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*Applying Science to Strengthen  
and Improve Systems*

## USAID ASSIST Project

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# Swaziland Country Report FY15

**Cooperative Agreement Number:**

AID-OAA-A-12-00101

**Performance Period:**

October 1, 2014 – September 30, 2015

**DECEMBER 2015**

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#### DISCLAIMER

This country report was authored by University Research Co., LLC (URC). The views expressed do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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## Abbreviations

ACSM	Advocacy, communication, and social mobilization
AIDS	Acquired immunodeficiency syndrome
ART	Antiretroviral therapy
ASSIST	USAID Applying Science to Strengthen and Improve Systems Project
CDC	U.S. Centers for Disease Control and Prevention
CHW	Community health worker
CPT	Cotrimoxazole prophylactic treatment
COE	Center of Excellence
DOTS	Directly observed treatment, short course
DR-TB	Drug-resistant tuberculosis
EHCP	Essential Health Care Package
FAST	Finding TB cases Actively, Separating safely, and Treating effectively.
FY	Fiscal year
HCI	USAID Health Care Improvement Project
HCW	Health care workers
HIV	Human immunodeficiency virus
HTC	HIV testing and counseling
IEC	Information, education, and communication
IPC	Infection prevention, and control
IRB	Institutional review board
IST	In-service training
LLAPLa	Life-long antiretroviral therapy for pregnant and lactating women
MDR-TB	Multidrug-resistant tuberculosis
MOH	Ministry of Health
NCD	Non-communicable diseases
NGO	Non-governmental organization
NSTS	National Sample Transportation Services
NTCP	National Tuberculosis Control Program
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
Q	Quarter
QA	Quality assurance
QI	Quality improvement
QMP	Quality Management Program
RESAR	Regional Semi-Annual Reviews
RFM	Raleigh Fitkin Memorial Hospital
RHMT	Regional Health Management Team
SHLS	Swaziland Health Laboratory Services
SMART	Screening in maternity to ascertain TB status
SNAP	Swaziland National AIDS Program
SRH	Sexual and Reproductive Health
TA	Technical assistance
TB	Tuberculosis
TOT	Training of trainers
URC	University Research Co., LLC
USAID	United States Agency of International Development
USG	United States Government
WHO	World Health Organization

## Introduction

Tuberculosis (TB) is one of the major public health problems currently confronting Swaziland. According to the Swaziland Ministry of Health (MOH), despite interventions to control TB transmission and improve treatment outcomes, TB still accounts for approximately 10% of in-patient morbidity in the country and is responsible for 20% of in-patient deaths (NTCP Q3 Report 2014). The high TB/HIV co-infection and multidrug-resistant TB (MDR-TB) rates adversely affect TB case detection as well as treatment outcomes. While Swaziland has made great strides in the control of TB and MDR-TB and integration of TB/HIV, there is still a need to meet the World Health Organization (WHO) targets for TB and MDR-TB case finding and treatment success.

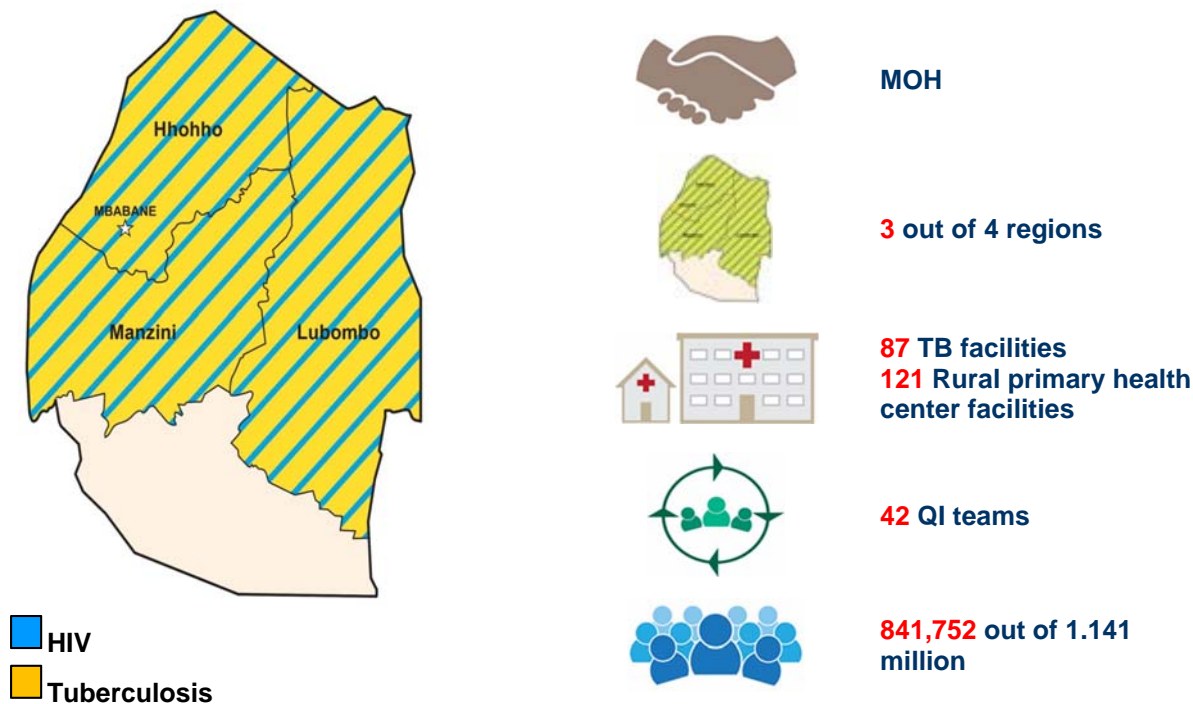
With funding from the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) and partnering closely with the Swaziland Ministry of Health, the National Tuberculosis Control Program (NTCP), the Swaziland National AIDS Program (SNAP), and the National Quality Management Program (NQMP), the USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project has worked closely with communities, health care workers, and health system leadership to improve performance of TB, TB/HIV, and MDR-TB services and treatment outcomes across the country.

The USAID ASSIST Project began working in Swaziland in October 2012. Building on the work done by the USAID Health Care Improvement Project (HCI) from 2008, ASSIST continued to support institutionalization of modern quality improvement (QI) in health care, building the capacity of health care workers and QI mentors on quality improvement; and improving health care performance measurement at all levels of the health system. Strengthening the use of data to inform areas of intervention or improvement at the health facilities and building capacity of regional and program staff to monitor performance indicators has led to improvements in outcomes for TB/HIV and MDR-TB patients.

In addition these Mission-funded activities, ASSIST is conducting several core-funded activities related to injection safety and community health workers (CHWs).

Between April and June 2015, ASSIST carried out transitioning activities since the project closed out at the end of June with the exception of in-service training coordination and improving Option B+ laboratory and treatment monitoring.

### Scale of USAID ASSIST's Work in Swaziland



## Program Overview

What are we trying to accomplish?	At what scale?
<b>1. Support the MOH and implementing partners to institutionalize modern quality improvement approaches</b>	
<ul style="list-style-type: none"> <li>• Improve national capacity health care QI planning, implementation and evaluation</li> <li>• Build the capacity of health care workers, and QI mentors on quality improvement</li> <li>• Improve health care QI performance measurement, at national, regional, and health facility levels</li> </ul>	<ul style="list-style-type: none"> <li>• Countrywide</li> <li>• 62 TB diagnostic clinics out of 87</li> <li>• 42 QI teams</li> </ul>
<b>2. Establish integrated TB/HIV/NCD model clinics and centers of excellence for MDR-TB clinics to improve implementation of the essential health care package (EHCP)</b>	
<ul style="list-style-type: none"> <li>• Establish integrated TB/HIV/non-communicable disease (NCD) health services</li> <li>• Implement the EHCP</li> </ul>	<ul style="list-style-type: none"> <li>• Regions: 3 out of 4 (Hhohho, Manzini, Lubombo)</li> <li>• Hhohho Region 7 out of 67 facilities</li> <li>• (3 model clinics and 4 TB/HIV comprehensive care clinics)</li> <li>• Manzini Region</li> <li>• (1 TB/HIV comprehensive care clinic)</li> <li>• Lubombo Region: 2 out of 45 facilities</li> <li>• (2 TB/HIV comprehensive care clinics):</li> </ul>
<ul style="list-style-type: none"> <li>• Establish the MDR-TB hospital and TB center as centers of excellence</li> </ul>	<ul style="list-style-type: none"> <li>• Manzini Region (TB hospital Moneni and TB center clinic Manzini)</li> </ul>
<b>3. Implement high quality DOTS expansion for TB &amp; MDR-TB and strengthen implementation of integrated TB/HIV prevention, care, and treatment</b>	
<ul style="list-style-type: none"> <li>• Increase case detection of TB</li> <li>• Increase TB treatment success</li> <li>• Increase TB/HIV integrated management</li> <li>• Ensure proper management of MDR-TB</li> <li>• Strengthen TB infection control</li> <li>• Increase research and use of evidence in designing in priority areas interventions and policies</li> </ul>	<ul style="list-style-type: none"> <li>• Focus regions: 3 out of 4 regions. Part-time support to Shiselweni Region</li> <li>• Target population: 841,752</li> <li>• Facilities: 52</li> <li>• Hhohho Region: 21 health facilities (2 hospitals, 2 health centers and 17 primary health clinics). Population: 309,184</li> <li>• Manzini sub region: 24 facilities in (2 hospitals, 4 specialized clinic and 18 primary health clinics). Population: 352,568</li> <li>• Lubombo region: 16 facilities in (1 hospital, 3 private industrial clinics and 12 primary health clinics). Population: 180,000</li> </ul>
<b>4. Implement advocacy, communication and social mobilization (ACSM) interventions to improve HIV and MDR-TB services uptake and outcomes</b>	
<ul style="list-style-type: none"> <li>• Strengthen the capacity of NTCP to develop and implement a TB ACSM strategy</li> <li>• Improve the early detection of TB, TB/HIV, and MDR-TB health facilities and communities</li> <li>• Increase community engagement in support TB patient treatment adherence</li> </ul>	<ul style="list-style-type: none"> <li>• 87 health facilities in 4 regions</li> </ul>
<b>5. National framework for in-service training (IST)</b>	



What are we trying to accomplish?	At what scale?
<ul style="list-style-type: none"> <li>Design and implement a national framework for in-service training in Swaziland</li> </ul>	<ul style="list-style-type: none"> <li>National</li> <li>All implementing partners with in-service training programs (19 facilities out of 287 facilities)</li> <li>Facility in-service training coordinators</li> </ul>
<b>6. Improve Option B+/ART laboratory-related care and treatment monitoring</b>	
<ul style="list-style-type: none"> <li>Strengthen National Sample Transportation Services (NSTS) services to enable facilities access viral load testing for pregnant women and improve turn-around time for viral load and DBS results of pregnant women and HIV exposed infants; Establish m-health options patient feedback system to ensure they return to the facility once laboratory results are available; conduct operational research for TB screening among pregnant women</li> </ul>	<ul style="list-style-type: none"> <li>National</li> <li>NSTS: 3 out of 4 regions (121 health facilities)</li> <li>28 clinics in Hhohho</li> <li>51 clinics in Manzini</li> <li>42 clinics in Lubombo</li> <li>National: An mHealth system for Viral Load</li> <li>SMART study in 3 clinics</li> </ul>
<b>7. Improving injection safety in Swaziland*</b>	
<ul style="list-style-type: none"> <li>Reduce percentage of providers with needle-stick injuries</li> <li>Increase percentage of observed injections in which safe practices were performed</li> <li>Increase the percentage of compliance with waste management checklist</li> </ul>	20 intervention sites drawn from all 4 regions
<b>a. Evaluating the impact and efficiency of improving safe injection practices on health worker engagement and attitudes towards caring for PLHIV in Swaziland</b>	
<ul style="list-style-type: none"> <li>Study the impact of improved injection safety and waste management practices on health worker engagement and contribution to patient outcomes</li> </ul>	20 sites
<b>8. CHW performance logic model validation study for Swaziland HIV/TB services*</b>	
<ul style="list-style-type: none"> <li>Analyze how different CHW programs in Swaziland achieved intended performance</li> <li>Develop Swazi CHW case study to determine factors that have been effective in improving services.</li> <li>Use findings to inform CHW planning/strategy in Swaziland and inform PEPFAR programming</li> <li>Evaluate validity and content of generic CHW Performance Logic Model</li> </ul>	HIV/TB CHW programs in Swaziland
<b>9. CHW harmonization study in Southern Africa*</b>	
<ul style="list-style-type: none"> <li>Develop and publish policy recommendations for harmonization of HIV community cadres and programs into national CHW programs and plans targeted to decision makers at country level</li> </ul>	HIV/TB CHW programs in Southern Africa including Swaziland

= Improvement Activity
  = Cross-cutting Activity

\*Core-funded Activity

# Key Activities, Accomplishments, and Results

## **Activity 1. Support the MOH and implementing partners to institutionalize modern quality improvement approaches**

### **BACKGROUND**

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Institutionalization of modern quality improvement approaches provides sustainable and efficient long-term improvements in the quality and cost of health services in Swaziland. The USAID ASSIST Project uses this approach to enable the MOH to meet its health goal of improving the health and social welfare of the Swazi population by providing preventive, curative, and rehabilitative services that are of high quality, relevant, accessible, affordable, equitable, and socially acceptable. Project interventions include: building capacity of health care workers (HCWs) for QI implementation at national, regional, and facility levels and engaging HCWs, health care program managers, and Regional Health Management Teams (RHMTs) in scaling up QI activities and lessons and using health data to inform improvements.

### **KEY ACCOMPLISHMENTS AND RESULTS**

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- **Conducted QA/QI training of trainers (TOT) (Q1-2).** Following the success of the first QA/QI TOT training, a second QA/QI TOT was conducted in collaboration with the MOH Quality Management Program in December 2014 at Esibayeni Lodge with 21 participants from health facilities. From January-March 2015, clinical mentoring and supportive supervision was conducted with 15 of the 21 QA/QI trainers. All the participants visited were able to conduct facility-based QA/QI trainings and implement quality improvement projects. At Emkhuzweni Health Center, one trainer was observed conducting an on-site training to 23 participants. The third and final TOT session took place in Q3 May 2015 for 21 participants.
- **Conducted clinical mentoring and supportive supervision for QA/QI (Q 1-2).** ASSIST in collaboration with the MOH provided mentoring and supportive supervision to 148 HCWs (facility QA focal persons, QA committees, and QA/QI trainers) from 11 health facilities to build their capacity on QA/QI methodologies.
- **Conducted regional TB QRM workshop (Q1).** The project supported a quarterly review workshop for health facilities' QI focal persons to discuss, learn, share best practices, and build their capacity and skills to utilize their data to identify gaps, develop specific quality improvement plans, and inform health care service delivery.
- **ASSIST supported the MOH Quality Management Program leadership to conduct a national collaborative learning session (Q2).** Eleven facilities and 47 participants from the four regions participated. Nine facilities shared progress on their quality improvement projects.
- **The project continued to support facility-based QI learning sessions where departments presented their QI projects (Q1-3).**
- **Feedback on performance in TB/HIV indicators and coaching on quality improvement plans. (Q1)** The ASSIST team conducted a meeting in October 2014 with Cabrini Ministries Mission Clinic's health workers to assess the implementation of key themes in the facilities' quality improvement plan, which was developed from January - March 2014. The exercise reached 17 HCWs.
- **Finalized National TB Hospital Strategic Plan 2015-2017 (Q2)** through provision of technical assistance (TA) and funding by ASSIST for a consultant to work with the TB hospital management on the strategic plan. The National TB Hospital Strategic plan was finalized, printed, and shared with all key stakeholders. The document guides and supports the delivery of services at the National TB Hospital. It will be used as a guide and tool for resource mobilization. At the programmatic level, it is hoped that implementation of the activities in the strategic plan will contribute to the reduction of DR-TB incidence and prevalence in the country.
- **Finalized QA/QI customer care framework development (Q2).** The health facilities' Customer Care Framework was finalized in December 2014 during a two-day workshop at the George Hotel. ASSIST facilitated the consultative meetings and report writing. The framework was developed to prepare for the TB/HIV client satisfaction surveys to be carried out in 10 sites. The 10 sites were identified, and a data collection tool developed. Eleven customer care officers from nine health facilities participated.
- **Client satisfaction survey (Q2).** A client satisfaction survey was conducted in six facilities (Mbabane Government Hospital, Piggs Peak Government Hospital, Emkhuzweni Health Centre, Ezulwini

Satellite Clinic, Horo Clinic, and Ngowane Clinic) by ASSIST project staff and health facility customer care committee staff members. The exit survey targeted various service delivery points, including the HIV testing/ART clinic, TB clinic, pharmacy, public health unit, laboratory, and general outpatient department. Data analysis and report writing were finalized in May 2015.

- **Due to the transition of this support to the MOH Centers for Disease Control and Prevention (CDC) Cooperative Agreement in April 2015, ASSIST did not support any activities in Quarters 3-4.**

## **Activity 2. Establish integrated TB/HIV/NCD model clinics and Centers of Excellence to MDR-TB clinics to improve implementation of the essential health care package**

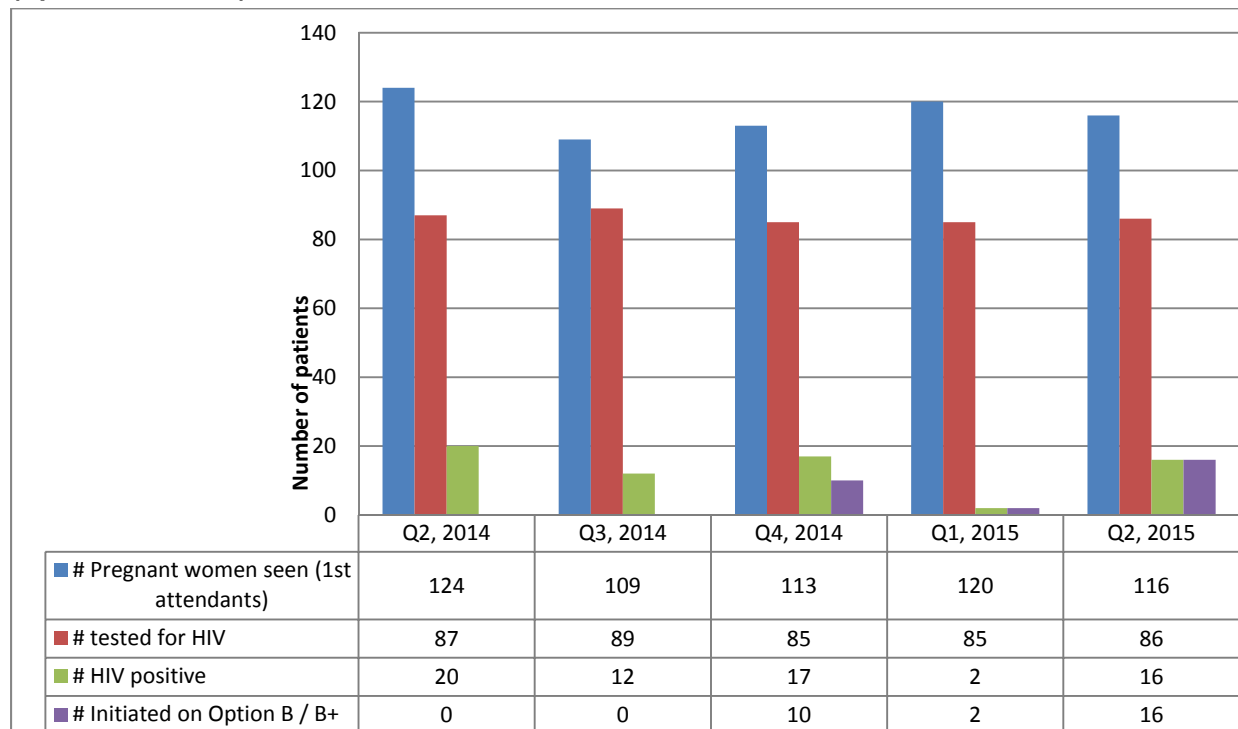
### **BACKGROUND**

The Ministry of Health launched the Essential Health Care Package (EHCP) to be used to improve health care service delivery. In line with this, ASSIST in consultation with the EHCP Coordinator, National TB Control Program, and RHMTs in Hhohho and Manzini regions, developed a plan to use model clinics and centers of excellence (COEs) for rolling out the TB/HIV and MDR-TB services in Swaziland. At the COEs, the project focused on development of high-quality MDR-TB management practices, implementation of the FAST strategy, and capacity building of the TB hospital and TB Centre as training centers in Manzini Region. The project further worked to increase support towards implementation of the entire continuum of HIV/TB care with the eventual goal of implementing the EHCP in three model clinics in the Hhohho Region.

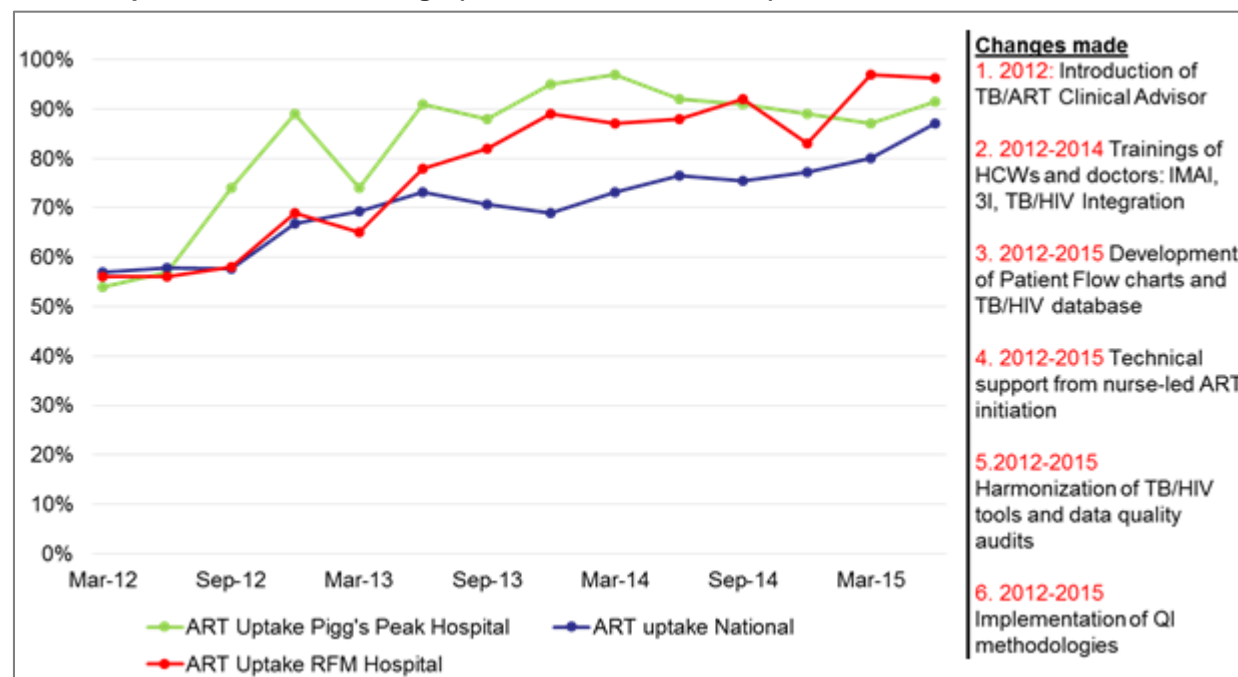
### **KEY ACCOMPLISHMENTS AND RESULTS**

- **Held collaborative learning sessions (Q2).** ASSIST conducted a collaborative learning session for model clinics to track progress and address challenges that cut across all facilities. Thirteen HCWs from Ngowane clinic, Ezulwini satellite clinic, and Horo clinic attended the sessions.
- **Model clinics participated in regional collaborative learning sessions (Q2).** Focal persons from the model clinics participated in regional collaborate learning workshops such as Regional TB Quarterly Review Meetings and also in Regional Semi-Annual Reviews (RESAR). The RESAR was attended by 116 participants from health facilities.
- **Between February and June 2015, the patient appointment system at the National TB Hospital was redesigned by ASSIST to accommodate patients with similar regimens and demographics (Q2-3).** The ASSIST MDR-TB Systems Improvement Advisor in conjunction with TB hospital staff implemented the new system, and ASSIST provided funding for printing new appointment registers and forms. The system has improved the tracking of patients who miss appointments, with rates of missed appointments being reduced from 20% to 10%.
- **The model clinics and centers of excellence were handed over to the incoming implementing partner (Q3).** The documentation included facility summary and progress on key performance indicators and quality improvement projects. **Figures 1-2** illustrate the performance of the selected model clinic and Centre of Excellence on selected indicators:
  - **Introduction of Option B at the Ezulwini Satellite Clinic (Q3).** The model clinics were assisted to integrate prevention of mother-to-child transmission Option B+ (life-long ART) for pregnant and lactating mothers. **Figure 1** shows the increase in numbers of HIV-infected pregnant women initiating Option B+ at Ezulwini Satellite Clinic.
  - **ART update in TB patients (Q 2-3).** **Figure 2** shows that the Centers of Excellence performed better than the national average of ART uptake among TB patients living with HIV.

**Figure 1: Number of HIV-infected pregnant women enrolled in Option B+, Ezulwini Satellite Clinic (April – June 2015)**



**Figure 2: Trends in ART uptake at two Centers of Excellence, Raleigh Fitkin Hospital and Pigg's Peak Hospital vs. national average (March 2012 – June 2015)**



## IMPROVEMENT IN KEY INDICATORS

Activity	Indicators	Baseline	Last value	Change
<b>Establish integrated TB/HIV/NCD model clinics and centers of excellence for MDR-TB clinics to improve implementation of the essential health care package</b>	# facilities providing integrated TB/HIV/NCD care	0 (Sept 2012)	3 (June 2015)	3
	Option B+ uptake in 3 sites	0 (Sept 2012)	100% (June 2015)	100 percentage points
	ART uptake in the CCC's	59% (Sept 2012)	90% (June 2015)	31 percentage points
	Strategic plan for National TB Hospital	0 (Sept 2012)	1 (June 2015)	1

## SPREAD OF IMPROVEMENT

The MOH, the Office of the EHCP Coordinator, the clinic supervisors, and the health care workers at the selected facilities were engaged from the beginning of the project with the baseline assessment, selection of facilities and implementation of the change package. ASSIST supported capacity building through the training of the facility-based health care workers and post-training mentoring to ensure that the different care and treatment areas were introduced and implemented in a sustainable way. Collaborative learning sessions were conducted to share best practices and lessons learned and increase the utilization of data for improvement.

### **Activity 3. Implement high-quality DOTS expansion for TB and MDR-TB and strengthen implementation of integrated TB/HIV prevention, care, and treatment**

#### BACKGROUND

DOTS (directly observed treatment, short-course) was recommended by WHO since 1994 as an important Stop TB strategy to help people during their treatment. In 2003, Swaziland initiated a DOTS program for smear-positive patients, and extended coverage for other patients gradually. Currently, all patients undergoing TB medication are under DOTS. Swaziland also pursues DOTS plus as well for MDR-TB patients. A drug resistance survey showed multidrug resistance rate of 7.7% in all new TB cases and 33.9% in retreatment cases (DR-Survey Report, 2009). The prevention of MDR-TB is paramount to curtailing the MDR-TB outbreak in Swaziland, and that necessitates effective TB case finding and holding for drug sensitive TB as well as reducing the transmission of MDR-TB from established MDR-TB cases in the community. Surveillance of quality of DOTS implementation has been institutionalized in the country.

#### KEY ACCOMPLISHMENTS AND RESULTS

- **Conducted community multidrug-resistant tuberculosis outreach** (Oct 2014– March 2015). ASSIST supported the MOH TB hospital community MDR-TB outreach program to conduct home assessments and contact tracing and link patients to care. The project further provided health education on TB and MDR-TB to TB and MDR-TB patients, their families, and neighbors. Between October 2014 and March 2015, 107 home assessments were conducted; 49 people linked to care; and 322 people reached through health education.
- **Capacity building of HCWs to implement integrated TB/HIV management**
  - **Isoniazid preventive therapy onsite trainings** (Nov 2015). ASSIST successfully conducted onsite trainings in two health facilities (Siphofaneni clinic and FLAS clinic, with 15 and 12 participants, respectively).
  - **Basic TB management training** (March 2015). Conducted two-day basic TB management training at Zombodze clinic for 16 HCWs. Training objectives were: to provide knowledge on TB management to the facility's HCWs; to increase access to care of TB services by decentralizing to the clinic; and to increase index for suspicion of TB patients.
  - **HIV guidelines dissemination training for health care workers** (March 2015). ASSIST conducted a four-day training for 30 HCWs on the new HIV guidelines. The objectives of the

training were to: orient health care workers from all health facilities in Manzini on the new integrated HIV management guidelines.

- **ASSIST in partnership with the NTCP collaborated in training health care workers (nurses) on drug-resistant tuberculosis (DR-TB) clinical management of patients** (Oct 2014). The objectives of the training were to: provide knowledge to nurses on TB/HIV and DR-TB management in the country, share experiences in health facilities, come up with standard operational procedures with all the facilities involved, and share with the participants best practices from other countries.
- **Conducted TB/HIV sensitization and screening campaign** (Oct 2014). ASSIST through the TB in the mines project sensitized and screened mineworkers from the Maloma coal mine for TB and also tested them for HIV. Of the 248 miners screened for TB, 96 screened positive for TB, 58 had lab tests for TB, 108 miners tested for HIV, and seven miners tested positive for HIV.
- **Worked to strengthen and ensure sustainability of the infection prevention and control structure at national, regional, and facility levels to improve infection control practices.**
  - **Conducted assessments to look at infection prevention and control (IPC) practices in health care facilities, to track device associated health care infections, and to establish a database for health care-associated infections** (Q1-Q2, FY15). Conducted assessments at Good Shepherd Hospital, Cheshire Homes, and Mbabane Government Hospital.
  - **IPC site visit** (Dec 2014). ASSIST's IPC specialist provided technical support and conducted the TB IPC assessment at Good Shepherd Hospital to prepare for the MDR-TB treatment initiation at the newly accredited site. Some of the key findings and follow up actions are shown in **Table 1**.

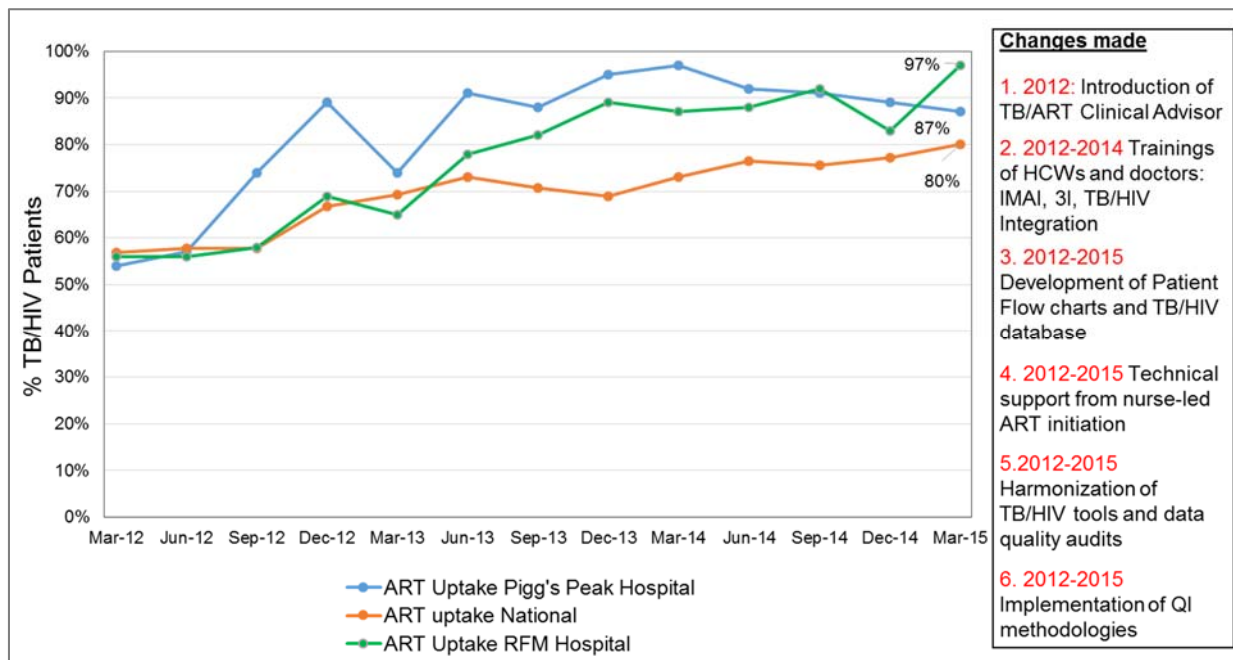
**Table 1: Key findings and recommendations from TB IPC assessment at Good Shepherd Hospital**

Key findings	Issues for follow-up and recommendations
<ul style="list-style-type: none"> <li>• TB, MDR-TB patients and all other patients mixed at the outpatient department while queuing at the X-ray, laboratory, and ultra sound departments. (No safe separation of TB and MDR-TB patients)</li> <li>• TB screening conducted at outpatient department but clients who were positive to screening tool were not issued surgical masks</li> <li>• Presumptive TB clients not given surgical masks while waiting at the laboratory and ultra sound room</li> <li>• Outpatient department, radiography department, and ultra sound room poorly ventilated</li> <li>• Narrow passages used as waiting areas</li> </ul>	<ul style="list-style-type: none"> <li>• Safe separation of presumptive TB and MDR-TB clients at radiology and all other departments.</li> <li>• Alternative waiting area</li> <li>• TB screening of employees every six months (documented proof)</li> <li>• Provision of an outside or alternative shelter for MDR-TB, TB, and presumptive TB clients</li> <li>• Offering surgical masks to the MDR-TB, TB, and presumptive TB clients at the other departments (X-ray, laboratory, ultrasound room)</li> </ul>

- **Conducted handover of the Matsapha Prison TB clinic** (Q3). ASSIST provided a park home that was designed as a clinic with a side laboratory that accommodated a GeneXpert MTB Rif. The clinic was handed over to the correctional services administration and the Minister of Justice. In attendance were the National TB program manager, the Deputy Director Public Health services, the USAID Country Director, and members of the press.
- **ASSIST continued to provide resources and technical assistance to Piggs Peak and Raleigh Fitkin Memorial (RFM) hospitals to strengthen provision of ART for TB/HIV co-infected patients. The two hospitals have demonstrated improvement of ART provision, with Piggs Peak Hospital at 87% and RFM Hospital at 97% in Q1, FY15 compared to 80% performance at national level (Figure 3).**

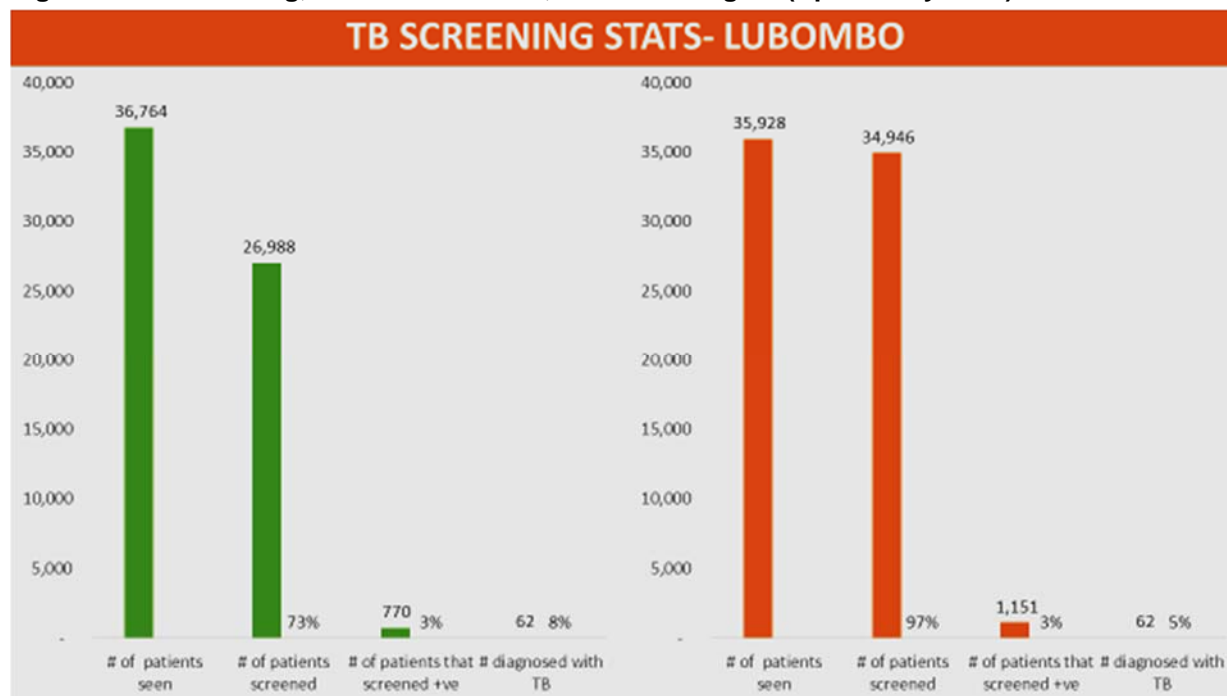


**Figure 3: Swaziland: Comparison of national uptake to 2 hospitals ART uptake (Jan 2012 – March 2015)**



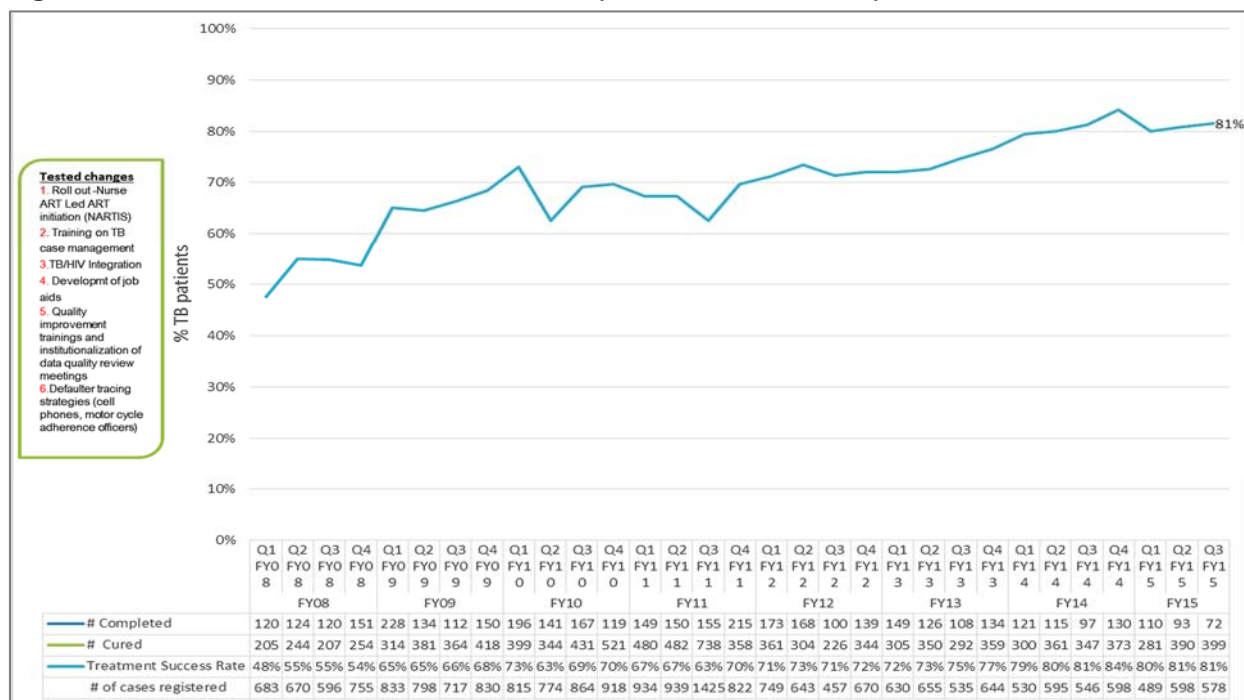
- **ASSIST conducted a quarterly review meeting for cough screening officers (Q3). The meeting reviewed the performance of TB screening and diagnostic cascades, bottlenecks, and lessons learned (Figure 4). A total of 44 officers from 38 health facilities attended this meeting.**

**Figure 4: TB screening, 38 health facilities, Lubombo Region (April – July 2015)**



- **Improved and sustained TB treatment success rate to 81% at national level (Q1-4).** This is below the WHO-recommended target of 85% but over the reporting period, some ASSIST-supported health facilities achieved the WHO target (**Figure 5**).

**Figure 5: National TB treatment success rates (Oct 2007 – June 2015)**



## IMPROVEMENT IN KEY INDICATORS

Activity	Indicators	Baseline (Sept 2013)	Dec 2014	June 2015	Change (percentage points)
<b>Implement high-quality DOTS expansion for TB and MDR-TB and strengthen implementation of integrated TB/HIV prevention, care, and treatment</b>	TB case notification	1,782 (83 sites)	1259 (87 sites)	941 (87 sites)	---
	TB treatment success rate	77% (83 sites)	80% (87 sites)	81% (87 sites)	4
	HTC uptake	96% (83 sites)	97% (87 sites)	95% (87 sites)	-1
	CPT uptake	98% (83 sites)	98% (87 sites)	99% (87 sites)	1
	ART uptake	69% (83 sites)	80% (87 sites)	88% (87 sites)	19
	MDR-TB case enrollment	76% (6 sites)	76% 8 sites	32% (8 sites)	-44
	MDR-TB 6 months interim outcome	68% (7sites)	65% (8 sites)	68% (8 sites)	0
	MDR-TB treatment success rate	59% (6 sites)	55% (8 sites)	49% (8 sites)	-10



## SPREAD OF IMPROVEMENT

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By applying an approach that utilizes collaborative improvement methods and diffusion of innovation theory, ASSIST engaged and built the capacity of the NTCP and health care workers to spread the change packages that led to improvements in TB treatment success, ART uptake among TB patients co-infected with TB/HIV, and MDR-TB services. ASSIST conducted collaborative learning sessions to share best practices and lessons learned as well as use data to inform the interventions. ASSIST also provided TA in the development of standard operating procedures based on innovation and changes tested and institutionalized within MOH.

### **Activity 4. Implement advocacy and social mobilization interventions to improve HIV and MDR-TB services uptake and outcomes**

#### BACKGROUND

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ASSIST continued to work towards building the capacity of the NTCP through implementing the TB ACSM. This strategy was developed in collaboration with NTCP and other supporting partners and is being carried out in conjunction with the STOP TB Partnership in Swaziland. The strategy is aimed at implementing advocacy and social mobilization interventions to improve TB, TB/HIV, and MDR-TB services uptake and outcomes.

#### KEY ACCOMPLISHMENTS AND RESULTS

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- **ASSIST continued to provide technical support to NTCP to review, finalize, and disseminate the ACSM strategy using local evidence (Q1-3).** The national ACSM strategy was finalized in June 2015. Twelve billboards have been placed around the country. The billboards were themed: Find TB, Treat TB, Cure TB, Kick TB, and Stop TB.
- **Conducted advocacy, communication, and social mobilization event (Q 1-2).** During the first two quarters, the project supported a number of community activities including: TB IPC sensitization for public transport operators, MoLeSwasa campaign addressing TB among returning miners from neighboring countries for Christmas, and World AIDS Day at Siteki Sports ground in the Lubombo Region.
- **Held TB IPC campaign in collaboration with NTCP (Q2).** Held at Mbabane Bus Rank with 700 people attending and receiving health services. The event was aimed at: providing TB, HIV, and screening of non-communicable diseases (hypertension and diabetes) services, including health education; disseminating TB infection control messages in the form of pamphlets and stickers to be displayed in the public transport vehicles (i.e., open window stickers); and actively finding TB and DR-TB cases and linking TB suspects to the nearest hospital for sputum examination.
- **Conducted TB IPC awareness campaign (Q1).** ASSIST conducted a TB IPC awareness campaign at Manzini bus rank in collaboration with the Ministry of Health, National TB Control Program, and Swaziland Commercial Amadoda Transportation Corporation. The purpose was to educate the general public on TB/HIV, TB IPC, and non-communicable diseases. About 200 health care workers, 310 members of the public, and 100 members of the Royal Swaziland Police force attended. The success of the event was demonstrated by 96 people being screened for TB, of which 46 were positive and 28 sputum samples were sent to the laboratory. In addition, behavior change communication materials were shared and approximately 1000 *Open Windows Stickers* distributed; and people were screened for hypertension, HIV, and diabetes mellitus.
- **World TB Day (Q1).** World TB Day was commemorated at Maseyisini in the Shiselweni Region where the military, police, mineworkers, factory workers, and the general public were targeted. More than 900 people were present during the event; 500 received information, education, and communication (IEC) materials including information packs from the URC Laboratory project and ASSIST; 300 were screened for TB, with the first person being screened, the Minister of Health. Forty-two (42) people screened positive for TB and were linked to care.
- **World AIDS Commemoration day (Q1).** NTCP, ASSIST, and University Research South Africa as supporting partners joined the Swaziland National AIDS Program in the Lubombo Region Siteki sports ground to celebrate those lives that have been saved and improved in the country and recommit to the fight against HIV/AIDS. The 2014 World AIDS Campaign's theme was "**Getting to Zero in Africa: Zero New HIV infections, Zero discrimination, and Zero AIDS related deaths**". The objectives for the World AIDS Day commemoration were to raise and strengthen HIV and AIDS

awareness, to call for action and commitment to HIV and AIDS national response, and to review progress in the national response to HIV and AIDS. About 1,500 people from all over the country attended the World AIDS Day commemoration.

- **Training on TB, TB/HIV, and DR-TB among prisoners (Q2)**, ASSIST conducted a training on TB, TB/HIV, and DR-TB for inmates at Big Bend Correctional Institution. Sixteen male inmates who had not received any TB screening since incarceration were screened for TB. Nine of them screened positive for TB, and they were linked for diagnosis, care, and treatment in the onsite clinic. Twelve male inmates who did not know their HIV status were tested for HIV, and six of them tested HIV positive. The inmates that tested HIV-positive were linked successfully to care and treatment in the prison's clinic.
- **The evaluation report for the TB screening project for HCWs that was implemented by the Wellness Centre from October 2012 to March 2015 was finalized and printed (Q3)**. The evaluation report found that the occurrence of TB among health care workers was lower than in the general population although at facility level analysis, some facility wellness centers had a higher than general population occurrence of TB.
- **A hand wash campaign was conducted at the TB Center clinic (Q 3)**. Twenty participants were educated through presentation, video, demonstration, and discussions.
- **A TB sensitization campaign was conducted at the Phocweni military barracks (Q3)**. A total of 350 soldiers were in attendance. The soldiers were from 7 barracks: Nsingizini Army Barracks, Nkoyoyo, Bethany, Bethany, Mbuluzi, Mbutfu, St Georges, and Phocweni. The event was opened by the Brigadier General of the Army. HIV, TB and diabetes mellitus testing and education stations were placed for the soldiers to visit, and 283 soldiers received TB screening and educational materials.

## **Activity 5. National Framework for In-service Training**

### **BACKGROUND**

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Implemented under the Ministry of Health Training Unit, the IST project started in January 2014. The aim of the IST project was to improve the quality and effectiveness of IST for HCWs through improved design, delivery, coordination, and tracking of all IST. ASSIST worked with the MOH planning unit training department to ensure that the current trainings in the Ministry are well coordinated.

### **KEY ACCOMPLISHMENTS AND RESULTS**

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- **With the aim of improving training information management to enhance tracking and staff development planning, standard training registers were developed and introduced in 19 health facilities (Q 2-4)**. Facilities include seven hospitals, five health centers, and four public health units selected from across the country, plus the three pilot programs (i.e., SNAP, NTCP, SRH). A software developer was hired and is currently developing a computerized Training Information Management System that will be used to track trainings and trainees and generate training reports for improved decision-making. The system will be operational in FY16, producing reports for facility, regional, and national level managers, as well as partners.
- **The IST improvement advisor has continued to provide technical support to different MOH programs as listed below (Q1-4)**
  - *Quality Program*: In December 2014 QI/QA TOT identified areas of improvement in the program and made recommendations
  - *Environmental health program*: In February 2015, ASSIST was requested by the Environmental Health Program to be part of the team evaluating consultants to develop the health care waste management training manual.
  - *Swaziland Health Laboratory Services (SHLS)*. In February 2015, ASSIST provided technical assistance in conducting a training needs assessment for all SHLS staff. A training needs assessment tool was developed and submitted for approval.
  - *Swaziland Nazarene University*: Provided guidance on MDR-TB curriculum review process (March 2015).
  - The project developed standard guidelines for conducting effective trainings in the MOH. This will help improve the quality of training. The guidelines were presented to the MOH Senior Staff on 14<sup>th</sup> September 2015 and are currently awaiting approval in the Office of the Principal Secretary of the MOH.

- **Held IST coordination mechanism workshop** (Q1). The in-service training coordination workshop was successfully held at Esibayeni Lodge to orient participants on IST coordination mechanism; finalize training and recording tools; and develop IST coordination calendar for the pilot programs (i.e., NTCP, SNAP, and SRH). The workshop was attended by 18 participants who included facility IST coordinators, program training focal persons, program thematic area coordinators (from NTCP, SNAP, SRH, MOH training unit, Ministry of Public Service), and training focal persons from partners supporting the three mentioned programs.
- **ASSIST supported the MOH training office to coordinate the development of in-service training calendars by each of the priority health programs being piloted for IST coordination: TB, HIV and SRH programs** (Q3-4). The developed IST calendars were then printed, and disseminated by ASSIST. During the reporting period, two quarterly IST coordination calendars were produced and disseminated.
- **ASSIST supported the MOH training office to conduct an assessment to establish the utility and usability of the standard training register and offsite facility feedback form** (these are training recording tools that have been under pilot since January-June 2015).
- **ASSIST supported the HMIS, human resources, and training departments of the MOH to develop and pilot an electronic training information management system for the MOH to improve training information management and use of training data to inform human resources for health development strategies and decision-making** (Q3-4).
- **An assessment was conducted to find out how effectively the coordination of training was conducted, and the results were satisfactory.** (Q2-4) The MOH senior management recommended that the IST coordination mechanism be scaled up to include all MOH programs and departments. The scale-up process also started with a meeting to orient all programs to the coordination mechanism. The training office is currently receiving training calendars from each program for consolidation into one MOH training calendar.

## **Activity 6. Improve Option B+/ART laboratory-related care and treatment monitoring**

### **BACKGROUND**

With a global move towards an AIDS-free generation, Swaziland has adopted a test-and-treat strategy for pregnant and lactating women, better known as life-long antiretroviral therapy for pregnant and lactating women (LLAPLa). ART suppresses viral replication, and hence viral load monitoring is an essential follow-up for these women. Measures of CD4 cell count are not useful in this situation since women are initiated on treatment regardless of the count. Within a few months of implementing LLAPLa, challenges surrounding the delivery of viral load testing results arose, with long delays in patients receiving the results, if at all. Retaining mothers in care was another bottleneck as well retaining both mother and baby in care after delivery. ASSIST provided support to increase the capacity of the National Sample Transport System (NSTS) to service peripheral clinics more regularly and frequently to ensure specimen transportation for viral load testing for the clients. To improve results delivery and retaining mothers and their babies in care, an mHealth project was initiated. The project will register mothers at their first visit and keep them engaged in care through informing them when results are available at their clinic and reminding them of all clinic appointments. Their babies will be tagged to their unique identifier, and mother and baby scheduled together for clinic visits until the baby is 24 months. The system will also provide reminders to the health care workers for retesting of both the mother and their babies.

### **KEY ACCOMPLISHMENTS AND RESULTS**

- **Strengthen National Sample Transportation Services to enable facilities to access viral load testing for pregnant women and improve turn-around time for viral load and dried blood spot results of pregnant women and HIV-exposed infants** (Q2). In order to increase the NSTS coverage and frequency, the project has procured five additional vehicles. The vehicles were remodeled to suit the requirements of safe storage and transportation of hazardous samples and handed over to the Minister of Health by the US Ambassador on July 16, 2015.
- **The pilot for the mHealth system for improving systems for viral load results delivery for pregnant women using short message service was underway by September 2015. In addition ASSIST is conducting an evaluation of the TB screening process among the pregnant and lactating women.** (Q3) The Screening in maternity to ascertain TB status (SMART) study was

initiated in July 2015. Data collection began August 2015, and to date, 500 eligible women have been screened in three study sites.

## **Activity 7. Improving injection safety in Swaziland**

### **BACKGROUND**

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With support from USAID, this activity will wrap up in Q2 FY16 with the end-line data collection and analysis activities for the impact evaluation. USAID ASSIST supported the MOH to improve injection use and waste management practices in health care settings with a goal of reducing the transmission of HIV, Hepatitis B and C, and other blood-borne pathogens. The project is now evaluating the impact of improved injection safety and waste management practices on health worker engagement and is estimating their contribution to improved patient outcomes.

### **KEY ACCOMPLISHMENTS AND RESULTS**

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Working with the MOH, local improvement teams worked to: a) reduce usage of injections, b) implement proper waste management practices, and c) reduce unsafe injection practices.

#### **Increasing health care worker knowledge and practices**

- **Coaching and mentoring visits in collaboration with the MOH injection safety focal person were conducted to monitor and support the quality improvement teams and their projects at facilities.** Objectives of the visits were to monitor the quality improvement projects, support the facility with the injection safety and health waste management activities, and ensure that they comply with standards and procedures as prescribed by WHO. Each facility was assisted in the weekly data collection.
- **Health care waste management pilot project plan concept development.** Finalized the concept note on the pilot for transport to incineration sites of health care waste from TB/HIV facilities. This project is funded by the World Bank, and URC will document the process from implementation and disseminate results.
- **Held four regional workshops to orient health workers and waste handlers on the new guidelines for health care waste management** (Feb 10 -17, 2015). The workshops also provided a forum for the MOH Environmental Health Department to showcase infrastructure and controls for the management of health care waste in Swaziland

#### **Evaluating impact and efficiency of improving safe injection practices**

- **Baseline assessment results sharing forums** (Feb – March 2015) conducted during the regional workshops, nurse managers' meetings, and in the 20 sites. All 20 sites were given their score boards with results in the key areas observed during the baseline assessment. The results presented during sharing sessions raised many comments as the facilities were mostly shocked by the standard practices reported. Of great interest was the observation in two dental clinics of poor hand washing practices during injection procedures and the sterilization of syringes. This results-sharing has helped in guiding specific areas for improvement.

#### **Implementing proper waste management practices**

- **Supported the development of the national road map for incineration** (Sept 2015) to assist in planning for a pilot project in centralized health care waste management. This activity, funded by World Bank and URC, is currently in its final stages and lessons learned are being documented.
- **Reviewed Swaziland's national health care waste management training manuals** (Aug 2015). We reviewed the training manual for health care waste management in Swaziland.

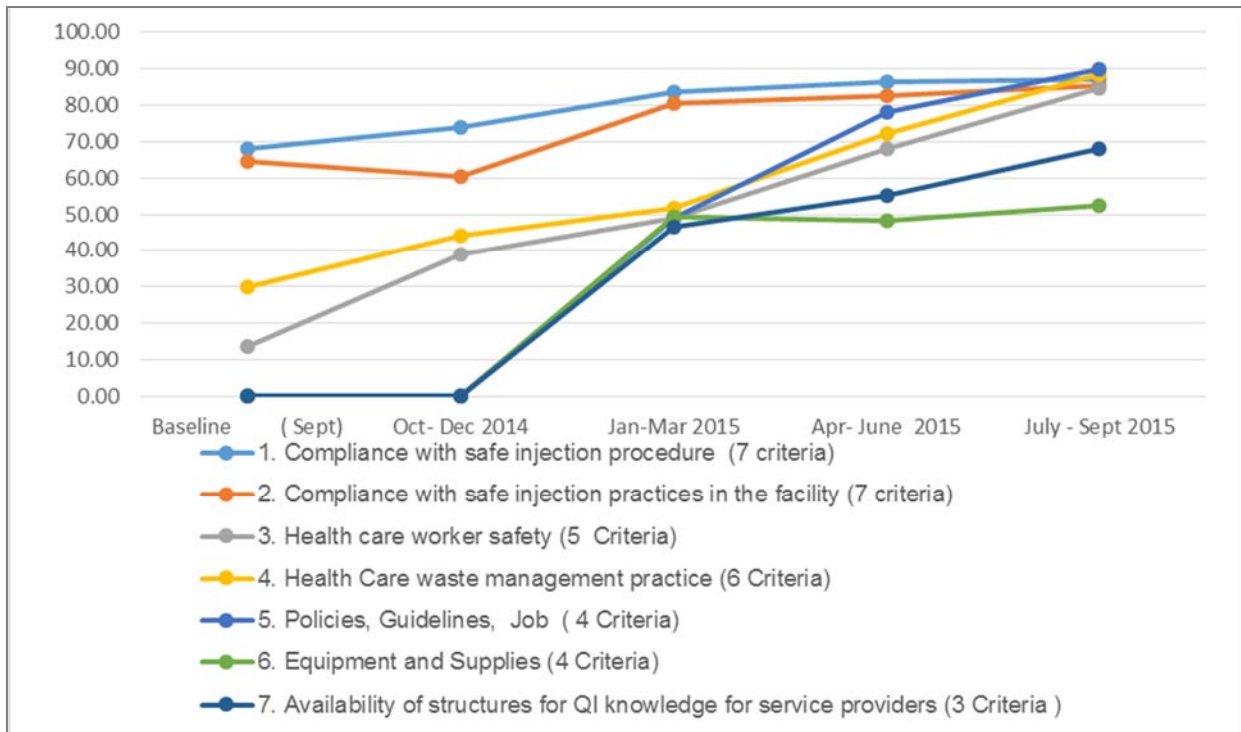
#### **Reducing unsafe injection practices**

- **Introduced a needle stick surveillance log system (2014-2015).** A needle prick injury surveillance log form was piloted in 20 intervention sites. The work was completed in September 2015.
- **Conducted and facilitated injection safety and health care waste core team meetings** (June 23, 2015 and July 23, 2015). The injection safety and health care waste management core team met regularly to share progress to date and coordinate improvement activities and timelines.
- **Disseminated baseline assessment results to matrons and senior nurses** (May 12 and 19, 2015). The national baseline assessment results from the 60 health facilities was shared with health

facility matrons and senior nurses forums to gain more support. The matrons expressed interested in the results and were very eager to support improvement interventions.

- **Supported MOH activities** (April 2015). A total of 36 health care waste handlers were trained to support a pilot waste incineration project. Although ASSIST initially offered technical support to the MOH to halt the supply of sub-standard safety boxes, we did not continue when we learned that others were already working on the issue. During the launch of the retrovirus vaccine, ASSIST trained public health clinics trainers about injection safety; these then trained counterparts in their units.
- **Improved compliance with safe injection standards.** Efforts to improve injection safety and waste management practices in the 20 intervention sites have produced positive results, including improved compliance with safe injection procedures and increased health worker safety (**Figure 6**).

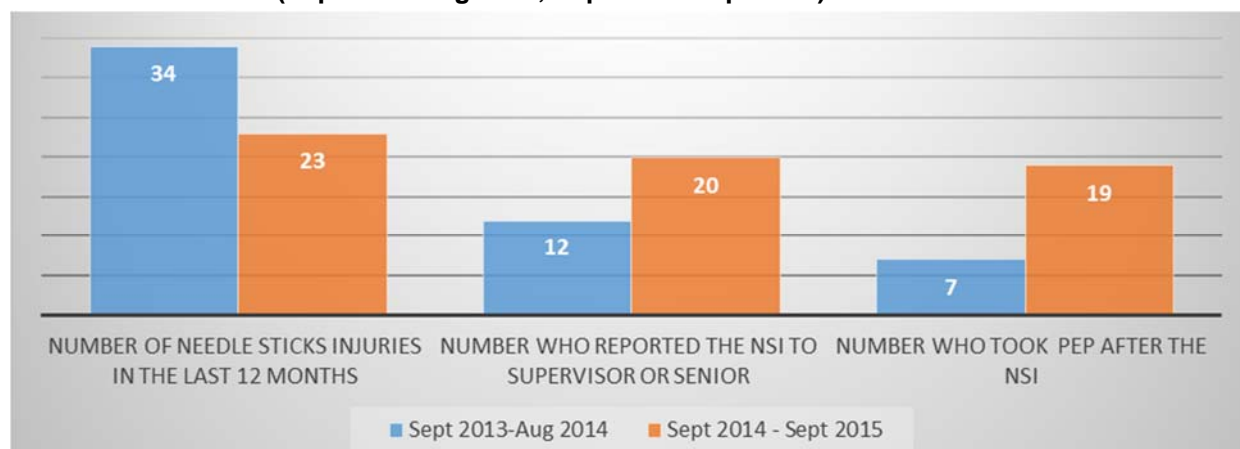
**Figure 6. Swaziland injection safety and health care management results (Sept 2014 – Sept 2015)**



- A pilot on introducing a needle stick surveillance log demonstrated a reduction in needle stick injuries between pre- and post-intervention periods, increased reporting of needle sticks, and improved uptake of post-exposure prophylaxis (**Figure 7**).



**Figure 7: Needle stick results from incidences in 2014-2015 among health care workers from the 20 intervention sites (Sept 2013-Aug 2014; Sept 2014–Sept 2015)**



### IMPROVEMENT IN KEY INDICATORS

Improvement in key indicators in 20 injection safety intervention sites in Swaziland.

Activity	Indicators	Baseline Sept 2014 (14 sites)	Oct- Dec 2014	Jan-Mar 2015	Apr- June 2015	July - Sept 2015	Change (percentage points)
<b>Apply QI principles to improve safe injection and waste management practices, and to reduce the transmission of HIV/AIDS, Hepatitis B and C as well as other blood-borne pathogens</b>	1. Compliance with safe injection procedure (7 criteria)	68	74	84	86	87	19
	2. Compliance with safe injection practices in the facility (7 criteria)	65	61	80	82	85	20
	3. Health care worker safety (5 criteria)	14	39	49	68	70	56
	4. Health care waste management practice (6 criteria)	30	44	52	72	88	58
	5. Policies, Guidelines, Job (4 criteria)	0	0	49	78	90	90
	6. Equipment and Supplies (4 criteria)	0	0	49	48	52	52
	7. Availability of structures for QI knowledge for service providers (3 criteria)	0	0	47	55	68	68

### **Activity 8. CHW performance logic model validation study for Swaziland HIV/TB services**

#### **BACKGROUND**

Under HCI funding, a CHW performance logic model was developed to guide efforts to improve CHW program performance. A study is now underway in Swaziland to determine if this model has validity for CHWs involved in TB/HIV service provision. The study is being led by ASSIST partner Harvard School of Public Health.

## KEY ACCOMPLISHMENTS AND RESULTS

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- **Developed a protocol along with data collection tools for submission to the Swaziland Institutional Review Board (IRB) (Jan 2015).**
- **Developed a framework for data collection activities with the Swaziland team (Feb 2015).**
- **Identified a data collection contractor to conduct the in-country part of the data collection (Mar 2015).**
- **Obtained approval from both the URC and Swaziland IRBs (Q3).** Data collection took place during Q3-4.
- **Quantitative data collection was completed in August 2015, and data cleaning is currently underway.** This involves coordination and communication between the Harvard School of Public Health team and the team of data collectors.

### **Activity 9. CHW harmonization study in Southern Africa**

#### BACKGROUND

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This activity builds on the work done by ASSIST in 2013 with USAID and the Global Health Workforce Alliance in publishing a monitoring and accountability platform for CHW programs. The study seeks to develop policy guidance for the harmonization of CHW programs based on multi-country case studies. The USAID missions in Swaziland, Lesotho, Mozambique, and South Africa are supporting this study in those countries, and it is proceeding on schedule.

#### KEY ACCOMPLISHMENTS AND RESULTS

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- **Developed a preliminary data collection tool for the study, which was shared with USAID missions in the aforementioned countries to help determine their interest (Feb 2015).**
- **Conducted the first interviews and preliminary data analysis is underway (Q3-4).**
- **It is expected that a preliminary report will be available in December 2015, and the final report will be completed in early 2016.**
- **Additional funding (\$300K) was added by USAID to support this activity in October 2015.** ASSIST is currently programming these additional funds to extend work that is currently underway and support the dissemination of finding to Ministries of Health and other stakeholders in the four countries.

## Sustainability and Institutionalization

ASSIST is supporting the MOH, through the NTCP, SNAP, QMP, and the Swaziland Health Laboratory Services, to apply lessons learned from established TB, HIV and AIDS quality improvement activities and capacity building initiatives to spread integrated service delivery models and algorithms for health facilities and providers in Swaziland.

ASSIST continued to provide resources and technical expertise to engage health facility managers, regional supervisors, and frontline workers in implementing continuous quality improvement. This was achieved through training, post training mentoring, and coaching. Collaborative learning sessions enabled the sharing of best practices.

## Research and Evaluation

- **The months of October 2014-March 2015 saw the wrapping up of one of the major ASSIST research projects in Swaziland: the study entitled “Increasing diagnosis of childhood TB in Swaziland: Clinical utility and validity sample collection and diagnostic methods among children in Swaziland.”** Data collection for this study ran from February to August 2014, and analysis was completed in December 2014. A comprehensive study report was compiled, and two research manuscripts were developed for submission to peer-reviewed journals. A dissemination event took place in March 2015, with key stakeholders from the Ministry of Health and supporting partners. An executive summary was distributed, and after presentation of the findings, a discussion

took place concerning the implications of the findings for policies and guidelines. These were then incorporated into the full report.

- **Dr. Edward Broughton travelled to Swaziland and presented to the Swaziland ASSIST team and others in the Mbabane office on how to perform a cost-effectiveness analysis on improvement activities** (Q1). This was part of capacity development for the team to facilitate the studies ongoing in the country that include economic analysis.
- **Validation of new diagnostic technologies for pediatric TB in Swaziland:** There is no easy-to-use and accurate diagnostic test for TB in children, and there are difficulties in obtaining bacteriological specimens from non-sputum expectorating children. This study compared two methods of recovery of sputum from children (mucus extractors and gastric lavage) as diagnostic aids for TB among children. The latter is more invasive while the former requires specialized equipment. The study also compared three diagnostic technologies against the gold standard of TB sputum culture to determine clinical validity and utility of the tests among children in Swaziland (GeneXpert, Blood mycobacteria TB culture, and urine lipoarabinomannan). Clinical validity refers to the extent or degree to which a test accurately predicts the risk of an outcome, the accuracy with which a test identifies or predicts a patient's clinical status, accuracy of detection the clinical disease, and the ability of the test to separate patients with different outcomes into separate risk classes (discrimination). Clinical utility refers to the likelihood of a test to improve patient outcomes. Given that the study compared the results from various methods of analysis of biological samples from children, the statistical analysis focused on sensitivity and specificity compared to the gold standard microscopy with sputum cultures. The study was completed, and one manuscript was submitted for consideration in a peer-reviewed publication. It was rejected, and currently the manuscript is being edited for submission to a different journal for consideration.

## Knowledge Management Products and Activities

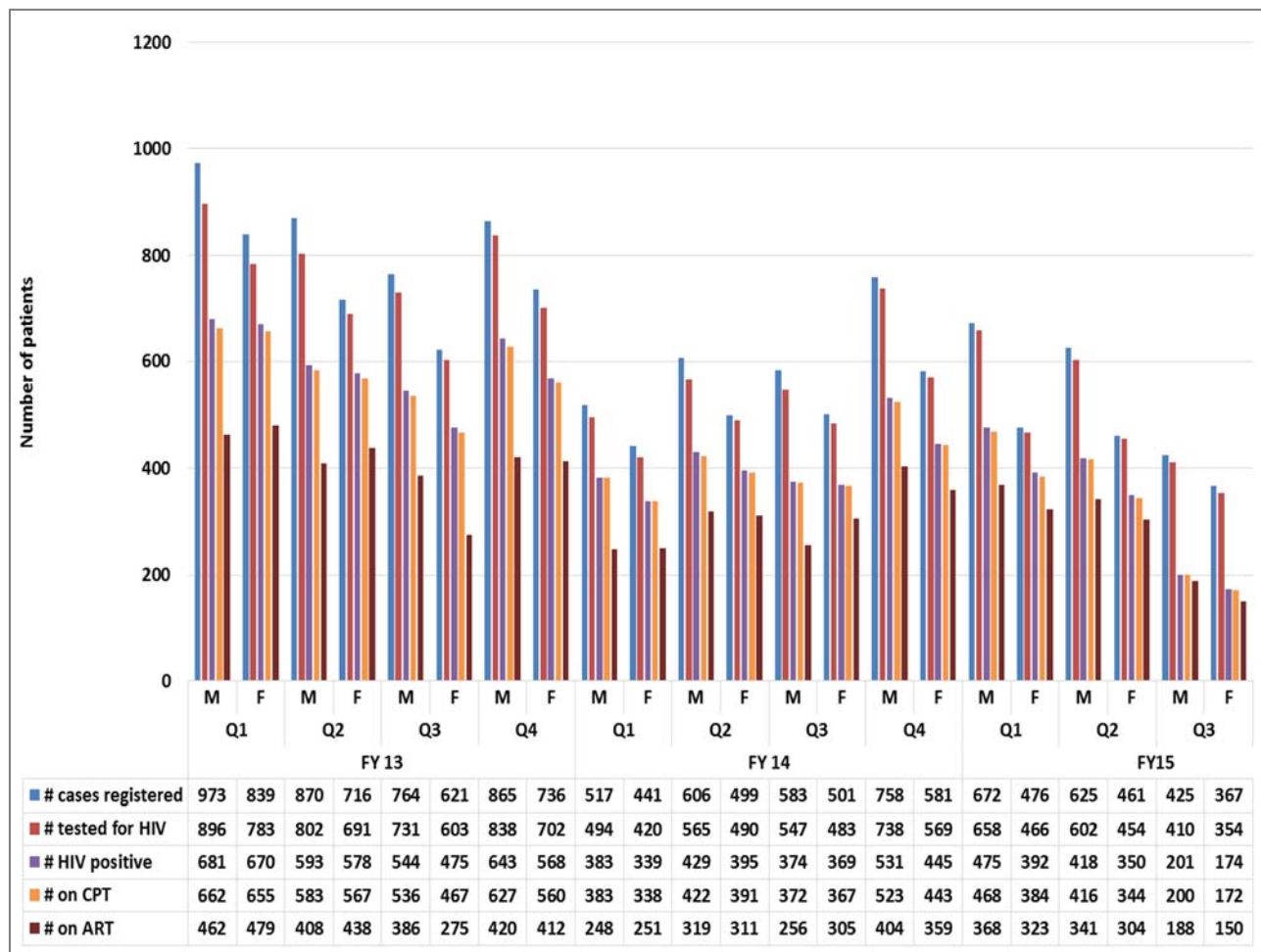
- **Published short report “Providing TB Services to Health Care Workers in Swaziland through Wellness TB Screening”** (May 2015). Available at: <https://www.usaidassist.org/resources/providing-tb-services-health-care-workers-swaziland-through-wellness-screening>)
- **A handbook was developed to assist in the transfer of information to the new implementing partners.** The handbook had a summary of activities that have been implemented under ASSIST pertaining to TB, TB/HIV and MDR-TB. The handbook was completed at the end of May and shared in June during the handover.
- **Published short report “Improving Efficiency, Effectiveness, and Sustainability of In-Service Training in Swaziland”** (June 2015). Available at: <https://www.usaidassist.org/resources/improving-efficiency-effectiveness-and-sustainability-service-training-swaziland>
- **Published short report “Decentralizing TB Services to Improve Access to Treatment in Swaziland”** (June 2015). Available at: <https://www.usaidassist.org/resources/decentralizing-tb-services-improve-access-treatment-swaziland>
- **Published short report “Mapping Mine Workers in Nkwene, Swaziland to Improve Access to TB Diagnosis and Treatment Services”** (July 2015). Available at: <https://www.usaidassist.org/resources/mapping-mine-workers-nkwene-swaziland-improve-access-tb-diagnosis-and-treatment-services>)
- **ASSIST and MOH Swaziland presented in a webinar in partnership with WHO on mainstreaming injection safety into health care delivery** (Aug 20, 2015). This topics discussed in this webinar included: Improving injection safety and waste management, integrating injection safety into the national health care system, the new WHO global injection safety policy and campaign, and ensuring alignment between quality, universal health coverage, and injection safety. The recording of the webinar is available at: <https://www.usaidassist.org/content/webinar-mainstreaming-injection-safety-healthcare-delivery>.
- **Published short report “Strengthening Infection Prevention and Control in Swaziland”** (September 2015). Available at: <https://www.usaidassist.org/resources/strengthening-infection-prevention-and-control-swaziland>)



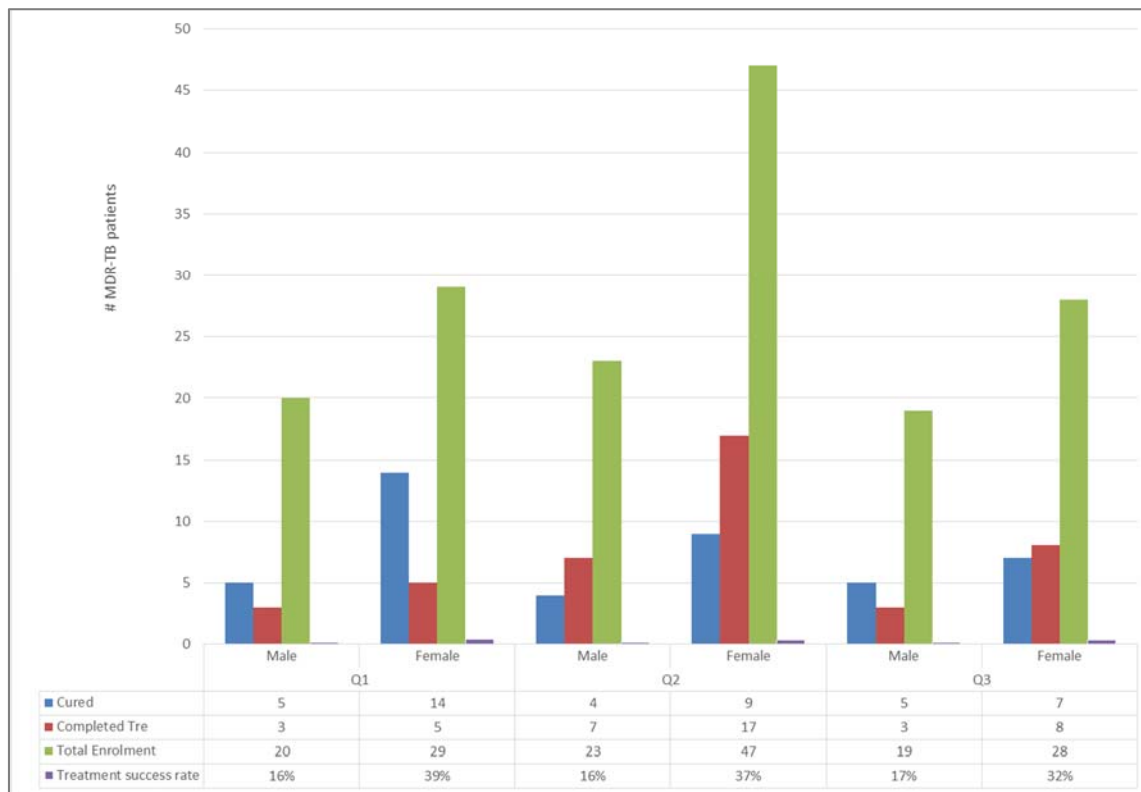
## Gender Integration Activities

- Gender integration for TB/ART cascade:** The ASSIST team conducted a gender analysis of data from health facilities. For example, while more men with tuberculosis were tested for HIV, a smaller proportion of men compared to women were accessing ART in 2013. Interventions targeting this disparity were addressed through clinical mentoring activities. By June 2015, the proportion of men accessing ART was equivalent to that of women (**Figure 8**). However, treatment success for MDR-TB among the males still remains significantly lower than the female counterparts (**Figure 9**). Given that MDR-TB treatment is two years long, the impact of the interventions implemented in the previous two quarters will only be seen in the next 12-18 months. The reasons for the disparity, however, are related to the late health-seeking behaviors among men and inadequate adherence to treatment. While in the past we addressed the low access to MDR-TB among men, keeping them in care is the next priority. Implementation of the appointment system described earlier for groups with similar characteristics is one of the efforts to improve treatment success among MDR-TB male patients but also in MDR-TB patients in general.

**Figure 8: National trends in TB/HIV cascade among adult patients in TB clinics disaggregated by age and sex (Oct 2012 – June 2015)**



**Figure 9: Results of treatment outcomes for MDR-TB enrollment at the National TB hospital, in Manzini (24 months after enrollment into MDR-TB care) (Oct 2012 – June 2013)**



## Directions for FY16

- **Development of the end-of-project report for mission-funded ASSIST activities in Swaziland.**
- **Piloting and support for national adoption of the electronic Training Information Management System and the in-service training coordination guidelines for Swaziland in Q1 and Q2, 2016.**
- **Screening in maternity to ascertain TB status (SMART) study:** This cross-sectional analytical study will collect data to assess current TB screening practices in the selected facilities. In Swaziland, it is anticipated that this study will allow for identification of the optimal screening tool for pregnant and lactating women. This, in turn, will help to improve maternal and child health outcomes in the country. The study was approved by the Swaziland authorities (Q4) and data collection is scheduled to begin in Q1 FY16.



**USAID APPLYING SCIENCE TO STRENGTHEN  
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