Demonstration Collaborative for Tuberculosis Management in El Alto, Bolivia

Date improvement activities began: March, 2009
Date of end of collaborative: August, 2012

Aims/objectives:

The collaborative sought to improve the quality and coverage of Tuberculosis (TB) control activities in El Alto, Bolivia. Specifically, the objectives of the collaborative were to:

- Increase the capture of respiratory suspects and TB cases
- Reduce the percentage of unusable sputum samples
- Improve the cure rate among TB cases
- Reduce the abandonment rate among TB patients
- Increase the detection of MDR-TB cases
- Improve the quality of care and case management of MDR-TB patients
- Increase the detection of TB-HIV co-infections
- Increase conformity among quality control samples

In addition to objectives related to the quality of TB care, the collaborative also sought to strengthen the managerial capacity of the regional TB office and health networks.

Implementation package/interventions:

The change package for this collaborative was adapted from the best practices of a previously implemented collaborative in 16 municipalities in rural Bolivia, implemented by the MSD and HCI in conjunction with the USAID bilateral project, Gestión y Calidad en Salud, implemented by John Snow Inc. (JSI). The implementation package was organized around major issues in TB management identified in the needs assessment, such as the quality of sputum samples and logistical management of medication, among others. Key changes are detailed below.
1. Educate patients about what a usable sputum sample looks like by building and using a sputum sample model for patient education

2. Give privacy to patients providing a sputum sample by designating a “Sputum Sample Unit,” a private area away from waiting rooms and other patients

3. Create a patient education video that demonstrates how to provide a proper sputum sample

4. humidify the area where patients provide sputum samples

Logistical management of medication:

1. Introduce “DOTS boxes,” a dedicated complete treatment course for each patient stored in an individual box at the facility

2. Build and use a file organizer to manage patient files

3. Complete routine medication stock assessments and complete ordering on time to prevent stock outs

4. Regularly track and analyze indicators related to medication stocks and use

Maintaining patients in treatment to improve cure rates:

1. Assign a “godparent” to each patient, a staff member of the health facility to follow up with the patient throughout the six month treatment period

2. Incentivize staff by providing a half day of vacation each time one of “their” patients is deemed cure with a negative bacilloscopy

3. Hold patient-family meetings to involve families in patients’ care to increase support

Additionally, HCI and the MSD designed a CD-ROM training course on TB management for health care providers. Staff at participating facilities completed the course. HCI also provided support for laboratory personnel and worked to increase linkages between laboratories and health facilities.

Measurement:
During the prior demonstration collaborative, the MSD and HCI selected 15 standards from the PNCT’s National Manual of TB Standards, then developed an indicator for each standard. Selected key indicators include:

- % of essential supplies, equipment and medications available to the health facility for the TB program

- % of identified respiratory suspects per number expected

- % of unusable sputum samples among all diagnostic bacilloscopies

- % of TB cases captured

- % of TB patients at a health facility that receive DOTS

- % of new TB patients at a facility who receive a rapid HIV test with informed consent

- % of new TB cases who began treatment who are cured

Spread strategy:

The El Alto collaborative served as a demonstration collaborative for TB management best practices for an urban environment; the demonstration phase took place over 12 months from March 2009 to March 2010. In 2010, the MSD and PNCT requested that HCI and JSI scale up a set of recommended changes for facilities in Santa Cruz and Cochabamba, Bolivia’s largest and third largest cities. HCI led a spread collaborative in Cochabamba that began in 2010, and JSI managed a spread collaborative in Santa Cruz. Additionally, the MSD and PNCT have asked HCI to compile a guide to recommended changes that will be distributed to facilities in other departments of Bolivia outside of the context of an organized improvement collaborative.

After the first demonstration collaborative, HCI worked with the MSD to scale up these changes to all facilities in the five El Alto health networks. Additionally, selected facilities participated in new change cycles and received coaching from April 2011 to August 2012 to test new changes designed to increase the capture of respiratory suspects and TB cases.

Number of sites/coverage:

There are five health networks in El Alto; facilities from all networks participated. In total, 43 health centers, four hospitals, and 18 laboratories took part in the collaborative.

Coaching:
Each facility received regular visits from a QI coach, to provide individualized guidance for their facility. Coaches visited each facility at least once between each learning session. During these visits, coaches helped facility staff tailor recommended changes for their individual facilities and determine service delivery issues impeding quality tuberculosis management.

Learning sessions & communication among teams:

QI teams participated in four learning sessions in El Alto. Participants were oriented to the principles of quality improvement and how to monitor and measure indicators during the first learning session. Each learning session focused on specific, recommended changes that were a part of one of four change cycles. At the sessions, teams shared the results of changes implemented they during the previous rapid cycle, discussed their experiences with implementation, and exchanged their lessons learned. Learning sessions were the chief avenue through which teams communicated and shared knowledge.

Results:

Several of the collaborative’s key interventions led to significant improvements in the quality of TB care in El Alto. The percentage of available essential TB drugs and supplies at the participating facilities increased from 82% in June 2009 to 100%, maintained throughout 2011. The percentage of unusable sputum samples decreased from 49% to 21% from baseline in April 2009 to June 2012 across all facilities in El Alto. At baseline in 2009, facilities detected 32% of expected respiratory suspects; by June 2011, this increased to 77%. The cure rate in 2008 was as low as 40%, but increased to 85% in June 2012.

Best practices/conclusions:

This collaborative used a set of previously determined best practices and applied them in an urban environment. Some of the changes implemented had been successful in a rural area, but either did not apply or were less effective in a more urban setting. The DOTS boxes and sputum sample models proved to be some of the most effective changes, as they ensured patients received a full course of treatment, and patients more clearly understood how to provide a correct sputum sample. TB can be controlled in Bolivia through improved logistical management of medications, leading to improved outcomes for patients and the facilities that serve them.

The CD-ROM course was very popular among providers, and served to increase knowledge about TB among all providers and facility staff, even non-providers. This was a key change to involve all staff in active respiratory suspect searching, which led to a higher case detection rate.

A great challenge in this collaborative is that many TB patients in El Alto are migrant workers, and do not remain in the El Alto area for an entire six months. While patient education and linkages between facilities greatly improved
under the collaborative, providing continuous treatment to migrants remains a challenge.

**Countries:** Bolivia [1]  
South America [2]  
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**Organization(s):** USAID Health Care Improvement Project (HCI), Ministry of Health and Sports of Bolivia (MSD), National TB Control Program of Bolivia (PNCT)

- Directly observed treatment [3]  
- DOTS [4]  
- Multidrug-resistant (MDR)/Extensively drug-resistant (XDR) TB [5]  
- Social mobilization [6]  
- TB case finding and diagnosis [7]  
- TB case management [8]  
- TB infection control [9]  
- Tuberculosis [10]

**Improvement Story** [11]  

**English** [12]