IMPLEMENTING A SUCCESSFUL QUALITY IMPROVEMENT PROGRAM IN A TB DIAGNOSTIC FACILITY IN SEMI-RURAL SWAZILAND

BACKGROUND

- Swaziland, situated in Southern Africa, has a population of just over one million people and an estimated TB incidence of 1,155 per 100,000 population, making it one of the 15 countries in the world with the highest TB incidence.
- The TB/HIV co-infection rate in the country is also extremely high: 79.6% of TB patients are coinfected with HIV.
- Co-trimoxazole preventive therapy (CPT) is a simple and cost-effective intervention which can extend and improve the quality of life for people living with HIV.
- In 2007, the proportion of co-infected TB patients receiving CPT in Swaziland’s TB facilities was low: less than 25%. Failure to implement simple and cost-effective TB/HIV interventions like CPT is a serious gap in quality of care.
- Since 2007, the USAID Health Care Improvement Project (HCI) has worked with the Swaziland Ministry of Health National Tuberculosis Control Program (NTCP) to improve the quality and rapidly scale up the availability of TB/HIV services in the country’s seven hospitals and 11 health centers.
- Piggs Peak Hospital, a semi-rural facility in the Hhohho Region of Swaziland, is one of the facilities that is applying continuous quality improvement approaches to improve the quality of integrated TB/HIV care, including CPT.

METHOD

- NTCP, HCI and the Piggs Peak TB focal person reviewed key data as part of a baseline assessment and identified key performance gaps.
- Health care staff in the TB clinic were trained on continuous quality improvement (CQI) approaches and tools.
- Facility baseline data were presented to the hospital management as part of sensitization about quality management and CQI for TB/HIV services.
- Subsequently, a TB/HIV multi-disciplinary quality improvement (QI) team of ten people was formed.
- The QI team applied the following tools and approaches to analyze and improve patient flow and care processes: QI documentation journal, fishbone diagram, QI framework for testing QI interventions, an Excel database, a QI synthesis form, and the baseline assessment findings.
- The team applied an improvement framework that included documentation of improvement actions implemented by the team using the plan-do-study-act (PDSA) cycle.
- Several performance indicators were developed to track the effects of changes made by the team in Piggs Peak. These indicators included:
  - Smear not done (SND)
  - Smear conversion rate (SCR)
  - Treatment success rates (TSR)

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- HIV counseling & testing (HTC) uptake
- ART uptake rate (% of co-infected patients receiving ART)
- CPT uptake rate (% of co-infected patients receiving CPT)

The QI team decided to first address the problem of the low proportion of co-infected TB patients receiving co-trimoxazole preventive therapy. The problem was then quantified by reference to the findings from the baseline assessment.

A problem analysis including performance gaps and root causes was done using a fishbone diagram (see Figure 1).

On a quarterly basis the quality improvement team members completed a synthesis form with assistance from a QI coach from HCI on improvement efforts and the results achieved. The synthesis form captured key changes and categorized them as effective or not, to facilitate the sharing of effective changes with other facilities.

### RESULTS

The Piggs Peak team documented a dramatic increase in the proportion of TB patients receiving co-trimoxazole from a baseline of 25% to almost 100% within 12 months. These positive results have been sustained for the past 18 months, as seen in Figure 2. Key changes that were introduced by the team to achieve these results are shown in the box to the right of the chart.

The team undertook improvement activities aimed at the other indicators of TB-HIV care quality and achieved improvements in these other areas as well, as seen in Figure 3.

### CONCLUSIONS AND LESSONS LEARNED

The early success with improving coverage of TB-HIV co-infected patients with co-trimoxazole preventive therapy was valuable for the local QI team and constituted an important incentive for sustaining and expanding the quality improvement experience.

This experience shows that health facility staff in Swaziland—a resource-constrained setting with a serious TB-HIV epidemic—can apply QI approaches to make measurable gains in quality of care to improve the quality of life of TB-HIV co-infected patients.