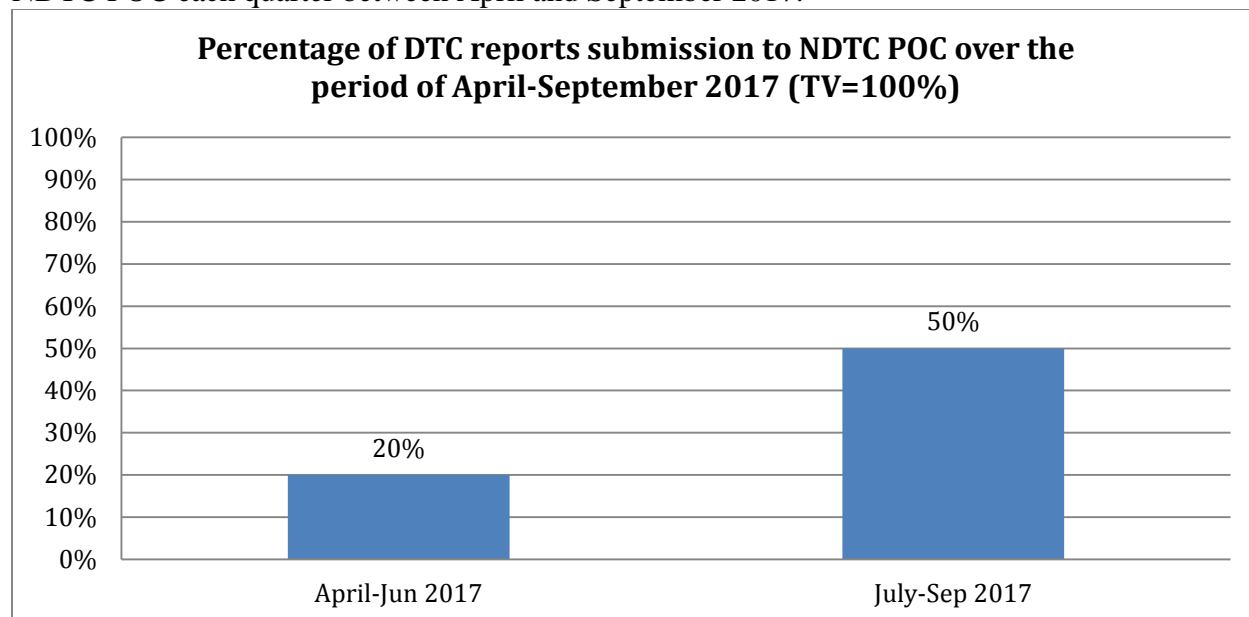
Patient encounter and treatment data recording in the OPD register book:

Graph 5: Shows percentage of complete recording of encounter and treatment data in the OPD register book over that period August-October 2016 and is illustrated through the below line chart to display trend.



7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 through September 2017:

Graph 6: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April and September 2017.



8) Priority focus areas recommended by SPS for NDTC POCs:

POC needs to provide strong support to this DTC particularly on:

- Ensuring that monitoring of recording complete encounter and treatment data in the OPD register book is performed
- Supporting DTC members in performing RMU assessments
- Ensure that all trainees have NSTG-PL and use it in the OPD

Ensure that DTC assessments are implemented on timely manner i.e. (RMU, IMAT) and submitted on time to POC

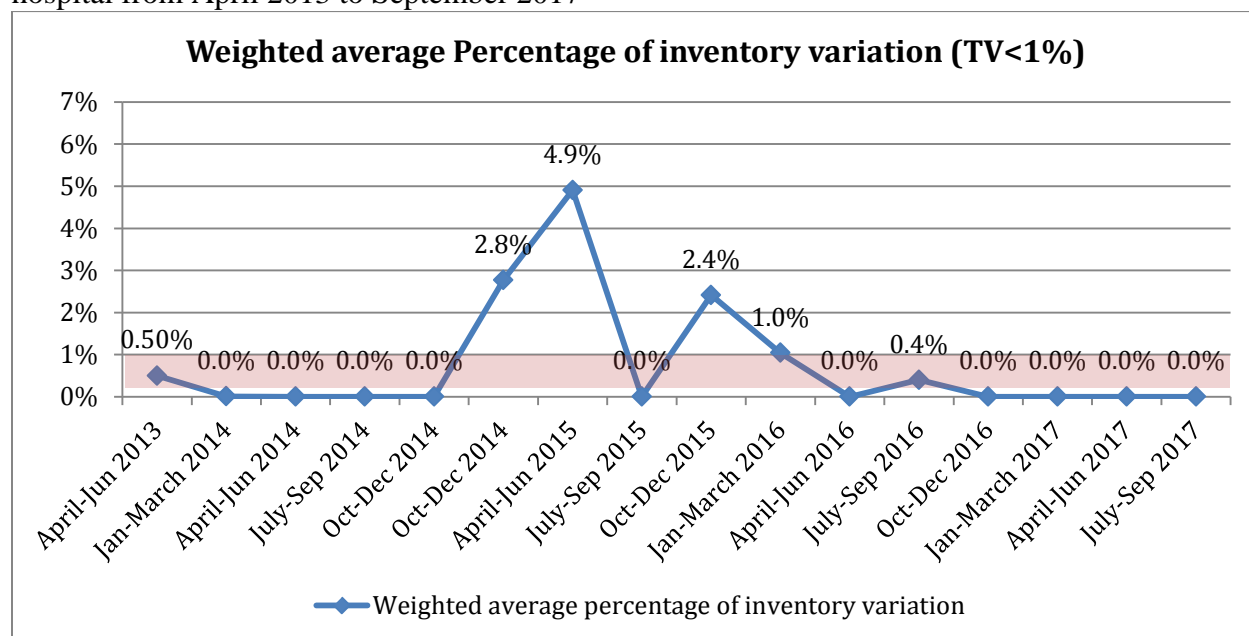
Ensure that weekly monitoring of recording in OPD register book and on RMU weak indicators are performed on regular basis as per their 6 months improvement cycle action plans.

IGICH DTC (National/Specialized Hospital)

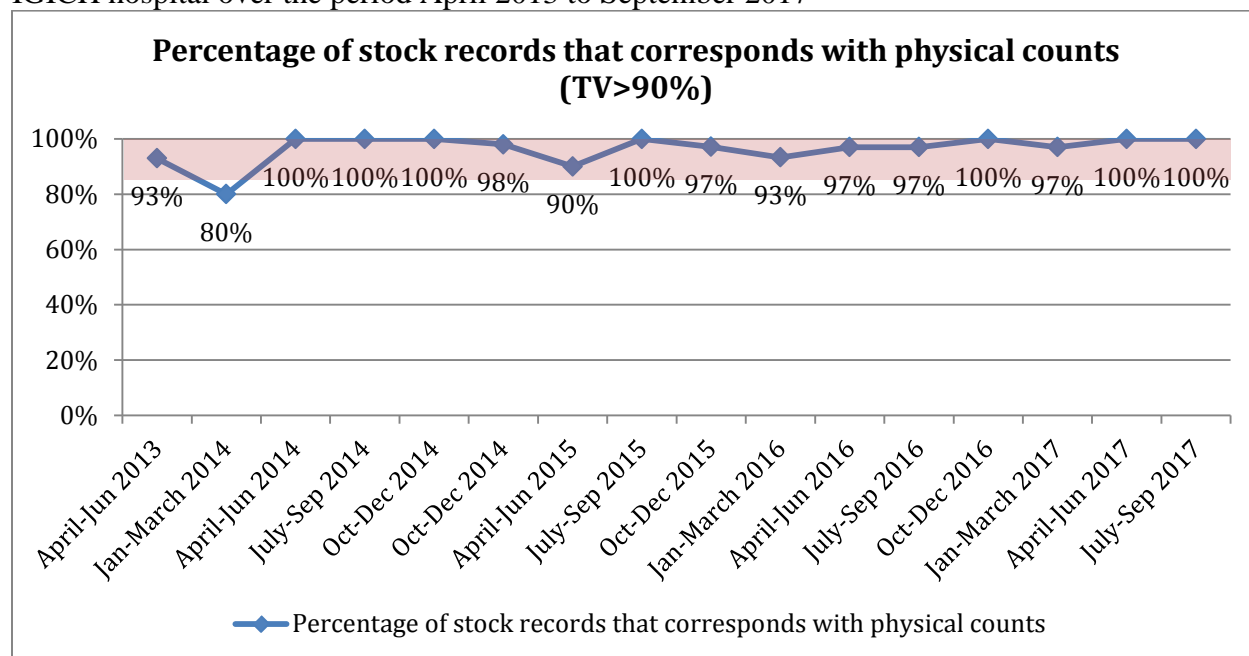
- 1) Time period of SPS technical support to DTC: SPS technical support to IGICH Hospital started in October 2011 and ended in October 2017 (totally 73 months)
- 2) Number of DTC monthly meetings documented held during the period January 2014 through October 2017: 40 DTC monthly meetings
- 3) Number of DTC monthly meetings attended by SPS representative during that period: 38 DTC monthly meetings
- 4) Date of last revised ToR: April 2, 2017
- 5) Specific activities undertaken by DTC:
 - Development of Pediatrics Hospital Treatment Protocols (First Edition), printed in 2015 and distributed for use in the IPD wards.
 - Development and update (May 2017) of hospital formulary list (approved by GDPS, printed and distributed in September 2017 to hospital staff for use)
 - Monitoring adherence to formulary list is performed by DTC (82% of FL is aligned with Essential Medicine List).
 - Development of DTC 3 years' action plan for period 2015- March 2018 for the purpose of improving rational medicine use and pharmacy supply management.
- 6) Status report of routine DTC assessments based on available data:

IMAT assessments in pharmacy

Graph 1: IMAT shows the Weighted Average Percentage of Inventory Variation in IGICH hospital from April 2013 to September 2017

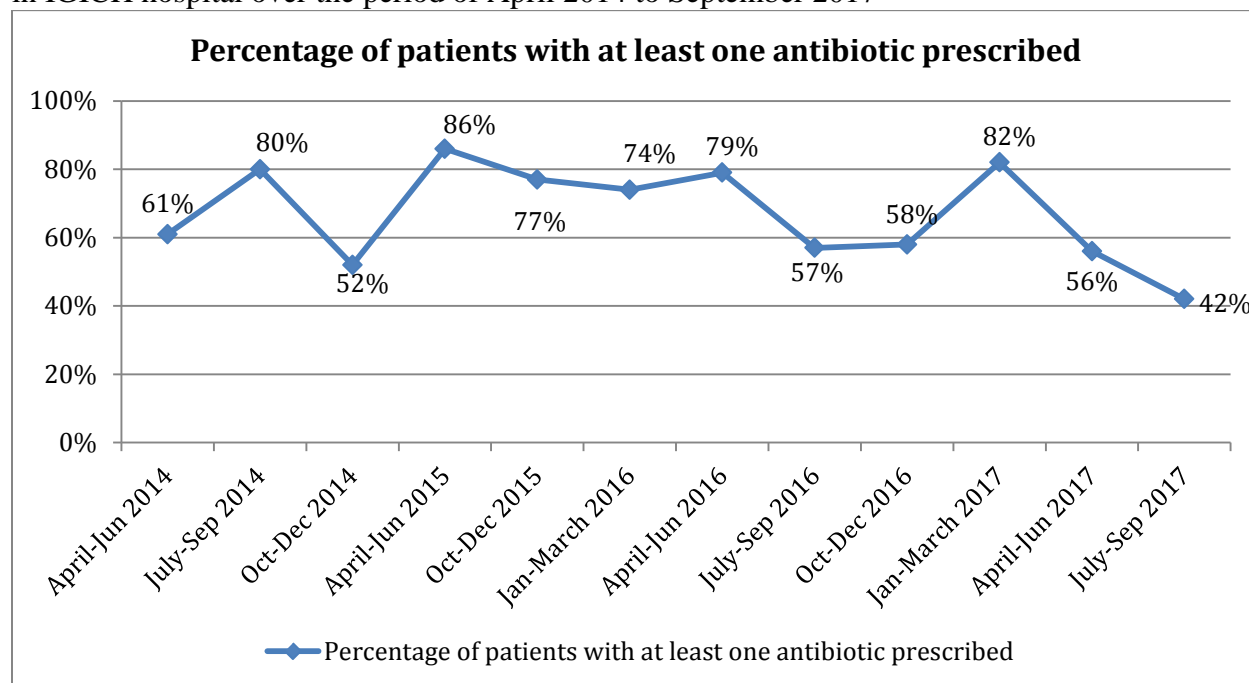


Graph 2: IMAT shows Percentage of stock records that corresponds with physical counts in IGICH hospital over the period April 2013 to September 2017

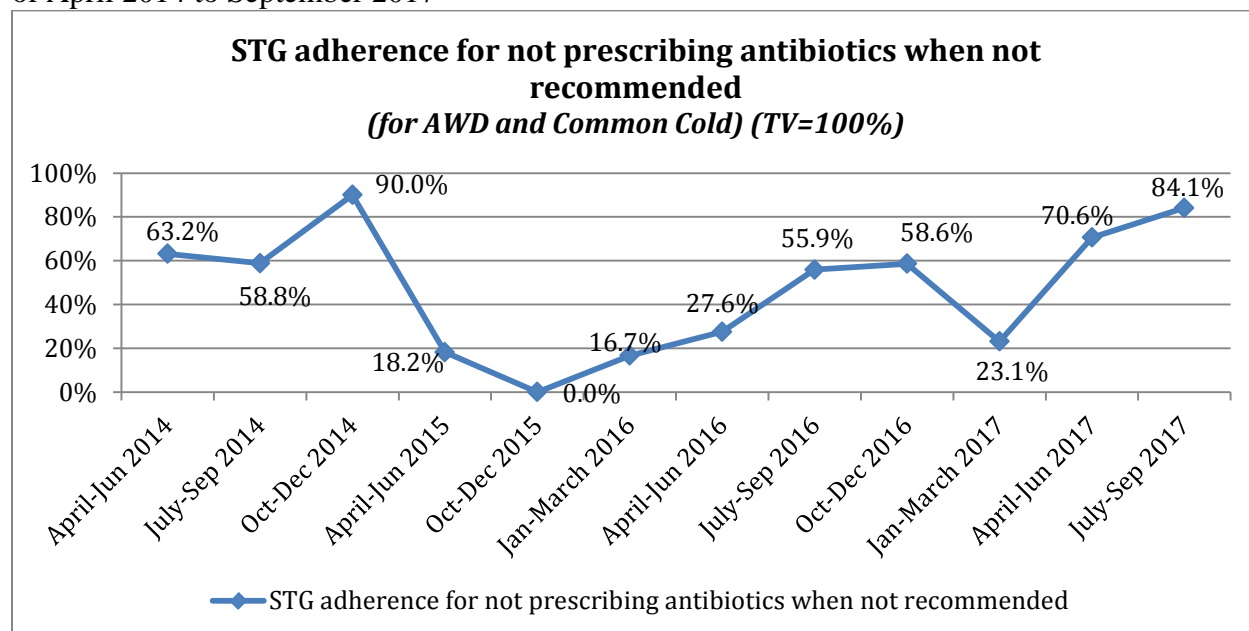


Rational Medicine Use in IGICH hospital: Trends of the results of three RMU weak indicators in IGICH hospital illustrated below through line chart to display the trend.

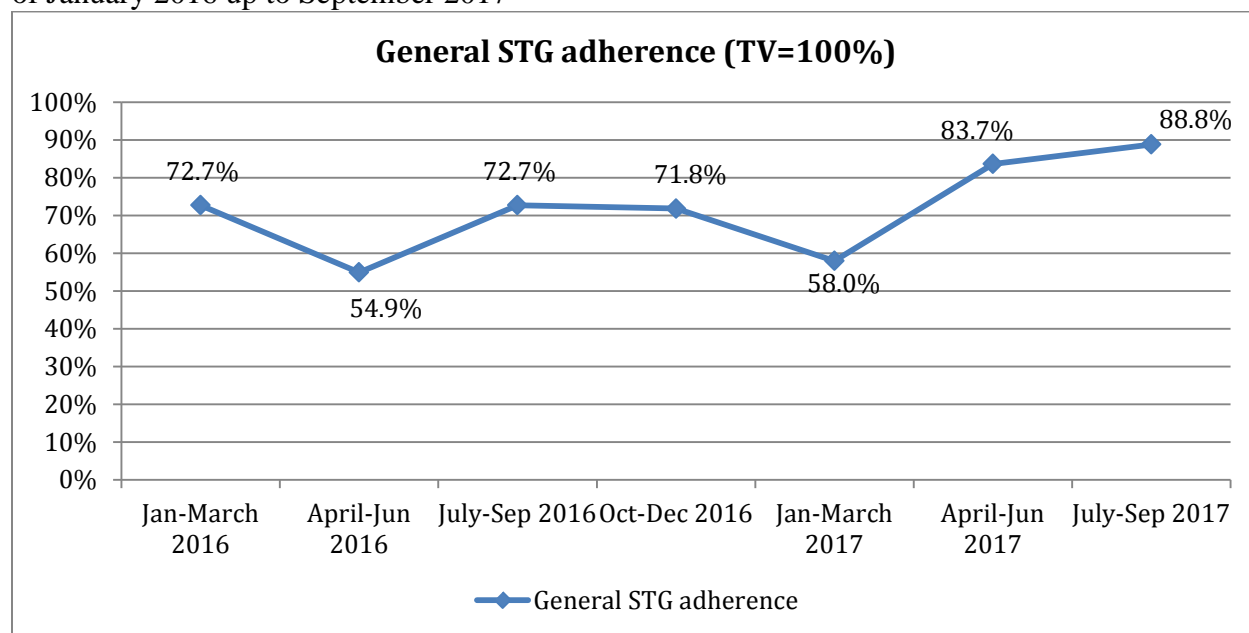
Graph 3: RMU assessment shows percentage of patients with at least one antibiotic prescribed in IGICH hospital over the period of April 2014 to September 2017



Graph 4: RMU assessment shows STG adherence for not prescribing antibiotics when not recommended (*for Acute Watery Diarrhea and Common Cold*) in IGICH hospital over the period of April 2014 to September 2017

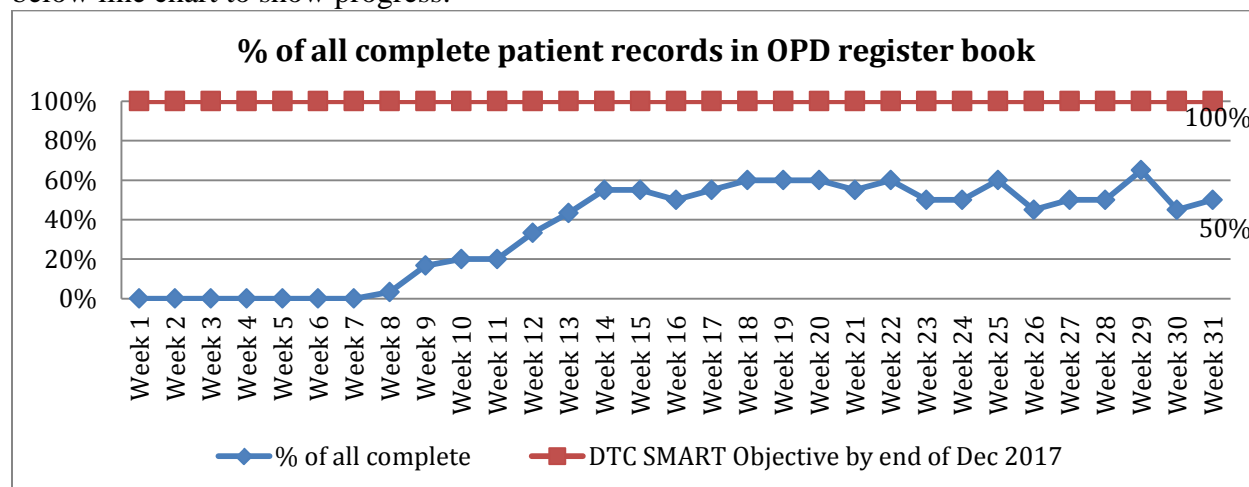


Graph 5: RMU assessment shows General NSTG adherence in IGICH hospital over the period of January 2016 up to September 2017

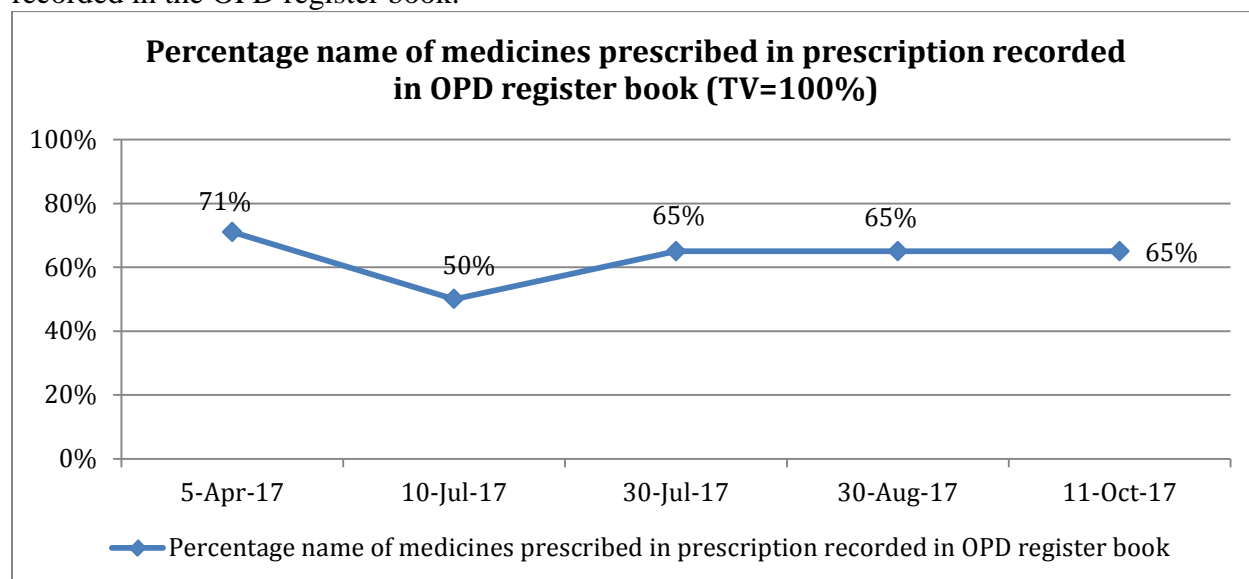


Patient and treatment data recording in the OPD register book: Complete patient encounter and treatment data recording in the OPD register book was continuously monitored through weekly monitoring to be an accurate source for RMU assessment.

Graph 6: Shows percentage of complete recording of encounter and treatment data in the OPD register book over the period of August 2016 through October 2017 and is illustrated through the below line chart to show progress.

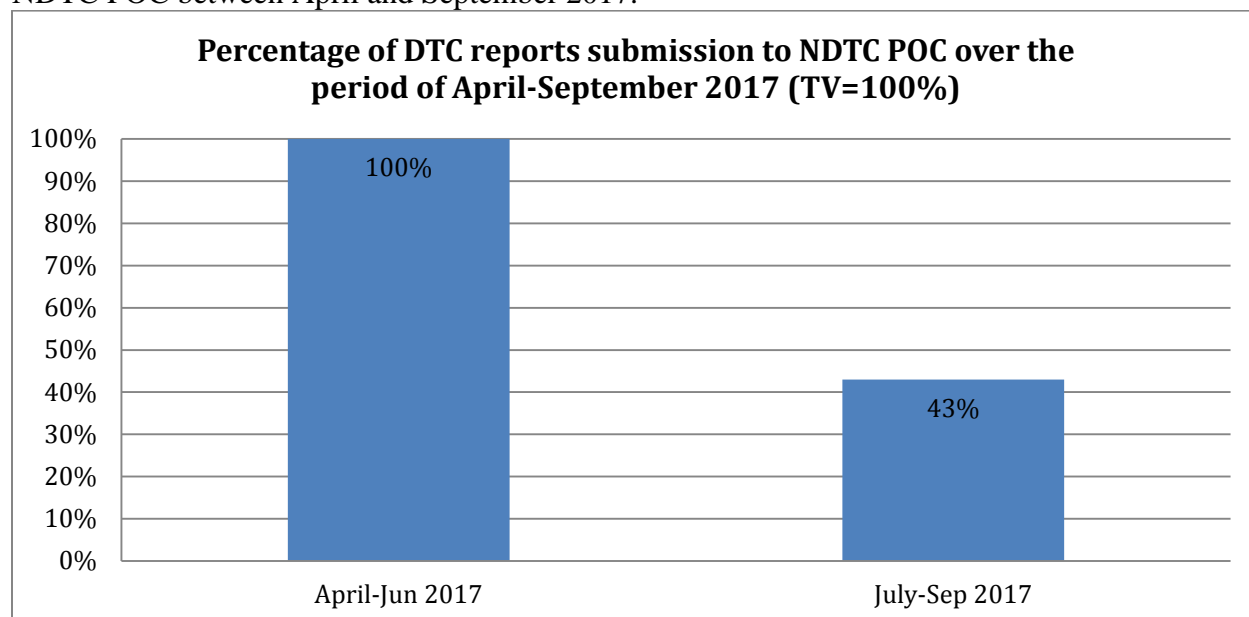


Graph 7: Show the percentage of number/name of medicines from prescriptions that are recorded in the OPD register book.



7) Submission status of DTC deliverables to NDTC POC by DTC April to September 2017:

Graph 8: Shows the percentage of DTC activities reports that have been submitted by DTC to NDTC POC between April and September 2017.



8) Priority focus areas recommended by SPS for NDTC POCs:

- Recording complete patient encounter and treatment data in the OPD register book
- Sustain complete reporting system of DTC activities to NDTC POCs
- Strengthening monitoring system by DTC members according to DTC activities delegation sheet
- Build capacity of the OPD clinicians in rational treatment of Acute Watery Diarrhea and Acute Respiratory Infection through adherence to STGs and through regular orientation sessions by their chief of wards
- Continuous monitoring by NDTC POCs of the systematic use of NSTG-PL by OPD clinicians
- Rational medicines quantification through proper use of pharmacy stock datasheet and updates of Quantification Spread Sheet on quarterly basis.

Istiqlal DTC (National/Specialized Hospital)

November 2017

1) Time period of SPS technical support to DTC:

- SPS provided a limited support to DTC from April 2012 to December 2013
- Full SPS support was provided from January 2014 to October 2016 (total 34 months)

Note: during the period November 2014 through July 2015 this DTC was also supported by SPS through HPMC.

2) Number of DTC monthly meetings held during that period: 30 DTC monthly meetings

3) Number of DTC monthly meetings attended by SPS representative during that period: 28 DTC monthly meetings

4) Date of last revised ToR: March 29, 2017

5) Specific activities undertaken by DTC:

Development of hospital Formulary List (Edition October 2013) and update (Second edition May 2017) which has been approved by GDPS, printed and the updated version has been recently distributed to the hospital staff for use)

Regular monitoring of adherence to hospital FL is performed.

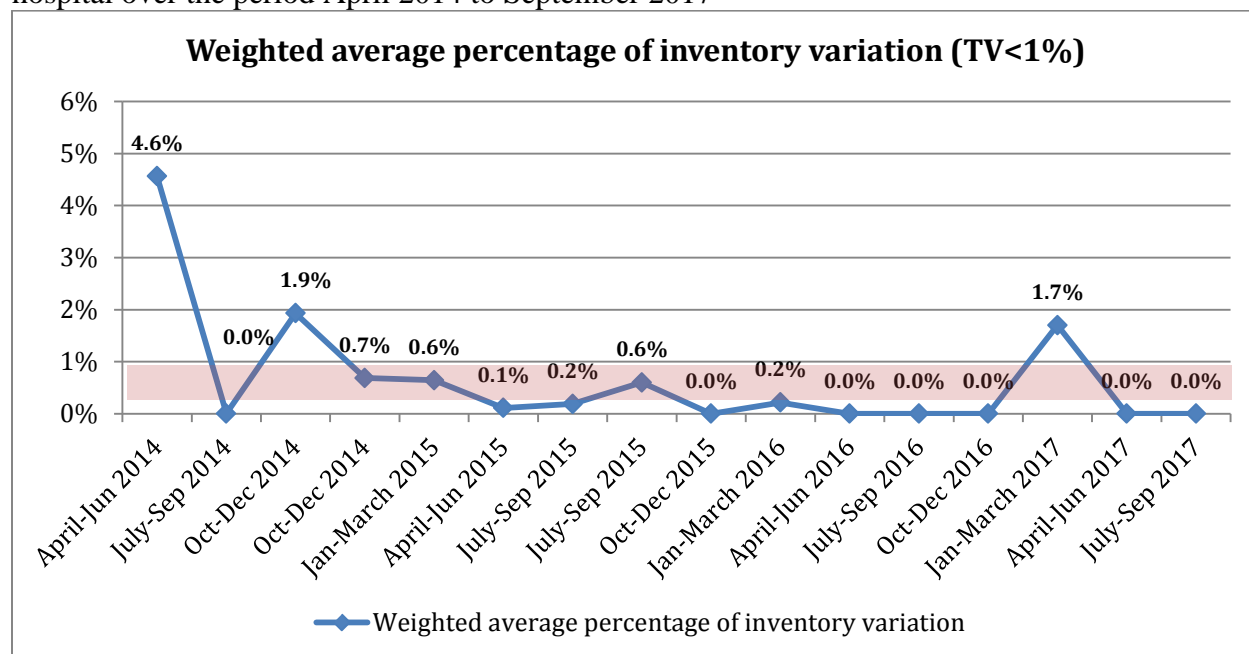
Root cause Analysis on gaps in pharmaceutical supply management and rational medicine use performed in October 2015 followed by the development of a three years DTC action plan for the period December 2015- December 2018

Introduction of Pharmacy stock datasheet for preparing annual need of medicines through the use of quantification spreadsheet

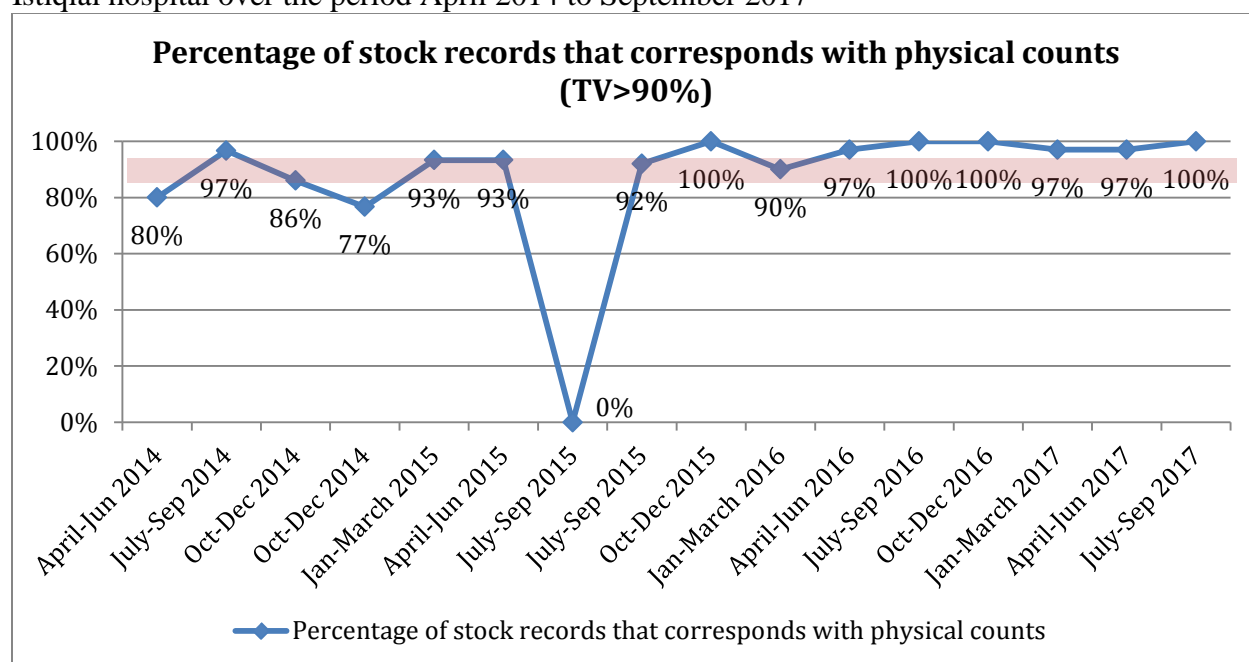
6) Status report of routine DTC assessments based on available data:

IMAT assessments in pharmacy

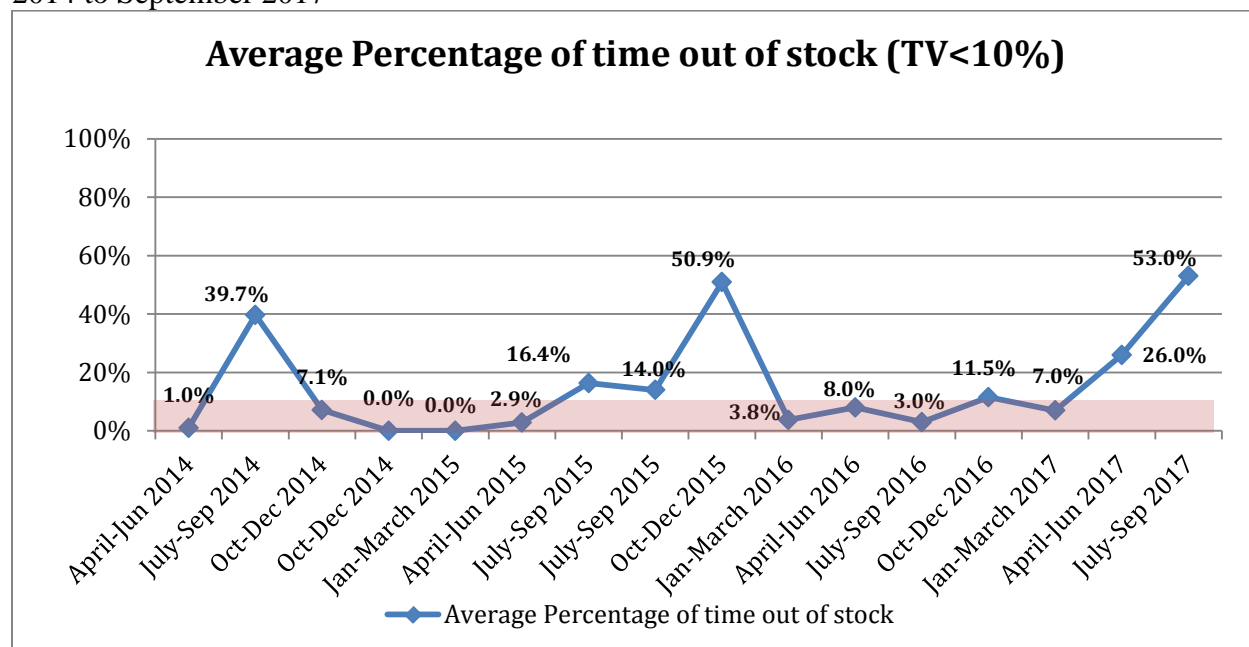
Graph 1: IMAT shows the Weighted Average Percentage of Inventory Variation in Istiqlal hospital over the period April 2014 to September 2017



Graph 2: IMAT shows Percentage of stock records that corresponds with physical counts in Istiqlal hospital over the period April 2014 to September 2017

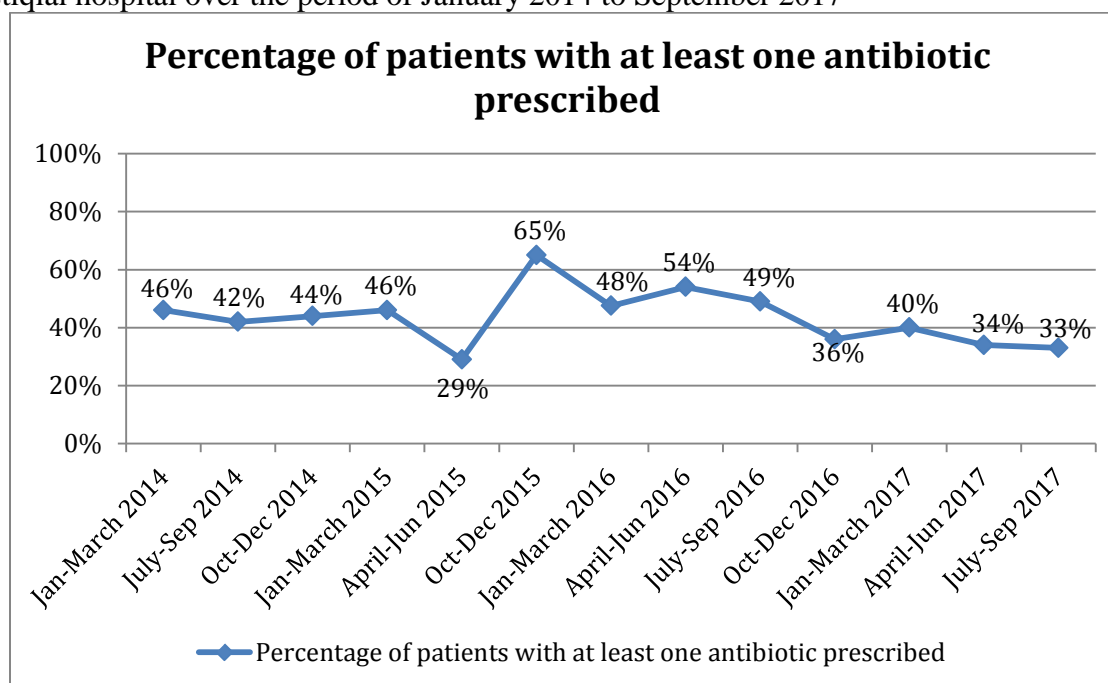


Graph 3: IMAT shows Average Percentage of Time Out of Stock in Istiqlal hospital from April 2014 to September 2017

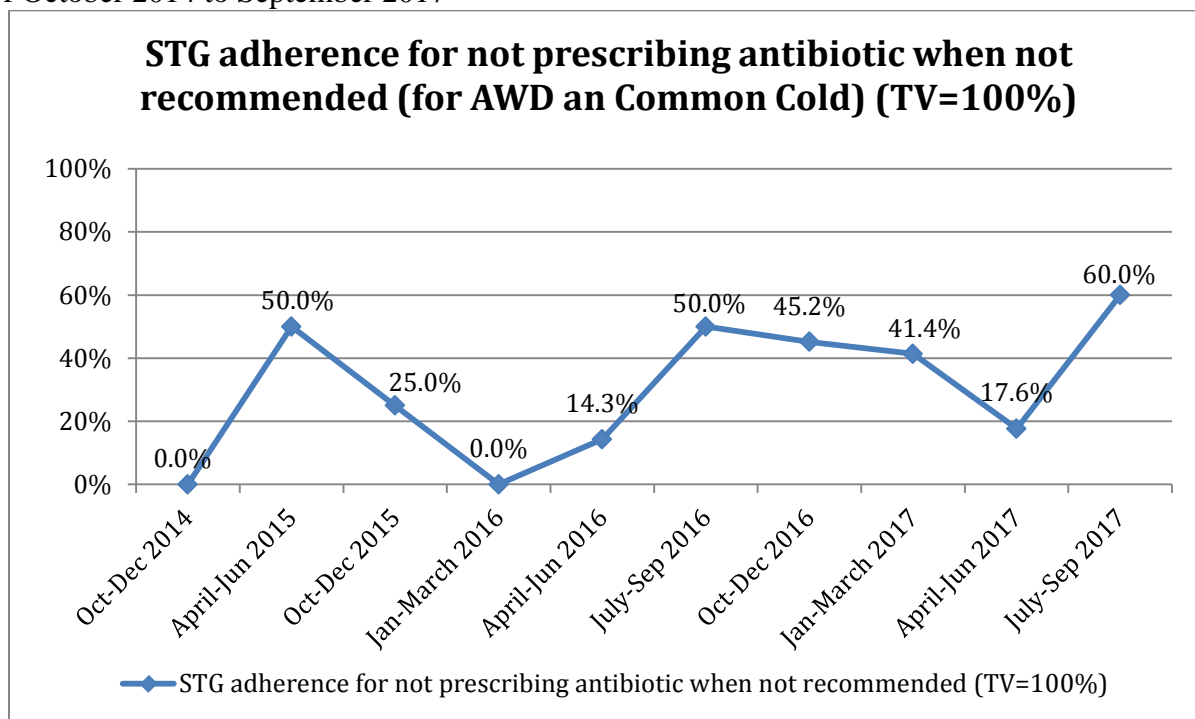


Rational Medicine Use in Istiqlal hospital: Istiqlal hospital DTC is using the generic RMU assessment tool (i.e., AWD, simple ARI, any diarrhea and pneumonia)

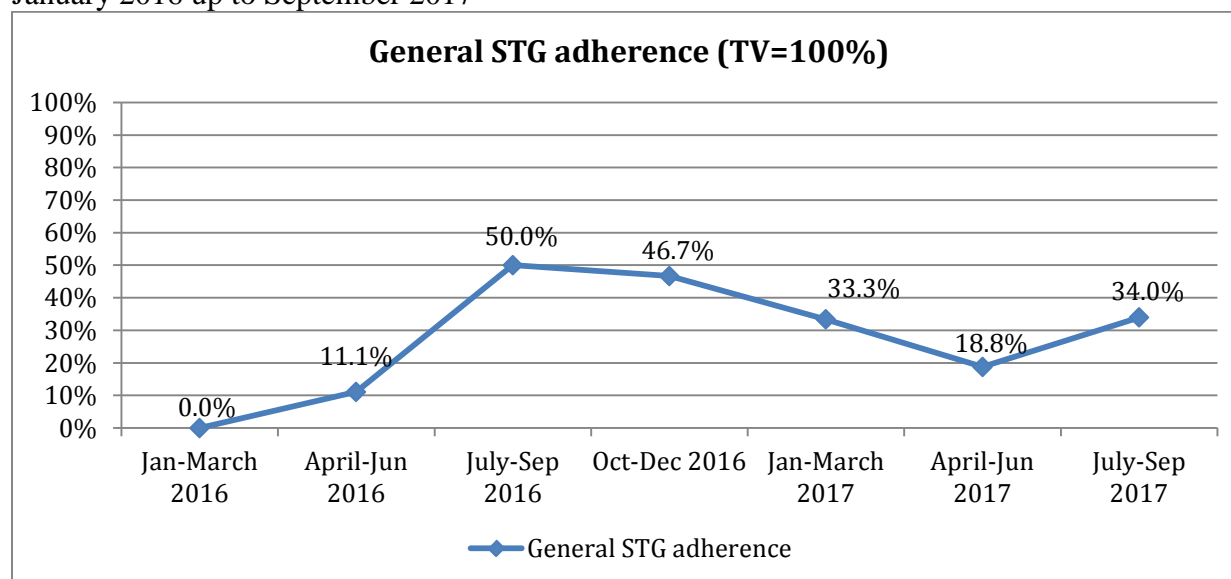
Graph 4: RMU assessment shows percentage of patients with at least one antibiotic prescribed in Istiqlal hospital over the period of January 2014 to September 2017



Graph 5: RMU assessment shows STG adherence for not prescribing antibiotics when not recommended (for Acute Watery Diarrhea and Common Cold) in Istiqlal hospital over the period of October 2014 to September 2017

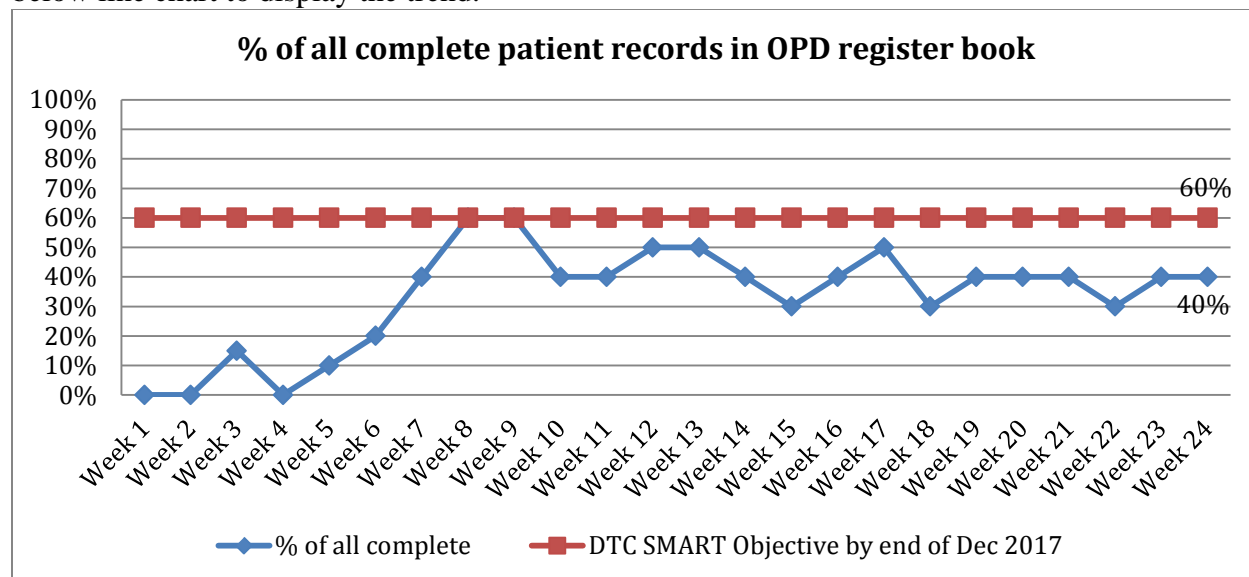


Graph 6: RMU assessment shows General NSTG adherence in Istiqlal hospital over the period January 2016 up to September 2017

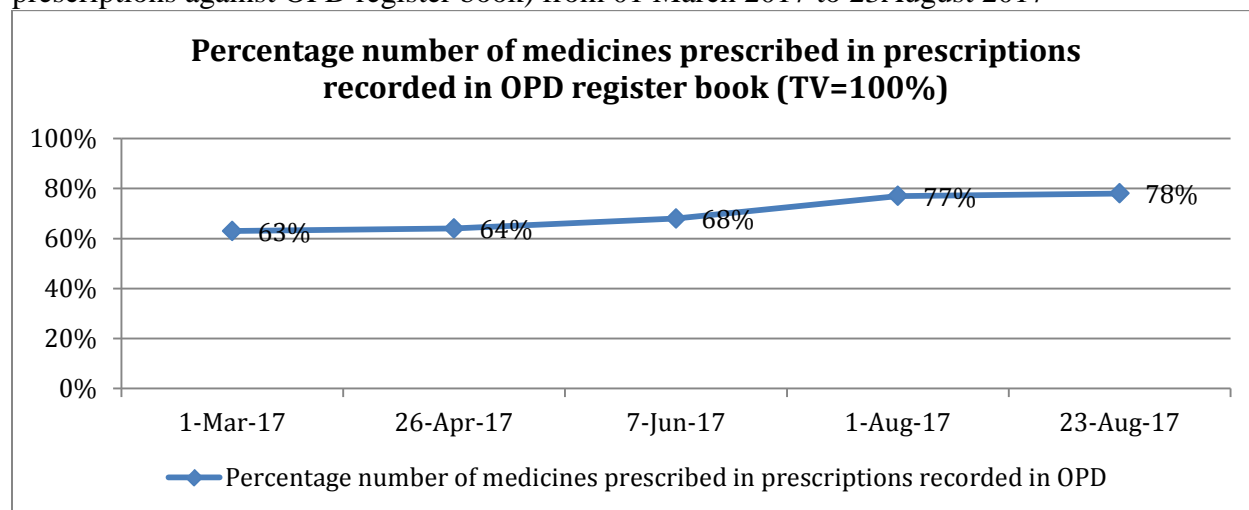


Patient encounter and treatment data recording in the OPD register book:

Graph 7: Shows percentage of complete recording of encounter and treatment data in the OPD register book over that period 20 July 2016- 20 September 2017 and is illustrated through the below line chart to display the trend.

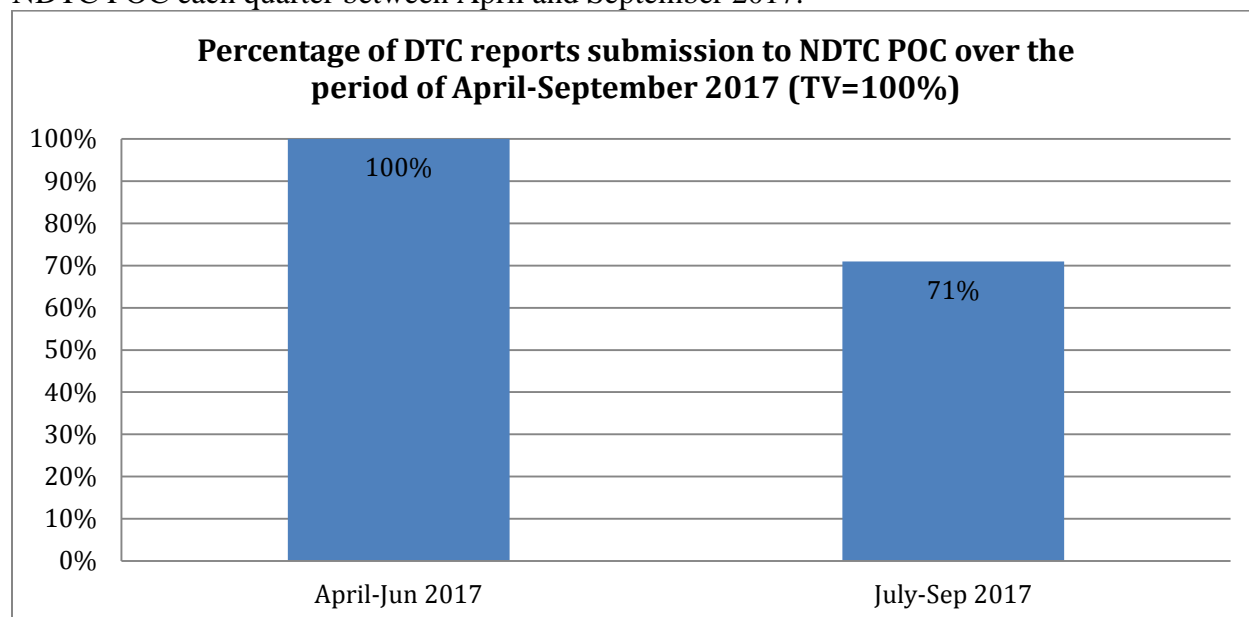


Graph 8: Shows the percentage of number/names of medicines from prescriptions that are recorded in the OPD register book (investigated through bi-weekly cross-checking of prescriptions against OPD register book) from 01 March 2017 to 23 August 2017



7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 through September 2017:

Graph 9: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April and September 2017.



8) Priority focus areas recommended by SPS for NDTC POCs:

Improving NSTG adherence in OPD is a real issue at Istiqlal hospital: to promote re-training OPD clinicians by hospital trainers on, particularly, proper treatment of AWD and CC according to the NSTG-PL

POCs to ensure the availability of NSTG-PL with OPD clinicians and its use.

A staff in charge of IPD dispensary (and responsible for filling out the dispensary stock datasheet) must be assigned at Istiqlal hospital.

Updating and sending quantification spread sheet to NDTC POCs on regular quarter basis

Improving recording complete encounter and treatment data in the OPD register book through regular weekly monitoring

POC to ensure that DTC activities delegation sheet is closely followed by DTC chairman and hospital director.

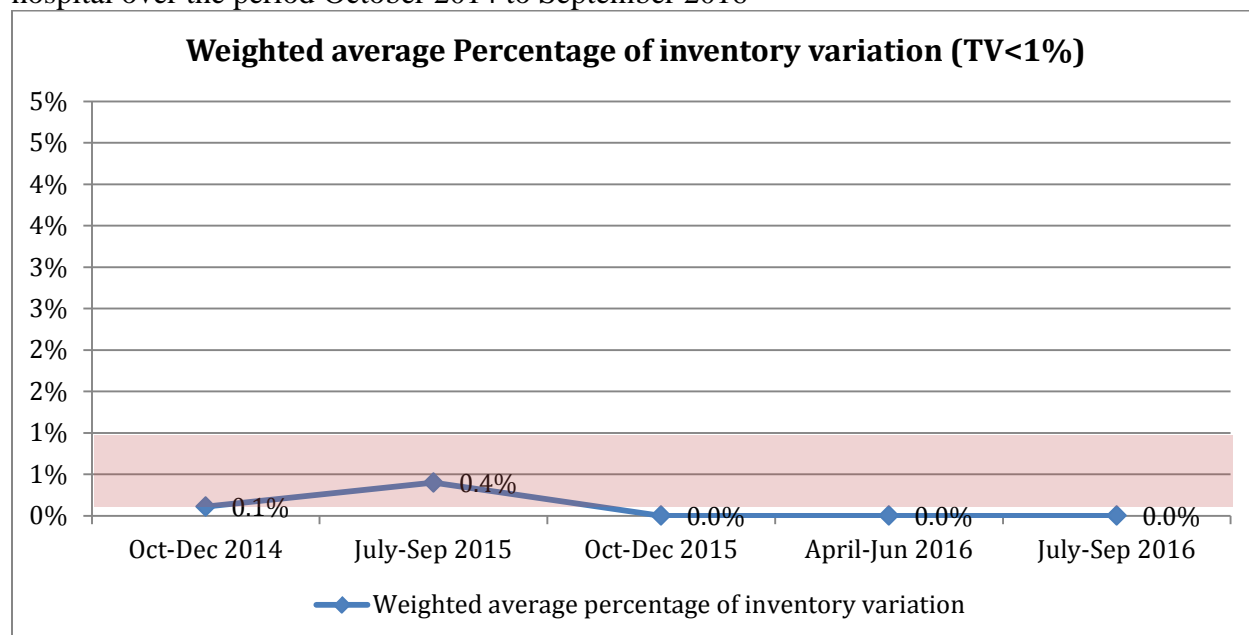
Jamhoryat DTC (National/Specialized Hospital)

November 2017

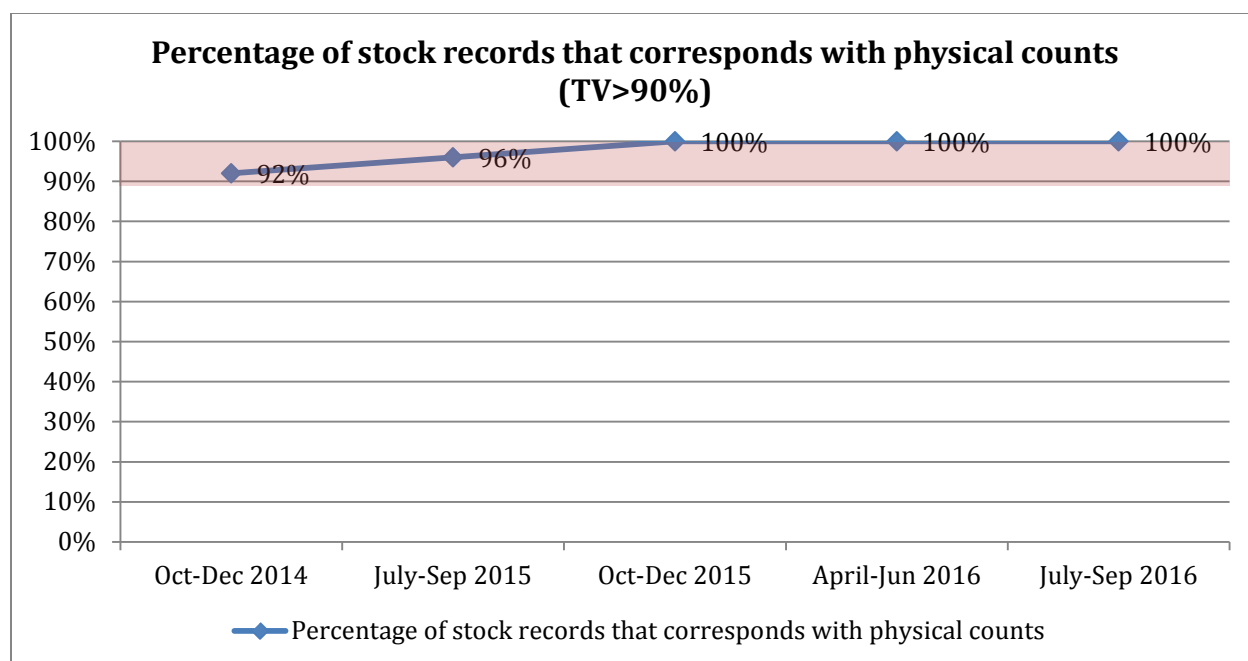
- 1) Time period of SPS technical support to DTC:
SPS support in Pharmaceutical Supply Management to Jamhoryat Hospital by HPMC:
October 2014 to September 2015
Direct and full SPS support to DTC: From October 2015 to October 2016 (totally 13 months)
- 2) Number of DTC monthly meetings held during that period: 9 DTC monthly meetings
- 3) Number of DTC monthly meetings attended by SPS representative during that period: 9 DTC monthly meetings
- 4) Date of last revised ToR: January 18, 2016
- 5) Specific activities undertaken by DTC:
Data investigation in IPD and OPD register books show that data of diagnosis and treatment are not recorded in OPD register books, and treatment data are not recorded in IPD
FL is not developed for this hospital
- 6) Status report of routine DTC assessments based on available data:

IMAT assessment in Pharmacy

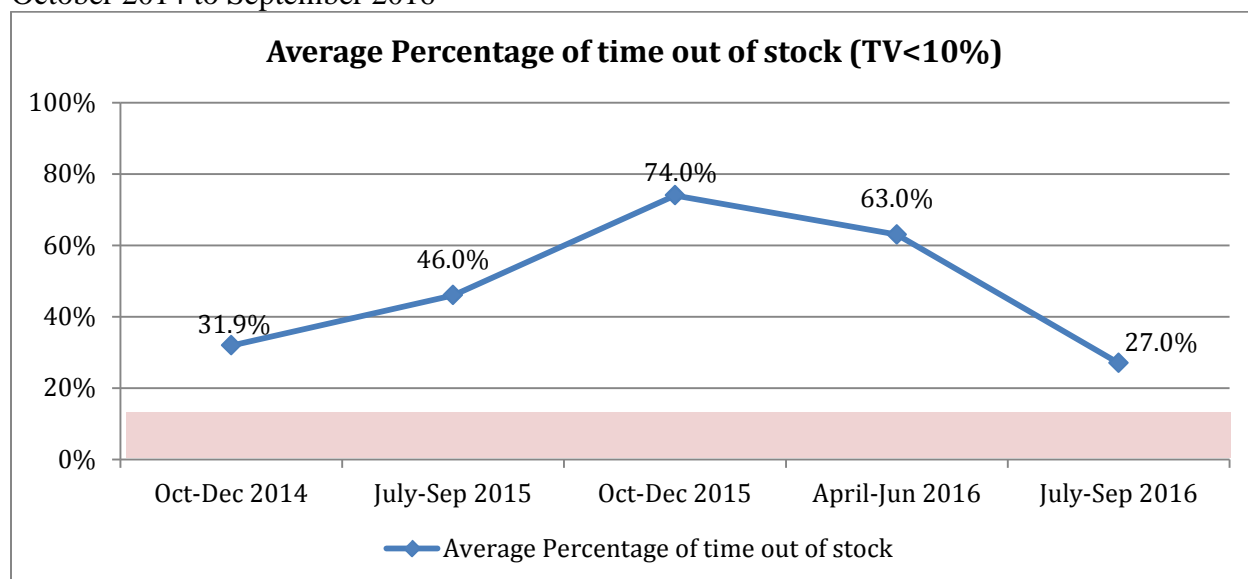
Graph 1: IMAT shows the Weighted Average Percentage of Inventory Variation in Jamhoryat hospital over the period October 2014 to September 2016



Graph 2: IMAT shows Percentage of stock records that corresponds with physical counts in Jamhoryat hospital over the period October 2014 to September 2016



Graph 3: IMAT shows Average Percentage of Time Out of Stock in Jamhoryat hospital from October 2014 to September 2016



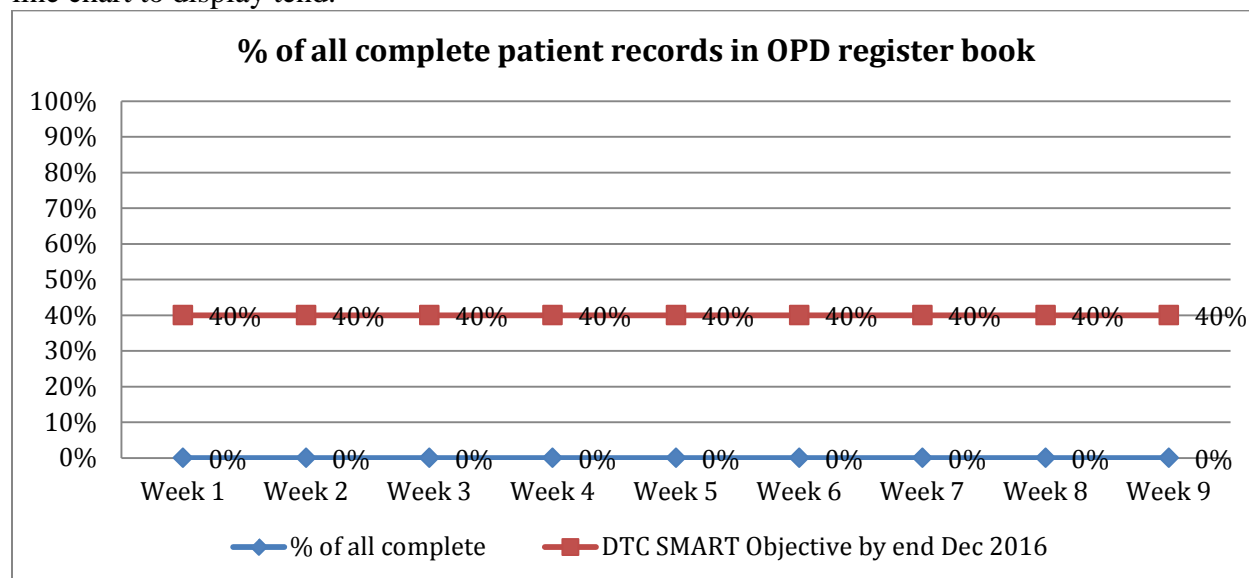
Rational Medicine Use in Jamhoryat hospital:

RMU assessment has not been performed in Jamhoryat hospital due to unavailability of data of patient encounter and treatment in the OPD register books.

According to the data investigation of IPD and OPD patient and treatment records in Jamhoryat hospital performed on April 17-26, 2016, it was showed that 0% of treatment data in prescriptions are recorded in the OPD register book: this situation does not allow to perform RMU assessment in this hospital

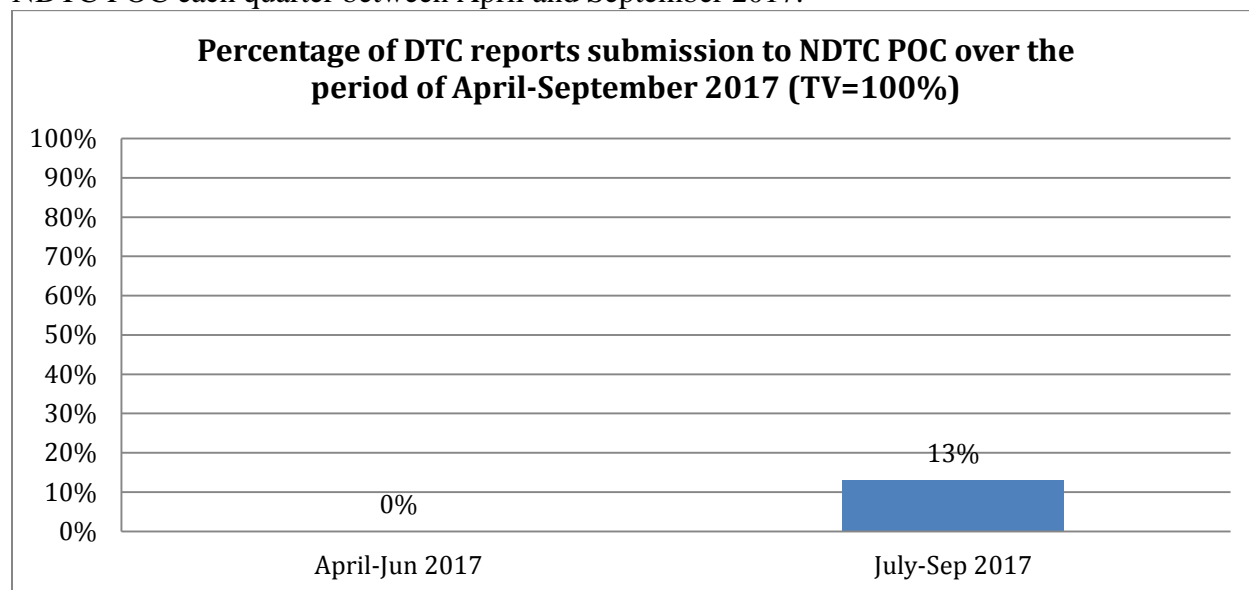
Patient and treatment data recording in the OPD register book:

Graph 4: Shows percentage of complete recording of encounter and treatment data in the OPD register book over the period 06 August- 16 October 2016 and is illustrated through the below line chart to display trend.



7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 through September 2017:

Graph 5: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April and September 2017.



8) Priority focus areas recommended by SPS for NDTC POCs:

POC needs to provide strong support to this DTC particularly on:

- Ensuring that monitoring of recording complete encounter and treatment data in the OPD register book is performed and progresses in recording treatment and encounter data in OPD register books are seen allowing to perform RMU assessment
- Supporting/training DTC members in performing RMU assessment
- Ensure that all trainees have NSTG-PL and use it in the OPD

NDTC POCs to ensure that DTC activities are delegated to all DTC members and hospital director seriously follows up the implementation of this delegation sheet

Sustain reporting system of all DTC activities by DTC to NDTC POCs

Updating QSS on regular quarterly basis and send to NDTC POCs

NDTC POCs regular visit to this DTC and attendance in each monthly DTC meeting.

Malalai DTC (National/Specialized Hospital)

November 2017

1) Time period of SPS technical support to DTC:

SPS support to DTC started with limited support from April 2012 through December 2013. Direct full support to DTC was provided from January 2014 to Oct 31, 2016 (totally 34 months)

NOTE: SPS support in Pharmaceutical Supply Management to Malalai Hospital by HPMC: October 2014 to October 2015

2) Number of DTC monthly meetings held during the full SPS support period: 24 DTC monthly meetings

3) Number of DTC monthly meetings attended by SPS representative during that period: 24 DTC monthly meetings

4) Date of last revised ToR: May 23, 2016

5) Specific activities undertaken by DTC:

Development of hospital formulary list in April 2013 and update of FL (edition July 2016) (which has been approved by GDPS, printed and distributed to the hospital staff for use)

Monitoring of adherence to FL is performed by DTC.

Adaptation of the RMU assessment to specific conditions commonly seen in OPD i.e., a) recommended no prescription of antibiotics in anemia and Post-partum patients with normal delivery. b) recommended prescription of iron folate in Post-partum patients and anemia patients c) recommended prescription of antibiotic in bacterial vaginitis d) recommended prescription of oral contraceptive in ovary cyst patients.

Development of job aid for proper treatment of patients after Post-partum with normal delivery

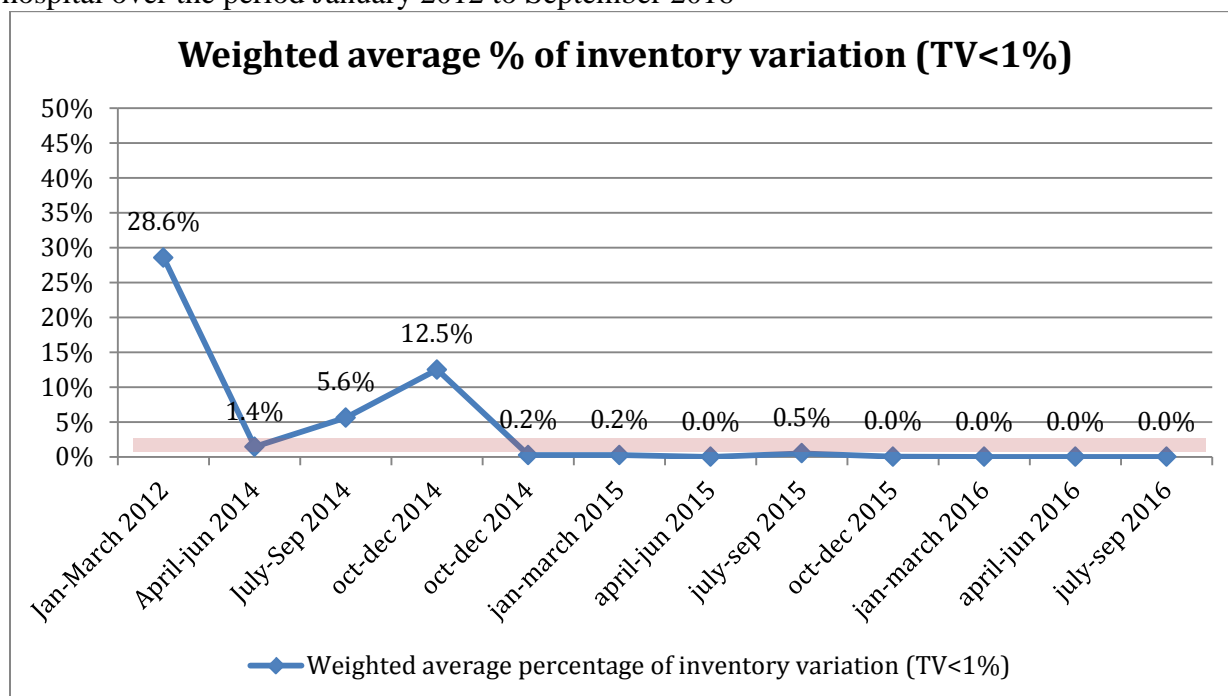
Development of protocol for use of Misoprostol (in 2015)

Root Cause Analysis on gaps in Pharmaceutical Supply Management and Rational Medicine use with development of a DTC three years action plan for the period December 2015-December 2018

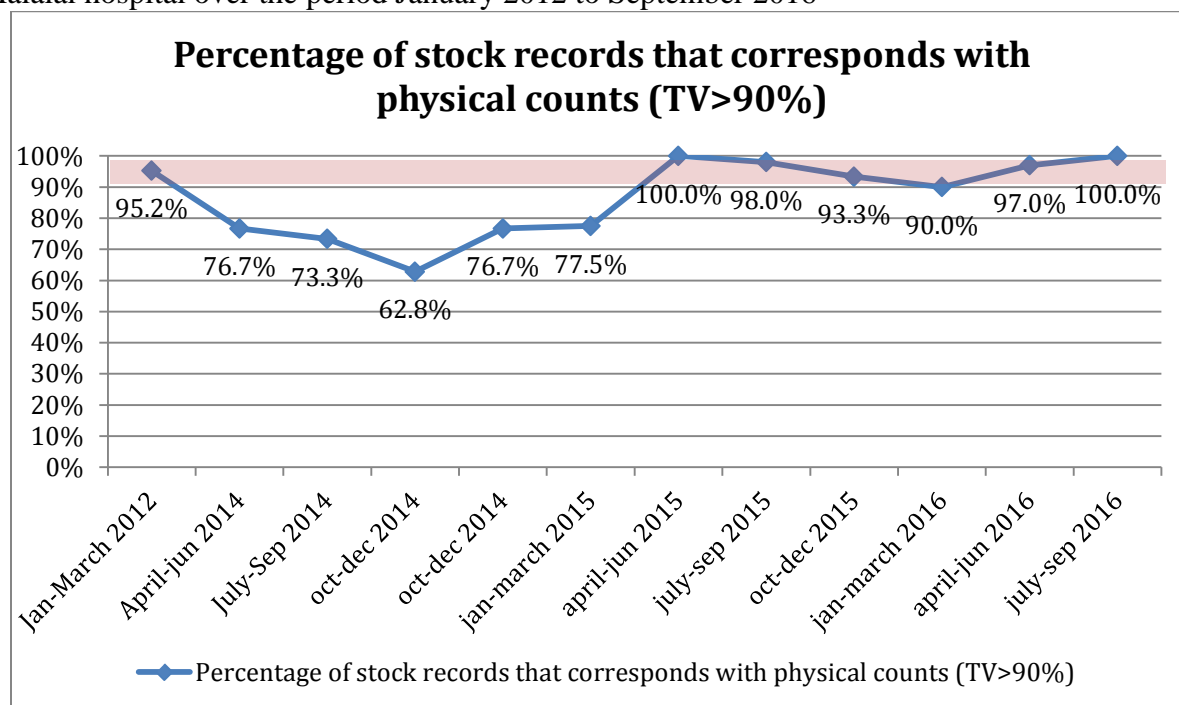
6) Status report of routine DTC assessments based on available data:

IMAT assessment in Pharmacy

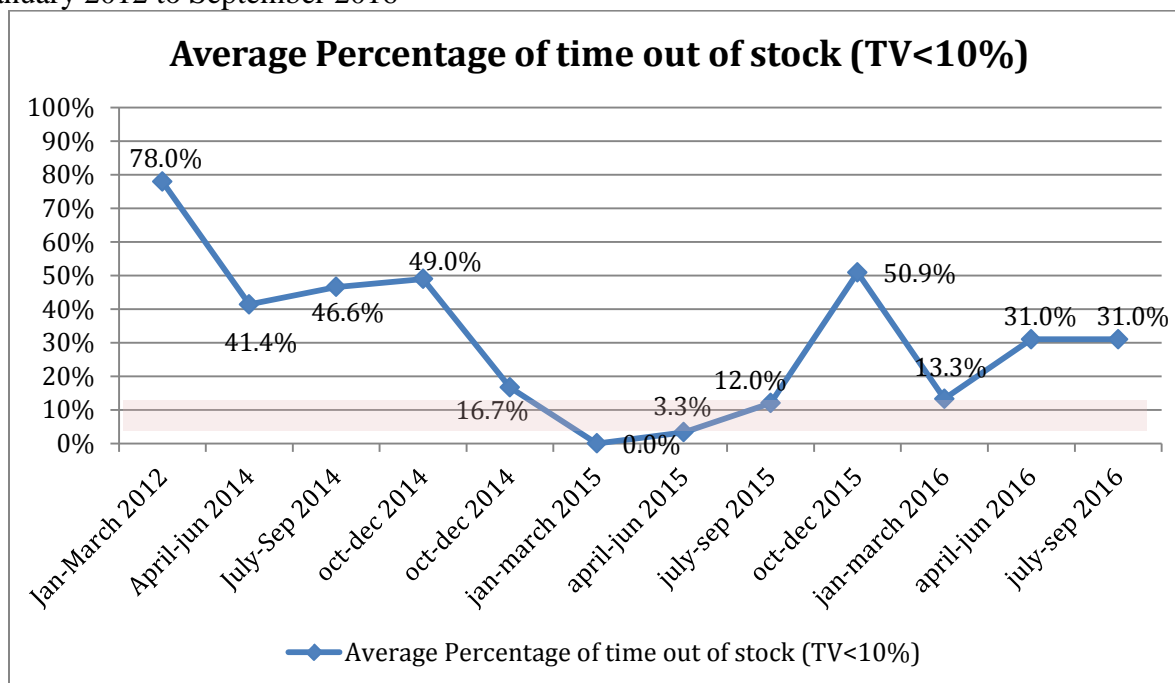
Graph 1: IMAT shows the Weighted Average Percentage of Inventory Variation in Malalai hospital over the period January 2012 to September 2016



Graph 2: IMAT shows Percentage of stock records that corresponds with physical counts in Malalai hospital over the period January 2012 to September 2016



Graph 3: IMAT shows Average Percentage of Time Out of Stock in Malalai hospital from January 2012 to September 2016



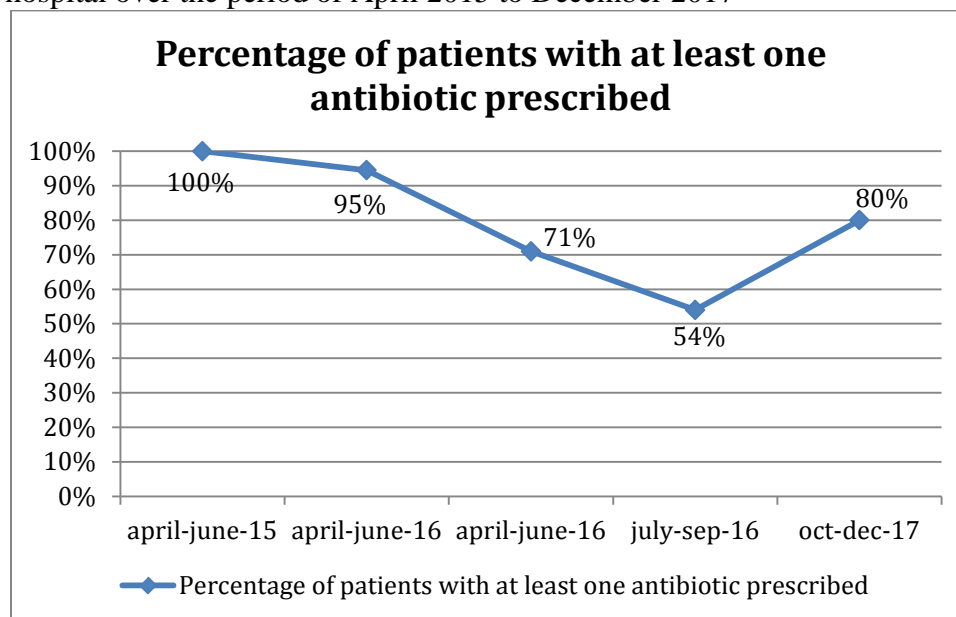
Rational Medicine Use in Malalai hospital:

Trends of some RMU weak indicators over the period April 2015 to December 2017 in Malalai hospital are illustrated below through line charts to display trends over time.

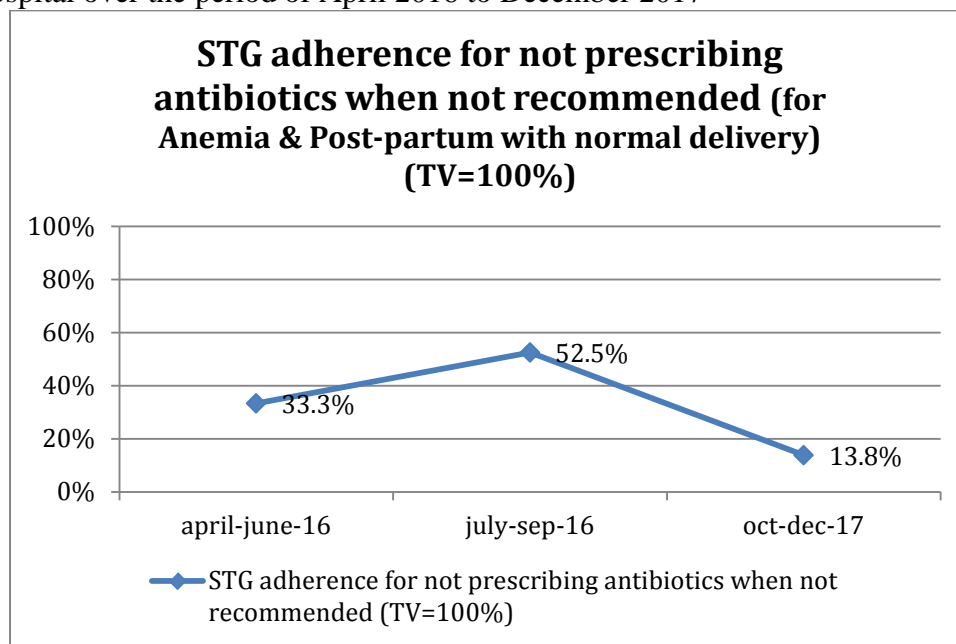
Note: Last quarter “October-Dec 2017” RMU assessment has been performed by DTC alone.

Results are included in the 3 below graphs

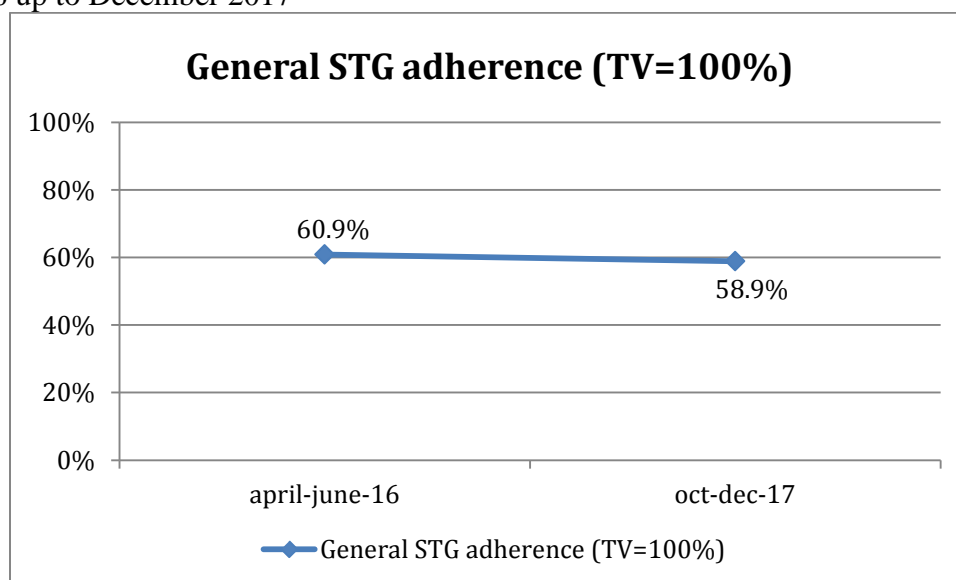
Graph 4: RMU assessment shows percentage of patients with at least one antibiotic prescribed in Malalai hospital over the period of April 2015 to December 2017



Graph 5: RMU assessment shows STG adherence for not prescribing antibiotics when not recommended (for Anemia in pregnant women and Post-partum with Normal Delivery) in Malalai hospital over the period of April 2016 to December 2017

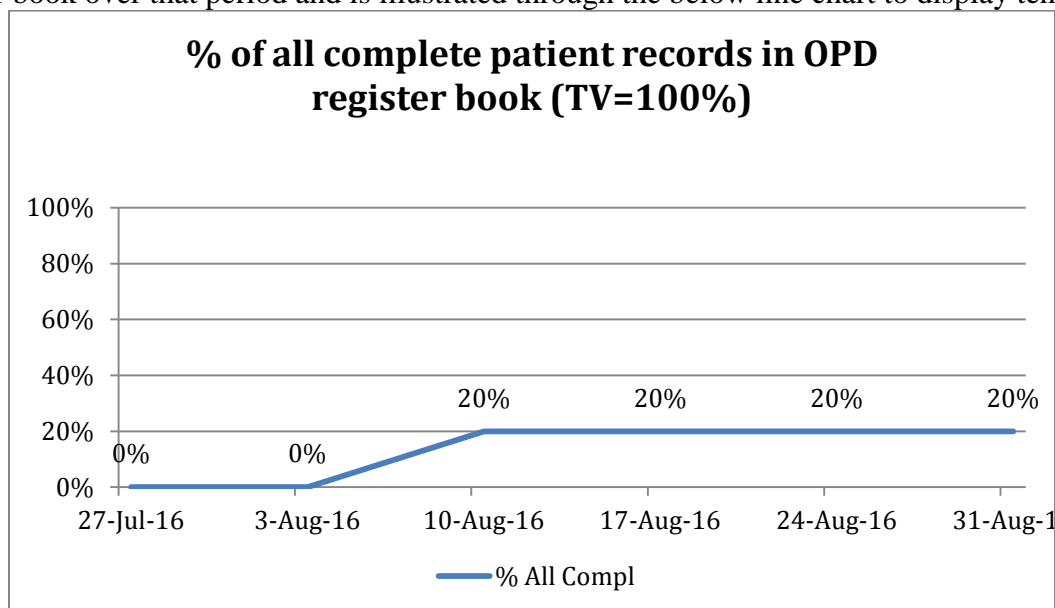


Graph 6: RMU assessment shows General NSTG adherence in Malalai hospital over the period April 2016 up to December 2017



Patient and treatment data recording in the OPD register book: Complete encounter and treatment data recording in the OPD register book was followed through weekly monitoring over the period of 27 July 2016 through 31 August 2016 (5 weeks).

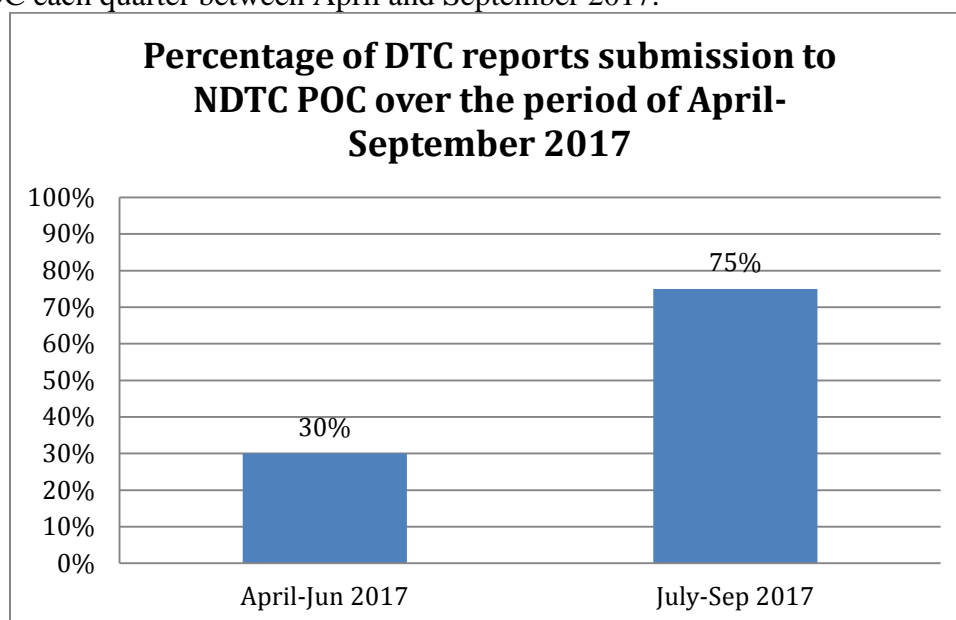
Graph 7: Shows percentage of complete recording of encounter and treatment data in the OPD register book over that period and is illustrated through the below line chart to display trends.



The cross-checking of number of medicines from prescriptions that are recorded in the OPD register book has not been performed in Malalai Hospital.

7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 through September 2017:

Graph 9: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April and September 2017.



8) Priority focus areas recommended by SPS for NDTC POCs:

STG adherence for not prescribing antibiotics in Post-partum patients with normal delivery: encourage re-training sessions and use of job-aids on proper treatment of this specific condition, particularly to new medical trainees +++.

Recording complete encounter and treatment data in the OPD register book and cross-checking of number/name of medicines from prescriptions that are recorded in OPD register book

POC should ensure that the DTC activities delegation sheet is followed by DTC chairman and Hospital director

POC should ensure that DTC sends on time all due deliverables

Request DTC to submit updated medicines quantification sheet on quarterly basis

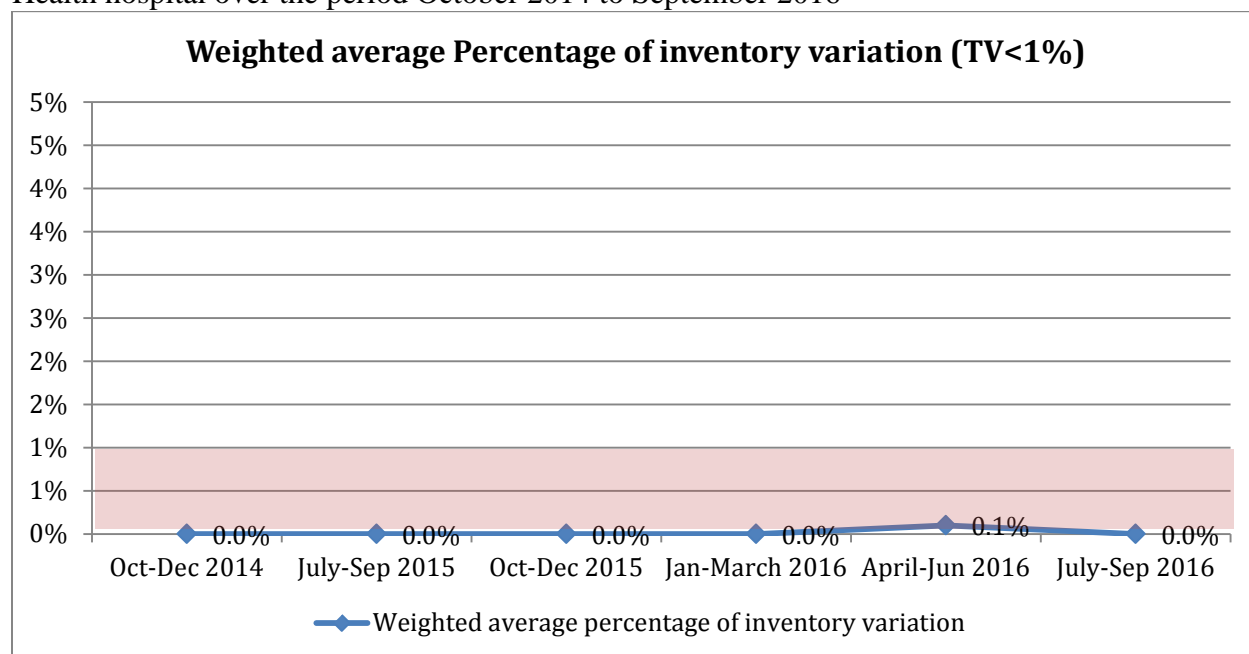
Mental Health DTC (National/Specialized Hospital)

December 2017

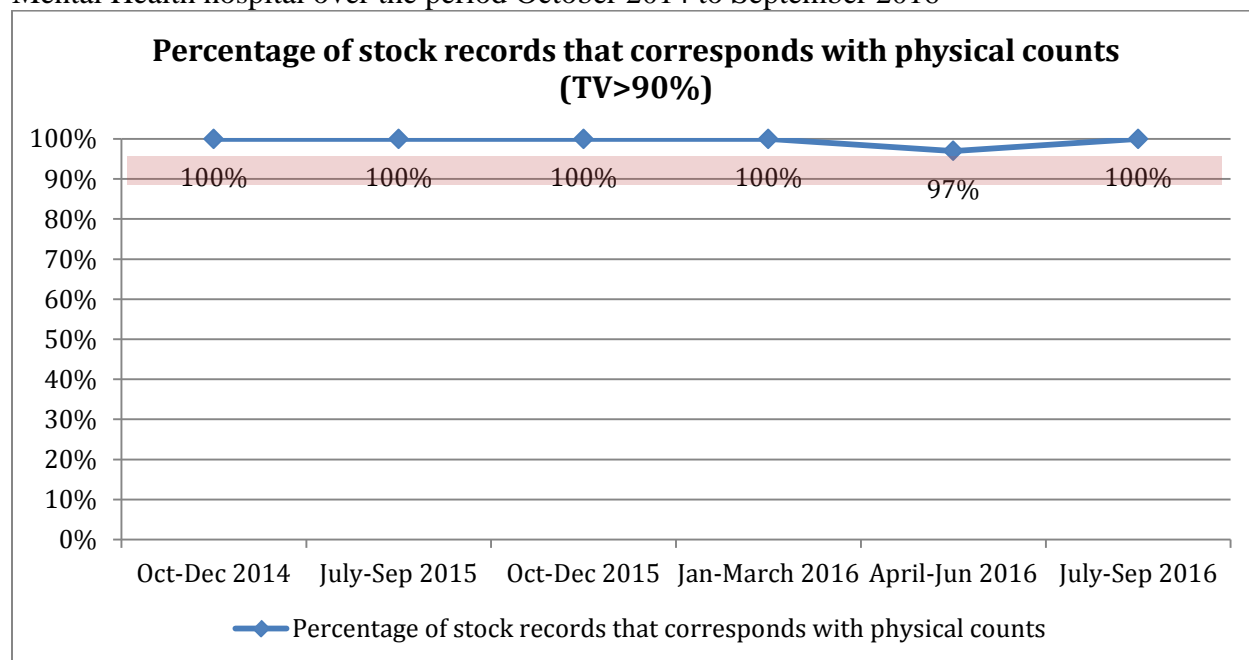
- 1) Time period of SPS technical support to DTC:
SPS support in Pharmaceutical Supply Management to Mental Health Hospital by HPMC:
October 2014 to June 2015
Full SPS support to DTC: From October 2015 to October 2016 (totally 13 months)
- 2) Number of DTC monthly meetings held during that period: 12 DTC monthly meetings
- 3) Number of DTC monthly meetings attended by SPS representative during that period: 12 DTC monthly meetings
- 4) Date of last revised ToR: 05 June 2016
- 5) Specific activities undertaken by DTC:
Development of hospital formulary list (first edition December 2014) updated (second edition February 2016) (which has been approved by GDPS, printed and has been distributed to the hospital staff for use)
Regular monitoring of adherence to FL performed.
Adaptation of the RMU assessment to specific following four health conditions commonly seen in the OPD i.e., “Epilepsy, Mania, Major Depressive Disorder (MDD) and Schizophrenia”.
DTC of Mental health hospitals performed a root cause analysis on one weak RMU indicator “Percentage of weekly monitoring report including at least one diagnosis of mania” (as Mania is not being recorded by OPD clinicians in the OPD register book, although it is a health condition commonly seen in the OPD) with an action plan developed for the period July-December 2016
- 6) Status report of routine DTC assessments based on available data:

IMAT assessment in Pharmacy

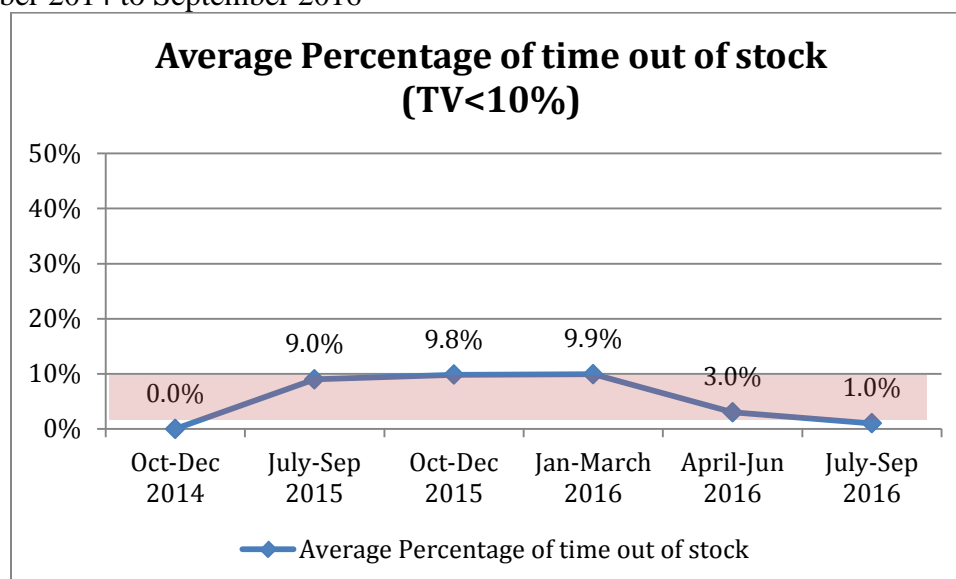
Graph 1: IMAT shows the Weighted Average Percentage of Inventory Variation in Mental Health hospital over the period October 2014 to September 2016



Graph 2: IMAT shows Percentage of stock records that corresponds with physical counts in Mental Health hospital over the period October 2014 to September 2016



Graph 3: IMAT shows Average Percentage of Time Out of Stock in Mental Health hospital from October 2014 to September 2016

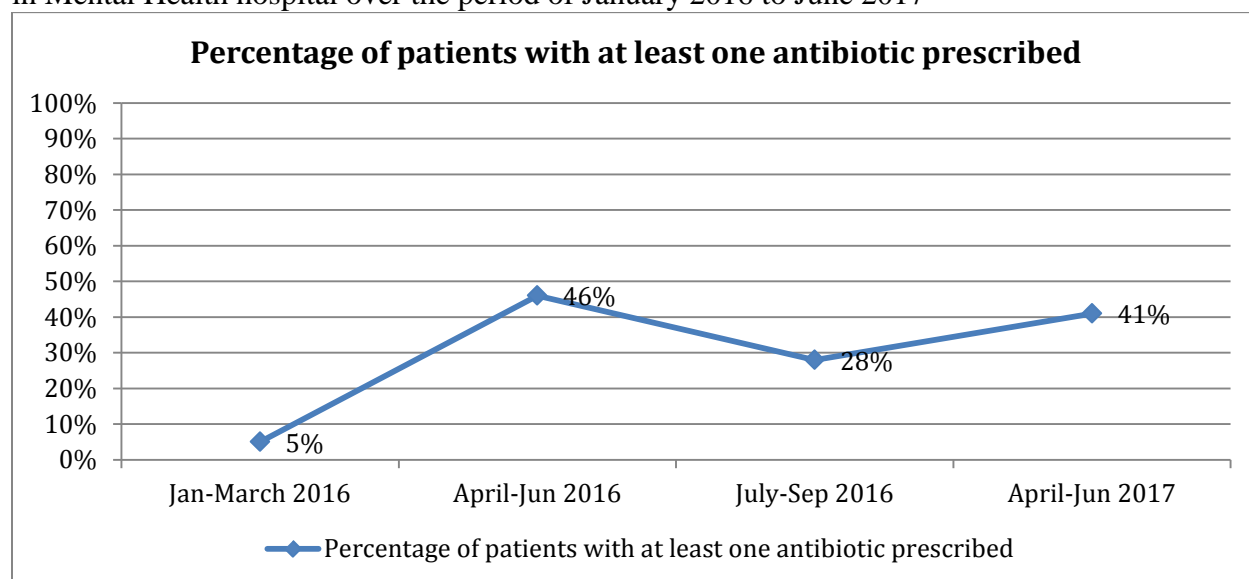


Rational Medicine Use in Mental Health hospital:

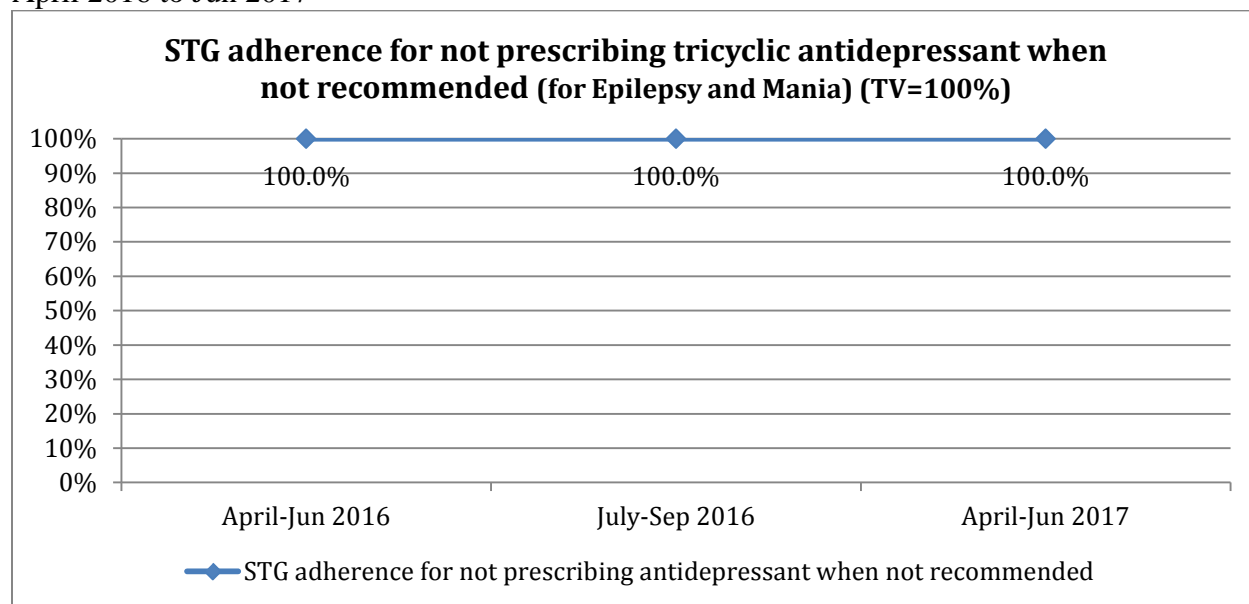
Mental health hospital DTC is monitoring rational medicine use in their hospital OPD through regular RMU assessment. DTC selected four health conditions in May 2016 that includes “Epilepsy, Mania, MDD and Schizophrenia” which are commonly seen in the OPD, and the purpose is to monitor rational prescription by OPD clinicians for the selected health conditions.

Note: Last quarter “April-Jun 2017” RMU assessment has been performed by DTC alone. Results are included in the 3 below graphs

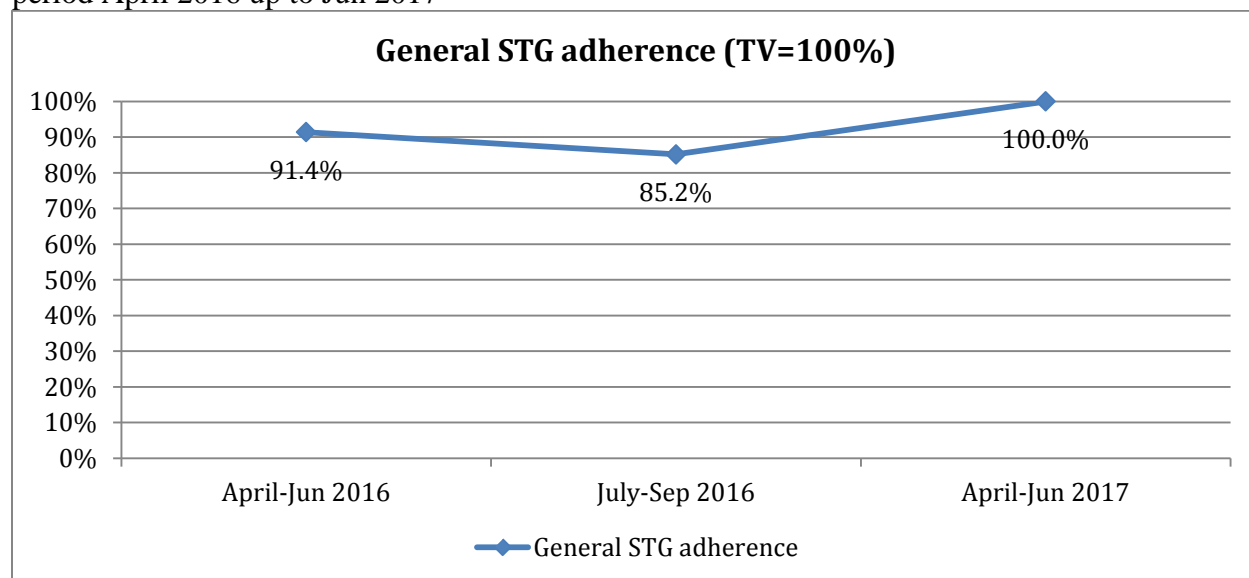
Graph 4: RMU assessment shows percentage of patients with at least one antibiotic prescribed in Mental Health hospital over the period of January 2016 to June 2017



Graph 5: RMU assessment shows STG adherence for not prescribing tricyclic antidepressant when not recommended (for Epilepsy and Mania) in Mental Health hospital over the period of April 2016 to Jun 2017

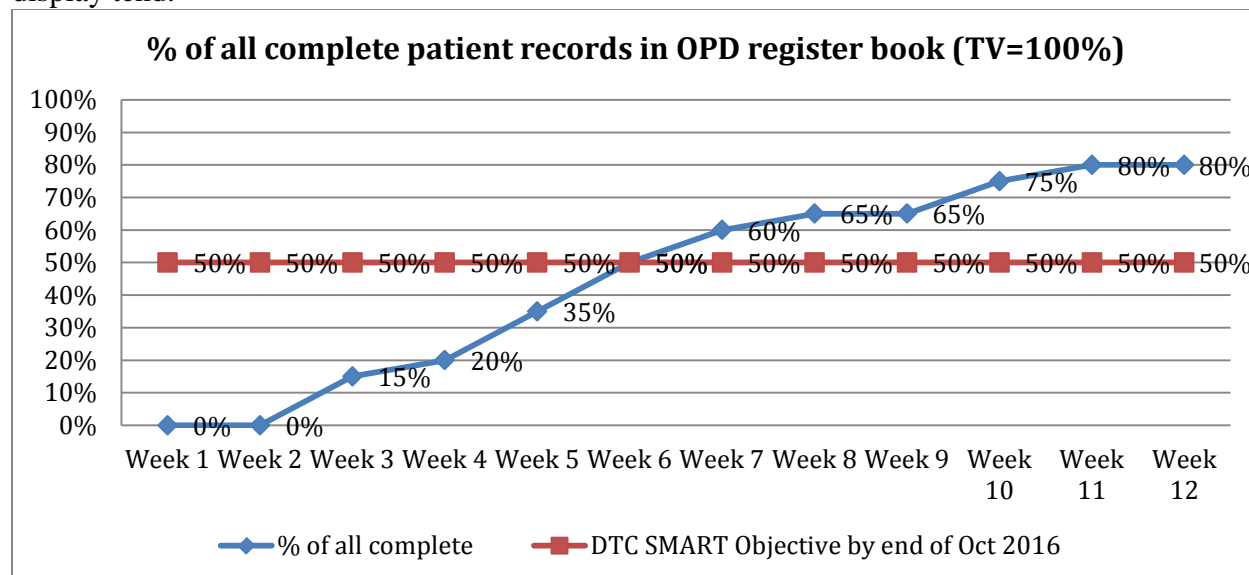


Graph 6: RMU assessment shows General NSTG adherence in Mental Health hospital over the period April 2016 up to Jun 2017



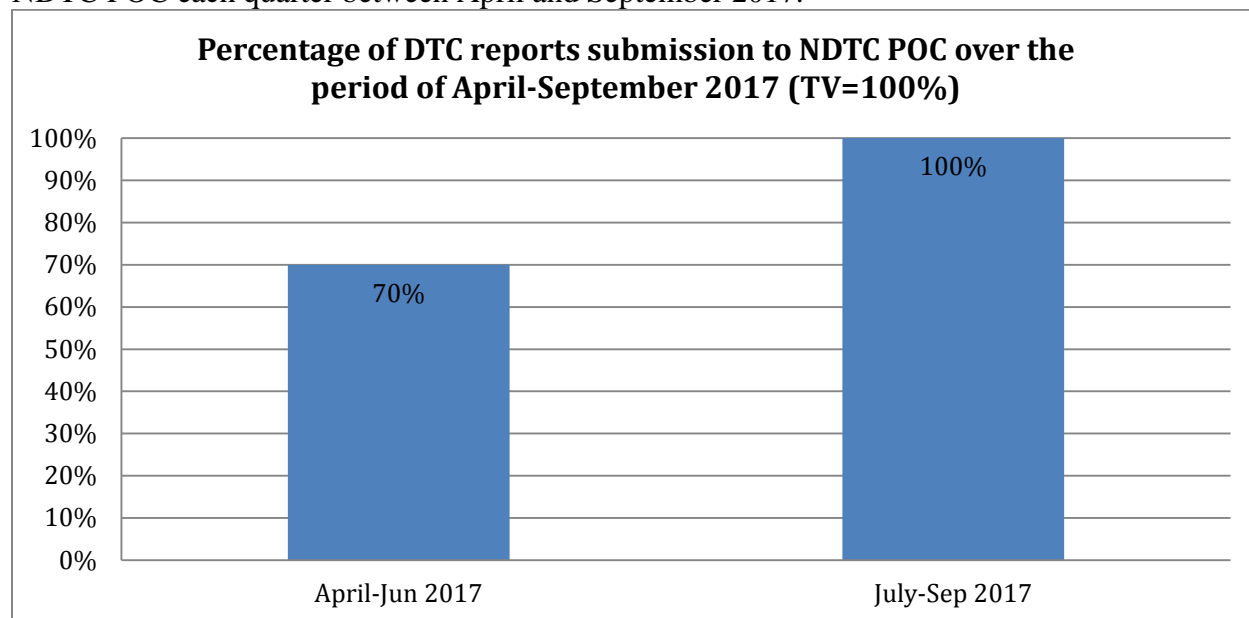
Patient encounter and treatment data recording in the OPD register book:

Graph 7: Shows percentage of complete recording of encounter and treatment data in the OPD register book over that period July-October 2016 and is illustrated through the below line chart to display trend.



7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 through September 2017:

Graph 8: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April and September 2017.



8) Priority focus areas recommended by SPS for NDTC POCs:

NDTC POCs to ensure all DTC assessments are being performed on regular basis and submitted on time to POCs

Performing regular weekly monitoring of recording encounter and treatment data in the OPD register book and revising the SMART Objective for the next 6 months.

Cross-checking number/names of medicines from prescriptions which are recorded in OPD register book

NDTC POCs ensure that implementation of DTC activities delegation sheet is seriously followed up by medical director and hospital director.

Update DTC TOR on regular annual basis

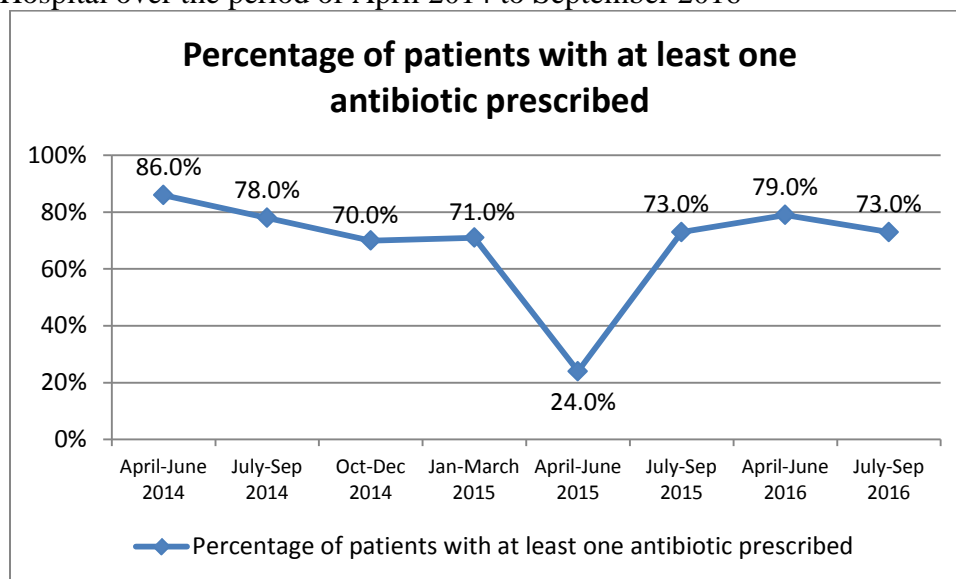
NOOR DTC (National/Specialized Hospital)

December 2017

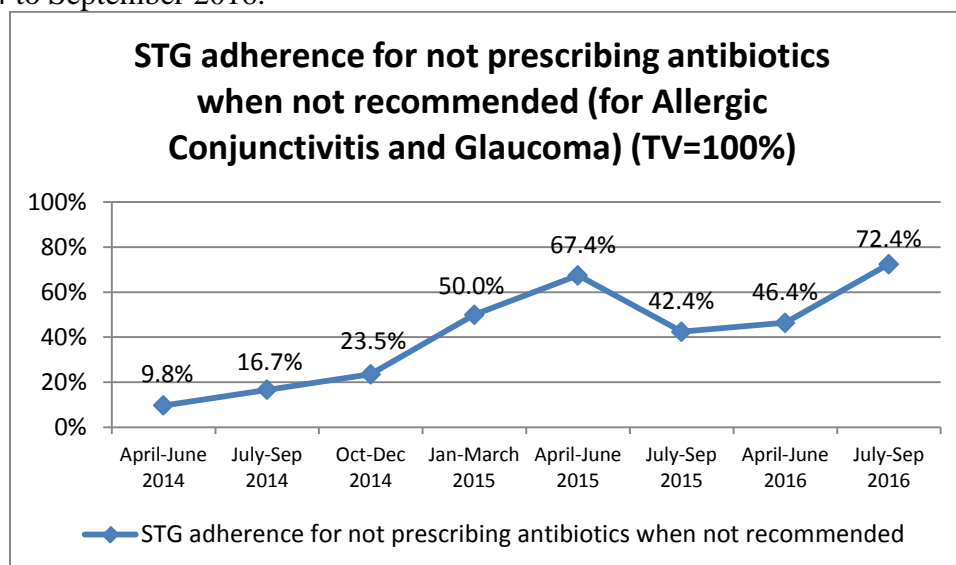
- 1) Time period of SPS technical support to DTC: SPS technical support to Noor Hospital started in October 2011 and ended in September 2016 (totally 60 months)
- 2) Number of DTC monthly meetings documented with SPS during that period: 35 DTC monthly meetings
- 3) Number of DTC monthly meetings attended by SPS representative during that period: 26 DTC monthly meetings
- 4) Date of last revised ToR: May 2017
- 5) Specific activities undertaken by DTC:
 - Development of hospital formulary list First edition January 2013 (which was printed and distributed to the hospital staff for use) and update of FL Second edition October 2017 (which is under review of GDPS for seeking approval)
 - Development of Eyes Diseases Standard Treatment Guidelines in August 2013 (which was printed and distributed to the hospital staff for use)
 - Root Cause Analysis performed and development of DTC 3 years' action plan for period January 2016- December 2018 with the purpose of improving rational medicine use and pharmacy supply management.
 - Adaptation of the RMU assessment to specific conditions commonly seen in OPD (Allergic Conjunctivitis, Glaucoma, Dry Eyes, Bacterial Conjunctivitis).
 - A data investigation of patient records in IPD and OPD showed that Noor hospital is not using and complying with the HMIS of MOPH: it was recommended by SPS that Noor hospital adopts & adapts the MoPH-HMIS tools.
 - IMAT is not performed in this hospital as the medicine depot is managed by the supporting NGO.
- 6) Status report of routine DTC assessments based on available data:

Rational Medicine Use in NOOR Hospital: Trends of some RMU weak indicators over the period April 2014 to September 2016 in NOOR hospital are illustrated below through line charts to display trends of some indicators over time.

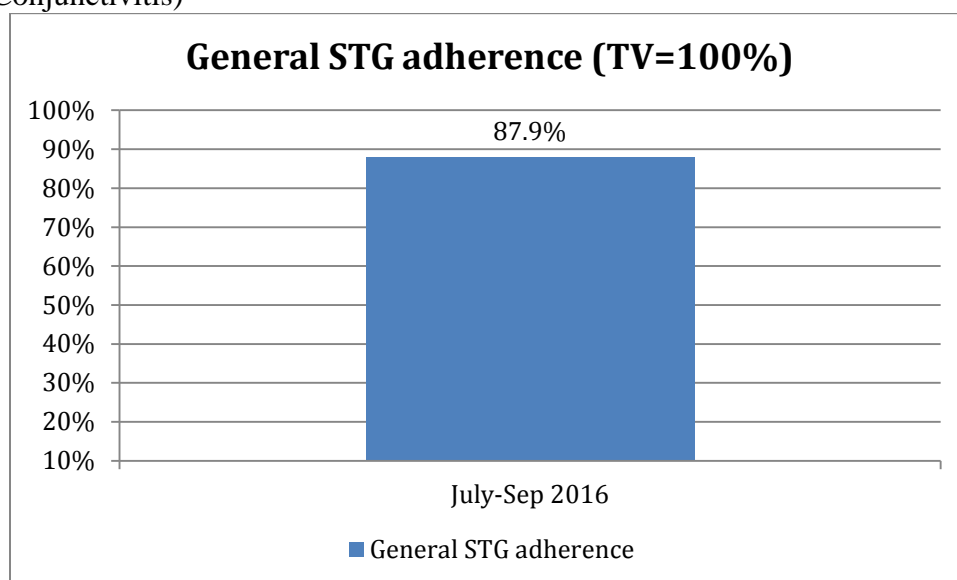
Graph 1: RMU assessment shows percentage of patients with at least one antibiotic prescribed in NOOR Hospital over the period of April 2014 to September 2016



Graph 2: RMU assessment shows STG adherence for not prescribing antibiotics when not recommended (in Allergic Conjunctivitis and Glaucoma) in NOOR Hospital over the period of April 2014 to September 2016.

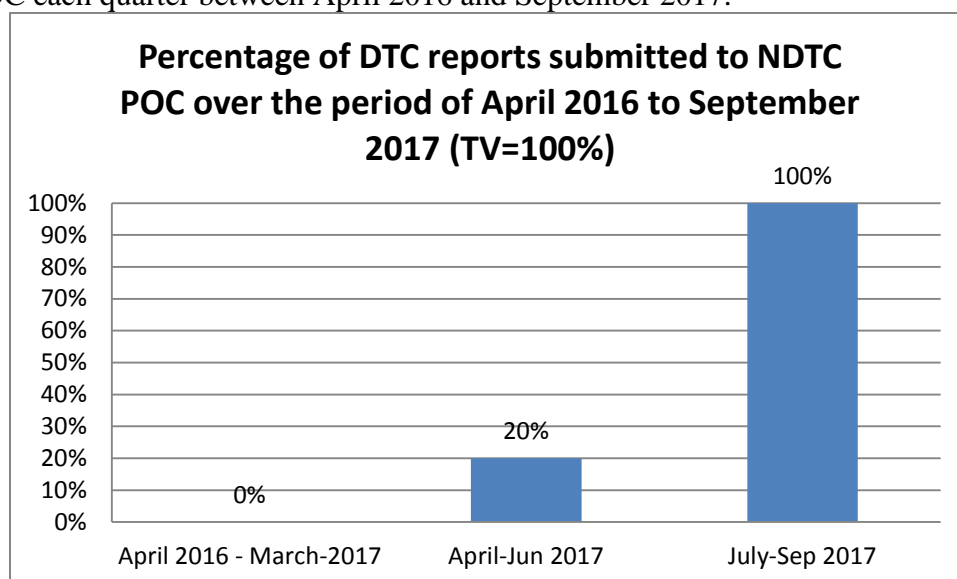


Graph 3: RMU assessment shows General NSTG adherence in NOOR Hospital over the period of April 2014 to September 2016 (covering no prescription of antibiotic in Allergic Conjunctivitis and Glaucoma, mandatory Artificial Tears in Dry Eye and mandatory antibiotic in Bacterial Conjunctivitis)



7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2016 through September 2017:

Graph 4: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April 2016 and September 2017.



8) Priority focus areas recommended by SPS for NDTC POCs:

To help DTC in getting the final approval of GDPS on the second edition October 2017 of the hospital Formulary list for further use by the Noor's staff.

To help DTC in updating their 3 years DTC action plan

To request HMIS of MOPH to visit Noor hospital and initiate discussions with DTC for adoption of the national HMIS in that hospital.

Request DTC to submit updated medicines quantification sheet on quarterly basis

To continue orienting DTC in quantifying medicines needs using the quantification sheet, as needed.

STG adherence for not prescribing antibiotics irrationally in Allergic Conjunctivitis and Glaucoma: encourage re-training sessions on proper treatment of those 2 conditions, particularly to new medical trainees.

POC should ensure that the DTC activities delegation sheet is followed by DTC chairman and Hospital director

POC should ensure that DTC sends on time all due deliverables

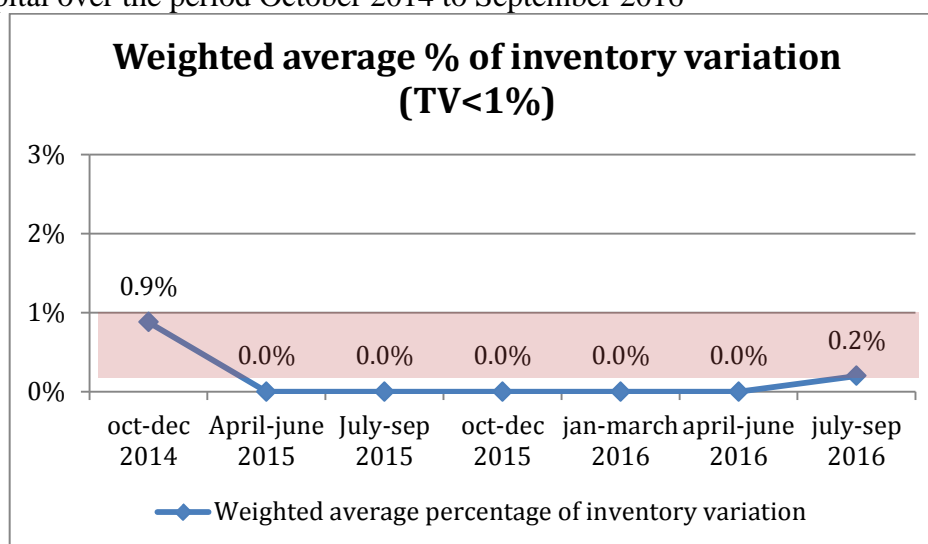
Rabia Balkhi DTC (National/Specialized Hospital)

November 2017

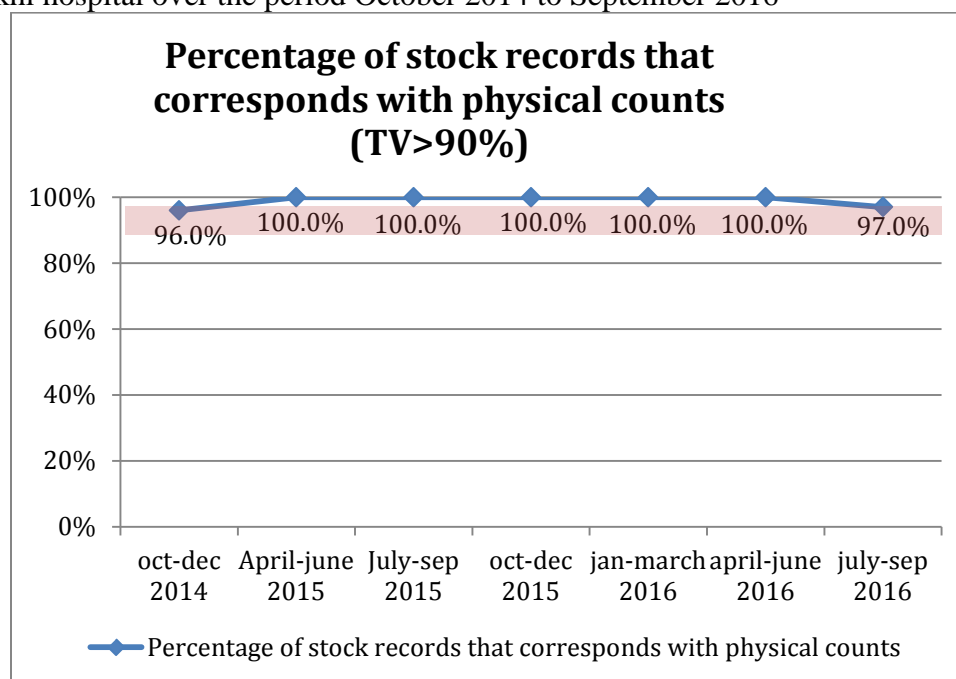
- 1) Time period of SPS technical support to DTC:
 SPS support in Pharmaceutical Supply Management to Rabia Balkhi Hospital by HPMC:
 October 2014 to October 2015((12 months with 10 DTC meeting minutes)
 Direct and full SPS support to DTC: From 01 Oct, 2015 to Oct 31, 2016 (totally 13 months)
- 2) Number of DTC monthly meetings held during that last period: 8 DTC monthly meetings
- 3) Number of DTC monthly meetings attended by SPS representative during that last period: 7 DTC monthly meetings
- 4) Date of last revised ToR: July 11 2017
- 5) Specific activities undertaken by DTC:
 Development of hospital formulary list edition October 2017 (which has been lately approved by GDPS, is under printing – planned to be delivered to hospital by December 15, 2017), no monitoring of adherence to FL performed.
 Adaptation of the RMU generic assessment with two additional specific conditions commonly seen in OPD i.e., a) mandatory prescription of iron folate to anemia patients and b) mandatory prescription of antibiotic to PID (Pelvic Inflammatory Disease) patients.
- 6) Status report of routine DTC assessments based on available data:

IMAT assessments in pharmacy

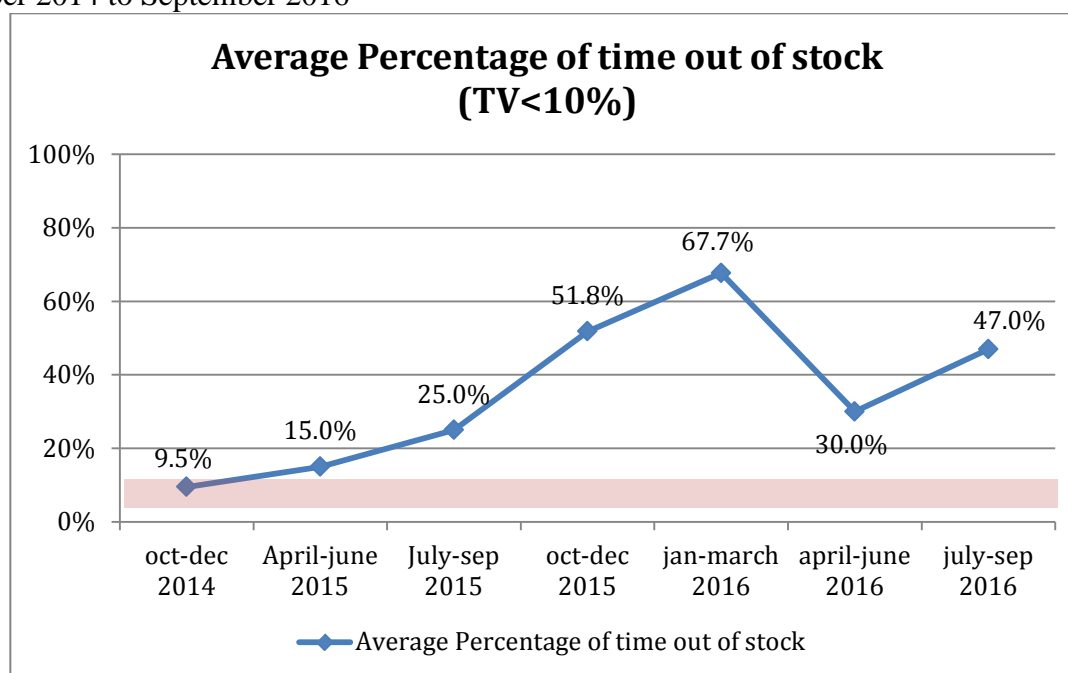
Graph 1: IMAT shows the Weighted Average Percentage of Inventory Variation in Rabia Balkhi hospital over the period October 2014 to September 2016



Graph 2: IMAT shows Percentage of stock records that corresponds with physical counts in Rabia Balkhi hospital over the period October 2014 to September 2016

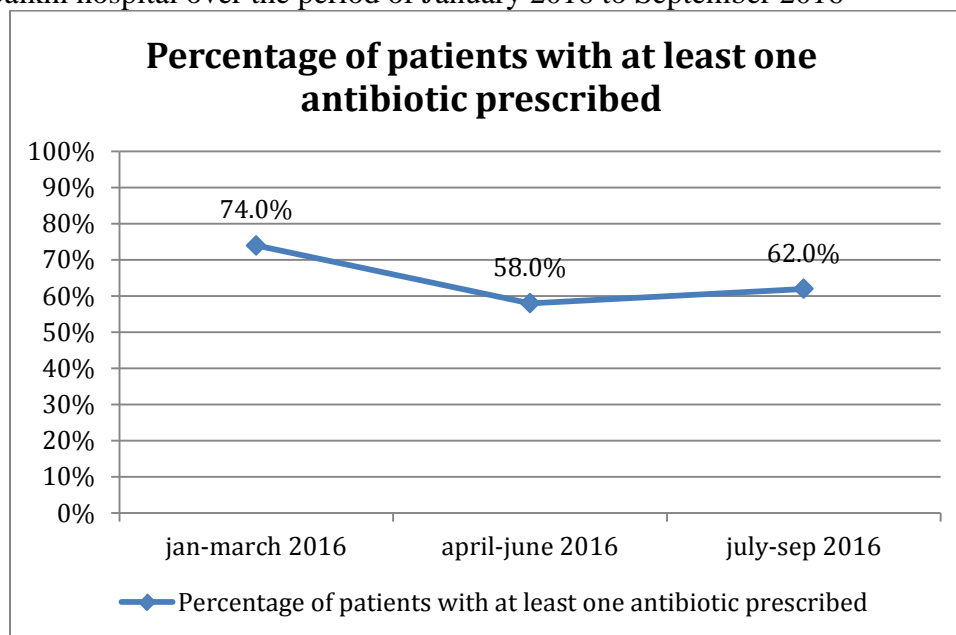


Graph 3: IMAT shows Average Percentage of Time Out of Stock in Rabia Balkhi hospital from October 2014 to September 2016

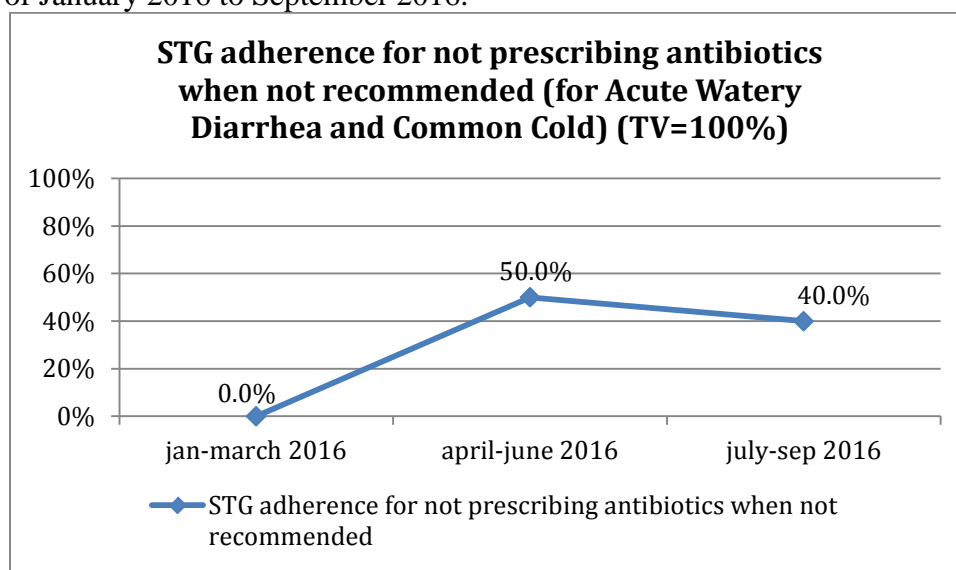


Rational Medicine Use in Rabia Balkhi hospital: Trends of some RMU weak indicators over the period January 2016 to September 2016 in Rabia Balkhi hospital are illustrated below through line charts to display trends over time.

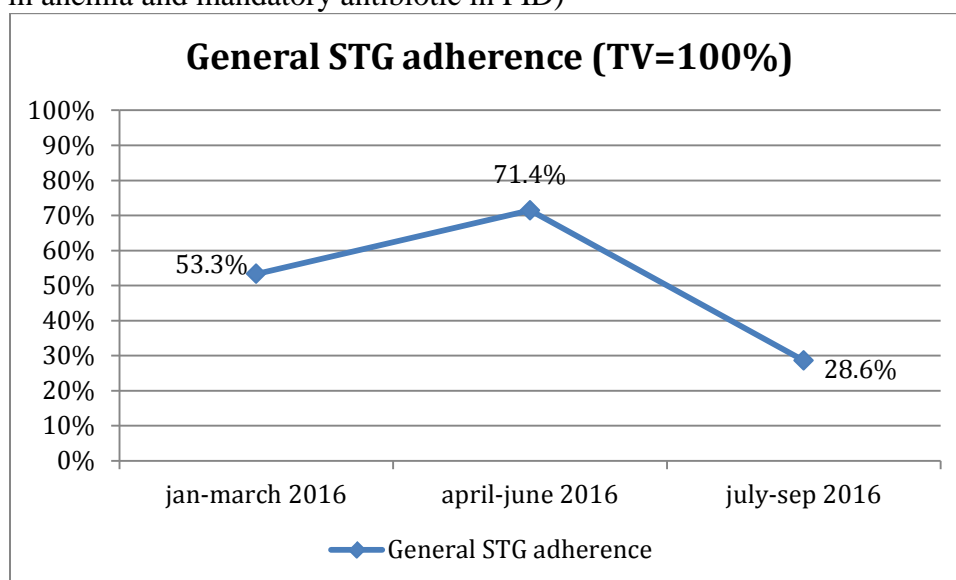
Graph 4: RMU assessment shows percentage of patients with at least one antibiotic prescribed in Rabia Balkhi hospital over the period of January 2016 to September 2016



Graph 5: RMU assessment shows STG adherence for not prescribing antibiotics when not recommended (in Acute Watery Diarrhea and in Common Cold) in Rabia Balkhi hospital over the period of January 2016 to September 2016.

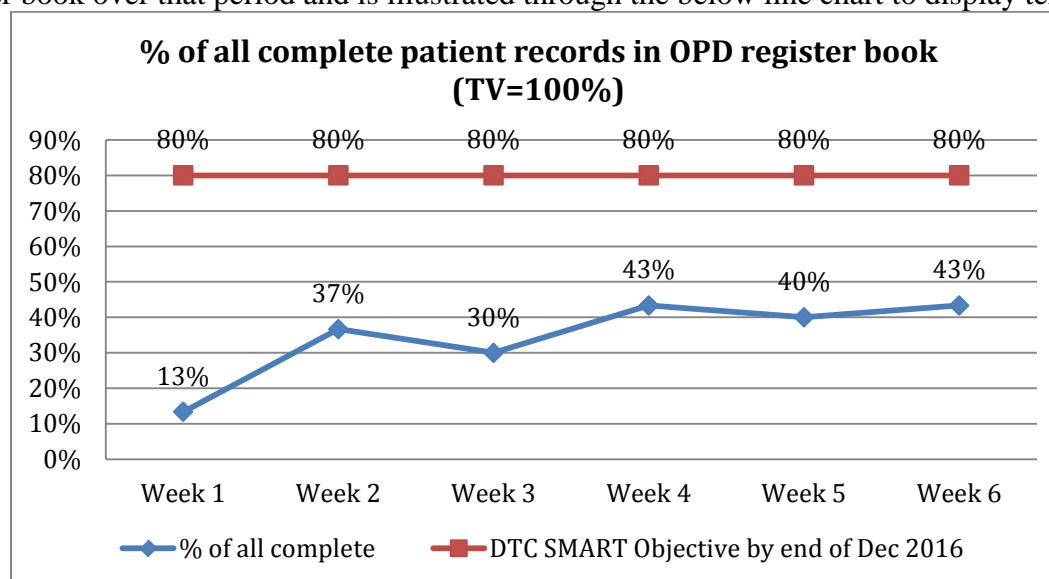


Graph 6: RMU assessment shows General NSTG adherence in Rabia Balkhi hospital over the period of January 2016 to September 2016 (covering no prescription of antibiotic in AWD and common cold, mandatory ORS in any diarrhea, mandatory antibiotic in pneumonia, mandatory iron folate in anemia and mandatory antibiotic in PID)



Patient and treatment data recording in the OPD register book: Complete encounter and treatment data recording in the OPD register book was followed through weekly monitoring over the period of 27 July 2016 through 31 August 2016 (6 weeks).

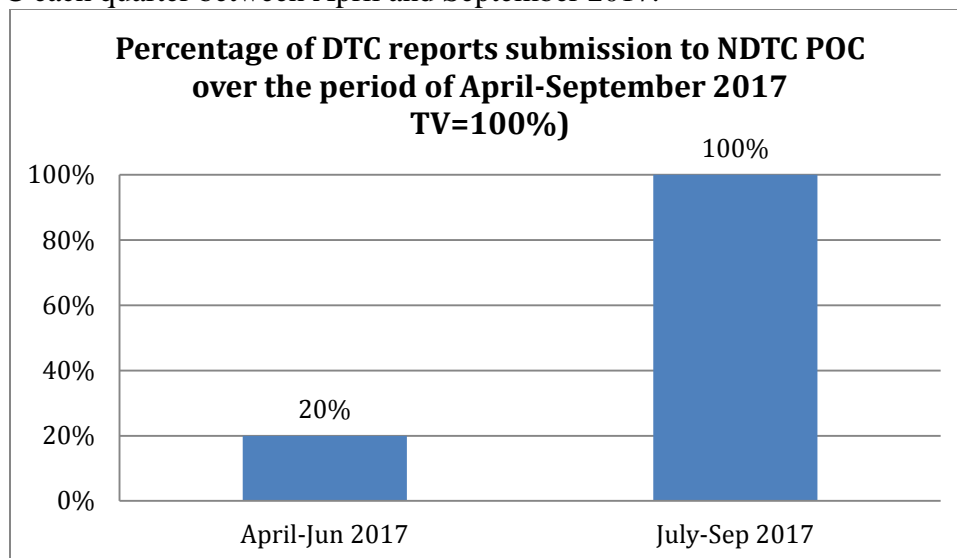
Graph 7: Shows percentage of complete recording of encounter and treatment data in the OPD register book over that period and is illustrated through the below line chart to display trends.



No cross-checking of number/names of medicines from prescriptions that are recorded in the OPD register book has been performed in Rabia Balkhi Hospital.

7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 through September 2017:

Graph 9: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April and September 2017.



8) Priority focus areas recommended by SPS for NDTC POCs:

STG adherence for not prescribing antibiotics irrationally in Acute Watery Diarrhea and Common Cold: encourage re-training sessions on proper treatment of those 2 conditions, particularly to new medical trainees.

Recording complete encounter and treatment data in the OPD register book and cross-checking of number/name of medicines from prescriptions that are recorded in OPD register book

POC should ensure that the DTC activities delegation sheet is followed by DTC chairman and Hospital director

Request DTC to submit updated medicines quantification sheet on quarterly basis

POC should ensure that DTC sends on time all due deliverables

Raise the issue of need of coordination between NDTC and PPMU for the procurement process of national hospitals.

ANNEX II.5: INDIVIDUAL EPHS HOSPITAL DTC STATUS SHEET

Baghlan Provincial Hospital DTC

December 2017

- 1) Time period of SPS technical support to DTC:
DTC established in April 2010 with ToR
SPS Associated Award project has provided limited support to DTC of Baghlan PH from April 2010- March 2013 and full technical support from April 2013 up to September 2017 (totally 54 months)
- 2) Number of DTC monthly meetings held during that period: 27 DTC monthly meetings
- 3) Number of DTC monthly meetings attended by SPS representative during that period: 19 DTC monthly meetings
- 4) Date of last revised ToR: April 19, 2016
- 5) Specific activities undertaken by DTC:
Root cause analysis (May 2015) focusing on PSM and RMU gaps found by DTC and development of a 3 years DTC action plan (December 2015-December 2018)
Baghlan Hospital Formulary list developed (first edition May 2013) and officially introduced to staff on September 2013. Revision of FL started in 2016 but is not yet finalized.
Prescription Analysis on 3 most expensive antibiotics in IPD wards (May 2015): out of 600 patients prescribed with AB 41.5% of those patients did not need AB. The possible financial savings through avoiding the unnecessary and inappropriately prescribed antibiotics amount to 179,987 AFN out of the estimated 560,840 AFN or 68% of cost savings for the total sample.
- 6) Status report of routine DTC assessments based on available data:

Table 1: Inventory Management Assessment Tool (IMAT), Baghlan Provincial Hospital

Indicators	Target Value	April-June 2012	Jan-March 2014	April-June 2014	July-Sept 2014	Oct-Dec 2014	April-June 2015	July-Sept 2015	April-June 2016	July-Sept 2016	Jan-March 2017	April-June 2017
Weighted Average Percentage of Inventory Variation	<1%	0.0%	0.0%	0.0%	0.0%	0.0%	5.1%	0.0%	0.0%	0.1%	0.3%	0.0%
Percentage of stock records that corresponds with physical counts	>90%	100	100	100	100	100	86.7	100	100	93	97	100
Average Percentage of Time Out of Stock	<10%	5.0%	2.6%	14.0%	1.9%	22.0%	38.9%	1.8%	13.0%	13.0%	14.0%	28.0%

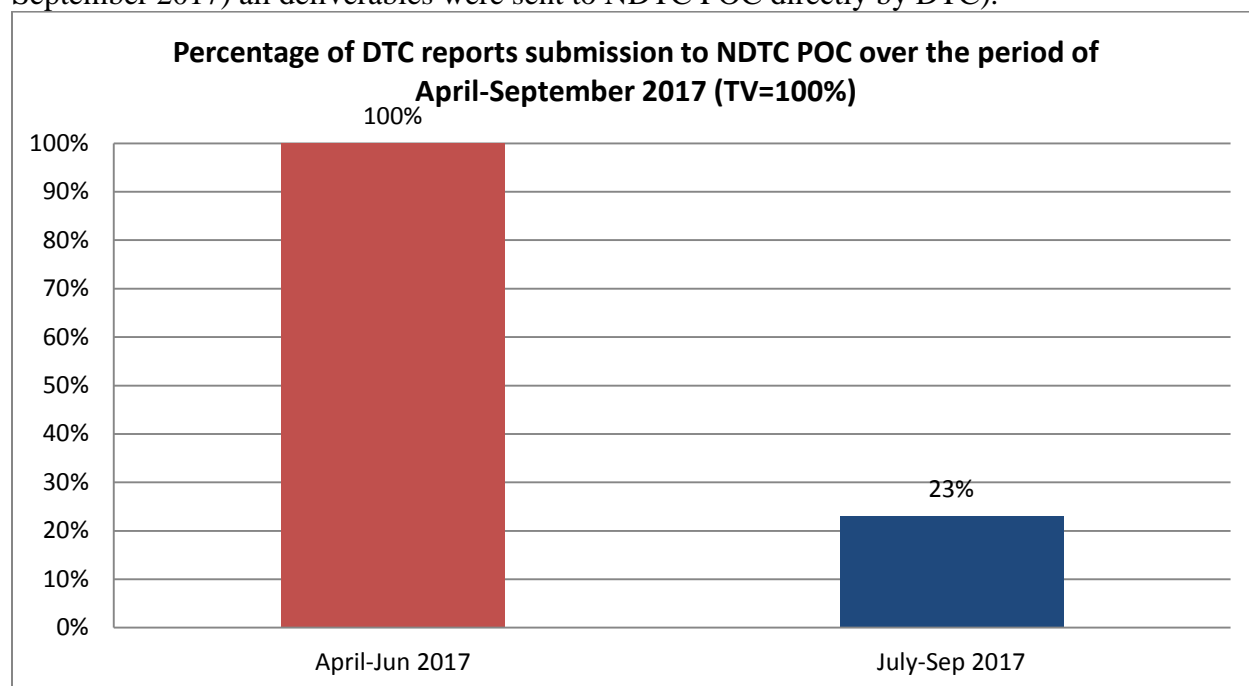
Trends of some RMU weak indicators over the period April 2014 to June 2017 in Baghlan Provincial Hospital is illustrated in below table.

Table 2: Rational Medicine Use, Baghlan Provincial Hospital

Indicators	Target Value	April-June 2014	July-Sept 2014	Oct-Dec 2014	Jan-March 2015	April-June 2015	Oct-Dec 2015	April-June 2016	July-Sept 2017	Oct-Dec 2016	Jan-March 2017	April-June 2017
Percentage of patients with at least one antibiotic prescribed	24-30%	53	38	29	44	79	63	59	57	55	44	41
STG adherence for not prescribing antibiotics when not recommended (for AWD and Common Cold) (TV=100%)	100%	0	NA	NA	0	28.6	25	50	61.5	26.3	33.3	59.1
General STG adherence (TV=100%)	100%	NA	NA	NA	NA	NA	NA	NA	NA	NA	50	67.5

7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 through September 2017:

Graph 9: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April 2017 and September 2017 (*Note:* From April 2013 through June 2017, all deliverables of DTC were forwarded by SPS to NDTC POC. In Q2 (July-September 2017) all deliverables were sent to NDTC POC directly by DTC).



8) Priority focus areas recommended by SPS for NDTC POCs:

POC will assist the DTC to use SPS quantification spread sheet

POC will assist the DTC to finalize the revision of the hospital formulary list

POC will ensure that DTC is updating their 3 years action plan and implement the activities.

NDTC Point of Contact (POC) will send follow up email to each DTC on 25th of each month requesting DTC to send DTC deliverables i.e., DTC meeting minutes, results of assessments.

Adherence to NSTG and rational use of antibiotics still needs further improvements

POC will communicate with MOPH Hospital Reform Department to provide the below equipment's to the DTC:

- Computer with printer
- Internet facility
- Modem
- Scanner
- White and green board

Bamyan Provincial Hospital DTC

December 2017

- 1) Time period of SPS technical support to DTC:
DTC established in 2013
SPS Associated Award project has provided full technical support to the DTC of Bamyan provincial Hospital from March 2016 up to end of September 2017 (totally 19 months)
- 2) Number of DTC monthly meetings held during that period: 20 DTC monthly meetings
- 3) Number of DTC monthly meetings attended by SPS representative during that period: 7 DTC monthly meetings
- 4) Date of last revised ToR: September 30, 2017
- 5) Specific activities undertaken by DTC:
Bamyan PH DTC developed six months (28 November 2016-June 2017) action plan based on Root Cause Analysis (RCA) which focused on 2 weak RMU indicators (percentage of AWD and simple ARI patients who received an antibiotic - not recommended)
Development of Hospital Formulary List (First edition January 2017)
Monitoring of adherence to FL has not been performed.
- 6) Status report of routine DTC assessments based on available data:

Table 1: Inventory Management assessment tools (IMAT), Bamyan Provincial Hospital

Indicators	Target Value	Jan-March 2016	April-June 2016	July-Sept 2016	Oct-Dec 2016	Jan-March 2017	April-June 2017	July-Sept 2017
Weighted Average Percentage of Inventory Variation	<1%	1.6%	1.0%	4.6%	1.1%	0.0%	0.0%	0.0%
Percentage of stock records that corresponds with physical counts	>90%	57.0%	23.0%	87.0%	87.0%	100.0%	100.0%	100.0%
Average Percentage of Time Out of Stock	<10%	4%	1%	4%	3%	7%	1%	3%

Trends of some RMU weak indicators over the period April 2016 to September 2017 in Bamyan Provincial Hospital is illustrated in below table.

Table 2: Rational Medicine Use, Bamyan Provincial Hospital

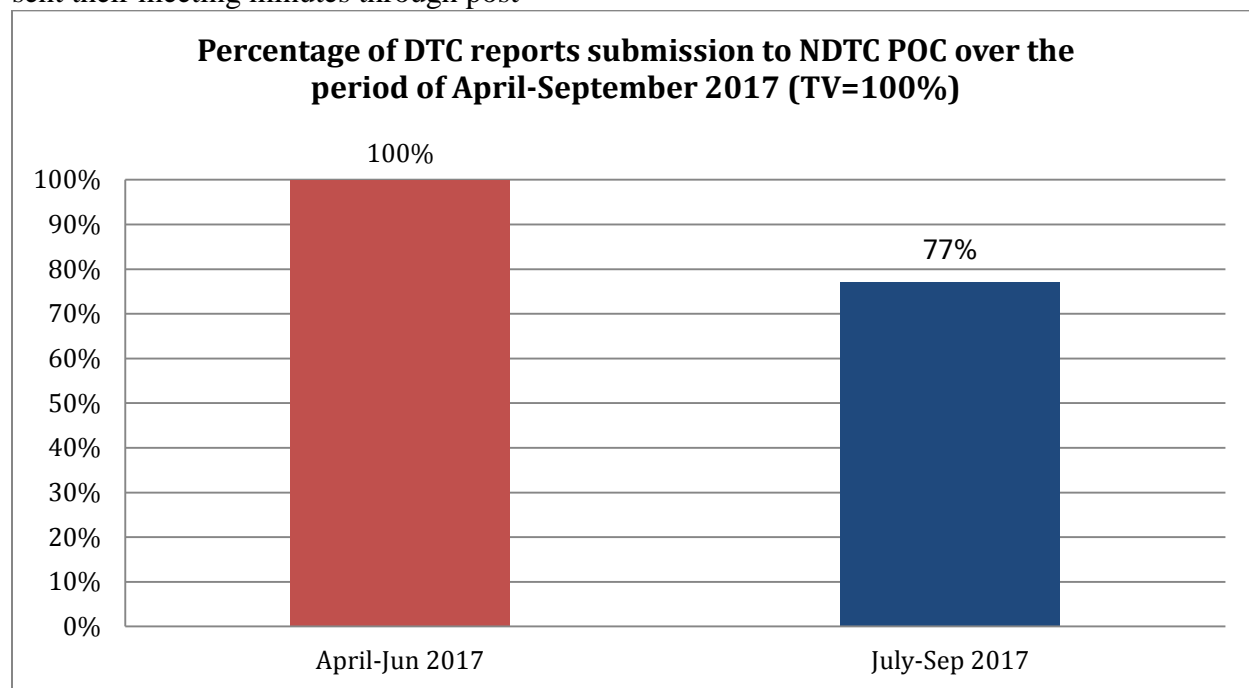
Indicators	Target Value	Jan-March 2016	April-June 2016	July-Sept 2016	Oct-Dec 2016	Jan-March 2017	April-June 2017	July-Sept 2017
Percentage of patients with at least one antibiotic prescribed	24-30%	71%	72%	72%	75%	83%	64%	63%
STG adherence for not prescribing antibiotics when not recommended (for AWD and Common Cold) (TV=100%)	100%	12.5%	10.3%	17.6%	18.5%	16.7%	21.4%	30.8%
General STG adherence (TV=100%)	100%	37.9%	35.7%	36.2%	36.2%	48.1%	63.4%	72.1%

Table 3: Weekly monitoring on 2 weak RMU indicators, Bamyān Provincial Hospital

Indicators	Target Value	DTC SMART objective	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17
Percentage of simple ARI patients with at least one antibiotic prescribed	0%	40	85	57.5	60	67.5	35	27.5	20	0	0	0
Percentage of AWD Patients with at least one antibiotic prescribed (Common Cold) (TV=100%)	0%	30	80	47.5	37.5	22.5	22.5	22.5	17.5	0	0	0

7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 through September 2017:

Graph 9: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April 2017 and September 2017 (*Note:* From April 2016 through June 2017, all deliverables of DTC were forwarded by SPS to NDTC POC. In Q2 (July-September 2017) all deliverables were sent to NDTC POC directly by DTC), DTC also directly sent their meeting minutes through post



8) Priority focus areas recommended by SPS for NDTC POCs:

POC will assist the DTC to use SPS quantification spread sheet

POC will assist the implementing NGO to print the hospital formulary list (First edition January 2017) and then ensure that printed FL is distributed in all wards and is introduced officially to the hospital staff

POC will ensure that adherence to NSTG-PL is improved particularly by providing re-training sessions to clinicians on proper treatment of AWD and simple ARI.

NDTC Point of Contact (POC) will send follow up email to each DTC on 25th of each month requesting DTC to send DTC deliverables (i.e., DTC meeting minutes, results of assessments)

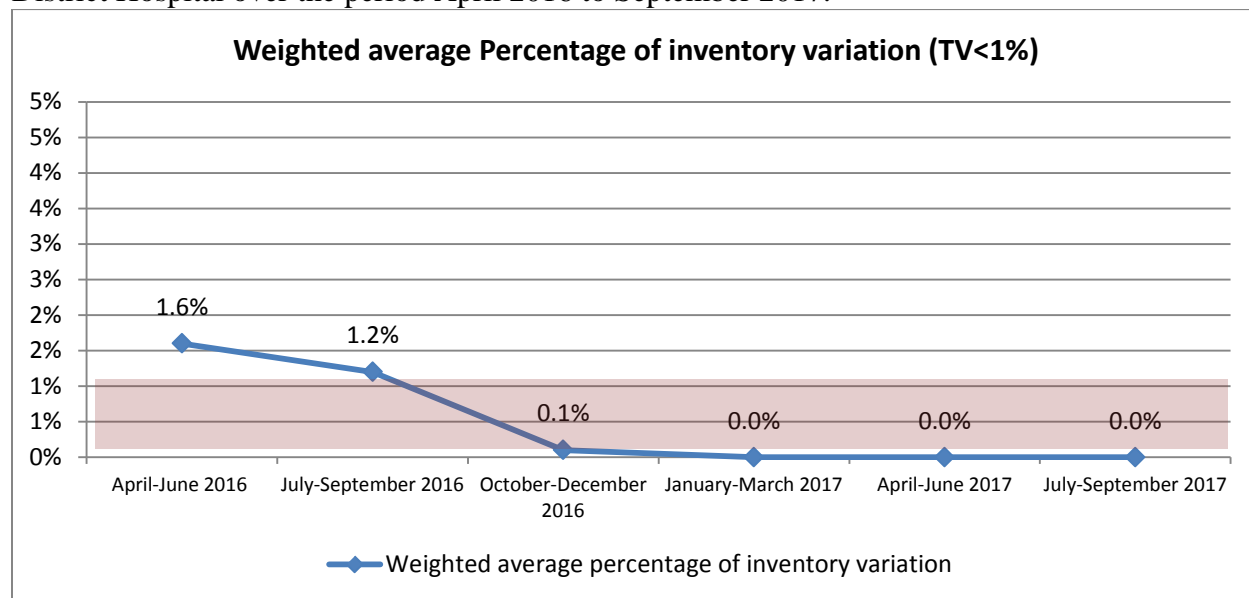
To invite the DTC members for trainings related to DTC activities (RMU, MDS & DTC refresher trainings)

Dehdadi District Hospital DTC

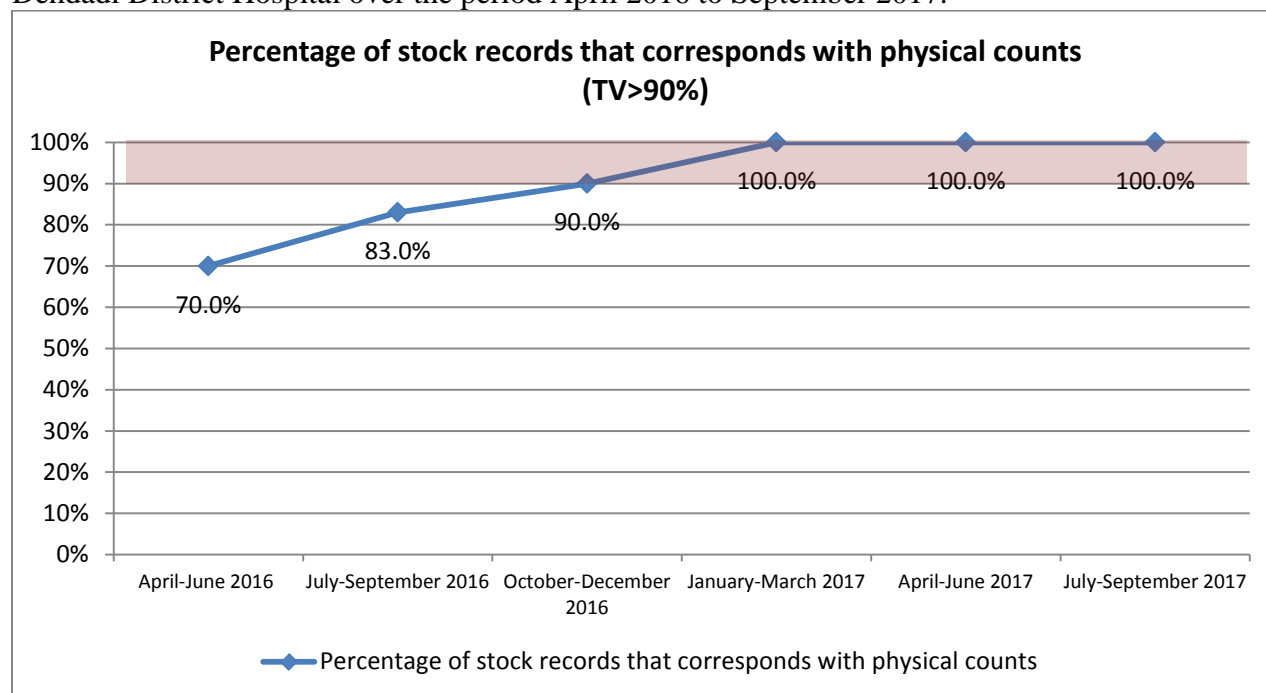
December 2017

- 1) Time period of SPS technical support to DTC:
 Direct SPS support to DTC: From April 11, 2016 to end September 2017 (totally 18 months)
 FIO Support the Dehdadi DH: Dehdadi Hospital was supported by SPS as a District hospital (BPHS monitoring) from February 2016 to April 2016.
- 2) Number of DTC monthly meetings held during that period: 20 DTC monthly meetings
- 3) Number of DTC monthly meetings attended by SPS representative during that period: 20 DTC monthly meetings
- 4) Date of last revised ToR: August 28, 2017
- 5) Specific activities undertaken by DTC:
 Dehdadi DH DTC developed six months (29 November 2016-June 2017) action plan based on RCA which focused on 2 weak RMU indicators (percentage of AWD and simple ARI patients who received an antibiotic - not recommended)
 Hospital Formulary List is under development. Second draft developed in November 2017 by Dehdadi DH DTC.
 Formal training to hospital staff on proper treatment of Diarrheal Diseases cases and Simple ARI cases performed by DTC
- 6) Status report of routine DTC assessments based on available data:

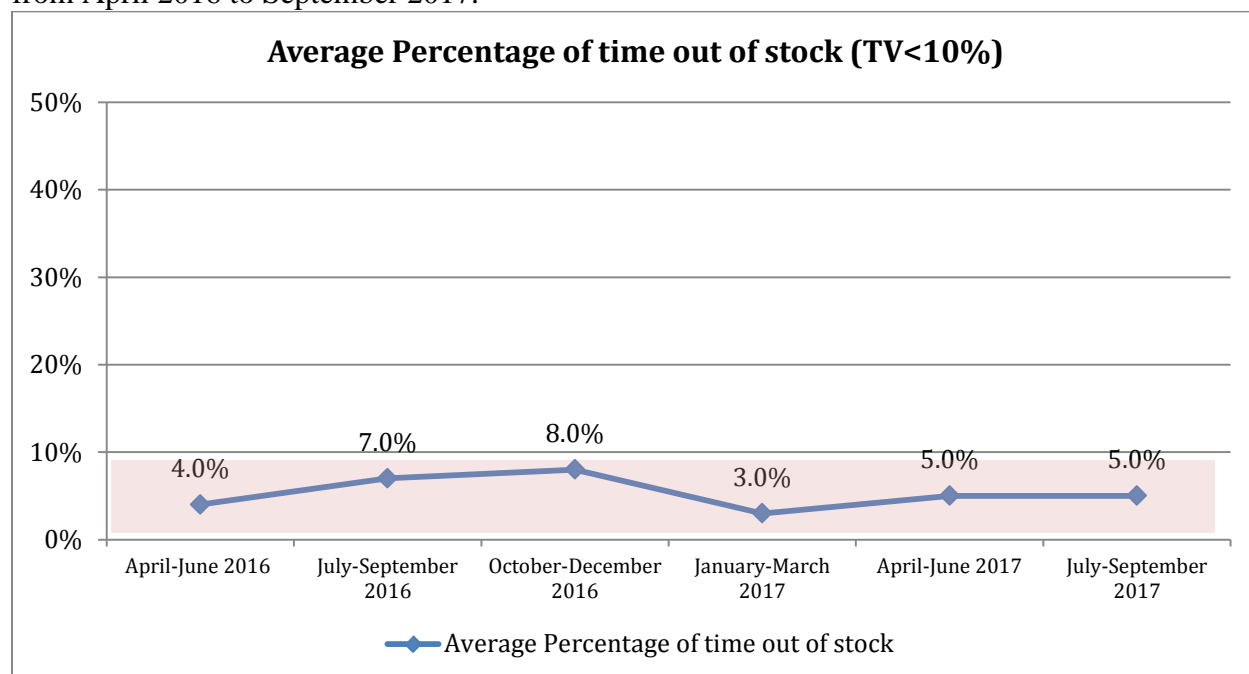
Graph 1: IMAT shows the Weighted Average Percentage of Inventory Variation in Dehdadi District Hospital over the period April 2016 to September 2017.



Graph 2: IMAT shows Percentage of stock records that corresponds with physical counts in Dehdadi District Hospital over the period April 2016 to September 2017.

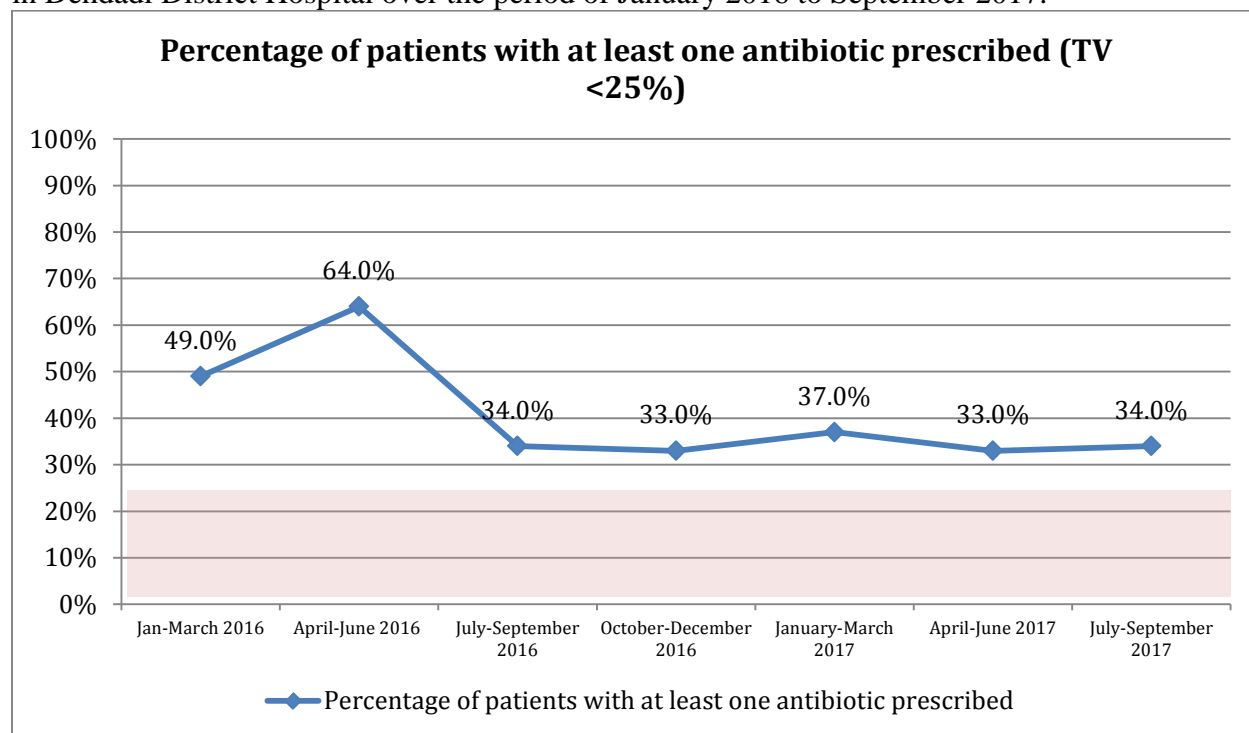


Graph 3: IMAT shows Average Percentage of Time Out of Stock in Dehdadi District Hospital from April 2016 to September 2017.

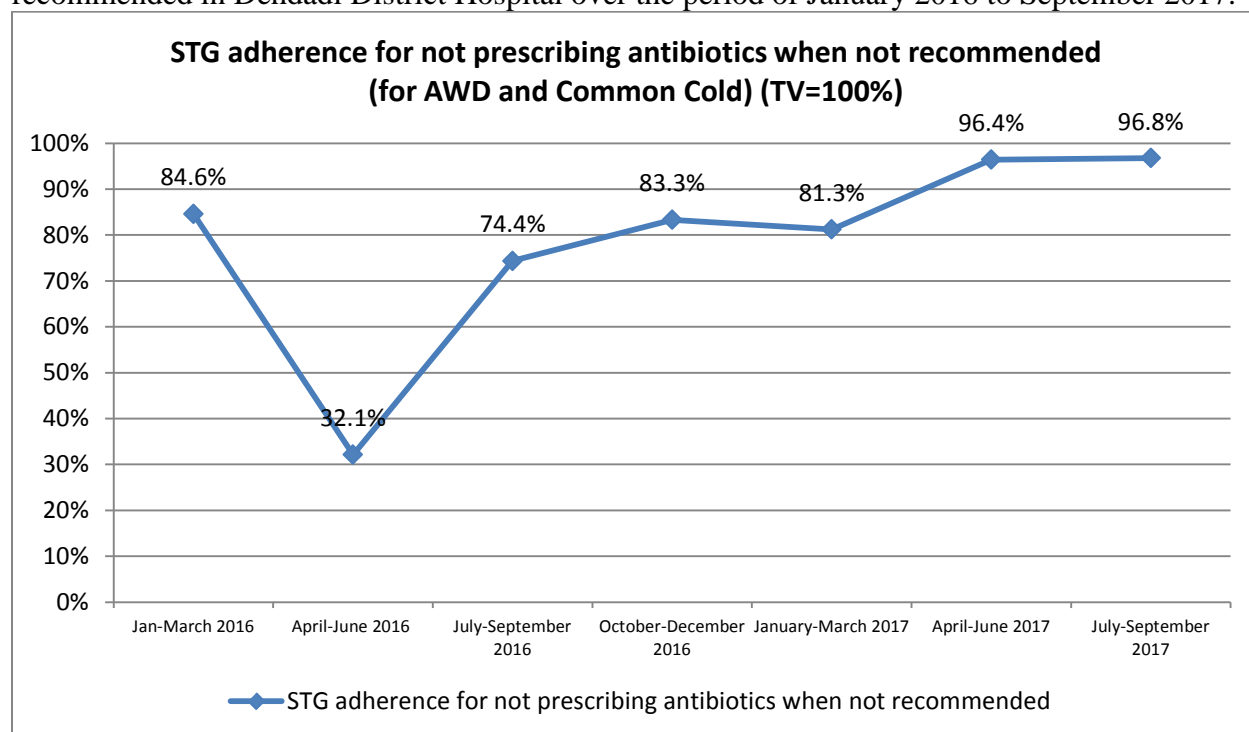


Rational Medicine Use in Dehdadi District Hospital: Trends of some RMU weak indicators over the period April 2016 to September 2017 in Dehdadi District Hospital are illustrated below through line charts to display trends over time.

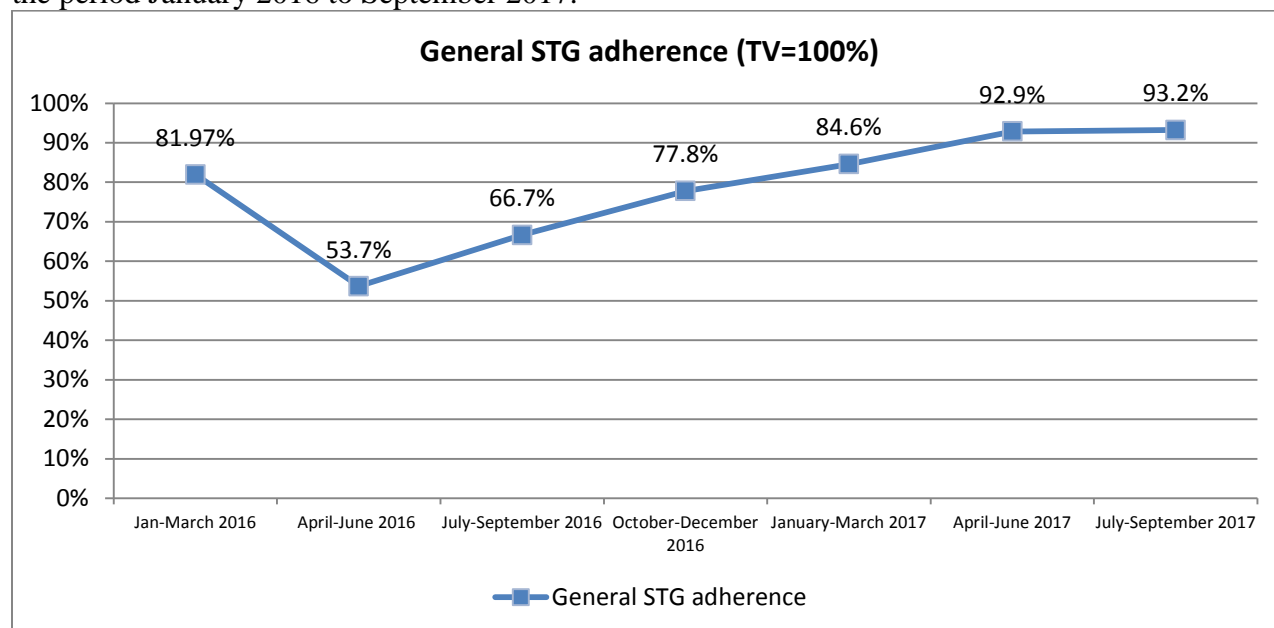
Graph 4: RMU assessment shows percentage of patients with at least one antibiotic prescribed in Dehdadi District Hospital over the period of January 2016 to September 2017.



Graph 5: RMU assessment shows STG adherence for not prescribing antibiotics when not recommended in Dehdadi District Hospital over the period of January 2016 to September 2017.

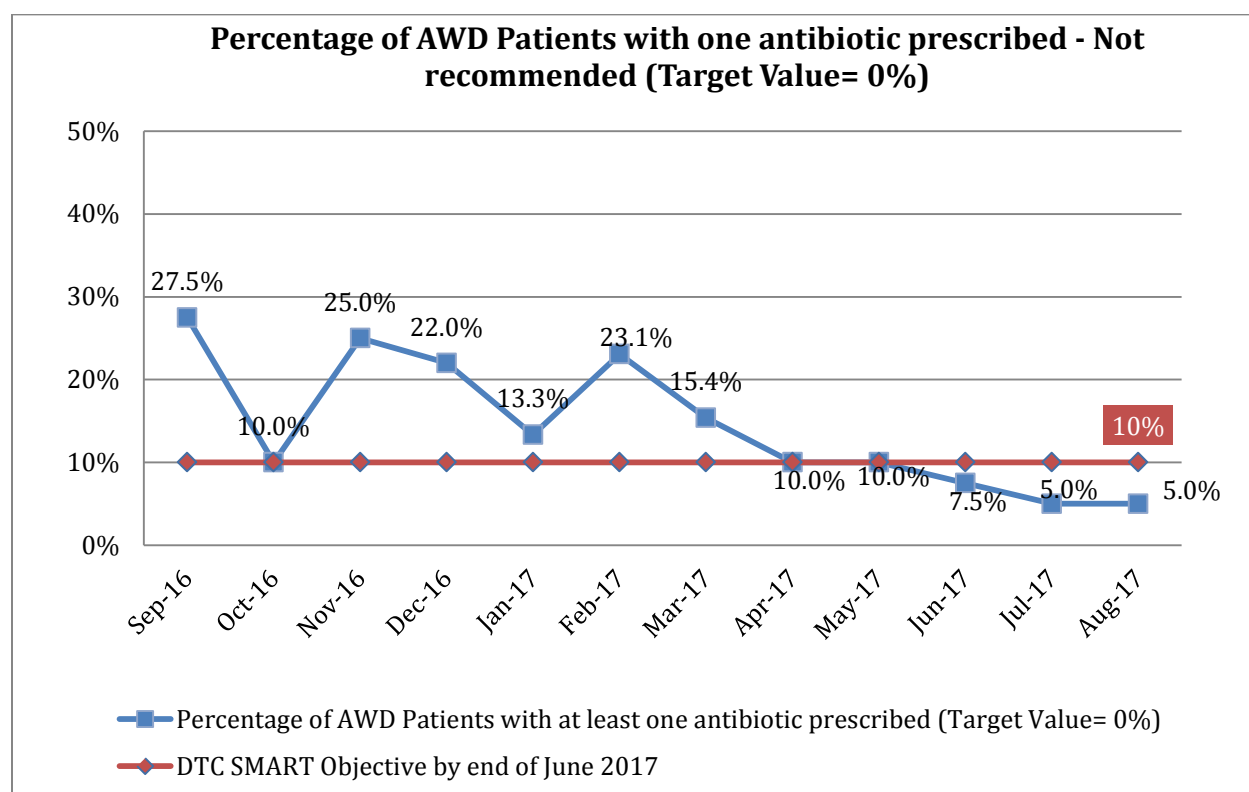


Graph 6: RMU assessment shows General NSTG adherence in Dehdadi District Hospital over the period January 2016 to September 2017.

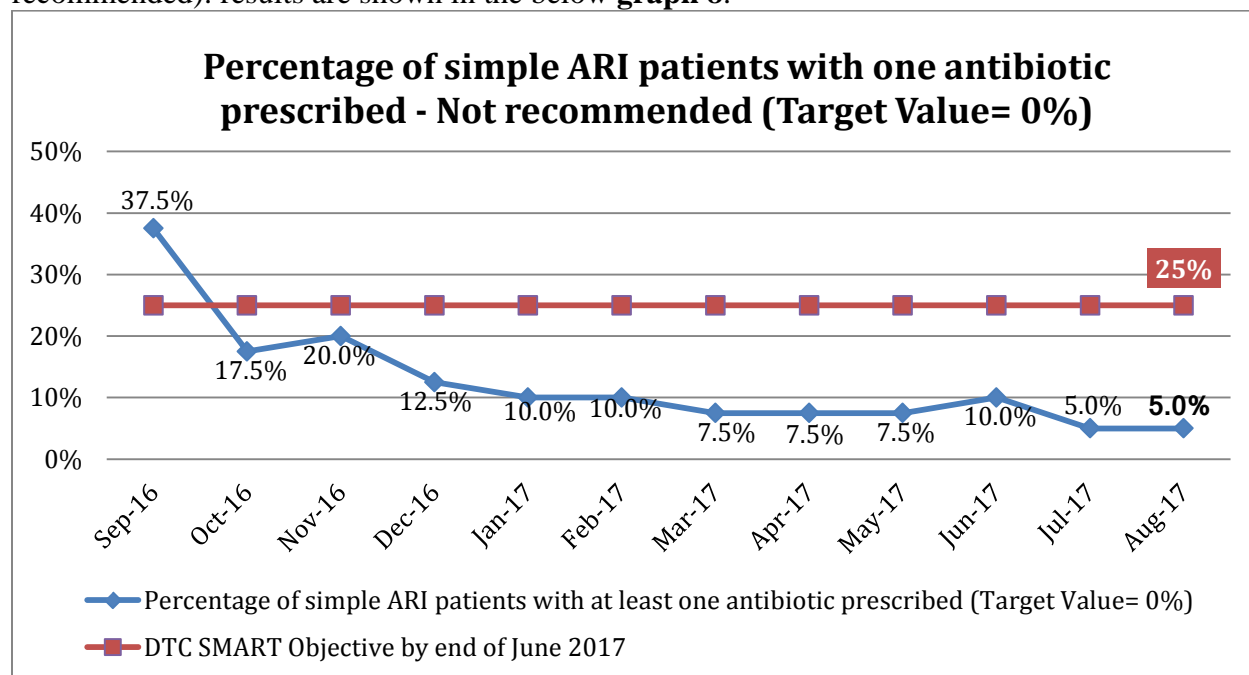


Weekly monitoring on 2 weak RMU indicators:

Graph 7: Weekly Monitoring of Patients with Acute Watery Diarrhea prescribed with an antibiotic (not recommended): results are shown in the below graph.

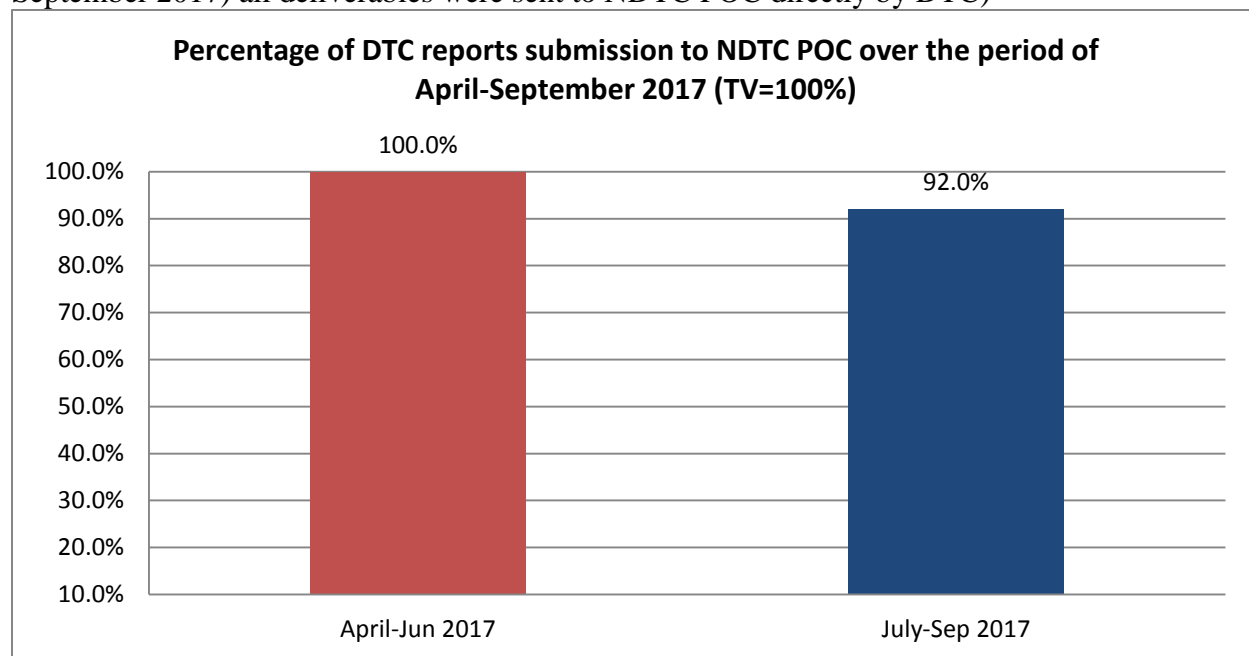


Weekly monitoring of Patients with Simple ARI prescribed with an antibiotic (not recommended): results are shown in the below **graph 8**.



7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 through September 2017:

Graph 9: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April 2017 and September 2017 (*Note: From April 2016 through June 2017, all deliverables of DTC were forwarded by SPS to NDTC POC. In Q2 (July-September 2017) all deliverables were sent to NDTC POC directly by DTC*)



8) Priority focuses areas recommended by SPS for NDTC POCs:

POC will assist the DTC to establish four sub-committees in Dehdadi DH in order to bring effective changes in the hospital (1) RMU sub-committee, 2) IMAT sub-committee, 3) Formulary List development sub-committee and 4) Registration/ tally sheets sub-committee)

POC will follow up the BDN NGO to supply computer and printer to pharmacy department of Dehdadi DH as well the access to internet

POC will support the DTC to finalize the first edition of the hospital formulary list, and once finalized will send it for approval from DPS. POC will then ensure that FL is distributed to all wards and introduced officially to the hospital staff by the DTC.

Farkhar District Hospital DTC

December 2017

- 1) Time period of SPS technical support to DTC:
DTC established in December 2009
SPS Associated Award project has provided limited support to DTC of Farkhar DH from 2009 - March 2013 and full technical support from April 2013 up to end September 2017 (totally 54 months)
FIO support: Farkhar hospital was supported by SPS as a District hospital (BPHS monitoring) from April 26, 2009 to November 07, 2012.
- 2) Number of DTC monthly meetings held during that period: 23 DTC monthly meetings
- 3) Number of DTC monthly meetings attended by SPS representative during that period: 19 DTC monthly meetings
- 4) Date of last revised ToR: April 01, 2016
- 5) Specific activities undertaken by DTC:
Root cause analysis (May 2015) focusing on PSM and RMU gaps identified by DTC in the hospital and development of a 3 years DTC action plan (December 2015-December 2018)
Development and introduction of hospital formulary list (first edition September 2013).
Process of revision of the Formulary List has not started
Monitoring adherence to Formulary List is performed.
Prescription Analysis on 3 most expensive antibiotics in OPD wards (May 2015): out of 601 patients prescribed with AB 40.4% of those patients did not need AB. The possible financial savings through avoiding the unnecessary and inappropriately prescribed antibiotics amount to 5,814 AFN out of the estimated 14,599 AFN or 60.2% of possible cost savings for the total sample
- 6) Status report of routine DTC assessments based on available data:

Table 1a: Inventory Management assessment tools (IMAT), Farkhar District Hospital (2009 to 2014)

Indicators	Target Value	April-June 09	Oct-Dec 09	Jan-March 12	Jan-March 012	April-June 12	Oct-Dec 12	Jan-March 14	April-June14	July- Sep 14	Oct-Dec 14	Oct-Dec 14
Weighted Average Percentage of Inventory Variation	<1%	27.9%	2.5%	18.3%	2.4%	0%	0.3%	0%	0%	0%	0%	2.8%
Percentage of stock records that corresponds with physical counts	>90%	53.3%	50%	90%	53.3%	100%	86.7%	100%	100%	100%	100%	56.7%
Average Percentage of Time Out of Stock	<10%	0.3%	3.7%	4.2%	10.0%	2.1%	5.8%	2.8%	15.2%	0.9%	1.6%	1.8%

Table 1b: Inventory Management assessment tools (IMAT), Farkhar District Hospital (2015 to 2016)

Indicators	Target Value	Jan-March 15	April-June 15	April-June 15	July- Sep 15	April-May 16	Oct-Dec 16
Weighted Average Percentage of Inventory Variation	<1%	0%	0%	0%	0%	7.2%	7.8%
Percentage of stock records that corresponds with physical counts	>90%	100%	96.7%	100%	100%	57.0%	77.0%
Average Percentage of Time Out of Stock	<10%	2.5%	1.3%	7.4%	31.4%	8.0%	9.0%

Trends of some RMU weak indicators over the period April 2009 to December 2016 in Farkhar District Hospital is illustrated in below table.

Table 2a: Rational Medicine Use, Farkhar District Hospital (2009 to 2014)

Indicators	Target Value	April-June 09	Oct-Dec 09	Jan-March 12	April-June 12	Oct-Dec 12	April-June 14	July- Sep 14	Oct-Dec 14	Oct-Dec 14
Percentage of patients with at least one antibiotic prescribed	24-30%	50.0%	31.0%	66.0%	52.0%	59.0%	33.0%	29.0%	60.0%	55.0%
STG adherence for not prescribing antibiotics when not recommended (for AWD and Common Cold) (TV=100%)	100%	NA	NA	NA	NA	73.3%	57.1%		33.3%	100.0%
General STG adherence (TV=100%)	100%	NA	NA	NA	NA	NA	NA	NA	NA	NA

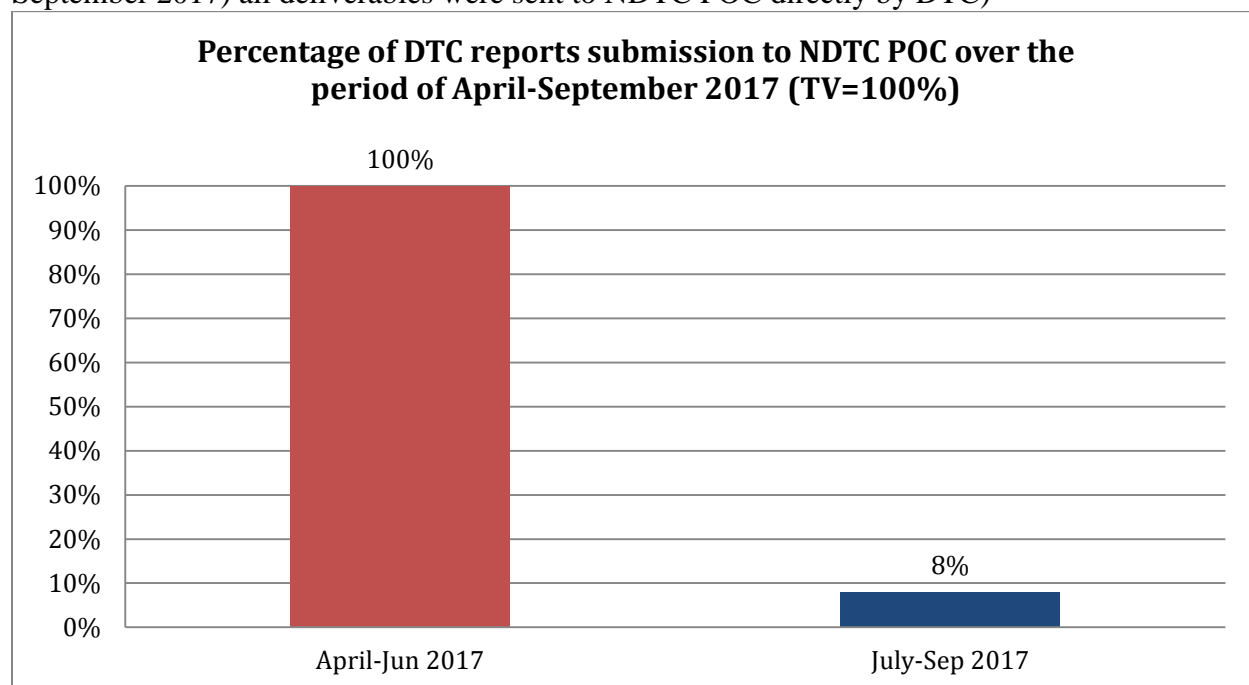
Table 2b: Rational Medicine Use, Farkhar District Hospital (2015 to 2016)

Indicators	Target Value	Jan-March 15	April-June 15	April-June 15	July- Sep 15	April-May 16	Oct-Dec 16
Percentage of patients with at least one antibiotic prescribed	24-30%	52.0%	48.0%	56.0%	54.0%	60.0%	62.0%
STG adherence for not prescribing antibiotics when not recommended (for AWD and Common Cold) (TV=100%)	100%	66.7%	100.0%	88.9%	66.7%	26.3%	48.3%
General STG adherence (TV=100%)	100%	NA	NA	NA	NA	NA	68.4%

No weekly monitoring performed in Farkhar hospital.

7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 through September 2017:

Graph 9: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April 2017 and September 2017 (*Note:* From April 2013 through June 2017, all deliverables of DTC were forwarded by SPS to NDTC POC. In Q2 (July-September 2017) all deliverables were sent to NDTC POC directly by DTC)



8) Priority focus areas recommended by SPS for NDTC POCs:

Pharmaceutical Supply Management needs a strong supervision from DTC, implementing NGO and POCs (IMAT results and particularly inventory control)

POC will support DTC in updating their 3 years action plan

POC will assist the DTC in the use of SPS quantification spread sheet

POC will assist the DTC in the process of revising the hospital formulary list

NDTC Point of Contact (POC) will send follow up email to each DTC on 25th of each month requesting DTC to send DTC deliverables i.e., DTC meeting minutes, results of assessments.

POC will communicate with implementing NGO to provide the below equipment to the DTC (**Urgent need:** DTC Secretary writes DTC meeting minutes by hand) :

- Computer with printer
- Internet facility
- Modem
- Scanner
- White and green board

Faizabad Provincial Hospital DTC

December 2017

- 1) Time period of SPS technical support to DTC:
DTC established in March 2011
SPS Associated Award project has fully provided technical support to the DTC of Faizabad Provincial Hospital from April 2013 up to end of September, 2017 (totally 54 months)
FIO support: Faizabad hospital was supported by SPS as a Provincial hospital (EPHS monitoring) from April 13, 2009 to 19 March 2014.
- 2) Number of DTC monthly meetings held during that period: 40 DTC monthly meetings
- 3) Number of DTC monthly meetings attended by SPS representative during that period: 30 DTC monthly meetings
- 4) Date of last revised ToR: May 08, 2017
- 5) Specific activities undertaken by DTC:
Faizabad PH DTC developed a three years (June 2015 - June 2018) action plan based on a Root Cause Analysis focusing (RCA) on Pharmaceutical Supply Management and Rational Medicine Use gaps identified by the DTC .
Faizabad PH DTC developed six months (28 November 2016-June 2017) action plan based on RCA which focused on 2 weak RMU indicators (percentage of AWD and simple ARI patients who received an antibiotic - not recommended)
Faizabad Hospital Formulary list developed (first edition May 2013) and officially introduced to staff on September 2013. Revision of FL started in 2016 but is not yet finalized.
Monitoring adherence to FL is performed by DTC.
- 6) Status report of routine DTC assessments based on available data:

Table 1a: Inventory Management assessment tools (IMAT), Faizabad Provincial Hospital (2009 to 2014)

Indicators	Target Value	April-June-09	Oct-Dec-09	April-June-10	April-June-11	Jan-March-12	April-June-12	April-June-12	Oct-Dec-12	July-Sep-13	April-June-14	Oct-Dec-14
Weighted Average Percentage of Inventory Variation	<1%	1.2%	1.0%	2.4%	0.5%	0.0%	0.0%	0.0%	3.9%	0.1%	0.0%	0.0%
Percentage of stock records that corresponds with physical counts	>90%	86.7%	90.0%	70.0%	80.0%	100.0%	100.0%	100.0%	73.3%	80.0%	100.0%	96.7%
Average Percentage of Time Out of Stock	<10%	5.3%	2.5%	5.8%	3.1%	5.2%	3.9%	12.5%	3.6%	0.2%	10.5%	10.9%

Table 1b: Inventory Management assessment tools (IMAT), Faizabad Provincial Hospital (2015 to 2017)

Indicators	Target Value	Jan-March-15	July-Sep-15	Oct-Dec-15	Jan-March-16	April-June-16	July-Sep-16	Oct-Dec-16	Jan-March-17	April-June-17	July-Sep-17
Weighted Average Percentage of Inventory Variation	<1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Percentage of stock records that corresponds with physical counts	>90%	86.7%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Average Percentage of Time Out of Stock	<10%	5.3%	11.2%	14.0%	15.0%	25.0%	0.0%	1.0%	1.0%	10.0%	6.0%

Trends of some RMU weak indicators over the period April 2009 to September 2017 in Faizabad Provincial Hospital is illustrated in below table.

Table 2a: Rational Medicine Use, Faizabad Provincial Hospital (2009 to 2014)

Indicators	Target Value	April-June-09	Oct-Dec-09	April-June-10	July-Sep-10	April-June -11	Jan-March -12	April-June -12	Oct-Dec -12	July-Sep-13	Jan-March-14	April-June-14	July-Sep-14	Oct-Dec-14
Percentage of patients with at least one antibiotic prescribed	24-30%	69.0%	65.0%	63.0%	53.0%	51.0%	57.0%	56.0%	65.0%	62.0%	48.0%	60.0%	48.0%	59.0%
STG adherence for not prescribing antibiotics when not recommended (for AWD and Common Cold) (TV=100%)	100%	NA	NA	NA	NA	NA	NA	NA	44.4%	66.7%	27.3%	58.3%	0.0%	82.6%
General STG adherence (TV=100%)	100%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 2b: Rational Medicine Use, Faizabad Provincial Hospital (2015 to 2017)

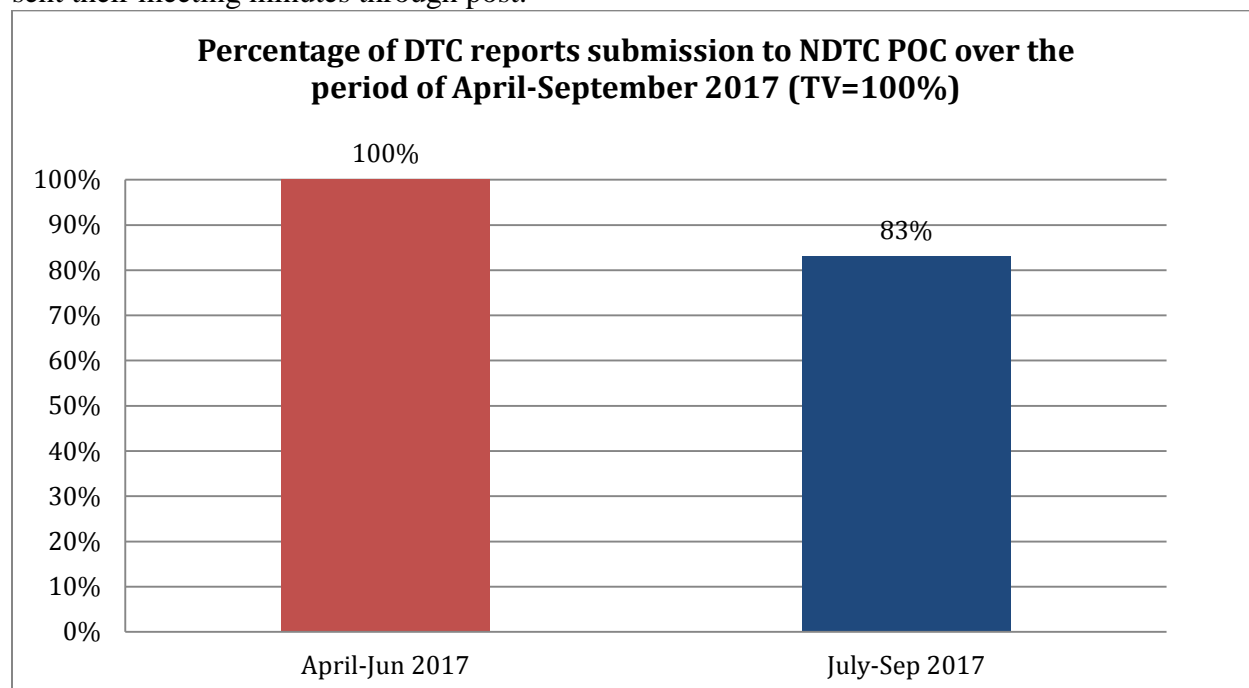
Indicators	Target Value	Jan-March-15	Jan-March-15	April-June-15	July-Sep-15	Oct-Dec-15	April-June-16	July-Sep-16	Oct-Dec-16	Jan-March-17	April-June-17	July-Sep-17
Percentage of patients with at least one antibiotic prescribed	24-30%	69.0%	68.0%	67.0%	64.0%	63.0%	46.0%	55.0%	61.0%	70.0%	50.0%	52.0%
STG adherence for not prescribing antibiotics when not recommended (for AWD and Common Cold) (TV=100%)	100%	100.0%	61.1%	91.7%	28.6%	84.6%	86.7%	69.7%	64.3%	58.6%	72.7%	88.9%
General STG adherence (TV=100%)	100%	NA	NA	NA	NA	NA	NA	79.6%	78.3%	74.1%	86.0%	81.6%

Table 3: Weekly monitoring on 2 weak RMU indicators, Faizabad Provincial Hospital

Indicators	Target Value	DTC SMART objective	Nov 2016	Jan 2017	Feb 2017	March 2017	April 2017	May 2017	June 2017	July 2017	Aug 2017
Percentage of simple ARI patients with at least one antibiotic prescribed	0%	18%	55.0%	47.5%	47.5%	40.0%	20.0%	17.5%	15.0%	15.0%	15.0%
Percentage of AWD Patients with at least one antibiotic prescribed Common Cold) (TV=100%)	0%	15%	30.0%	27.5%	30.0%	27.5%	15.0%	15.0%	15.0%	15.0%	15.0%

7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 through September 2017:

Graph 9: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April 2017 and September 2017 (*Note: From April 2013 through June 2017, all deliverables of DTC were forwarded by SPS to NDTC POC. In Q2 (July-September 2017) all deliverables were sent to NDTC POC directly by DTC*), DTC also directly sent their meeting minutes through post.



8) Priority focus areas recommended by SPS for NDTC POCs:

POC will assist the DTC in the process of revising the hospital formulary list

POC will assist DTC in updating their 3 years action plan

POC will assist the DTC in the use of the SPS medicines quantification spread sheet

NDTC Point of Contact (POC) will send follow up email to each DTC on 25th of each month requesting DTC to send DTC deliverables i.e., DTC meeting minutes, results of assessment.

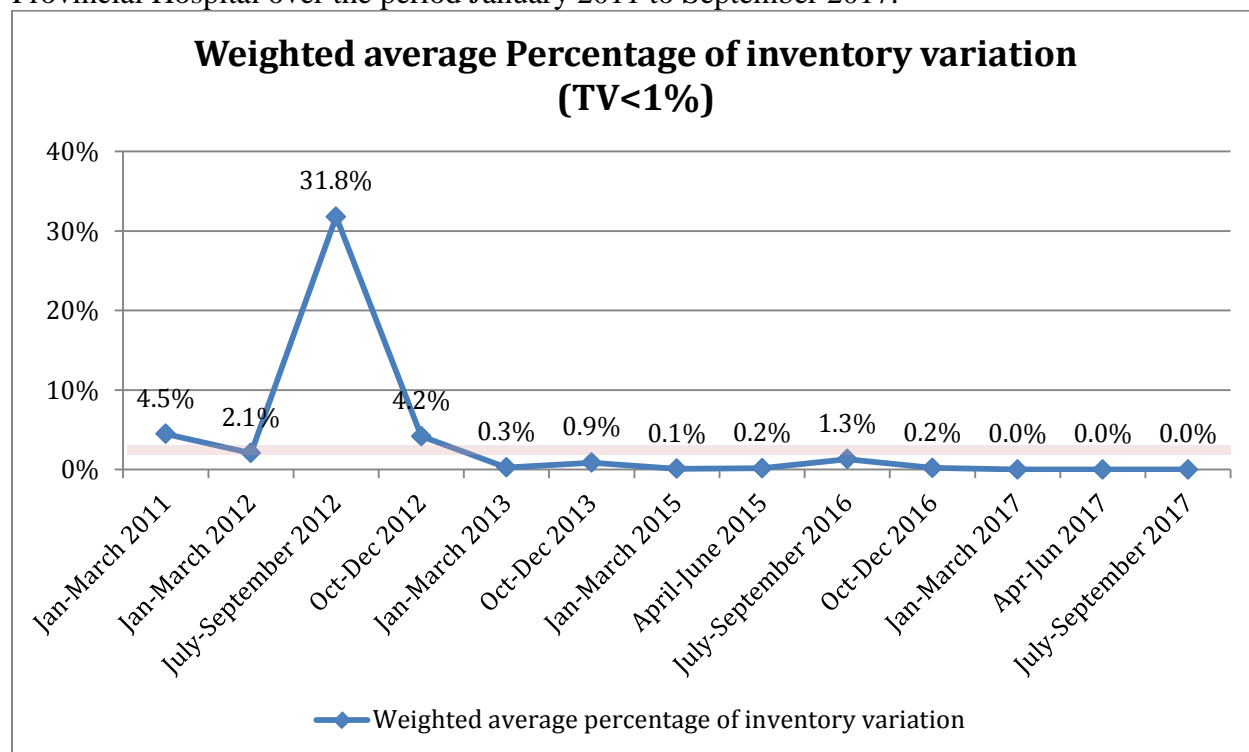
Ghazni Provincial Hospital DTC

December 2017

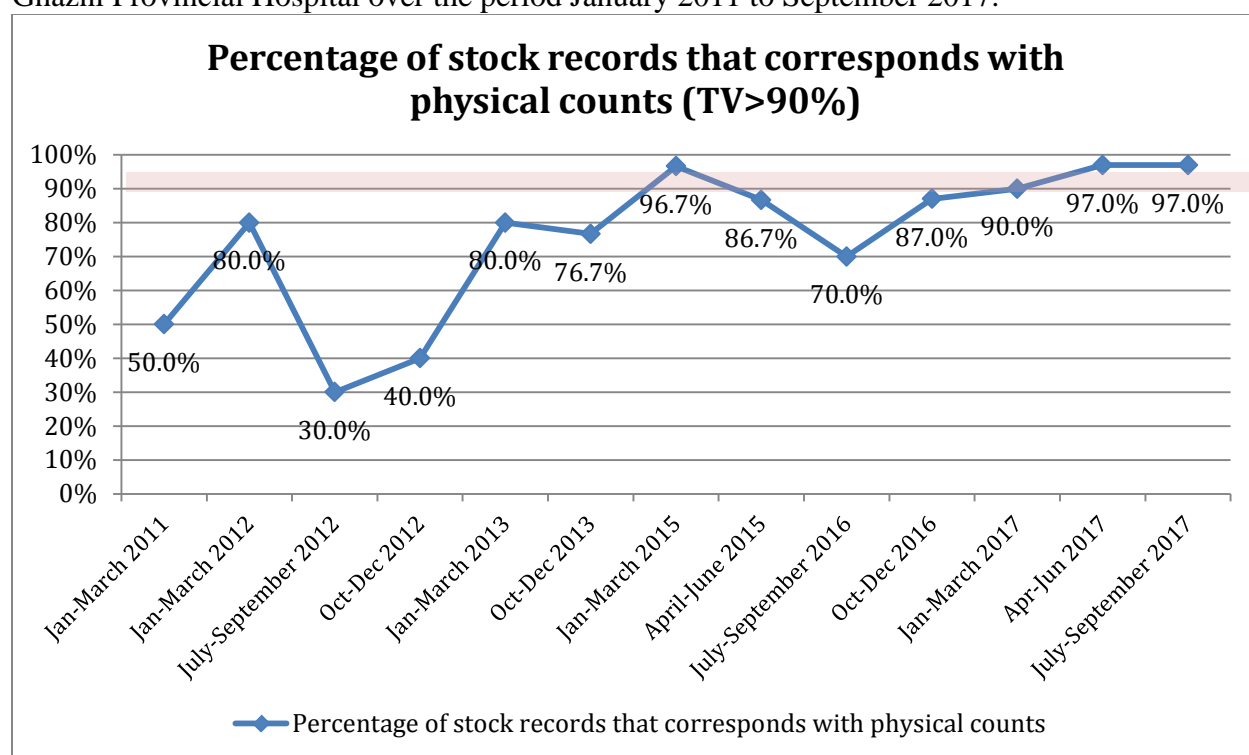
- 1) Time period of SPS technical support to DTC:
SPS limit support to DTC (Limit Support): DTC established in March 2011 with limited support from SPS
Direct SPS support to DTC (Full support): From May 17, 2016 to end September, 2017 (totally 17 months)
FIO Support the Ghazni PH: Ghazni hospital was supported by SPS as a Provincial hospital (BPHS monitoring) from January 22, 2011 to June 13, 2015.
- 2) Number of DTC monthly meetings held during that period: 22 DTC monthly meetings
- 3) Number of DTC monthly meetings attended by SPS representative during that period: 13 DTC monthly meetings
- 4) Date of last revised ToR: May 24, 2017
- 5) Specific activities undertaken by DTC:
Ghazni PH DTC developed six months (14 December 2016-June 2017) action plan based on Root Cause Analysis which focused on 2 weak RMU indicators (percentage of AWD and simple ARI patients who received an antibiotic - not recommended)
Development of hospital Formulary List in September 2013 and revised in May 2017.
Monitoring adherence to Formulary List is performed
- 6) Status report of routine DTC assessments based on available data:

IMAT assessment in Pharmacy

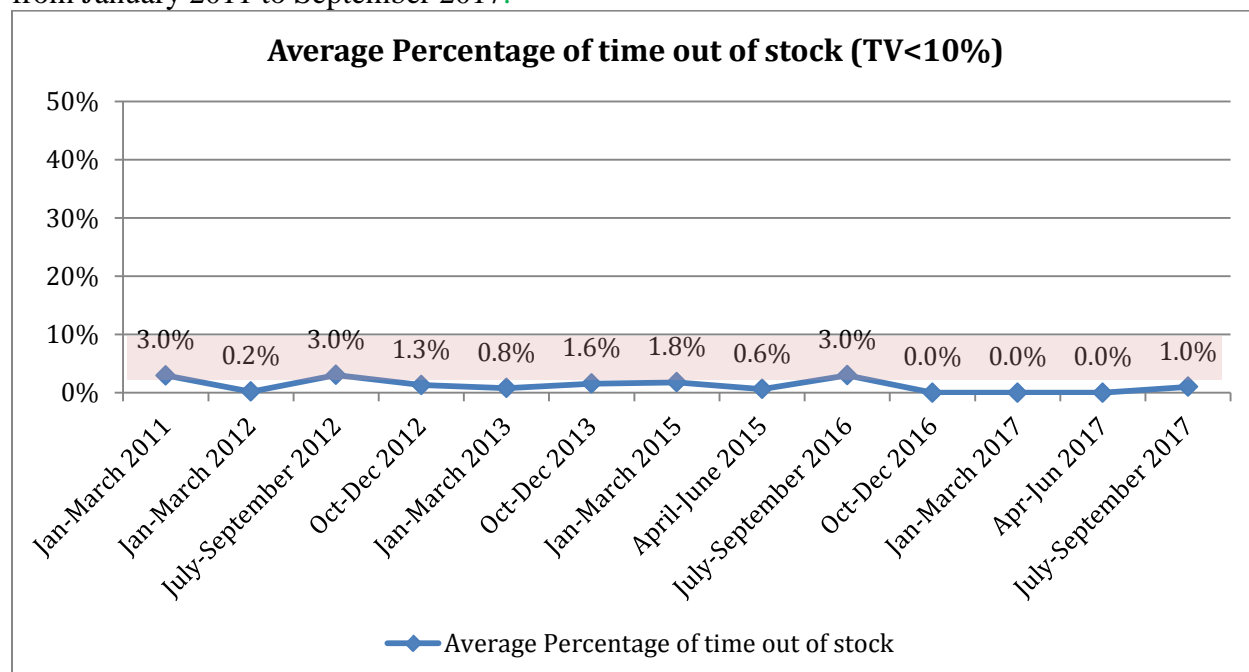
Graph 1: IMAT shows the Weighted Average Percentage of Inventory Variation in Ghazni Provincial Hospital over the period January 2011 to September 2017.



Graph 2: IMAT shows Percentage of stock records that corresponds with physical counts in Ghazni Provincial Hospital over the period January 2011 to September 2017.

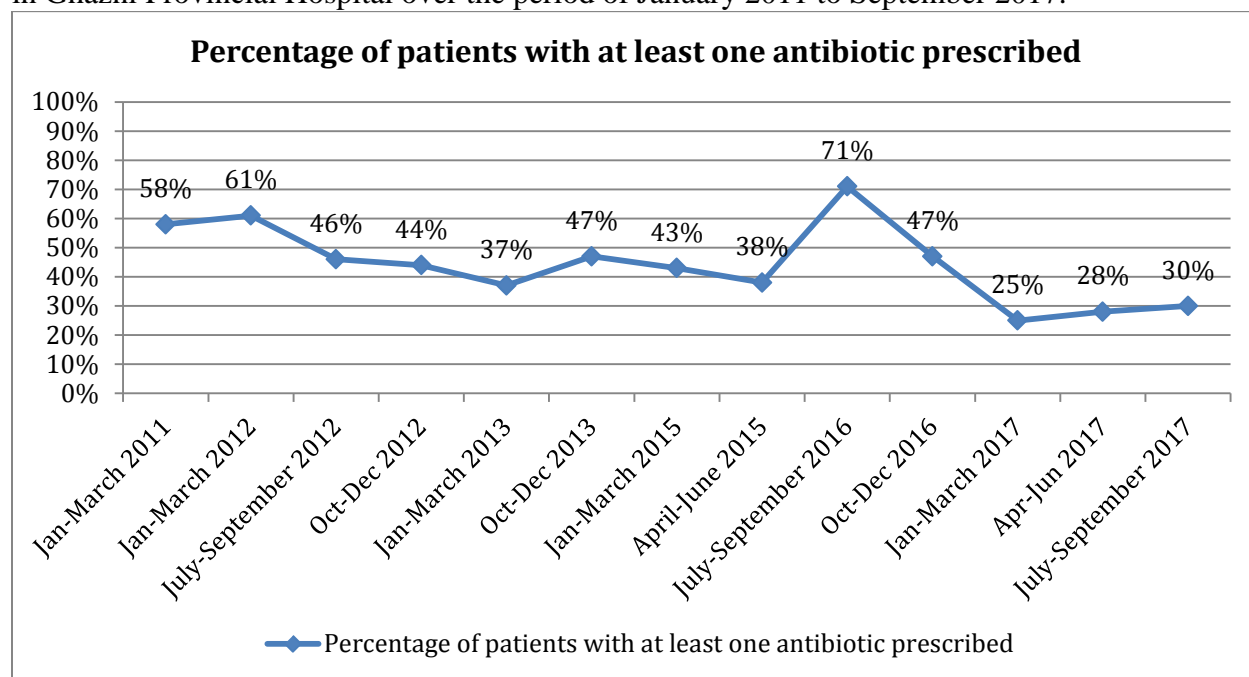


Graph 3: IMAT shows Average Percentage of Time Out of Stock in Ghazni Provincial Hospital from January 2011 to September 2017.

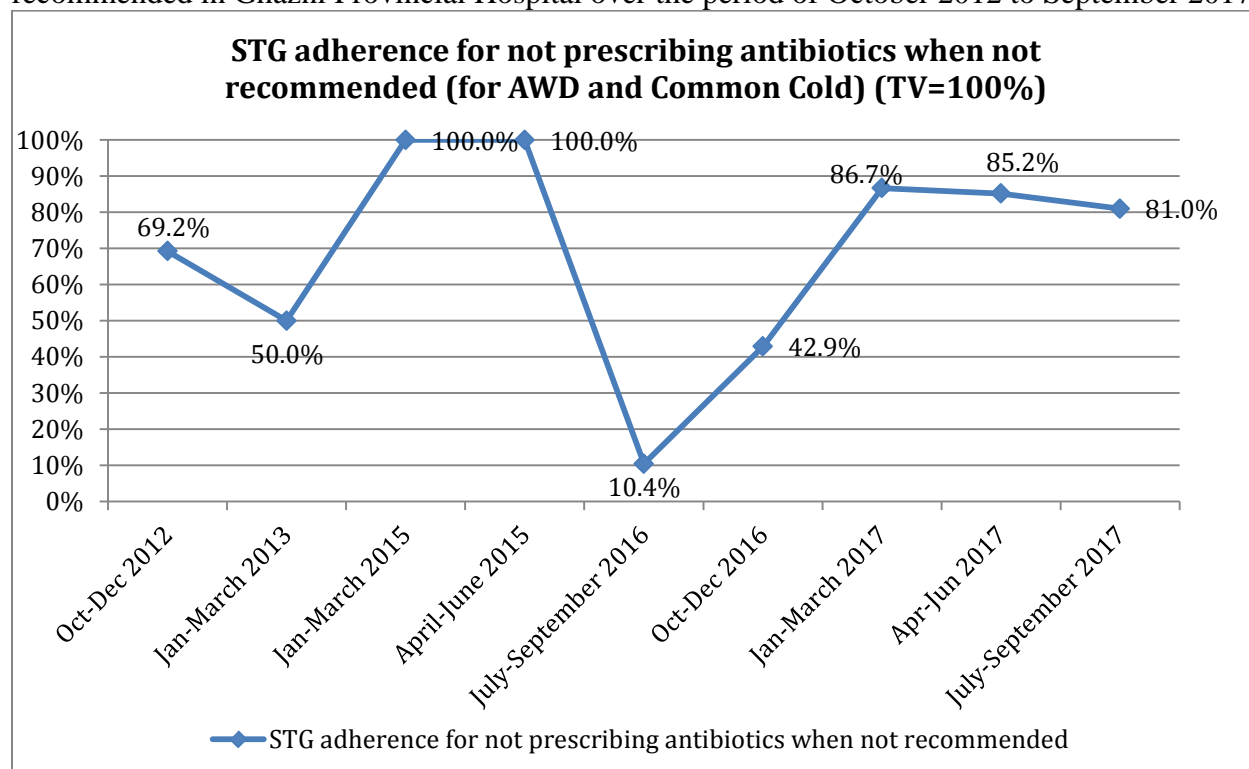


Rational Medicine Use in Ghazni Provincial Hospital: Trends of some RMU weak indicators over the period January 2011 to September 2017 in Ghazni Provincial Hospital are illustrated below through line charts to display trends over time.

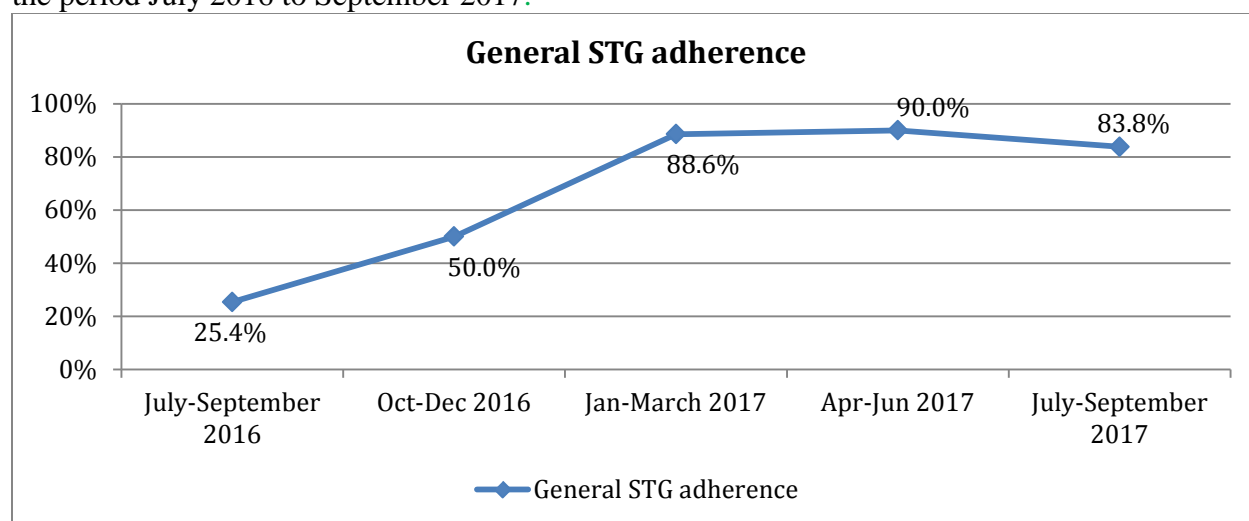
Graph 4: RMU assessment shows percentage of patients with at least one antibiotic prescribed in Ghazni Provincial Hospital over the period of January 2011 to September 2017.



Graph 5: RMU assessment shows STG adherence for not prescribing antibiotics when not recommended in Ghazni Provincial Hospital over the period of October 2012 to September 2017.

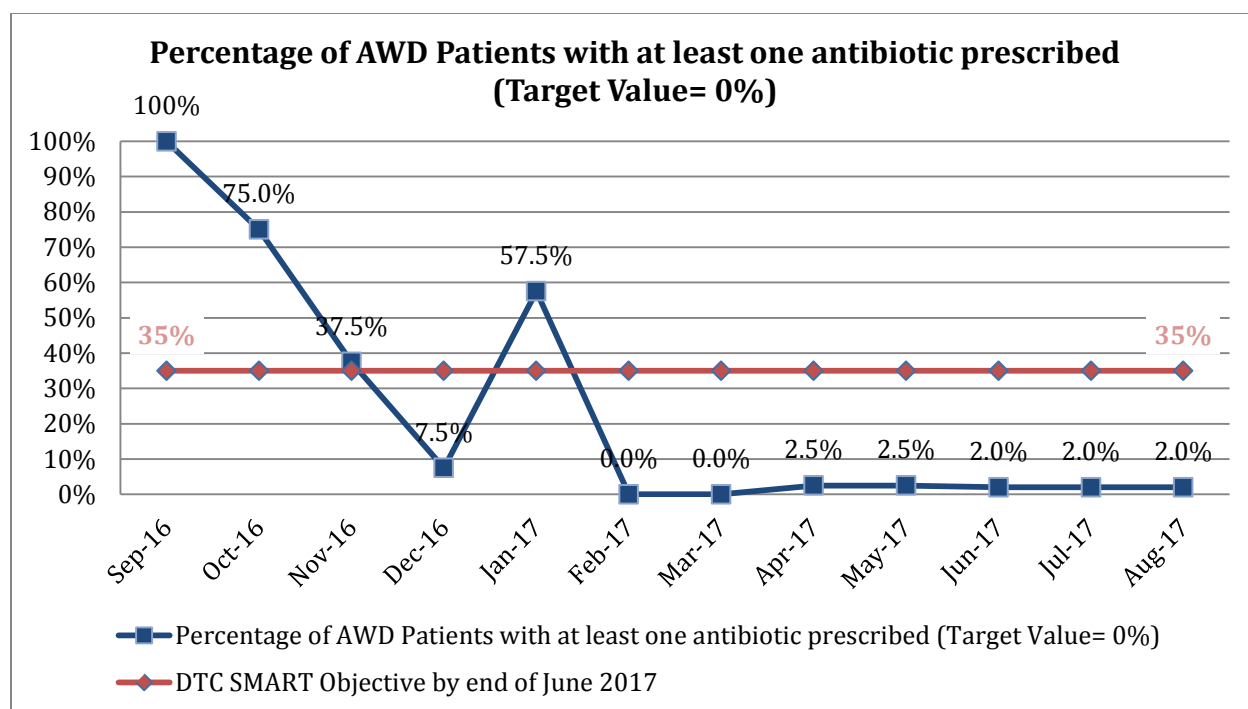


Graph 6: RMU assessment shows General NSTG adherence in Ghazni Provincial Hospital over the period July 2016 to September 2017.

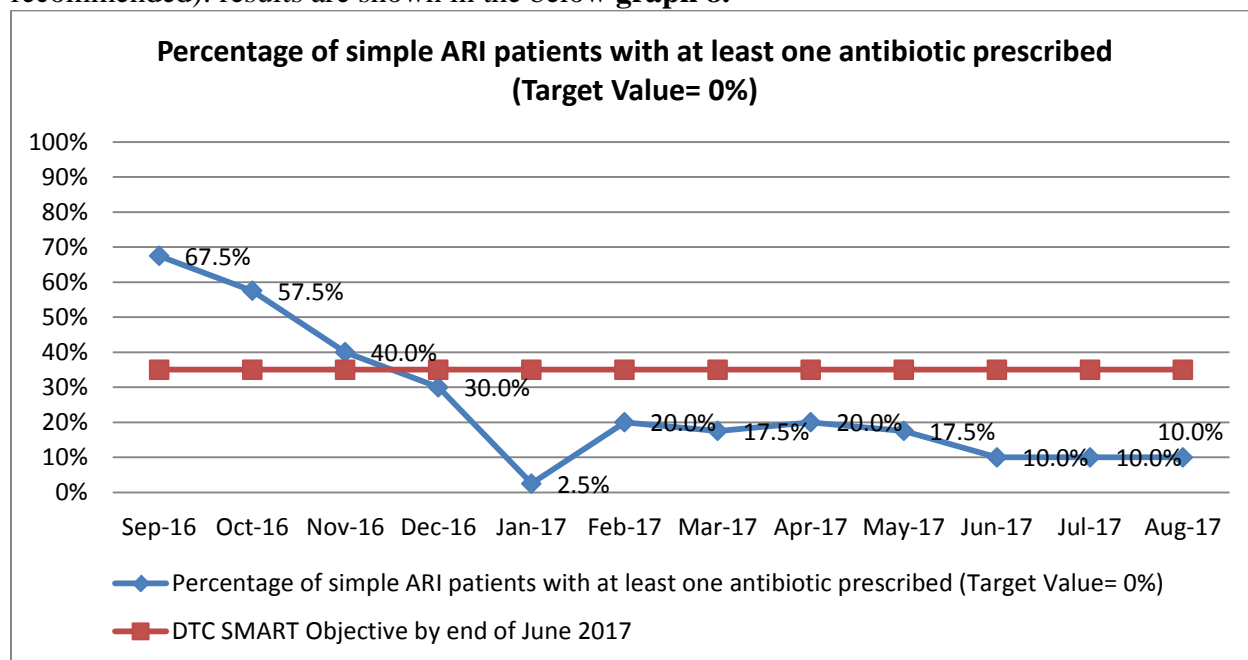


Weekly monitoring on 2 weak RMU indicators:

Graph 7: Weekly Monitoring of Patients with Acute Watery Diarrhea prescribed with an antibiotic (not recommended): results are shown in the below graph.



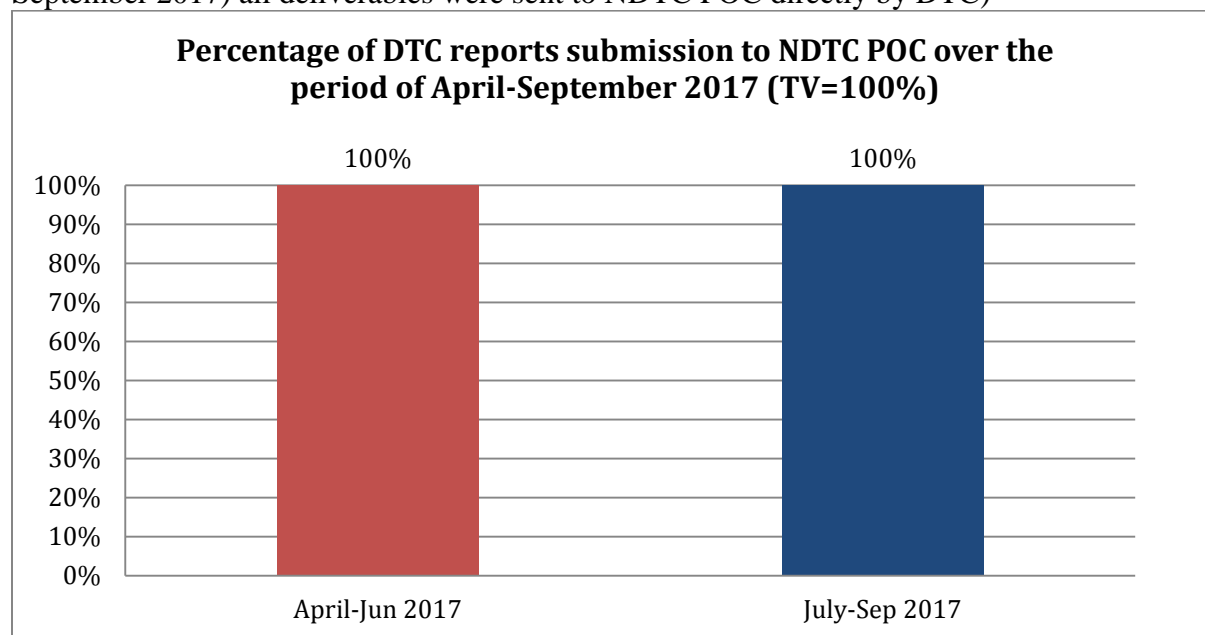
Weekly monitoring of Patients with Simple ARI prescribed with an antibiotic (not recommended): results are shown in the below **graph 8**.



7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 through September 2017:

Graph 9: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April 2017 and September 2017 (*Note: From May 2016*)

through June 2017, all deliverables of DTC were forwarded by SPS to NDTC POC. In Q2 (July-September 2017) all deliverables were sent to NDTC POC directly by DTC)



8) Priority focuses areas recommended by SPS for NDTC POCs:

NDTC Point Of Contact (POC) will closely follow DTC activities in hospital through verbal and written communications

POC will support the DTC to print the revised version of hospital FL and then ensure that FL is distributed to all wards and introduced officially to the hospital staff by the DTC (through the implementer NGOs) for further systematic use

POC will support the DTC secretary to develop an official email address as soon as possible

POC will communicate with implementing NGO to provide the below equipment's to the DTC:

- Computer with printer (only an old desktop is available in the pharmacy section)
- Internet facility
- Modem
- Scanner
- White and green board

Guzara District Hospital DTC

December 2017

1) Time period of SPS technical support to DTC:

Direct SPS support to DTC: From March 21, 2016 to end September, 2017 (totally 18 months)

FIO Support the Guzara DH: Guzara hospital was supported by SPS as a District hospital (BPHS monitoring) from August 2015 to March 2016.

2) Number of DTC monthly meetings held during that period: 19 DTC monthly meetings

3) Number of DTC monthly meetings attended by SPS representative during that period: 18 DTC monthly meetings

4) Date of last revised ToR: June 17, 2017

5) Specific activities undertaken by DTC:

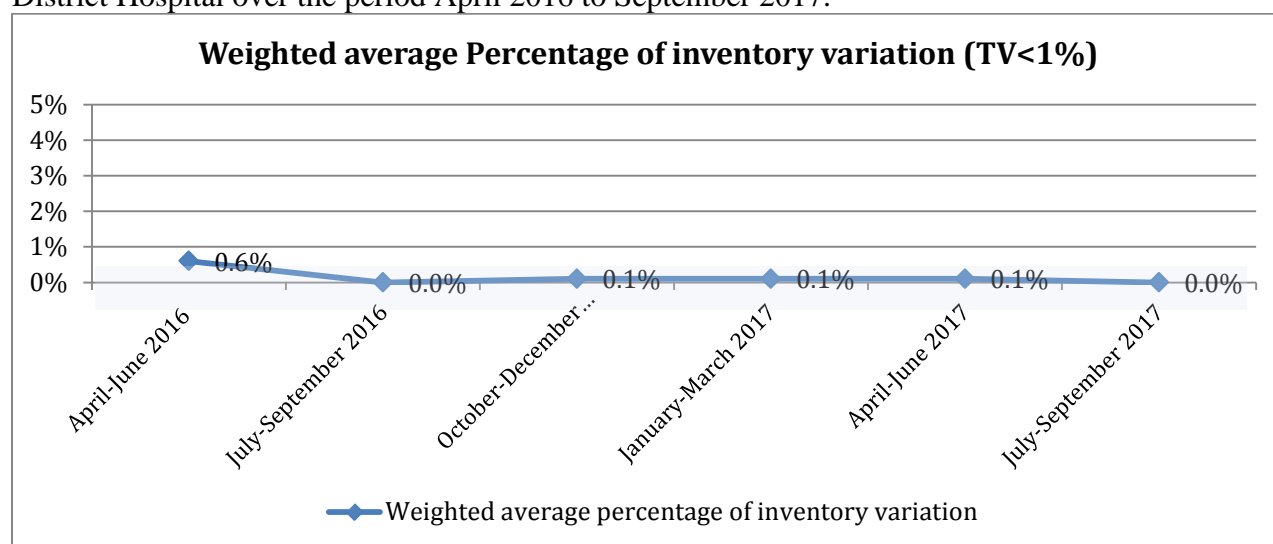
Guzara DH DTC developed six months (20 November 2016-June 2017) action plan based on RCA which focused on 2 weak RMU indicators (percentage of AWD who received an antibiotic - not recommended, and percentage of Pneumonia patients who received an antibiotic - recommended)

Hospital Formulary List is under development. First draft developed by Guzara DH DTC).

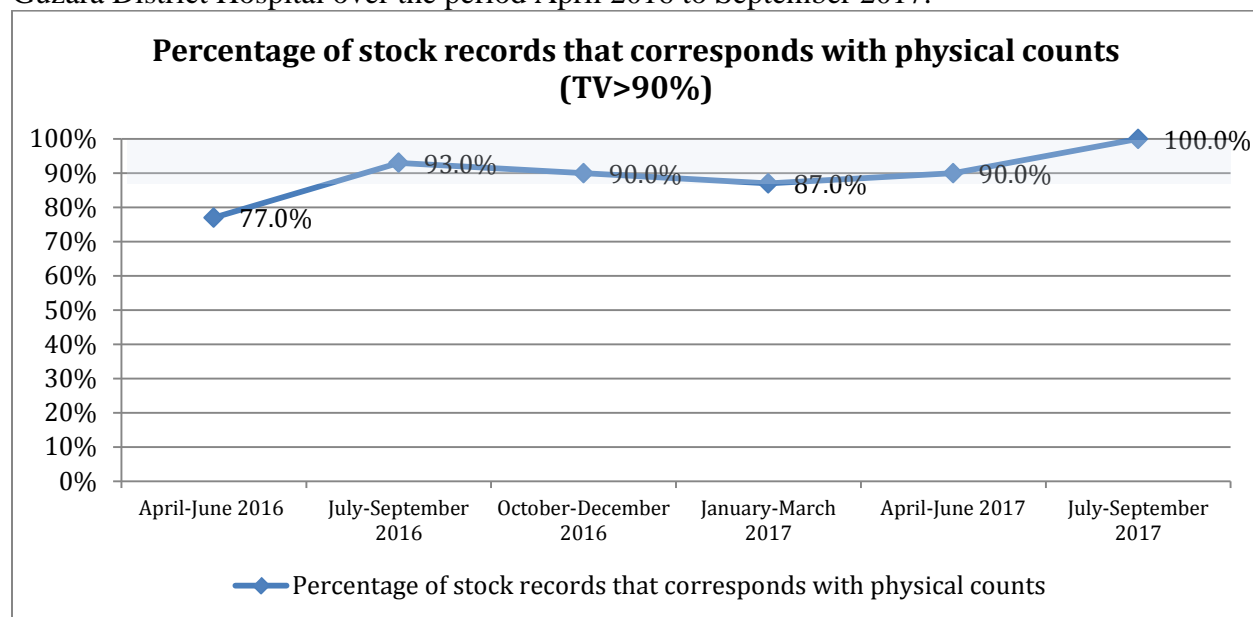
DTC has established four sub-committees in Guzara DH in order to bring effective changes in the hospital (1) RMU sub-committee, 2) IMAT sub-committee, 3) Formulary List development sub-committee and 4) Registration/ tally sheets sub-committee)

6) Status report of routine DTC assessments based on available data:

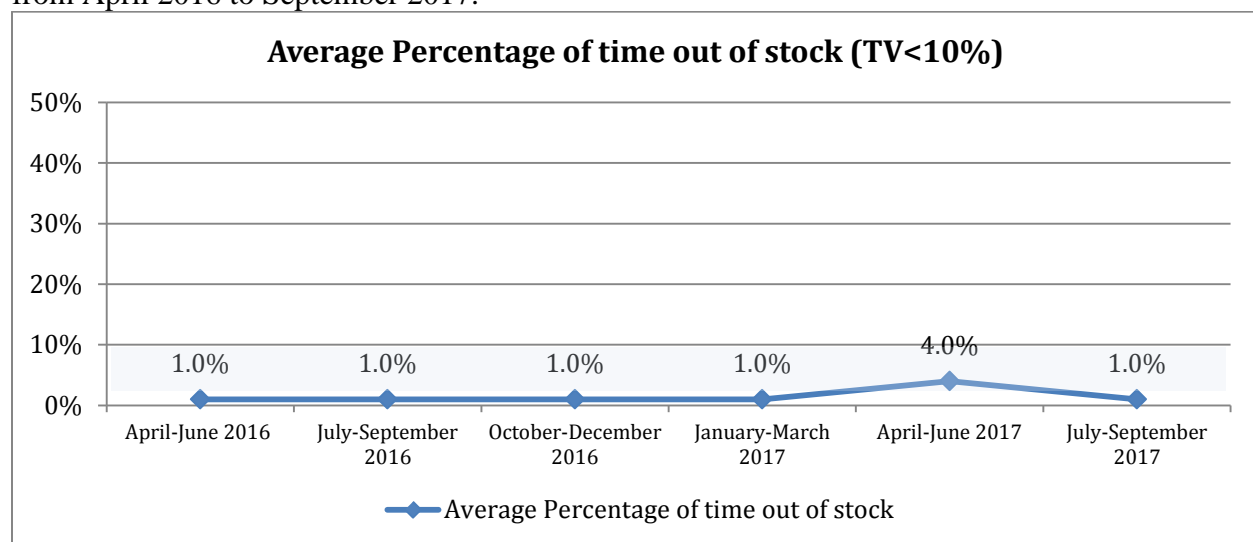
Graph 1: IMAT shows the Weighted Average Percentage of Inventory Variation in Guzara District Hospital over the period April 2016 to September 2017.



Graph 2: IMAT shows Percentage of stock records that corresponds with physical counts in Guzara District Hospital over the period April 2016 to September 2017.

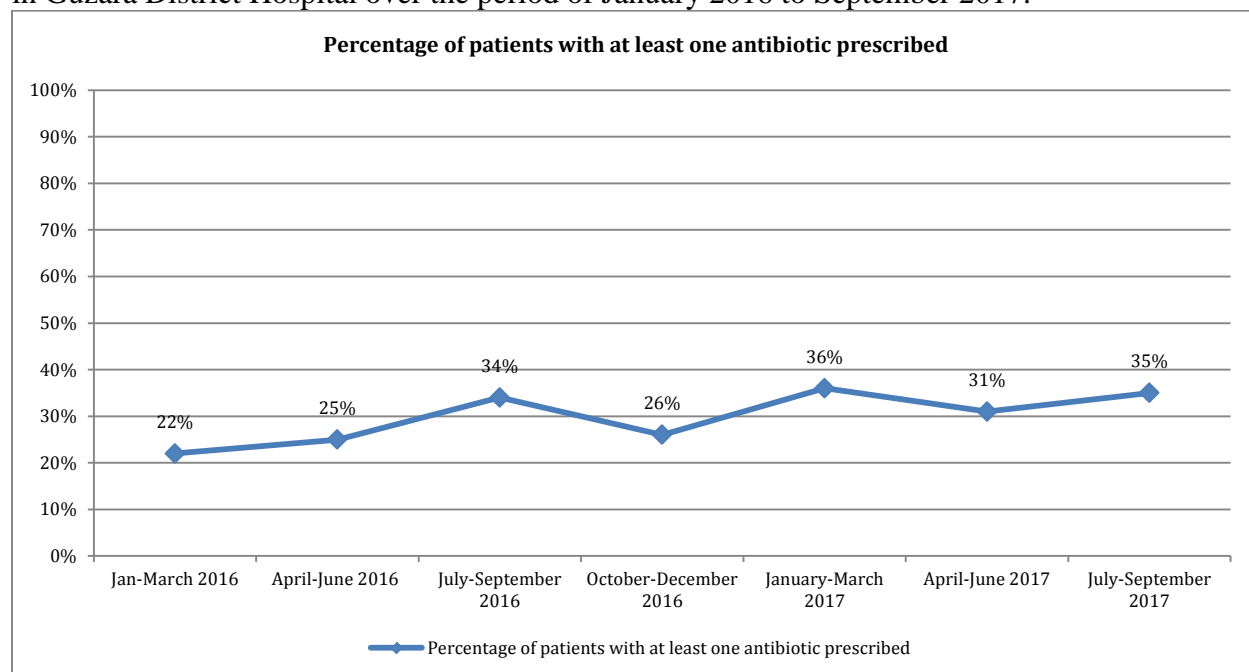


Graph 3: IMAT shows Average Percentage of Time Out of Stock in Guzara District Hospital from April 2016 to September 2017.

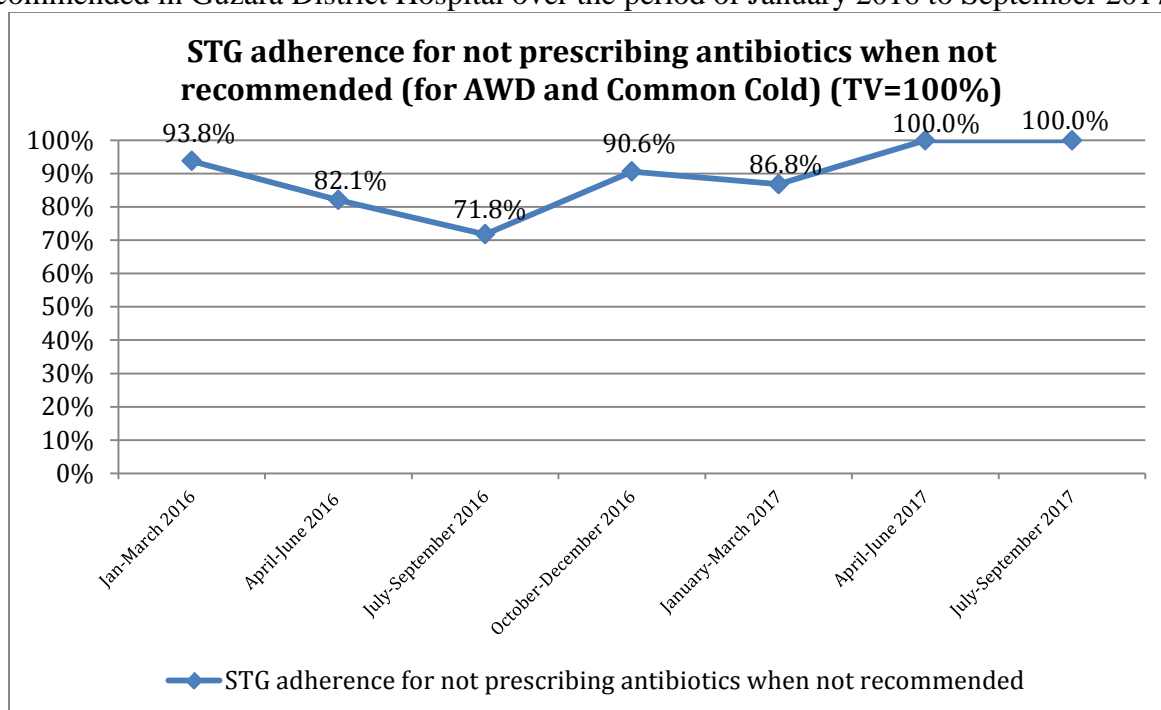


Rational Medicine Use in Guzara District Hospital: Trends of some RMU weak indicators over the period April 2016 to September 2017 in Guzara District Hospital are illustrated below through line charts to display trends over time.

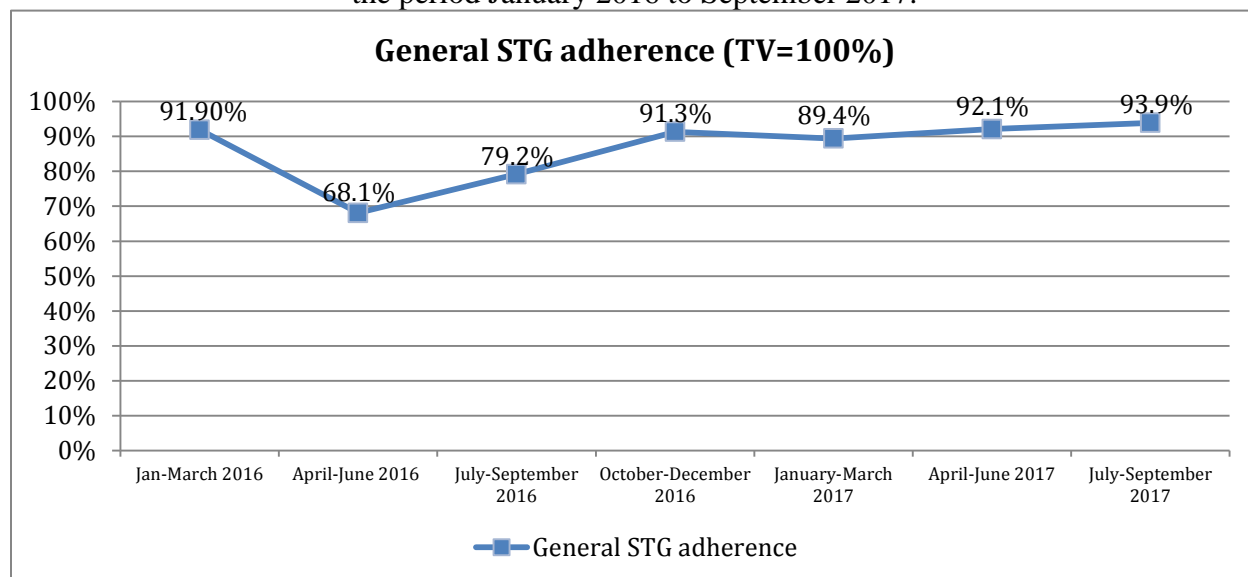
Graph 4: RMU assessment shows percentage of patients with at least one antibiotic prescribed in Guzara District Hospital over the period of January 2016 to September 2017.



Graph 5: RMU assessment shows STG adherence for not prescribing antibiotics when not recommended in Guzara District Hospital over the period of January 2016 to September 2017.

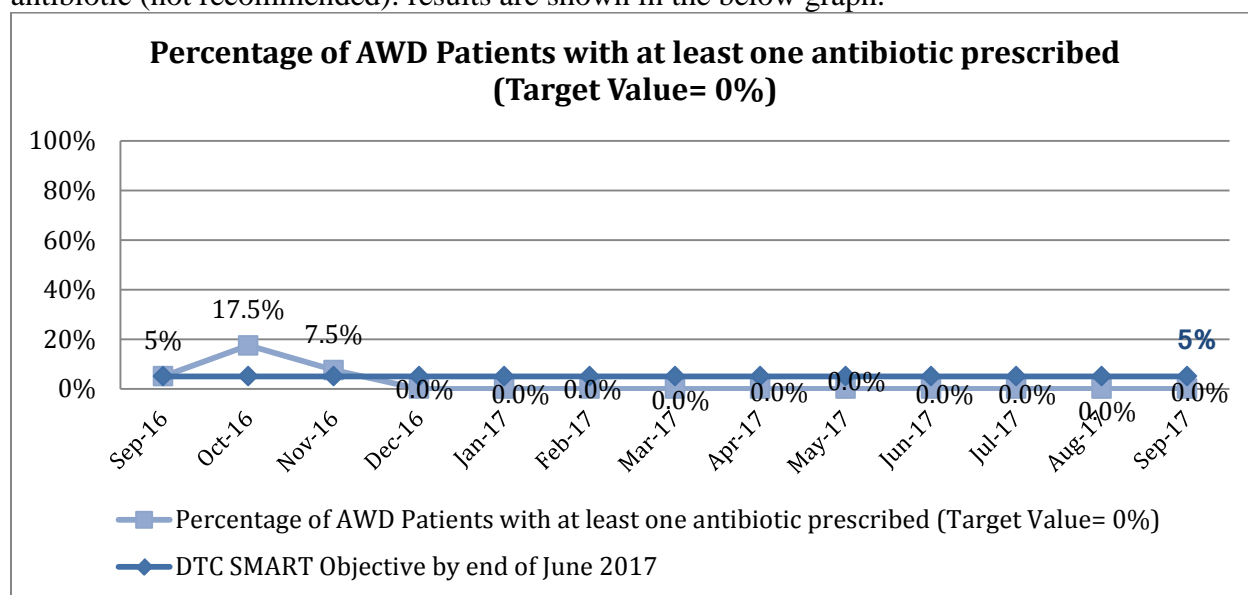


Graph 6: RMU assessment shows General NSTG adherence in Guzara District Hospital over the period January 2016 to September 2017.

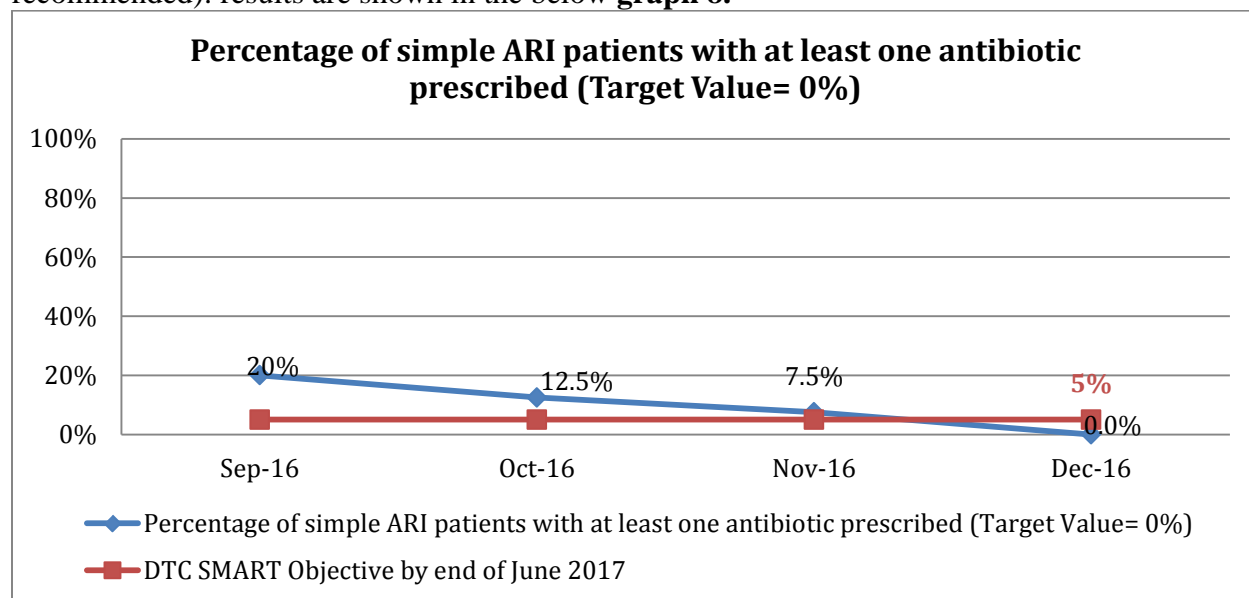


Weekly monitoring on 2 weak RMU indicators:

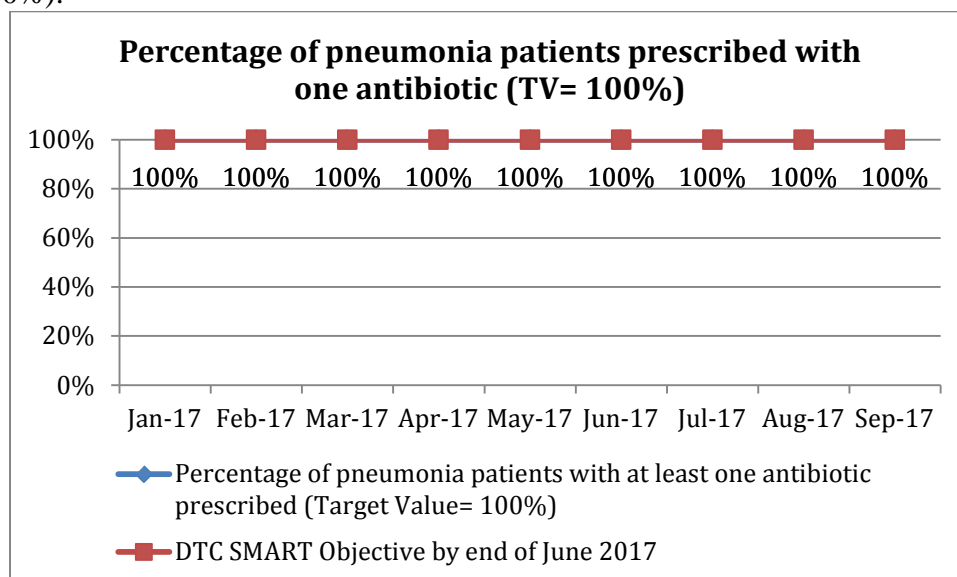
Graph 7: Weekly Monitoring of Patients with Acute Watery Diarrhea prescribed with an antibiotic (not recommended): results are shown in the below graph.



Weekly monitoring of Patients with Simple ARI prescribed with an antibiotic (not recommended): results are shown in the below **graph 8**.

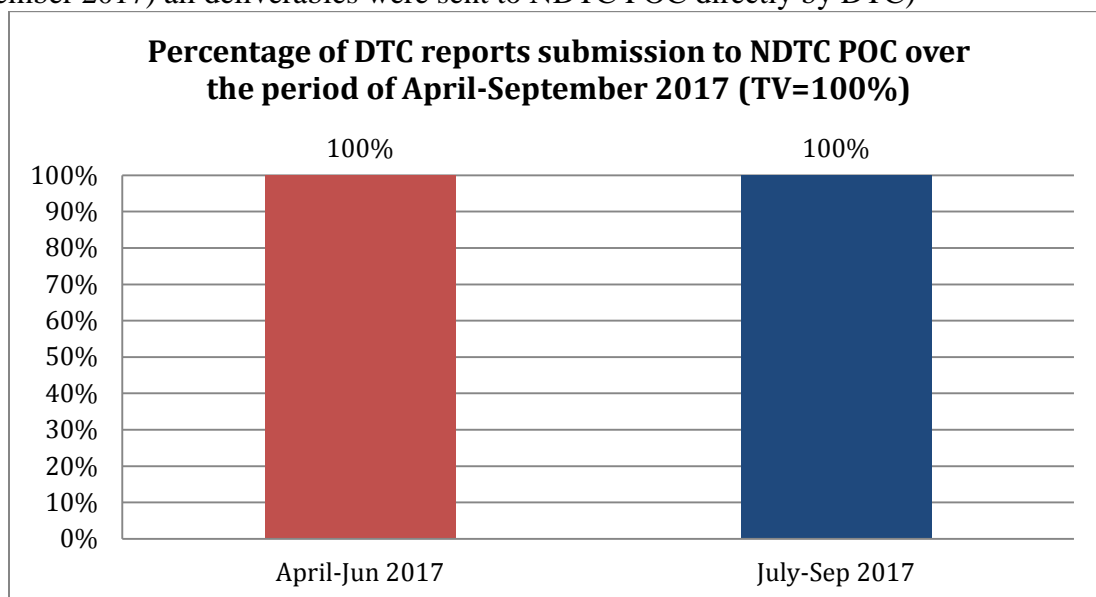


Weekly monitoring of Patients with Pneumonia with at least one antibiotic prescribed (Target Value= 100%):



7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 through September 2017:

Graph 9: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April 2017 and September 2017 (*Note:* From April 2016 through June 2017, all deliverables of DTC were forwarded by SPS to NDTC POC. In Q2 (July-September 2017) all deliverables were sent to NDTC POC directly by DTC)



8) Priority focus areas recommended by SPS for NDTC POCs:

POC will follow up the BDN NGO to supply computer and printer to pharmacy department of Guzara DH as well as the access to internet (presently only one desktop is available)

POC will support the DTC to finalize the first edition of the hospital formulary list, and once finalized will send it for approval from GDPS. POC will then ensure that FL is distributed to all wards and introduced officially to the hospital staff by the DTC.

NDTC POC will seek for the sustained NGO's and PPHO's political support for the DTC (It's essential for the DTC)

To ensure that the 4 established DTC sub-committees are sustained

Guzara DTC is a successful DTC and could be invited to a DTC event to share their experience, if needed.

Khost Provincial Hospital DTC

December 2017

- 1) Time period of SPS technical support to DTC:
 - SPS limit support to DTC (Limited Support): DTC established in March 2011 with limited support from SPS
 - Direct SPS support to DTC (Full support): From May 14, 2016 to end September, 2017 (totally 17 months)
 - FIO Support the Khost PH: Khost hospital was supported by SPS as a Provincial hospital (BPHS monitoring) from March 05, 2010 to April 09, 2015.
- 2) Number of DTC monthly meetings held during that period: 20 DTC monthly meetings
- 3) Number of DTC monthly meetings attended by SPS representative during that period: 10 DTC monthly meetings
- 4) Date of last revised ToR: November 12, 2017
- 5) Specific activities undertaken by DTC:
 - Khost PH DTC developed six months (15 December 2016-June 2017) action plan based on a Root Cause Analysis (RCA) which focused on 2 weak RMU indicators (percentage of AWD and simple ARI patients who received an antibiotic - not recommended)
 - No Hospital Formulary List developed.
- 6) Status report of routine DTC assessments based on available data:

Table 1: Inventory Management assessment tools (IMAT), Khost Provincial Hospital

Indicators	Target Value	Jan-March 2010	Jan-March 2011	Jan-March 2012	April-June 2012	Jan-March 2014	Oct-Dec 2014	April-June 2015	July-Sept 2016	Oct-Dec 2016	Jan-March 2017	April-June 2017	July-Sept 2017
Weighted Average Percentage of Inventory Variation	<1%	37.7%	5.2%	0.8%	0%	16%	1.1%	0.5%	0.1%	0.1%	0%	0%	0%
Percentage of stock records that corresponds with physical counts	>90%	40%	43.3%	86.7%	100%	60%	80%	66.7%	80%	80%	97%	100%	100%
Average Percentage of Time Out of Stock	<10%	5.3%	3.0%	2.6%	0.9%	6.2%	1.3%	0.9%	10.0%	13.0%	19.0%	15.0%	12.0%

Trends of some RMU weak indicators over the period January 2011 to September 2017 in Khost Provincial Hospital is illustrated in below table.

Table 2: Rational Medicine Use, Khost Provincial Hospital

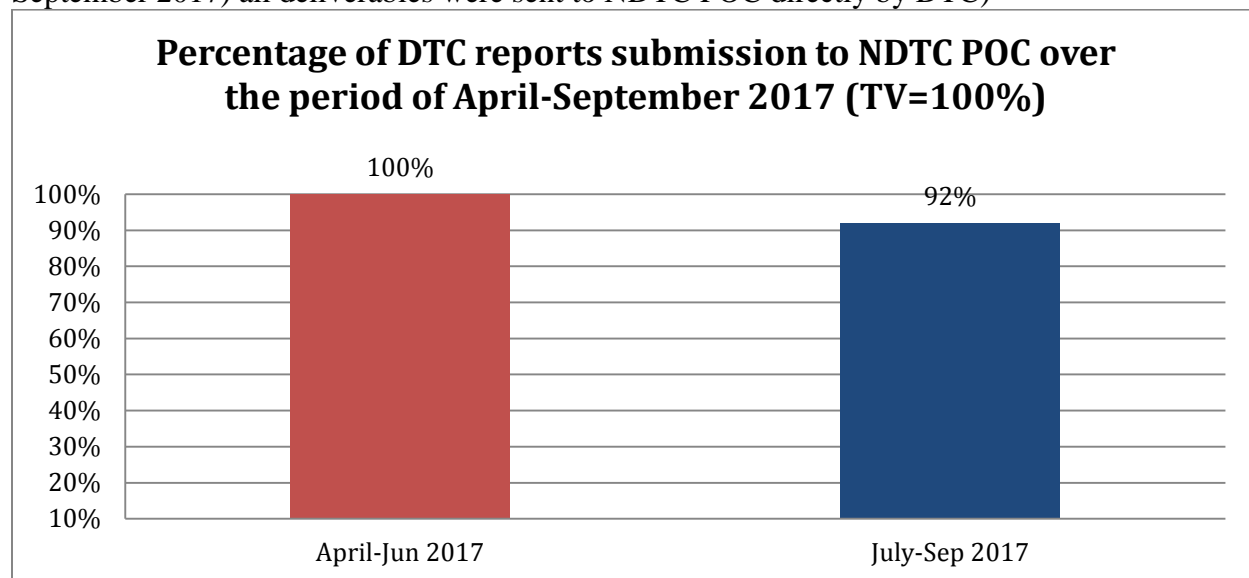
Indicators	Target Value	Jan-March 2010	Jan-March 2011	April-June 2012	Jan-March 2014	Oct-Dec 2014	April-June 2015	July-Sept 2016	Oct-Dec 2016	Jan-March 2017	April-June 2017	July-Sept 2017
Percentage of patients with at least one antibiotic prescribed	24-30%	69%	65%	68%	75%	65%	76%	85%	61%	70%	56%	57%
STG adherence for not prescribing antibiotics when not recommended (for AWD and Common Cold) (TV=100%)	100%	NA	NA	NA	NA	66.7%	0.0%	13.5%	35.5%	19.2%	47.1%	56.3%
General STG adherence (TV=100%)	100%	NA	NA	NA	NA	NA	NA	31.3%	45.7%	50.0%	58.8%	74.3%

Table 3: Weekly monitoring on 2 weak RMU indicators, Khost Provincial Hospital

Indicators	Target Value	DTC SMART Objective	Sep-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17
Percentage of simple ARI patients with at least one antibiotic prescribed	0%	30%	82.5%	72.5%	80%	70%	75%	55%	55%	50%	30%	20%	20%	20%
Percentage of AWD Patients with at least one antibiotic prescribed Common Cold) (TV=100%)	0%	40%	82.5%	60%	70%	70%	50%	57.5%	52.5%	45%	30%	30%	30%	25%

7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 through September 2017:

Graph 9: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April 2017 and September 2017 (*Note:* From May 2016 through June 2017, all deliverables of DTC were forwarded by SPS to NDTC POC. In Q2 (July-September 2017) all deliverables were sent to NDTC POC directly by DTC)



8) Priority focuses areas recommended by SPS for NDTC POCs:

POC will support the DTC to develop hospital formulary list

POC will ensure a good coordination between the EPHS program and specialty program of the Khost hospital in order to promote rational medicine use in the hospital

POC will assist the DTC in the use of SPS quantification spread sheet

POC will communicate with implementing NGO in order to provide the below equipment o the DTC:

- Computer with printer (Only an old desktop is available in the pharmacy section)
- Internet facility
- Modem
- Scanner
- White and green board

NDTC Point of Contact (POC) will send follow up email to each DTC on 25th of each month requesting DTC to send DTC deliverables i.e., DTC meeting minutes and results of assessments.

Mehtarlam Provincial Hospital DTC

December 2017

- 1) Time period of SPS technical support to DTC:
DTC established in January 2012
SPS Associated Award project has fully provided technical support to the DTC of Mehtarlam provincial Hospital from April 2013 up to end of September, 2017 (totally 54 months)
Implementation of DTC assessment tools started from 17 March 2014 to 16 July 2017
- 2) Number of DTC monthly meetings held during that period: 40 DTC monthly meetings
- 3) Number of DTC monthly meetings attended by SPS representative during that period: 29 DTC monthly meetings
- 4) Date of last revised ToR: June 20, 2017
- 5) Specific activities undertaken by DTC:
Mehtarlam PH DTC developed a three-year (June 2015 - June 2018) action plan based on a Root Cause Analysis focusing on PSM and RMU gaps found by the DTC
Mehtarlam PH DTC developed six months (7 December 2016-June 2017) action plan based on RCA which focused on 2 weak RMU indicators (percentage of AWD and simple ARI patients who received an antibiotic - not recommended)
Development of Hospital Formulary List (first edition February 2013) and revised version in April 2017.
- 6) Status report of routine DTC assessments based on available data:

Table 1: Inventory Management assessment tools (IMAT), Mehtarlam Provincial Hospital

Indicators	Target Value	Jan-March 2014	April-June 2014	July-Sept 2014	Jan-March 2015	April-June 2015	April-June 2016	July-Sept 2016	Oct-Dec 2016	Jan-March 2017	April-June 2017	July-Sept 2017
Weighted Average Percentage of Inventory Variation	<1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Percentage of stock records that corresponds with physical counts	>90%	93.3	100	100	100	100	80	97	93	90	97	100
Average Percentage of Time Out of Stock	<10%	0	0	0	5.5	8	3	8	21	4	2	3

Trends of some RMU weak indicators over the period Jan 2014 to September 2017 in Mehtarlam Provincial Hospital is illustrated in below table.

Table 2: Rational Medicine Use, Mehtarlam Provincial Hospital

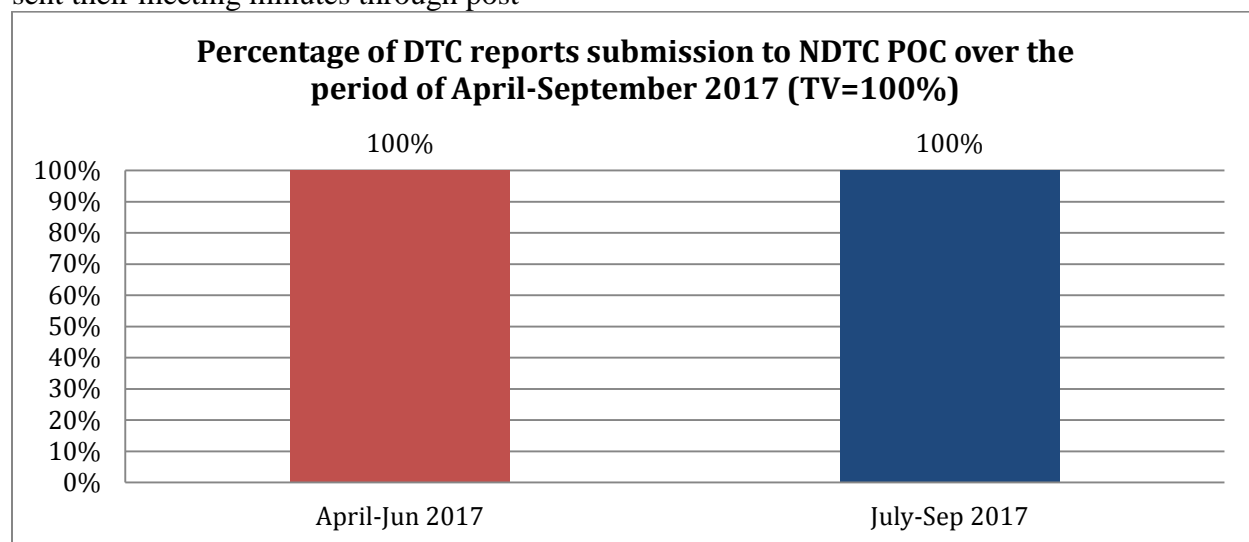
Indicators	Target Value	Jan-March 2014	April-June 2014	July-September 2014	Oct-Dec 2014	Jan-March 2015	April-June 2015	April-June 2016	April-June 2016	July-September 2016	Oct-Dec 2016	Jan-March 2017	April-June 2017	July-September 2017
Percentage of patients with at least one antibiotic prescribed	24-30%	57	38	37	43	48	43	60	37	45	40	54	34	32
STG adherence for not prescribing antibiotics when not recommended (for AWD and Common Cold) (TV=100%)	100%	100	NA	NA	100	100	100	58.3	70.7	76.2	84.6	81.5	95.9	100
General STG adherence (TV=100%)	100%	NA	NA	NA	NA	NA	NA	NA	NA	81	85.7	90.2	94.4	87.9

Table 3: Weekly monitoring on 2 weak RMU indicators, Mehtarlam Provincial Hospital

Indicators	Target Value	DTC SMART objective	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17
Percentage of simple ARI patients with at least one antibiotic prescribed	0%	0	35	37.5	7.5	0	2.5	0	0	0	0
Percentage of AWD Patients with at least one antibiotic prescribed Common Cold) (TV=100%)	0%	20	20	15	5	20	0	2.5	5	0	0

7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 through September 2017:

Graph 9: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April 2017 and September 2017 (*Note:* From April 2013 through June 2017, all deliverables of DTC were forwarded by SPS to NDTC POC. In Q2 (July-September 2017) all deliverables were sent to NDTC POC directly by DTC), DTC also directly sent their meeting minutes through post



8) Priority focus areas recommended by SPS for NDTC POCs:

POC will assist the DTC in the use of the SPS medicines quantification spread sheet
 POC will ensure the implementing NGO print the hospital formulary list (second edition April 2017) and then ensure that the revised FL is distributed in all wards and is introduced officially to the hospital staff

NDTC Point of Contact (POC) will send follow up email to each DTC on 25th of each month requesting DTC to send DTC deliverables i.e., DTC meeting minutes, results of assessment.

Nangarhar Regional Hospital DTC

December 2017

- 1) Time period of SPS technical support to DTC:
DTC established in November 2009 with ToR
SPS Associated Award project supports technically the DTC of Nangarhar Regional Hospital from November 2009 till September 2017 (totally 95 months)
- 2) Number of DTC monthly meetings held during that period: 37 DTC monthly meetings
- 3) Number of DTC monthly meetings attended by SPS representative during that period: 30 DTC monthly meetings
- 4) Date of last revised ToR: May 21, 2017
- 5) Specific activities undertaken by DTC:
Nangarhar PH DTC developed a three-year (June 2015 to June 2018) action plan based on a Root Cause Analysis (RCA) focused on the PSM and RMU gaps identified by the DTC
Nangarhar PH DTC developed six months (29 November 2016-June 2017) action plan based on RCA which focused on 2 weak RMU indicators (percentage of AWD and simple ARI patients who received an antibiotic - not recommended)
Development of Hospital Formulary List (first edition November 2012), and revision of FL (second edition August 2017)
Monitoring adherence of FL is performed by DTC.
Development of Surgical Antibiotic Prophylaxis STG (SAPSTG) Edition August 2013.
Monitoring of adherence to SAP STG is performed by DTC
Prescription Analysis performed on the 3 most expensive antibiotics used in IPD wards (May 2015): out of 471 patients prescribed with antibiotic 27.6% of those patients did not need antibiotic. The possible financial savings through avoiding the unnecessary and inappropriately prescribed antibiotics amount to 74,817 AFN out of the estimated 157,955 AFN or 52.63% of possible cost savings for the total sample.
- 6) Status report of routine DTC assessments based on available data:

Table 1a: Inventory Management assessment tools (IMAT), Nangarhar Regional Hospital (2010 to 2015)

Indicators	Target Value	Jan-March-10	Oct-Dec-10	Jan-March 2012	Oct-Dec-2012	Oct-Dec -13	April-June 2014	July-Sept 2014	Oct-Dec 2014	Jan-March 2015	April-June 2015	Oct-Dec 2015
Weighted Average Percentage of Inventory Variation	<1%	0.0%	54.8%	0.0%	0.3%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.6%
Percentage of stock records that corresponds with physical counts	>90%	100.0%	23.0%	100.0 %	97.0%	80.0%	80.0%	96.7%	96.7%	93.3%	93.3%	97.0%
Average Percentage of Time Out of Stock	<10%	3.0%	22.0%	5.2%	18.0%	7.4%	7.1%	1.9%	1.2%	1.5%	0.0%	4.0%

Table 1b: Inventory Management assessment tools (IMAT), Nangarhar Regional Hospital (2016 to 2017)

Indicators	Target Value	April-June 2016	July-Sept 2017	Oct-Dec 2016	Jan-March 2017	April-June 2017	July-Sept 2017
Weighted Average Percentage of Inventory Variation	<1%	0.0%	15.5%	0.0%	0.0%	0.0%	0.0%
Percentage of stock records that corresponds with physical counts	>90%	100.0%	90.0%	100.0%	100.0%	100.0%	100.0%
Average Percentage of Time Out of Stock	<10%	0.0%	8.0%	4.0%	3.0%	0.0%	0.0%

Trends of some RMU weak indicators over the period April 2014 to September 2017 in Nangarhar Regional Hospital is illustrated in below table.

Table 2: Rational Medicine Use, Nangarhar Regional Hospital

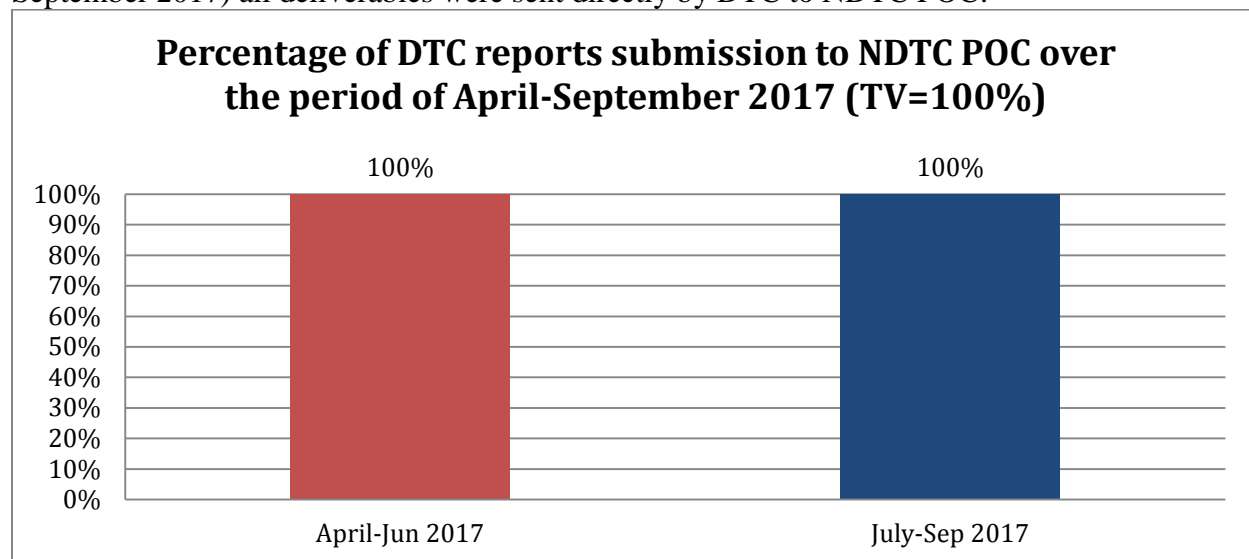
Indicators	Target Value	April-June 2014	July-September 2014	Oct-Dec 2014	Jan-March 2015	April-June 2015	Oct-Dec 2015	April-June 2016	July-September 2017	Oct-Dec 2016	Jan-March 2017	April-June 2017	July-September 2017
Percentage of patients with at least one antibiotic prescribed	24-30%	68.0%	46.0%	46.0%	44.0%	43.0%	56.0%	50.0%	60.0%	48.0%	47.0%	52.0%	36.0%
STG adherence for not prescribing antibiotics when not recommended (for AWD and Common Cold) (TV=100%)	100%	NA	NA	100.0%	100.0%	100.0%	87.5%	36.1%	15.6%	33.3%	48.4%	65.0%	88.1%
General STG adherence (TV=100%)	100%	NA	NA	NA	NA	NA	NA	NA	33.3%	42.2%	54.7%	83.7%	88.9%

Table 3: Weekly monitoring on 2 weak RMU indicators, Nangarhar Regional Hospital

Indicators	Target Value	DTC SMART Objective	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	March/April 2017	Apr 2017	May 2017	June 2017	July 2017	August 2017
Percentage of simple ARI patients with at least one antibiotic prescribed	0%	30%	70.0%	45.0%	32.5%	30.0%	27.5%	25.0%	20.0%	17.5%	15.0%	12.5%	10.0%
Percentage of AWD Patients with at least one antibiotic prescribed Common Cold) (TV=100%)	0%	25%	35.0%	32.5%	37.5%	37.5%	35.0%	32.5%	30.0%	22.5%	20.0%	20.0%	20.0%

7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 through September 2017:

Graph 9: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April 2017 and September 2017 (*Note:* From November 2009 through June 2017, all deliverables of DTC were forwarded by SPS to NDTC POC. In Q2 (July-September 2017) all deliverables were sent directly by DTC to NDTC POC).



8) Priority focus areas recommended by SPS for NDTC POCs:

POC will assist the DTC to use SPS quantification spread sheet

POC will ensure that the implementing NGO prints the hospital formulary list for further distribution in all wards and use by hospital staff

POC will support the DTC, if needed, in performing regularly the monitoring adherence to SAPSTG

POC will ensure that the DTC is updating regularly the DTC 3 years action plan

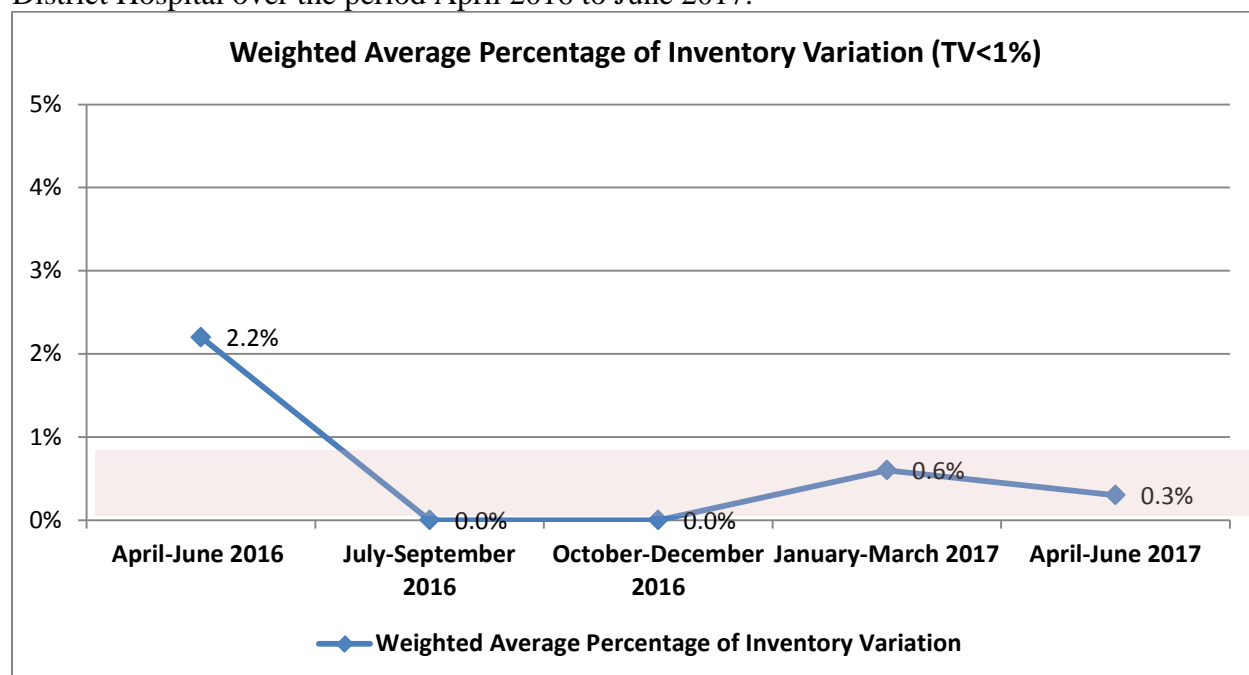
NDTC Point of Contact (POC) will send follow up email to each DTC on 25th of each month requesting DTC to send deliverables i.e., DTC meeting minutes, results of assessments.

Spin Boldak District Hospital DTC

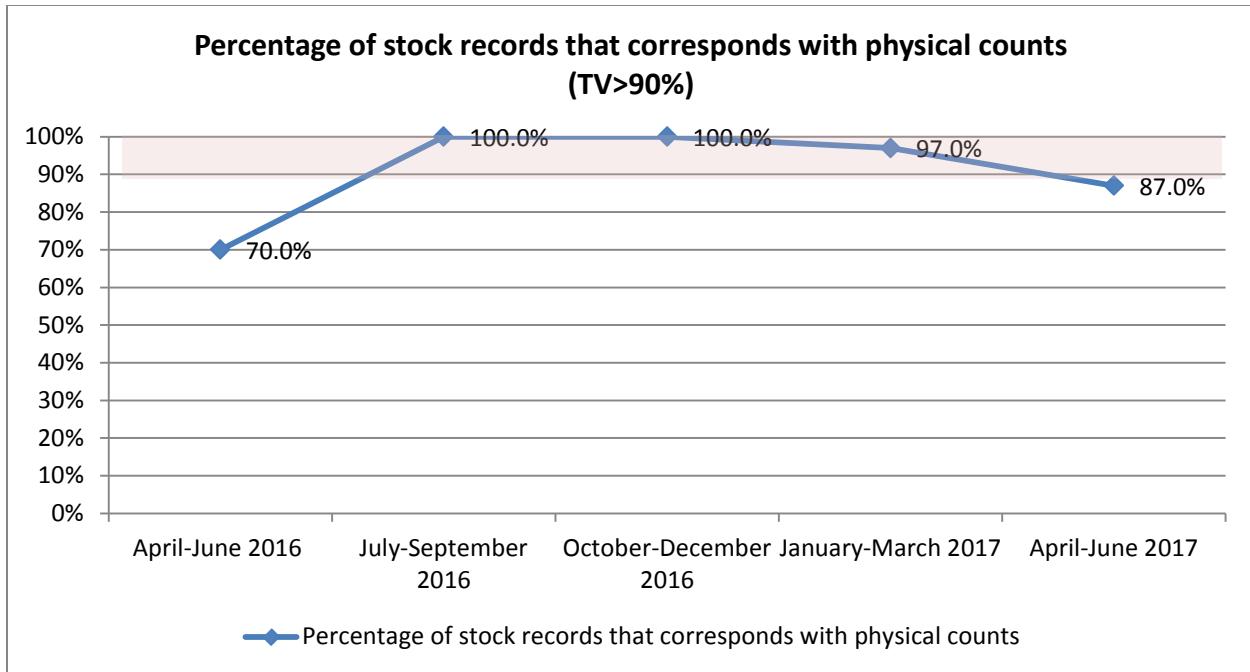
November 2017

- 1) Time period of SPS technical support to DTC:
 Direct SPS support to DTC: From February 21, 2016 to August 31, 2017 (totally 18 months)
Note: Spin Boldak hospital was supported by SPS as a District hospital (BPHS monitoring) from 2010 to 2013
- 2) Number of DTC monthly meetings held during that period: 20 DTC monthly meetings
- 3) Number of DTC monthly meetings attended by SPS representative during that period: 18 DTC monthly meetings
- 4) Date of last revised ToR: January 31, 2017
- 5) Specific activities undertaken by DTC:
 Spin Boldak DH DTC developed six months (30 December 2016-June 2017) action plan based on RCA which focused on 2 weak RMU indicators (percentage of AWD and simple ARI patients who received an antibiotic - not recommended)
 No Hospital Formulary List developed.
- 6) Status report of routine DTC assessments based on available data:

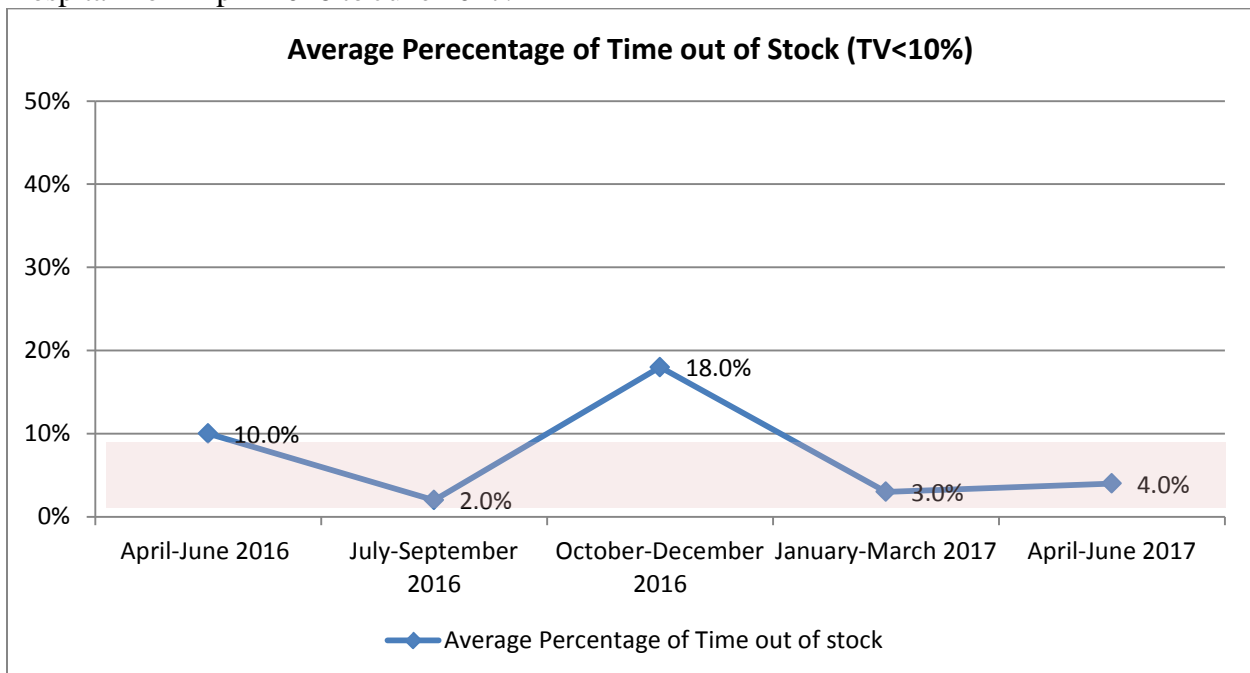
Graph 1: IMAT shows the Weighted Average Percentage of Inventory Variation in Spin Boldak District Hospital over the period April 2016 to June 2017.



Graph 2: IMAT shows Percentage of stock records that corresponds with physical counts in Spin Boldak District Hospital over the period April 2016 to June 2017.

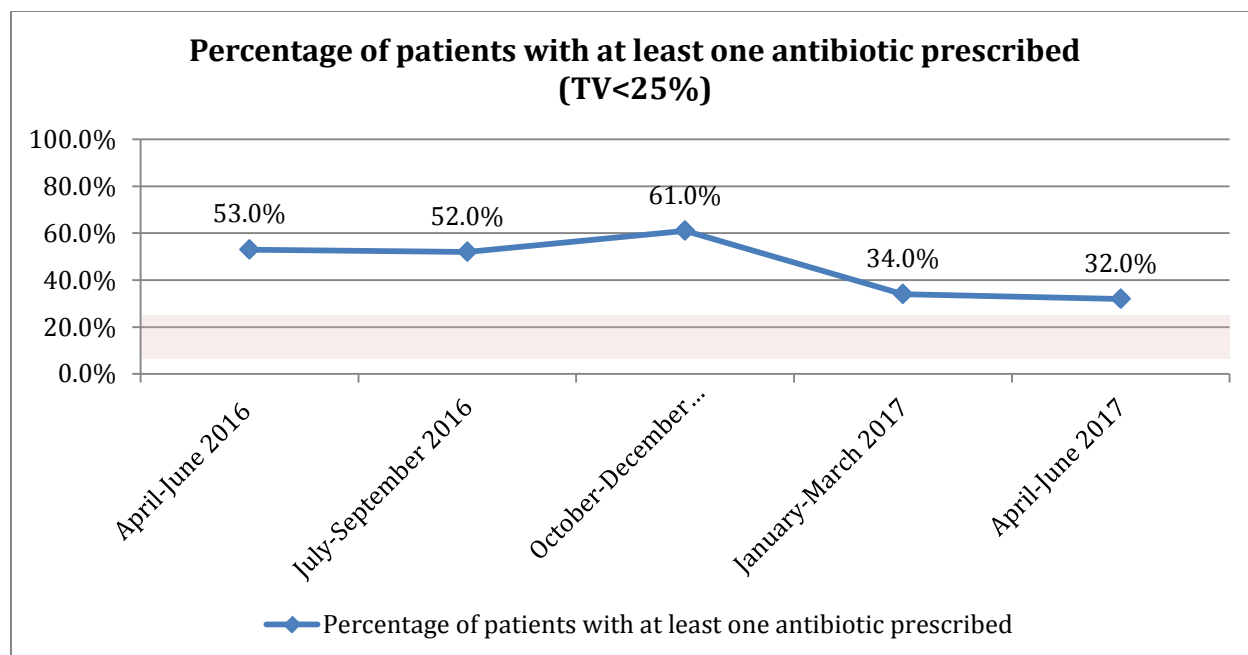


Graph 3: IMAT shows Average Percentage of Time Out of Stock in Spin Boldak District Hospital from April 2016 to June 2017.

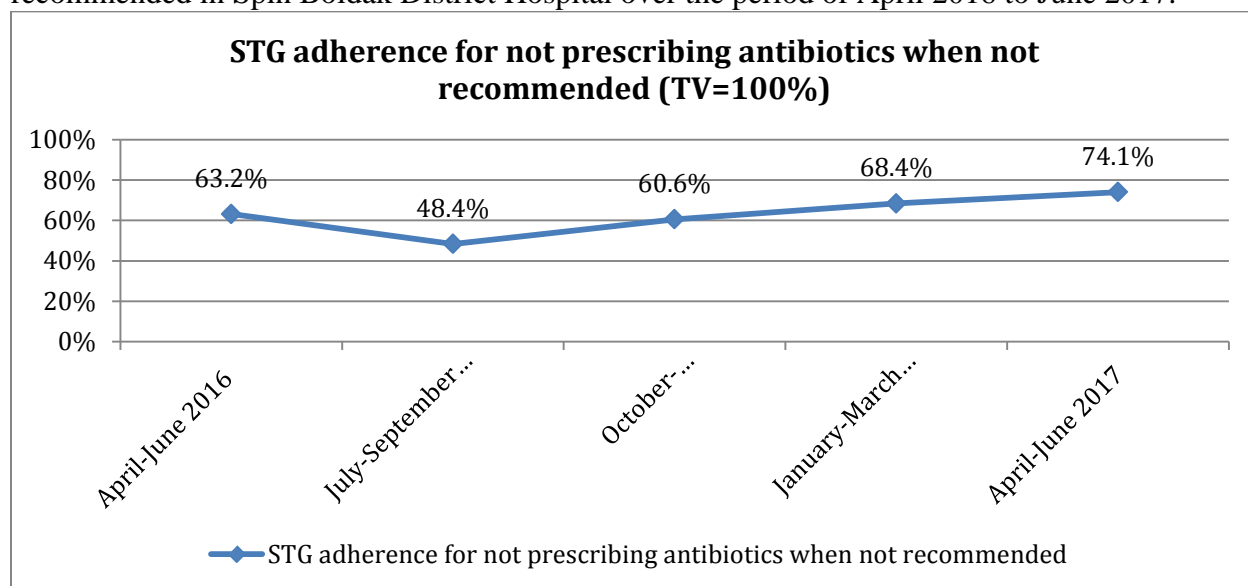


Rational Medicine Use in Spin Boldak District Hospital: Trends of some RMU weak indicators over the period April 2016 to June 2017 in Spin Boldak District Hospital are illustrated below through line charts to display trends over time.

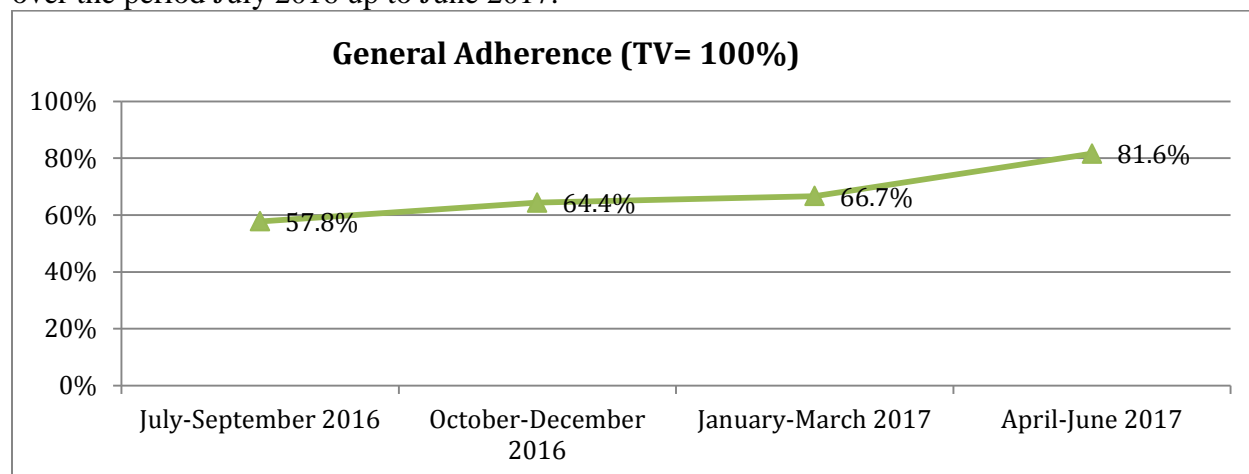
Graph 4: RMU assessment shows percentage of patients with at least one antibiotic prescribed in Spin Boldak District Hospital over the period of April 2016 to June 2017.



Graph 5: RMU assessment shows STG adherence for not prescribing antibiotics when not recommended in Spin Boldak District Hospital over the period of April 2016 to June 2017.

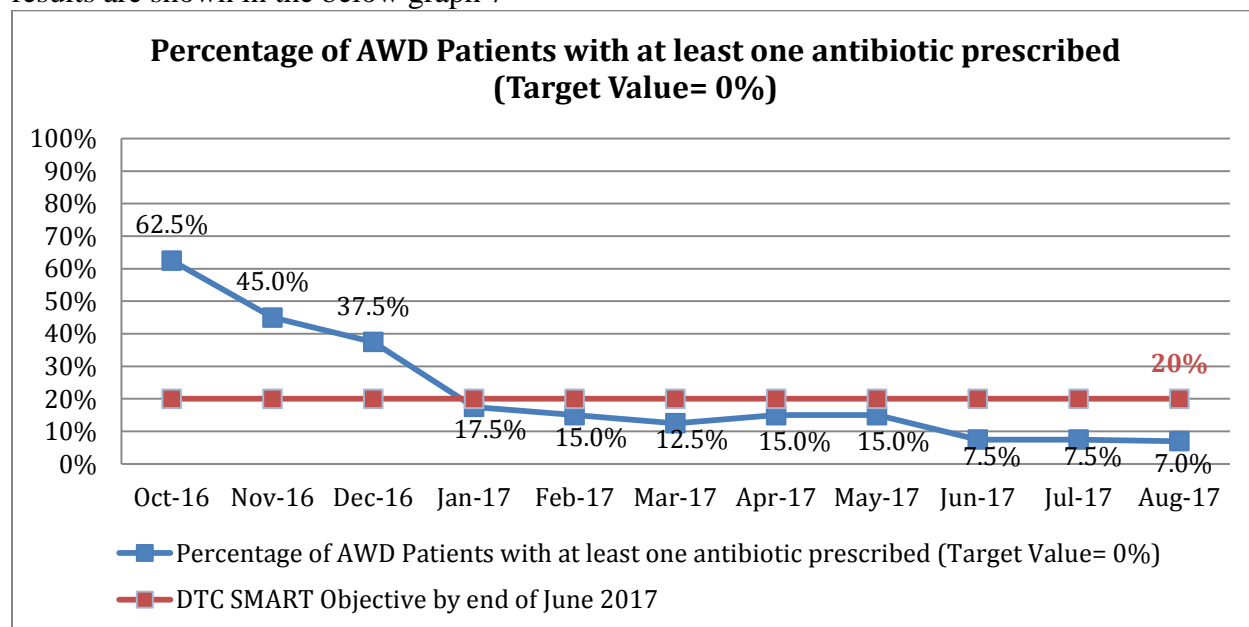


Graph 6: RMU assessment shows General NSTG adherence in Spin Boldak District Hospital over the period July 2016 up to June 2017.

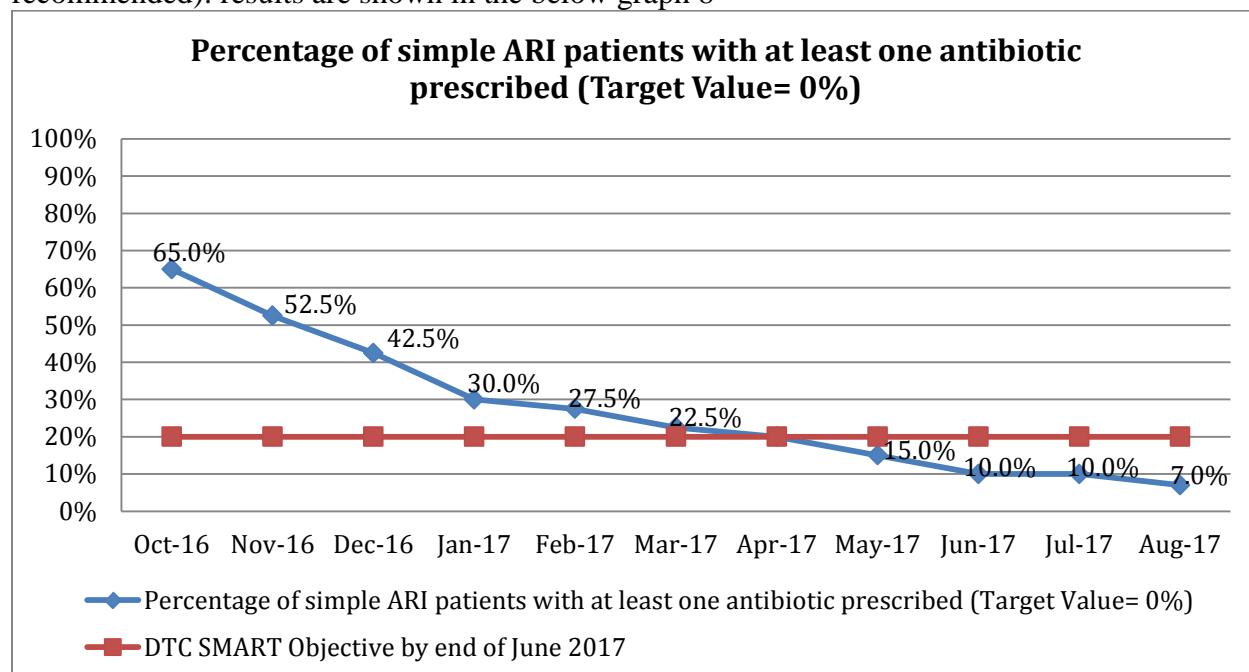


Weekly monitoring on 2 weak RMU indicators:

Graph 7: Weekly Monitoring of Patients with Acute Watery Diarrhea prescribed with an antibiotic (not recommended) during the period 24 September 2016 up to 24 August 2017: results are shown in the below graph 7

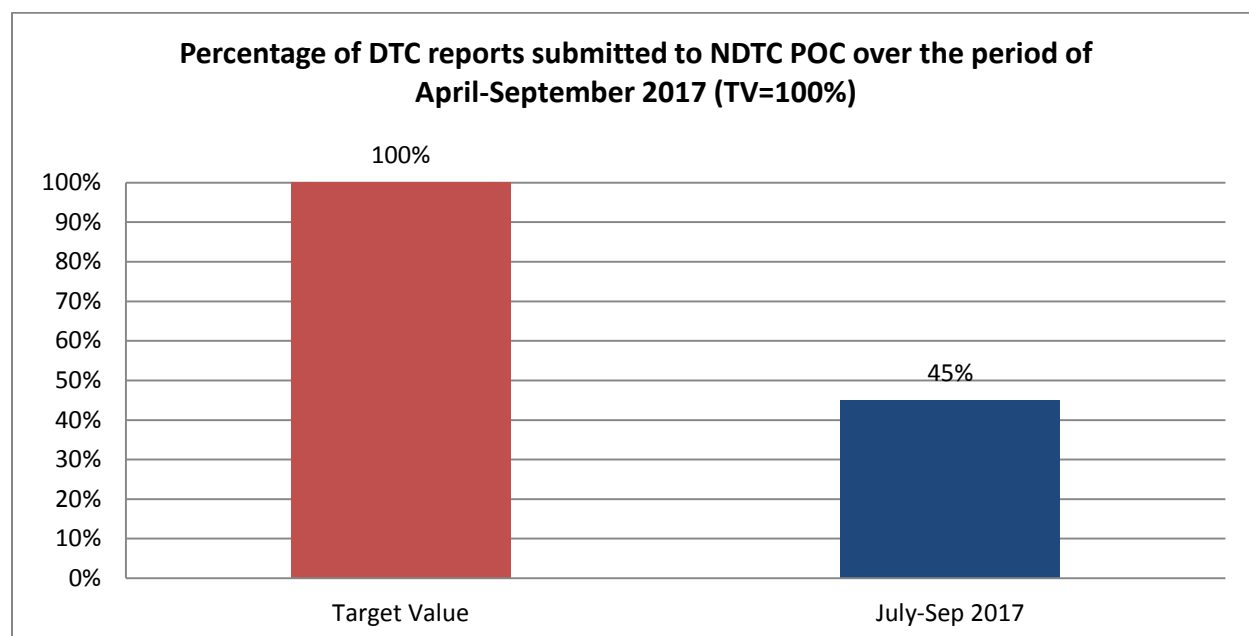


Graph 8: Weekly monitoring of Patients with Simple ARI prescribed with an antibiotic (not recommended): results are shown in the below graph 8



7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 through September 2017:

Graph 9: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April 2017 and September 2017 (*Note:* From April through June 2017, all deliverables of DTC were forwarded by SPS to NDTC POC. In Q2 (July-September 2017) all deliverables were sent to NDTC POC directly by DTC)



8) Priority focuses areas recommended by SPS for NDTC POCs:

POC will ensure that BARAN NGO supplies a computer and printer to pharmacy department of Spin Boldak DH and provides access to internet

POC will request DTC to submit systematically and on time the DTC meeting minutes and assessment results to the POC

Sharan Provincial Hospital DTC

December 2017

- 1) Time period of SPS technical support to DTC:
 SPS limit support to DTC (Limit Support): DTC established in March 2011 with limited support from SPS
 Direct SPS support to DTC (Full support): From May 24, 2016 to end September 2017 (totally 17 months)
 FIO Support the Sharan PH: Sharan hospital was supported by SPS as a Provincial hospital (BPHS monitoring) from October 29, 2014 to April 23, 2016.
- 2) Number of DTC monthly meetings held during that period: 18 DTC monthly meetings
- 3) Number of DTC monthly meetings attended by SPS representative during that period: 8 DTC monthly meetings
- 4) Date of last revised ToR: May 20, 2017
- 5) Specific activities undertaken by DTC:
 Sharan PH DTC developed six months (22 December 2016-June 2017) action plan based on a Root Cause Analysis which focused on 2 weak RMU indicators (percentage of AWD and simple ARI patients who received an antibiotic - not recommended)
 Development of formulary list in October 2017
- 6) Status report of routine DTC assessments based on available data:

Table 1: Inventory Management assessment tools (IMAT), Sharan Provincial Hospital

Indicators	Target Value	Oct-Dec 2014	April-June 2015	April-June 2016	July-September 2016	Oct-Dec 2016	Jan-March 2017	April-June 2017	July-September 2017
Weighted Average Percentage of Inventory Variation	<1%	1.6%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%
Percentage of stock records that corresponds with physical counts	>90%	50.0%	100.0%	100.0%	93.0%	100.0%	100.0%	100.0 %	100.0 %
Average Percentage of Time Out of Stock	<10%	1.4%	0.6%	0.3%	23.0%	18.0%	10.0%	20.0%	5.0%

Trends of some RMU weak indicators over the period October 2014 to September 2017 in Sharan Provincial Hospital is illustrated in below table.

Table 2: Rational Medicine Use, Sharan Provincial Hospital

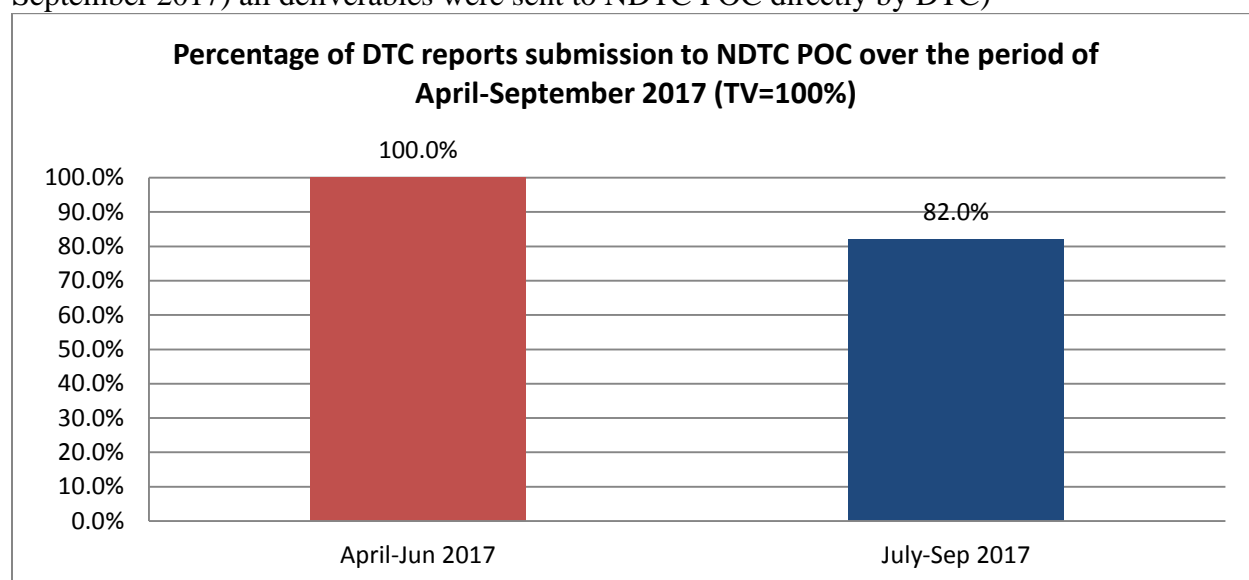
Indicators	Target Value	Oct-Dec 2014	April-June 2015	April-June 2016	July-September 2016	Oct-Dec 2016	Jan-March 2017	April-June 2017	July-September 2017
Percentage of patients with at least one antibiotic prescribed	24-30	78.0	62.0	68.0	85.0	40.0	39.0	49.0	44.0
STG adherence for not prescribing antibiotics when not recommended (for AWD and Common Cold) (TV=100%)	100%	100.0%	100.0%	40.0%	9.1%	54.2%	73.3%	75.0%	80.0%
General STG adherence (TV=100%)	100%	NA	NA	NA	29.9%	56.4%	75.0%	83.8%	86.2%

Table 3: Weekly monitoring on two weak RMU indicators, Sharan Provincial Hospital

Indicators	Target Value	DTC SMART Objective	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17
Percentage of simple ARI patients with at least one antibiotic prescribed	0	36	77	55	52	55.	50	45	40	32	20	15	15	15
Percentage of AWD Patients with at least one antibiotic prescribed Common Cold) (TV=100%)	0	21	45	52	47	52.	42	37.	32.	25.	5	5	5	5

7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 through September 2017:

Graph 9: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April 2017 and September 2017 (*Note:* From May 2016 through June 2017, all deliverables of DTC were forwarded by SPS to NDTC POC. In Q2 (July-September 2017) all deliverables were sent to NDTC POC directly by DTC)



8) Priority focus areas recommended by SPS for NDTC POCs:

POC will support the DTC to print the finalized hospital FL and then ensure that FL is distributed to all wards and introduced officially to the hospital staff by the DTC (through the implementing NGO)

POC will support the DTC secretary to develop an official email address by the implementing NGO as soon as possible

NDTC Point of Contact (POC) will send follow up email to each DTC on 25th of each month requesting DTC to send DTC deliverables i.e., DTC meeting minutes, implemented assessment tools...)

Takhar Provincial Hospital DTC

December 2017

1) Time period of SPS technical support to DTC:

DTC established in March 2011

SPS Associated Award project has provided limited support to DTC of Takhar PH from 2009 - March 2013 and full technical support from April 2013 up to end September 2017 (totally 54 months)

2) Number of DTC monthly meetings held during that period: 28 DTC monthly meetings

3) Number of DTC monthly meetings attended by SPS representative during that period: 18 DTC monthly meetings

4) Date of last revised ToR: August 14, 2017

5) Specific activities undertaken by DTC:

Root cause analysis (May 2015) focusing on PSM and RMU gaps identified by DTC in the hospital and development of a 3 years DTC action plan (December 2015-December 2018)

Development and introduction of hospital formulary list (first edition September 2013).

Process of revision of the Formulary List has not started

Monitoring adherence to Formulary List is performed.

6) Status report of routine DTC assessments based on available data:

Table 1: Inventory Management assessment tools (IMAT), Takhar Provincial Hospital

Indicators	Target Value	April-June 2012	July-September 2014	Oct-Dec 2014	Jan-March 2015	April-June 2015	April-June 2016	Oct-Dec 2016
Weighted Average Percentage of Inventory Variation	<1%	0%	0%	0%	0%	0%	0%	0%
Percentage of stock records that corresponds with physical counts	>90%	100	100	96.7	100	100	100	100
Average Percentage of Time Out of Stock	<10%	0.4	11.9	32	24.4	18.2	13	10

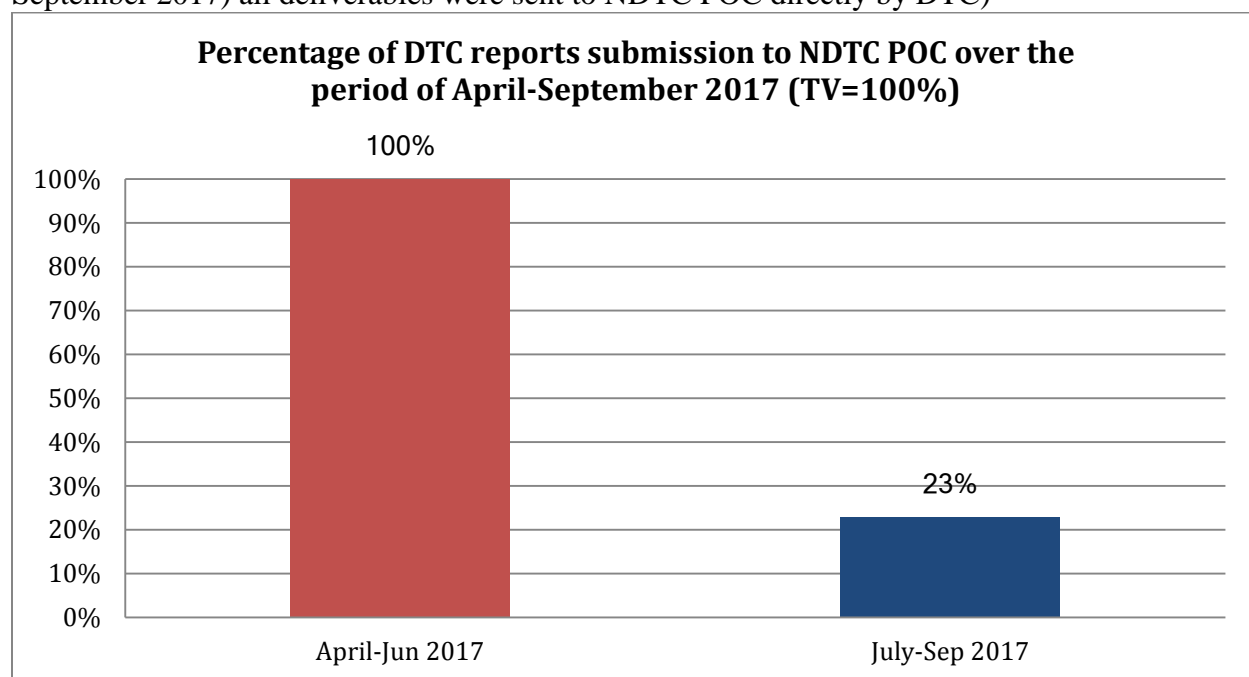
Trends of some RMU weak indicators over the period January 2014 to December 2016 in Takhar Provincial Hospital is illustrated in below table.

Table 2: Rational Medicine Use, Takhar Provincial Hospital

Indicators	Target Value	Jan-March 2014	April-June 2014	July-Sept 2014	Oct-Dec 2014	Jan-March 2015	April-June 2015	July-Sept 2015	April-June 2016	Oct-Dec 2016
Percentage of patients with at least one antibiotic prescribed	24-30%	42%	61%	55%	50%	71%	54%	42%	69%	44%
STG adherence for not prescribing antibiotics when not recommended (for AWD and Common Cold) (TV=100%)	100%	100%	NA	NA	48.5%	16.7%	44.4%	77.8%	5.9%	34.8%
General STG adherence (TV=100%)	100%	NA	NA	NA	NA	NA	NA	NA	NA	58.5%

7) Submission status of DTC deliverables to NDTC POC by DTC over the period April 2017 through September 2017:

Graph 9: Shows the percentage of DTC activities reports which have been submitted by DTC to NDTC POC each quarter between April 2017 and September 2017 (*Note:* From April 2013 through June 2017, all deliverables of DTC were forwarded by SPS to NDTC POC. In Q2 (July-September 2017) all deliverables were sent to NDTC POC directly by DTC)



8) Priority focus areas recommended by SPS for NDTC POCs:

POC will assist the DTC in the process of revising the hospital formulary list

POC will assist the DTC to use SPS quantification spread sheet

NDTC Point of Contact (POC) will send follow up email to each DTC on 25th of each month requesting DTC to send DTC deliverables i.e., DTC meeting minutes, results of assessments.

POC will communicate with Hospital Reform Department to provide the below equipment's to the DTC:

- Computer with printer
- Internet facility
- Modem
- Scanner
- White and green board

ANNEX II.6: PRESCRIPTION COST ANALYSIS IN ONE PROVINCIAL HOSPITAL

Summary Preliminary Analysis of Antibiotic Prescriptions for Baghlan Hospital SPS Afghanistan, May 19, 2015

Purpose of the Antibiotic Prescription Analysis

Review the prescriptions of the three most-expensive systemic antibiotics on the hospital procurement list and identify possible savings if prescribing were more rational for:

- Not prescribing an antibiotic for conditions not needing antibiotics
- Prescribing recommended first-choice antibiotics instead of antibiotics suggested as alternatives, for conditions that require antibiotics.

Methodology

Sample Selection

ABC analysis of the 1393 procurement list indicates that three antibiotic items make up 29.12% of the total annual value of medicines:

- Metronidazole 5mg/ml in 100ml bottle, infusion solution
- Ceftriaxone 1g vial, injection powder
- Vancomycin 500mg vial, injection powder

The pediatric ward uses ceftriaxone and vancomycin. The internal ward uses ceftriaxone metronidazole. For each antibiotic used in each ward, 150 patient records that had the antibiotic prescribed were selected through systematic random sampling for the period Saratan through Qaus 1393.

Data Collection

For each selected patient record, the age, sex, and diagnoses of the patient were noted as listed in the records.

Data Cleaning

Unclear and unreadable diagnoses were clarified with the clinical staff of each ward.

Standard Treatment Reference

In absence of official Afghan standard treatment protocol references at the referral level, the following were used as reference:

- Pediatrics: WHO Hospital Care for Children – 2013 Edition
- Internal: CURRENT Medical Diagnosis and Treatment 2014

Coding

Antibiotic needed. All diagnoses of each patient record were checked against the references, and if one of the diagnoses required an antibiotic, that patient record was marked as “need antibiotic.”

Antibiotic appropriate. The following international reference works were used in order of preference:

- WHO Model Formulary for Adults, 2008
- WHO Model Formulary for Children, 2010
- Afghanistan National Formulary for Essential Medicines, 2014
- WHO Pocket Book of Hospital Care for Children, 2013
- British National Formulary (BNF), 66 edition, 2014
- British National Formulary for Children, 2009
- CURRENT Medical Diagnosis and Treatment, 2014

Cost Calculations

Unit cost. The unit cost was taken from the 1393 procurement list of Baghlan Hospital.

Full treatment cost. Full treatment cost of the prescribed antibiotic was calculated using the recommended daily dose and length of treatment for the listed condition and for the age group of the patient in the above-mentioned reference works. Where the antibiotic was not appropriate, the cost was calculated applying the average cost for a full treatment of the antibiotic for the age group of the patient.

For comparison, the full treatment cost of the recommended antibiotic was calculated using the recommended daily dose and length of treatment for the listed condition and for the age group of the patient in the above-mentioned reference works.

The costs reflect only the cost of the medicine, e.g. the cost of the medical supplies needed to ensure safe injections and staff time were not taken into account.

Results

Sample Description

Since insufficient patients were identified for vancomycin and metronidazole, more patients with ceftriaxone prescribed were identified in both wards. Details are provided in table 1.

Table 1: Total Sample in Baghlan Hospital

	Ceftriaxone	Metronidazole	Vancomycin	Total
Internal	243	57		300
Pediatrics	168		132	300
Total	411	57	132	600

The data set contains the exact age as mentioned in the record, and for the purpose of analysis, the patients in the sample were categorized by age group as illustrated in table 2.

Table 2: Age groups

Age group	Number	%
0-59 months	287	47.8%
5-10 years	11	1.8%
11 years and more	301	50.2%
Unknown	1	0.2%

The sample contained the records of 300 females and 299 males, with one where the sex was not indicated.

Unnecessary Antibiotic Prescription

Prescribing antibiotics for conditions that do not need antibiotics has several negative consequences:

It promotes the development of antimicrobial resistance.

It increases cost of treatment unnecessarily.

Most antibiotics have undesirable side-effects.

Table 3 shows that of all patients who were prescribed one of the three antibiotics, 41.5% did not have a condition that requires antibiotic treatment listed in his/her patient record. The table also disaggregates by ward and by antibiotic.

Table 3: Proportion of Patients Not Needing Antibiotic, by Antibiotic Prescribed and by Ward

Antibiotic prescribed	Internal			Pediatrics			Total		
	Cases	No need for AB		Cases	No need for AB		Cases	No need for AB	
Ceftriaxone	243	139	57.2%	168	73	43.5%	411	212	51.6%
Metronidazole	57	26	45.6%				57	26	45.6%
Vancomycin				132	11	8.3%	132	11	8.3%
All AB	300	165	55.0%	300	84	28.0%	600	249	41.5%

Inappropriate Antibiotic Prescription

For the cases in which an antibiotic was needed, the prescribed antibiotic was compared with the antibiotic of choice for the diagnoses listed in the patient registers, as per international reference. “Inappropriate” refers to cases in which the listed antibiotic is not included in recommended treatments, or the listed antibiotic is only indicated as an alternative for special cases and the listed diagnoses do not indicate the criteria to qualify as a special case. Antibiotics indicated as alternatives for special cases very often:

Are the last resort against microbes resistant against other antibiotics and should not be used until resistance is documented (i.e., written in the patient register).

Have more side effects than other antibiotics with similar action.

Are more expensive for a complete treatment than other antibiotics with similar action.

Table 4 shows that, of all patients prescribed one of the three antibiotics, 46.7% had a condition that requires antibiotic treatment listed in the patient register, but the prescribed antibiotic was not “appropriate” (as defined above). The table also disaggregates by ward and by antibiotic.

Table 4: Proportion of Patients Needing an Antibiotic with Inappropriate Antibiotic prescribed, by Antibiotic Prescribed and by Ward

Antibiotic prescribed	Internal			Pediatrics			Total		
	Cases	Poss. Inapprop.		Cases	Poss. Inapprop.		Cases	Poss. Inapprop.	
Ceftriaxone	104	36	34.6%	95	11	11.6%	199	47	23.6%
Metronidazole	31	15	48.4%				31	15	26.3%
Vancomycin				121	102	84.3%	121	102	84.3%
All AB	135	51	37.8%	216	113	52.3%	351	164	46.7%

Financial Implications of Irrational Prescribing

In addition to the medical risks for individual (anti-microbial resistance, side effects) health and public health (AMR), the possible financial implications of irrational prescribing are often overlooked, although they can be important for a hospital.

Table 5 shows the possible financial implications of the unnecessary and possible inappropriate prescribing of ceftriaxone, metronidazole, and vancomycin. Where no antibiotic was needed, the total cost of the prescribed antibiotics could have been avoided. Where the antibiotic was possibly inappropriately prescribed, the difference of cost with a complete treatment with the recommended antibiotic was calculated. For both wards and all three antibiotics, possible savings through avoiding the unnecessary and inappropriately prescribed antibiotics amounts to 179,987 AFN out of the estimated 560,840 AFN, or a potential 68% cost savings for the total sample.

Table 5: Estimated Financial Implications of Irrational Prescribing

Baghlan	## Cases	Prescribed Cost	Corrected Cost	Possible Savings
Internal	300	304,080	93,662	69.20%
<i>Ceftriaxone</i>	243	272,160	83,934	69.16%
Not appropriate	36	40,320	7,774	
Not Needed	139	155,680	0	
AB appropriately prescribed	68	76,160	76,160	
<i>Metronidazole</i>	57	31,920	9,728	69.53%
Not appropriate	15	8,400	768	
Not Needed	26	14,560	0	
AB Correct	16	8,960	8,960	
Pediatrics	300	256,760	86,326	66.38%
<i>Ceftriaxone</i>	168	52,640	29,060	44.79%
Not appropriate	11	4,480	2,740	
Not Needed	73	21,840	0	

Baghlan	## Cases	Prescribed Cost	Corrected Cost	Possible Savings
AB Correct	84	26,320	26,320	
<i>Vancomycin</i>	132	204,120	57,266	71.95%
Not appropriate	102	150,822	25,028	
Not Needed	11	21,060	0	
AB Correct	19	32,238	32,238	
Grand Total:	600	560,840	179,987	67.91%

Limitations of the Assessment

In order to appreciate the results, one needs to keep in mind the limitations of the methods used and the available data. The diagnoses collected were taken from existing patient records, and the correctness and completeness of the recorded diagnoses could not be verified. Repeating the exercise after an intervention that would increase correctness and completeness of recorded diagnoses may give different results. A preliminary assessment of data availability had indicated that daily dose and length of treatment were not consistently noted in the records. In the design, collection of these data was not included; instead average daily doses and average treatment lengths were applied. Repeating the exercise after an intervention that would increase consistency in noting daily doses and duration of treatment, allowing collection of those data, may give different results.

In absence of standard treatment protocols specific to the hospital, generally recommended treatment protocols were applied to the listed diagnoses. Repeating the exercise after an intervention that would provide standard treatment guidelines specific for the hospital may give different results. The accuracy of this type of exercise may improve if every case is reviewed in detail by a hospital review committee, but experience elsewhere has shown that this does not dramatically change the conclusions.

ANNEX II.7: TREND OF IMAT AND RMU INDICATORS, FY2009–FY2017

A. Trend of IMAT Indicators

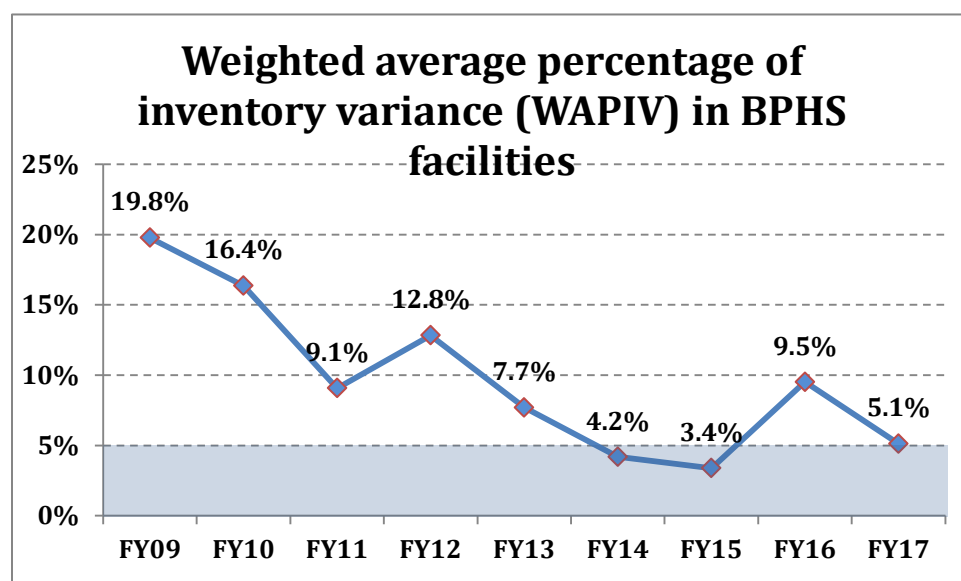
The trend in IMAT indicator values is based on average values for 12-month periods for each fiscal year—except for FY17, for which only data for October 2016 to June 2017 are available.

Quality of inventory management

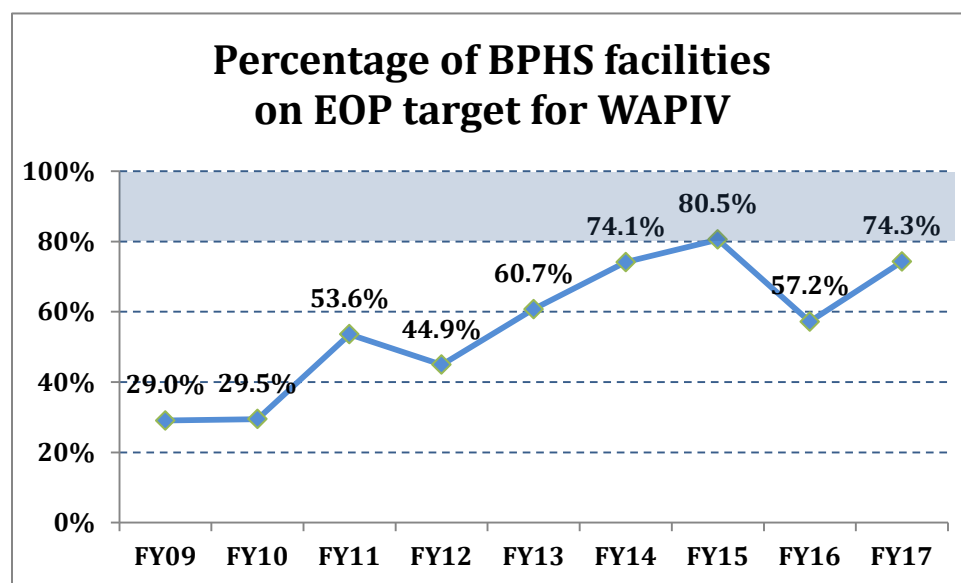
The **weighted average percentage of inventory variance** shows a steady improvement (figure 1), reaching the FY15 target of less than 5 percent in FY14. The FY11 value is artificially low since the originally planned number of visits could not be performed and the visits that took place contained a higher proportion of high performers.

In FY16, the percentage exceeds the value for FY13, the second project year of the SPS Associate Award, but the trend in FY17 is towards the EOP target of 5 percent or less.

Figure 1: Weighted average percentage of inventory variance for a set of tracer drugs



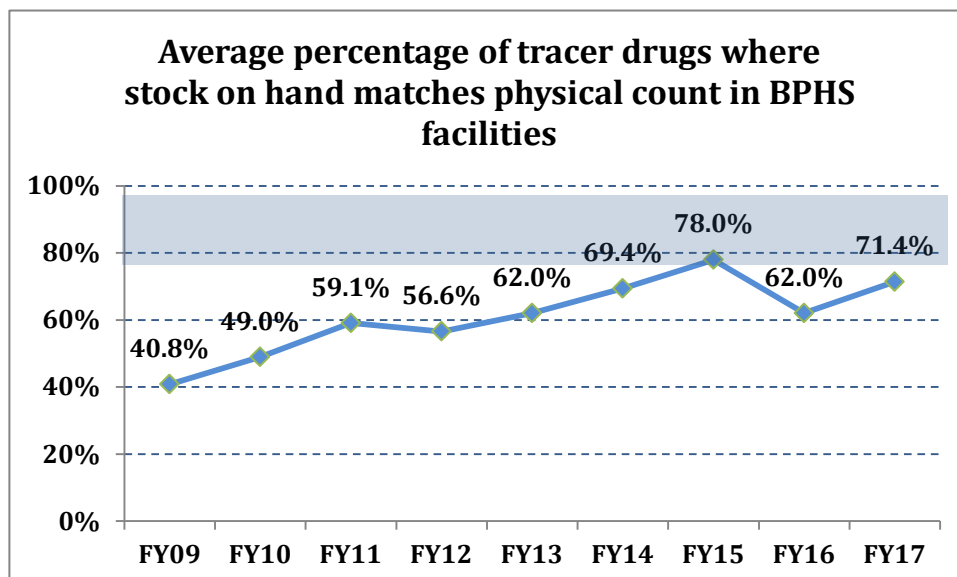
The percentage of BPHS facilities reaching the EOP target for the WAPIV reached more than 80 percent in FY15, but dropped below the FY13 value in FY16. By the end of FY17, the indicator has improved to FY14 values.

Figure 2: Percentage of BPHS facilities reaching EOP target for WAPIV

The observed worsening of the WAPIV indicator after FY15 is mainly due to the inclusion of data from facilities in provinces and/or managed by BPHS implementers that did not previously receive targeted TA from SPS or TechServe. The trend towards EOP targets in FY17 reflects gradual improvement in inventory management practices of these BPHS implementers.

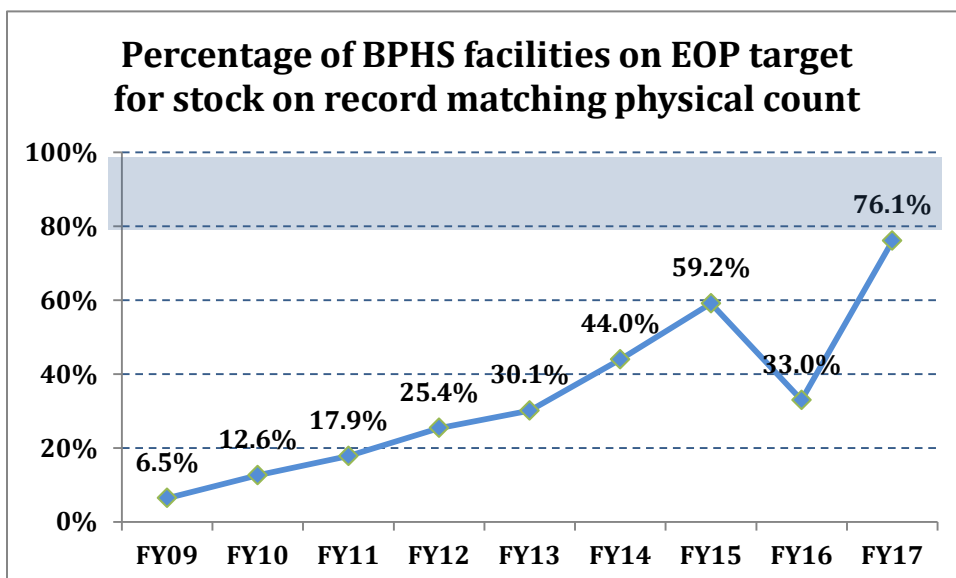
The average percentage of items for which physical stock matched stock on record increased steadily between FY09 and FY15, falling two percentage points short of reaching the FY15 target of 80 percent (figure 3). In FY16, the indicator drops back near to FY11 values; by the end of FY17 it improved above FY14 values.

Figure 3: Average percentage of a set of tracer drugs for which physical stock matches stock on record



The percentage of BPHS facilities reaching the EOP target for stock on record matching physical count increased steadily until FY15, but drops steeply in FY16. It improves beyond FY 15 values by the end of FY17.

Figure 4: Percentage of BPHS facilities reaching EOP target for stock on record matching physical count



The indicator values from FY09 to FY15 indicate that on-site technical assistance provided to NGOs at provincial and facility level enabled improvement of inventory management, and that six-month performance improvement cycles (which started to be routinely implemented in

FY14) tend to consolidate and accelerate the improvement. The main factors contributing to the “worsening” of inventory control suggested by the trend of FY16 are—

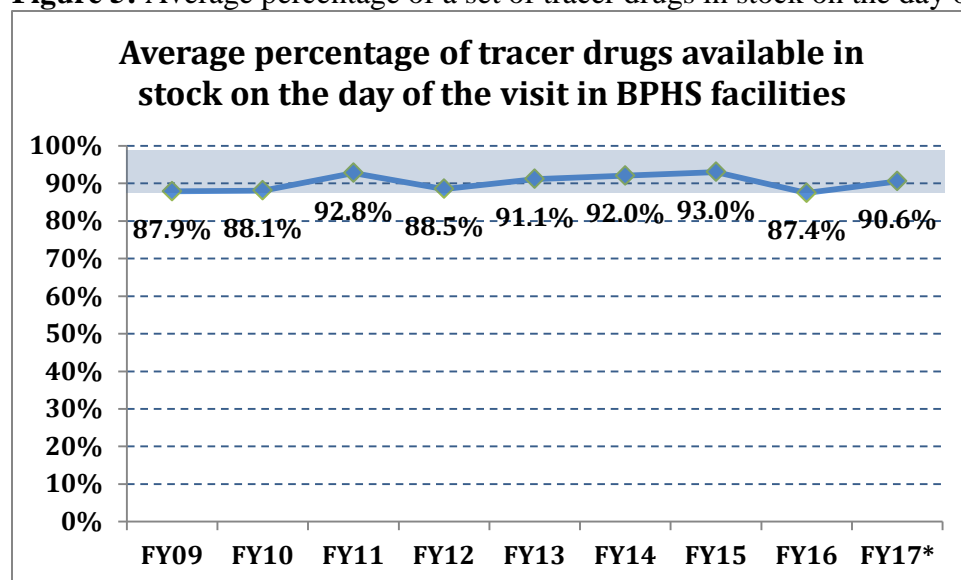
- The priority provinces for off-budget technical assistance includes provinces previously not covered by SPS technical assistance.
- Some of the provinces previously covered by off-budget technical assistance changed implementer NGO. While this does not necessarily lead to systematic staff changes at facility level, it increases staff turnover and the new NGO often needs 6 to 12 months before supervisory visits and on-the-job training of new staff are on track.

As expected in FY16, FY17 indicates an upward trend in the indicator, due to targeted technical assistance by SPS to the implementer NGOs. The improvement appears to take place faster during FY17 than during the FY13-FY15 period.

Availability of essential medicines

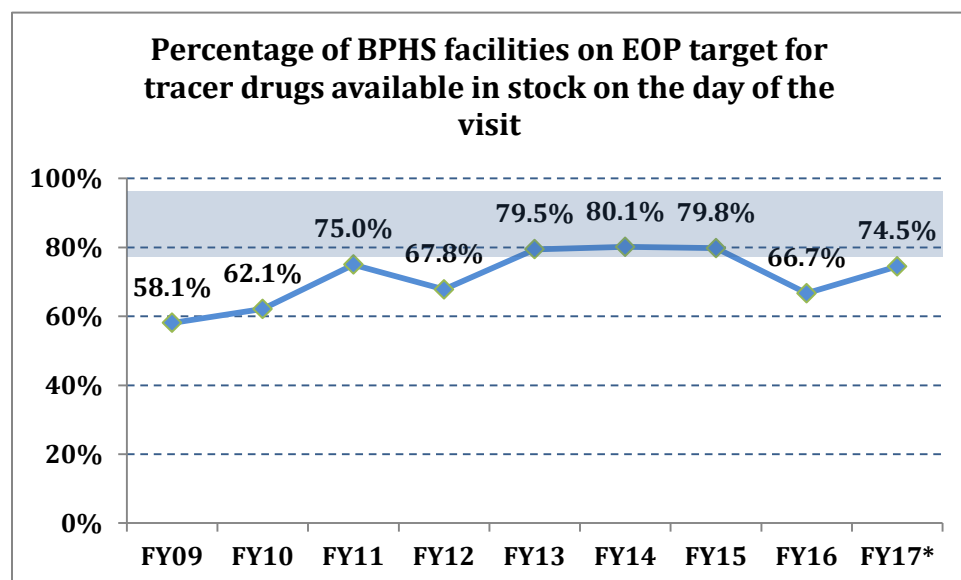
The availability of a set of tracer drugs (figure 5) shows that, although complex, the USAID-funded pooled procurement for BPHS in 13 provinces ensured acceptable availability of essential medicines at facility level between FY09 and FY15, and that the FY15 target of more than 90 percent availability was achieved from FY13 through FY15. The FY16 value is slightly below the previous FYs, the indicator is within the EOP target range by the end of FY17.

Figure 5: Average percentage of a set of tracer drugs in stock on the day of the visit



The percentage of facilities reaching the EOP target for this indicator remained steady at 80 percent for three years and fell to pre-SPS Associate Award values in FY16. FY17 shows an upward trend (figure 6).

Figure 6: Percentage of BPHS facilities reaching EOP target for availability of tracer drugs on the day of the visit



The average percentage of time out of stock for a set of tracer drugs in the 12 months prior to the visit stayed at an acceptable level from FY10 onwards, as shown in Figure 7. Higher values in FY09 were largely due to delays in transit of ordered medicines through Pakistan. The sharp increase in FY16 is due to inclusion of provinces and NGOs previously not served by SPS distribution of pooled procurement medicines, and may also be due to all NGOs switching to self-procured medicines. The indicator trend goes back down towards EOP target by the end of FY17.

Figure 7: Average percentage of time out of stock for a set of tracer drugs in the 12 months prior to the visit

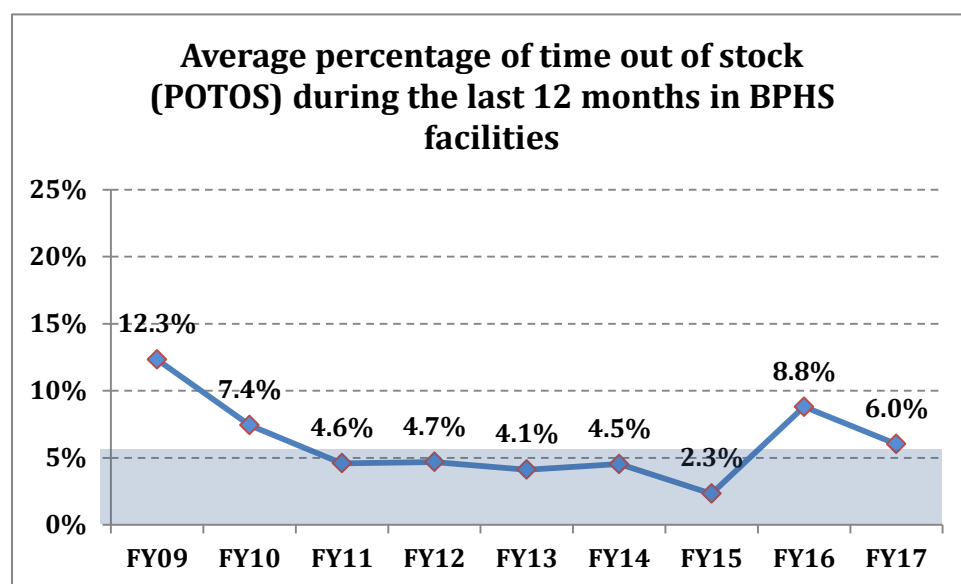
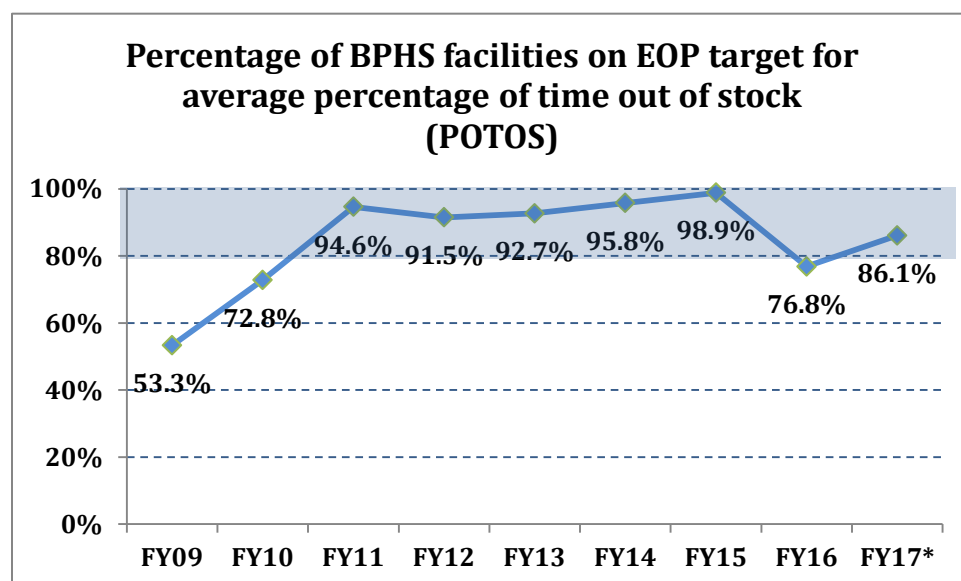


Figure 8 confirms that the increase in the value of the POTOS is not due to a few outlying values for a few drugs in FY16, but is due to a larger proportion of facilities with a higher average percentage of time out of stock.

Figure 8: Percentage of BPHS facilities reaching EOP target for average time out of stock for a set of tracer drugs in the 12 months prior to the visit



Conclusion: The USAID pooled procurement for BPHS in 13 provinces in Afghanistan successfully ensured availability of essential drugs at the facility level between FY10 and early FY16. Previous non-Partnership Contracts for Health (PCH) NGOs faced more stock-outs in the 12 months prior to the visit.

B. Rational Prescribing Indicators

Average percentage of encounters with an antibiotic prescribed

Figure 9 shows the average percentage of encounters that had an antibiotic prescribed. Although slow, the indicator improves by 12 percentage points (slightly more than 20 percent decrease from baseline, which was the FY15 target). This is, however, still higher than the globally recommended value of 20 to 25 percent. Between FY09 and FY12, the indicator value stagnated around 50 percent. With the start of six-month performance improvement cycles for BPHS implementers in FY13, more notable improvement was obtained, bringing the indicator close to the 40 percent EOP upper limit. In FY16, the indicator value jumps back up higher than the FY14 value, but the FY17 value is again close to the EOP target.

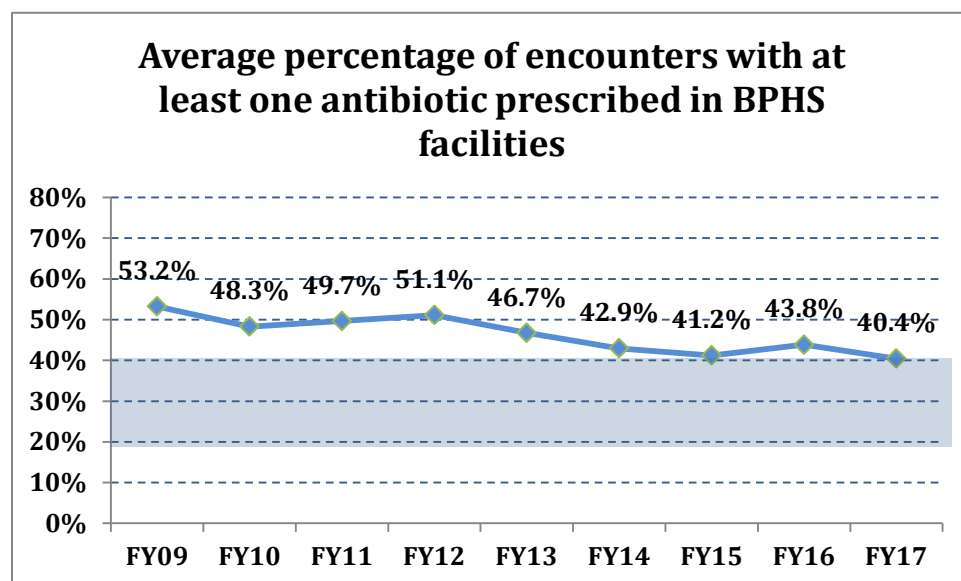
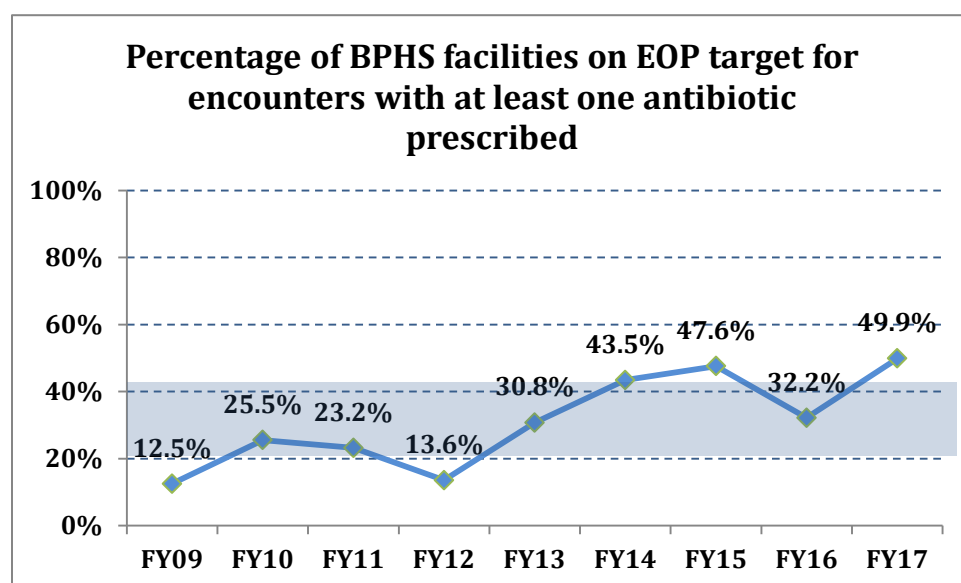
Figure 9: Average percentage of encounters with an antibiotic prescribed

Figure 10 shows that the majority of facilities never reached the EOP target value of less than 40 percent of encounters with an antibiotic prescribed. There is a steady improvement from FY12 to FY15, but a steep decline in FY16. Improvement picks back up in FY17.

Figure 10: Percentage of BPHS facilities reaching EOP target for encounters with at least one antibiotic prescribed

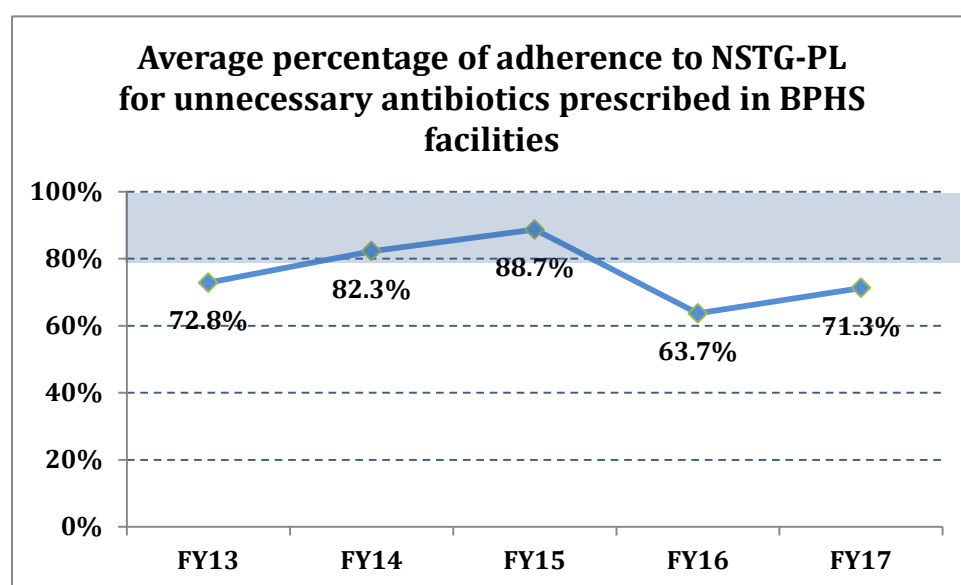
Changes in rational prescribing are slow, since over-prescribing is usually due to a combination of factors. Even when prescribers accept and are willing to adhere to the principles of rational prescribing of antibiotics, poor knowledge of standard case management, combined with pressure from patients or community leaders to prescribe antibiotics when not necessary may interfere with putting the rational prescribing into practice. The slow but steady improvement

between FY12 and FY15 shows that the combination of interventions by SPS have a positive effect. The inclusion of data from facilities that were not previously exposed to technical assistance on rational prescribing is the main reason for worsening of results in FY16, but the improving trend picks back up in FY17, and apparently at a faster pace than in FY13-FY15.

Average percentage of adherence to NSTG-PL for unnecessary antibiotics in BPHS facilities

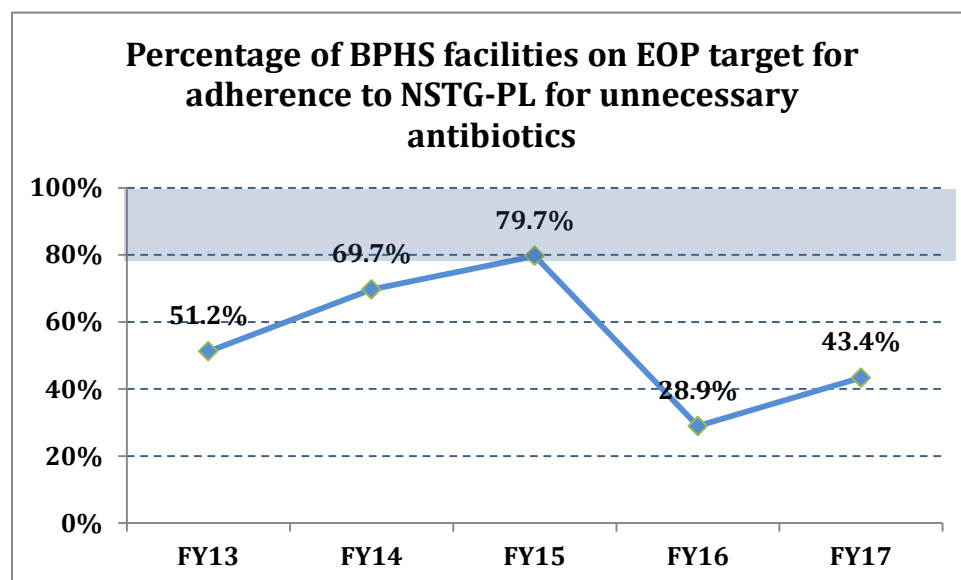
The NSTG-PL became available in FY13, but wide distribution to prescribers in the facilities was only achieved in FY14. The average percentage of adherence to NSTG-PL for unnecessary antibiotics increased significantly until FY15, reaching the average EOP target in FY14. A sharp drop in FY16 brings the indicator below the FY13 baseline value. Improvement is seen for FY17.

Figure 11: Average percentage of adherence to NSTG-PL for unnecessary antibiotics



The percentage of facilities reaching the EOP target also increased steadily from FY13 to FY15, but dropped steeply in FY16, and goes back up in FY17.

Figure 12: Percentage of BPHS facilities reaching the EOP target for adherence to NSTG-PL for unnecessary antibiotics



This indicator was only measured since FY13, in facilities that had already received technical assistance from TechServe and SPS on adherence to standard treatment protocols (e.g., Integrated Management of Childhood Illnesses, or IMCI, protocols). The significant drop in FY16 is at least partially explained by inclusion of facilities that—

- Received no previous technical assistance on adherence to standard treatment protocols.
- Had the NSTG-PL introduced later than the former PCH facilities.