

# TECHNICAL BRIEF

## QuanTB



**USAID**  
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**SIAPS**  
Systems for Improved Access  
to Pharmaceuticals and Services



### A QUANTIFICATION AND COST ESTIMATION TOOL

QuanTB is an electronic forecasting, quantification, and early warning tool designed to improve procurement processes, ordering, and planning for tuberculosis (TB) treatment. When used on a regular basis, QuanTB serves as an early warning mechanism, providing information on actual versus planned consumption, impending expiries, and stock-outs of medicines.



#### CHALLENGE

Ensuring that patients have continuous access to TB treatment requires complex projections and calculations by TB program staff. Making these predictions is becoming more challenging as new diagnostic devices rapidly increase the number of individuals diagnosed and the quantity of medicines needed. Additionally, when treatment regimens change because new medicines or guidelines are introduced, national programs must plan carefully on how to phase medicines in and out to avoid stock-outs or expiries. Frequent forecasting and quantification, along with vigilant stock management, are vital to ensuring that appropriate types and quantities of medicines are available to meet the evolving needs of TB programs as they scale up treatment.



#### A SOLUTION

To promote a systems-strengthening approach to TB medicines management, SIAPS recently developed QuanTB—a downloadable, desktop tool that transforms complex calculations into a user-friendly dashboard displaying key quantification and supply planning information. By alerting users to risks of stock-out and overstock, QuanTB operates as an early warning mechanism.



#### FEATURES

- Available in 6 languages: English, Russian, French, Spanish, Portuguese, and Chinese
- Accurate quantification estimates: combines key aspects of morbidity and consumption methods of quantification, including adjustment for attrition rates
- Multiple options for quantification: based on either the number of cases, type of treatment regimen prescribed, or individual medicine usage
- Flexible design of regimens: allows up to 10 phases, built in weeks, months, or a combination of both, to fit new medications and regimens such as Bedaquiline
- Adaptable and customizable: users can modify parameters such as lead time, buffer stock, and minimum and maximum months of stock so that quantification reflects local procurement, distribution, and funding considerations
- Early warning mechanism: provides alerts when risk is high for medicines expiries, stock-outs, and overstock; flags the need for emergency orders; and allows staff sufficient time to address supply problems
- Builds models for different scenarios: compares planned versus actual consumption and costs
- Full cost of order: incorporates cost of medicine, insurance, and customs clearance, among other additional expenses



## SIAPS EXPERIENCE

SIAPS has trained national TB program (NTP) drug management staff and partners from 12 countries (Bangladesh, Ethiopia, Kenya, Malawi, Mozambique, Nigeria, Philippines, Tajikistan, Tanzania, Uganda, Zambia, and Zimbabwe) to use QuanTB for quantification and tracking of TB medicines. Of these countries, 8 have adopted QuanTB as the national tool for quantification and monitoring of TB medicines. Additionally, QuanTB was downloaded close to 600 times. SIAPS also worked with the WHO/Global Drug Facility to integrate QuanTB with the early stock-out warning system as a part of global forecasting for anti-TB medicines. Within the first 6 months of implementing QuanTB, 6 countries reported to SIAPS on their use of QuanTB for medicines tracking and the decisions made based on QuanTB data. Achievements included:

- The percentage of countries that reported a stock-out of at least one first-line anti-TB medicine decreased from 100% (5/5) to 0%.
- The percentage of countries that reported a stock-out of at least one second-line anti-TB medicine dropped from 67% (4/6) to 17% (1/6).
- Postponement and reallocation of second-line anti-TB medicine shipments minimized overstocking. As a result, one country saved over USD 899,000 of country and donor funding from potential wastage.



## IMPLEMENTATION

The new QuanTB version 2.0.0 is available for download, along with a comprehensive user guide, on the SIAPS website: <http://siapsprogram.org/quantb/>. Feedback and questions are welcome through an online forum at <http://mshforums.org/forums/forum/quantb/>.

Although QuanTB was designed for a general health audience and those tasked with forecasting and quantification of TB medicines, SIAPS recommends that users have basic computing skills, knowledge about programmatic management of TB, and previous experience with procurement and supply chain management. Before entering data in QuanTB, several steps of the quantification process must be verified by users to ensure consistent and valid results. These include defining the scope and purposes of quantification, collection, validation, and analyses of data, building assumptions, and aligning overall supply planning with available resources.



Sample dashboard generated using QuanTB, designed to provide early warning information at a glance. Green indicates months of stock on hand, yellow indicates stock on order, and red indicates potential stock-outs.

**SIAPS TECHNICAL BRIEF SERIES** | This document is part of a series describing the technical approaches and tools used to implement SIAPS work in Pharmaceutical Systems, Pharmaceutical Services, and Supply Chain Management. The information provided does not reflect or represent the position or views of the US Agency for International Development or the US Government.

**ABOUT SIAPS** | The Systems for Improved Access to Pharmaceuticals and Services (SIAPS) program works to assure access to quality pharmaceutical products and effective pharmaceutical services through systems-strengthening approaches to achieve positive and lasting health outcomes. SIAPS is funded by the US Agency for International Development (USAID) and is implemented by Management Sciences for Health. For more information, visit [www.SIAPSprogram.org](http://www.SIAPSprogram.org).

