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Averting Stock Outs with QuanTB: Implementation Experience and Lessons Learned from the SIAPS Program

Chinwe Owunna
Aubrey Clark
Sameh Saleeb

Management Sciences for Health/SIAPS Program

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GHSCS - Dar Es Salaam, Tanzania



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SIAPS 
Systems for Improved Access
to Pharmaceuticals and Services

Outline

- TB supply chain challenges and SIAPS response
- Activities, results and lessons learned
- Conclusion



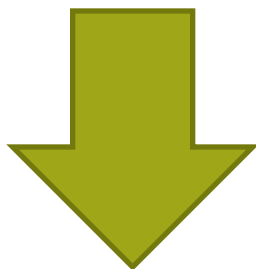
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The SIAPS logo consists of the word "SIAPS" in a bold, green, sans-serif font. To the right of the text is a stylized blue graphic of a person with arms raised, suggesting movement or achievement.

Challenges in TB Supply Chain Management

- Rapid changes in TB program – Programmatic Management of Drug Resistant TB program expansion
 - Late initiation of procurements, delayed deliveries
 - Deficiencies in MIS system - poor data quality
 - Over estimation/ ambitious scale up targets
 - Weak HR capacity and ineffective tools for quantification of drug resistant TB medicines –



- Overstocks, expiries and wastage of expensive medicines
- Widespread stock-outs of medicines

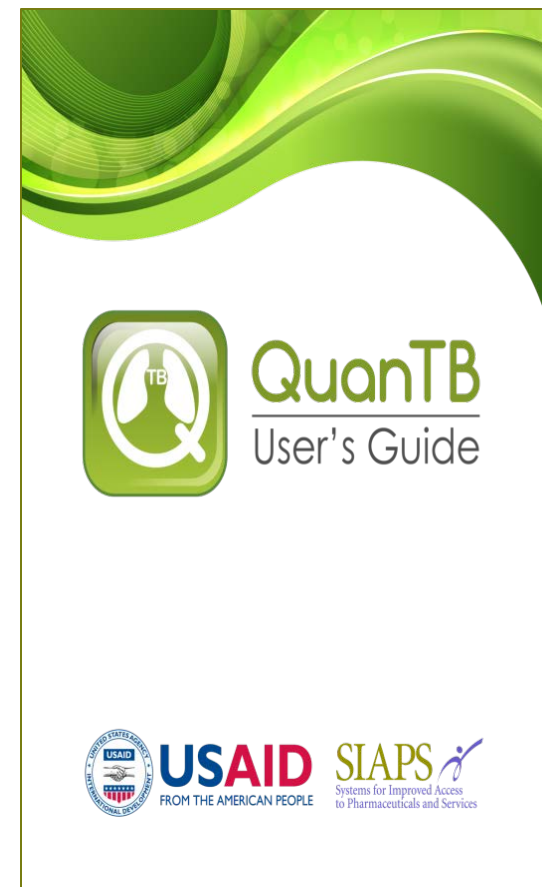


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SIAPS Response

- Development of QuanTB tool - free downloadable desktop application to improve procurement processes, ordering and supply planning for TB treatment.
- Provide technical assistance to select countries to establish an early warning system (EWS) to prevent stock-outs and minimize wastage of TB medicines.



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Our Approach



Technical assistance through country resident or regional advisors



Stakeholder coordination and collaboration



Capacity and skills building



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Target Countries

Region	Target Countries
Africa	Tanzania Uganda Kenya Zambia Zimbabwe Ethiopia South Sudan Nigeria DRC Mozambique
Asia	Bangladesh Philippines Burma Uzbekistan Tajikistan



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Technical Support Activities (1/2)

Rapid PSM system assessment

- Participated in GDF and TB program review missions to assess and recommend PSM areas targeted for improvement

Forecasting and Supply Planning

- Established/strengthened quantification TWG
- Organized quantification training meetings involving NTPs and in-country stakeholders
- Provided TA in annual/multi-year TB medicines forecasting and semi-annual reviews

Implementation of EWS to prevent TB medicines stock outs and minimize wastage

- Supported NTPs and TWG to ensure regular monitoring of stock status
- Supported quantification TWG to interpret EWS results and recommend immediate actions to avoid stock-outs and wastages



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Technical Support Activities (2/2)

Strengthening MIS and improving data quality

- Supported development/revision MIS tools
- Collaborated with local partners to improve MIS

Development of MOHs strategic documents and resource mobilization

- Participated in NSP development focusing on PSM
- Contributed to TGF concept note writing
- Supported development of supply chain guidelines and job aids

Improving coordination between MOHs agencies, donors and IPs

- Supported stakeholder coordination meetings
- Collaborated with in-country partners to address TB supply chain challenges
- Liaise with GDF/GF on behalf of NTP to facilitate EWS action requests



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Summary Table

Parameters **Summary** Medicines Report Cases Report Medicines Detailed Report Order and Schedule Graphs

Cepina Exercise 4 Chin

Medicine	On the inventory date Mar 31, 2016		Accelerated order period Apr 01, 2016...Aug 31, 2016 (153 days)			Regular order period Sep 01, 2016...Sep 30, 2017 (395 days)					Estimated missed quantity Apr 01, 2016...Sep 30, 2017 (548 days)		Total
	Stock on hand	Estim. months of stock (incl. buffer, excl. on order)	Stock on order	Quantity dispensed	Quantity likely to expire	Stock on hand after accelerated order period	Stock on order	Quantity likely to expire	Estimated consumption (enrolled cases)	Estimated consumption (expected cases)	Regular order period	Accelerated order period	
Capreomycin 1000mg Powder for injection	81,000	9 0		20,321	-	60,679	-	22,053	806	146,380	108,560	-	108,560
Kanamycin 1000mg Powder for injection	40,400	8 20000		15,156	-	45,244	-	-	806	98,540	54,102	-	54,102
Cycloserine 250mg Capsule(s)	335,000	9 0		71,898	-	263,102	-	128,462	69,999	628,680	564,039	-	564,039
Ethionamide 250mg Film coated tablet(s)	140,000	8 0		63,837	-	76,163	-	-	64,986	425,880	414,703	-	414,703



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Dashboard

Inventory date: Mar 31, 2016 Total enrolled cases: 165 Total expected cases: 1,640

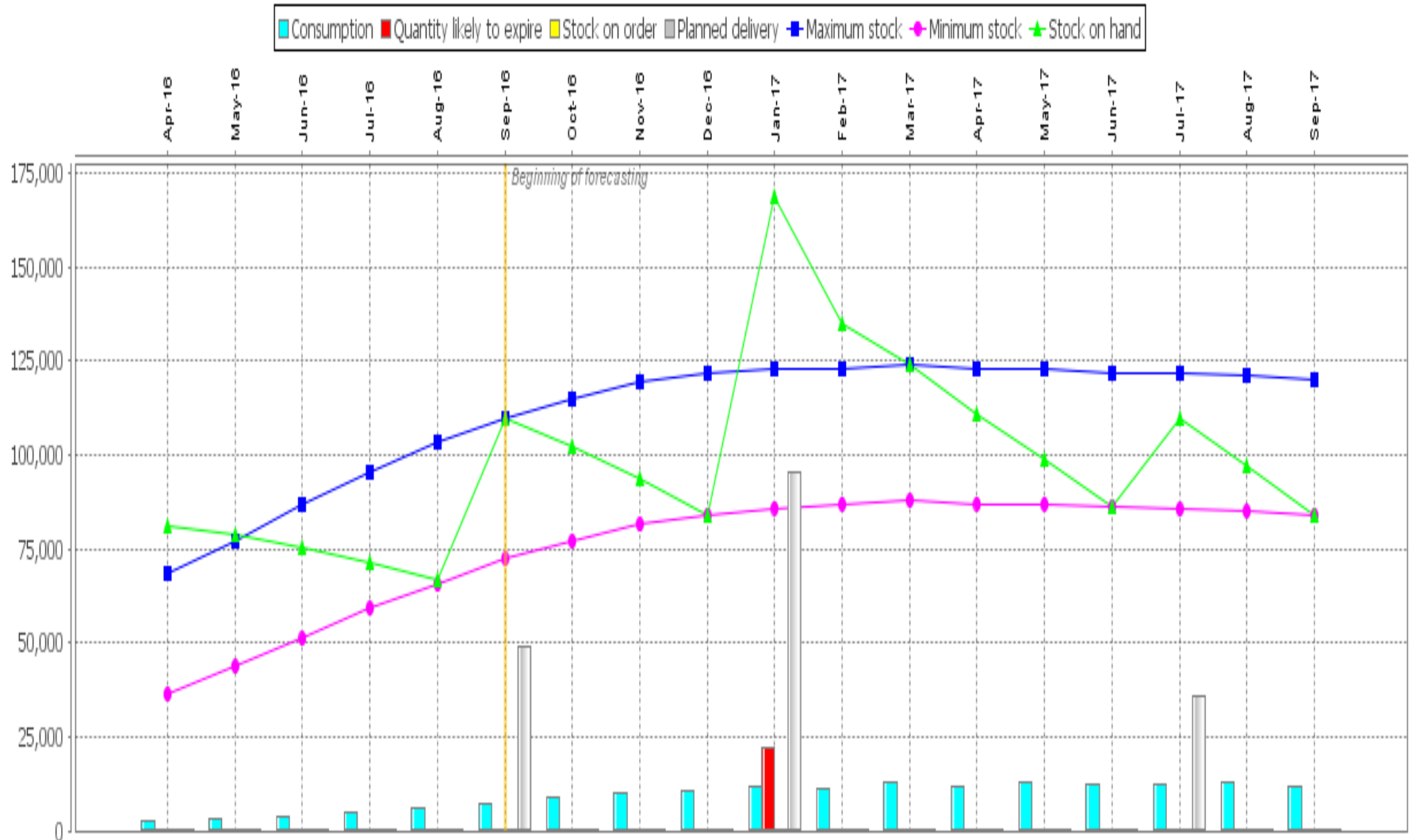
■ Not in use ■ Stock on hand ■ Stock on order ■ Stock out



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Individual Medicine Graph



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Order Scheduling Table

Schedule of orders:

Accelerated order # 1				Regular order # 1			
Order date: As soon as possible (should have been ordered on Dec 1, 2015)				Order date: Apr 1, 2016			
Delivery date: As soon as possible (should have been delivered on May, 01 2016)				Delivery date: Sep 1, 2016			
Medicines	Adjusted quantity to order (in units)	Adjusted quantity to order rounded up to pack size	Cost	Medicines	Adjusted quantity to order (in units)	Adjusted quantity to order rounded up to pack size	Cost
Eto(250) Ethionamide 250mg Film coated tablet(s)	89,452	895	7,151.05	Cm(1000) Capreomycin 1000mg Powder for injection	49,067	49,067	230,614.90
Lfx(250) Levofloxacin 250mg Film coated tablet(s)	135,120	1,352	7,436.00	Km(1000) Kanamycin 1000mg Powder for injection	29,142	2,915	74,624.00
PAS(Na) P-aminosalicylate sodium salt 4000mg Po...	2,968	119	4,075.75	Cs(250) Cycloserine 250mg Capsule(s)	251,028	2,511	54,162.27
Pto(250) Protionamide 250mg Film coated tablet(s)	7,258	73	1,295.75	Eto(250) Ethionamide 250mg Film coated tablet(s)	170,517	1,706	13,630.94
Z(500) Pyrazinamide 500mg Film uncoated tablet(s)	332,280	495	10,395.00	Lfx(250) Levofloxacin 250mg Film coated tablet(s)	191,823	1,919	10,554.50
				PAS(Na) P-aminosalicylate sodium salt 4000mg Po...	113,678	4,548	155,769.00
				Pto(250) Protionamide 250mg Film coated tablet(s)	246,876	2,469	43,824.75
Cost of medicines:			30,353.55	Cost of medicines:			600,589.36
Additional cost:			0.00	Additional cost:			0.00
Cost of order:			30,353.55	Cost of order:			600,589.36
Regular order # 2							
Order date: Aug 1, 2016							
Delivery date: Jan 1, 2017							
Medicines	Adjusted quantity to order (in units)	Adjusted quantity to order rounded up to pack size	Cost				



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Results (1)

- Improved decision making based on evidence to avert stock-outs and reduce wastage
 - Emergency orders
 - Expedite deliveries
 - Postpone/cancel orders
 - Redistribution of stock
- Provided evidence for fund request justification and advocacy for more funds for procurement
- Improved coordination between in country stakeholders



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Results (2)

- Helped identify other challenges – example
 - Non adherence to treatment guidelines
 - Data quality issues
 - Weakness in inventory management (FEFO)
- Minimized wastage
 - Early detection of potential expiries
 - Savings of over 10 million USD (2014 -2016) as a result of order cancelation, postponement and cross boarder transfers

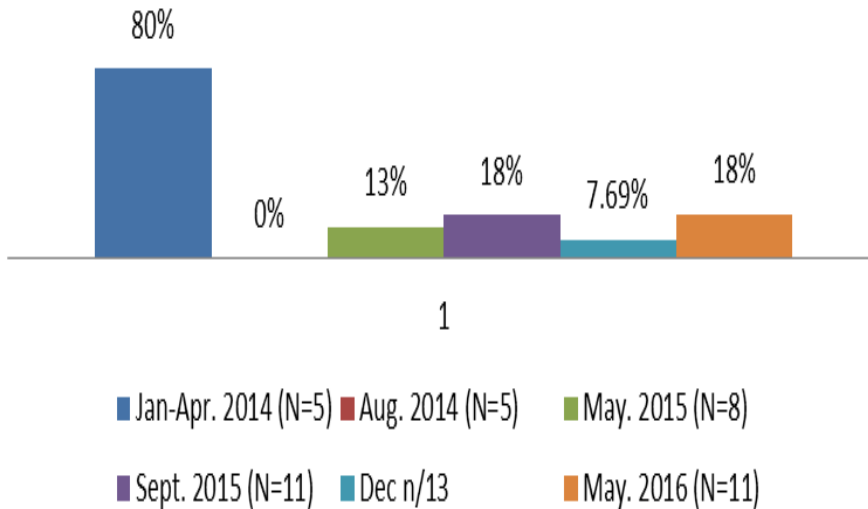


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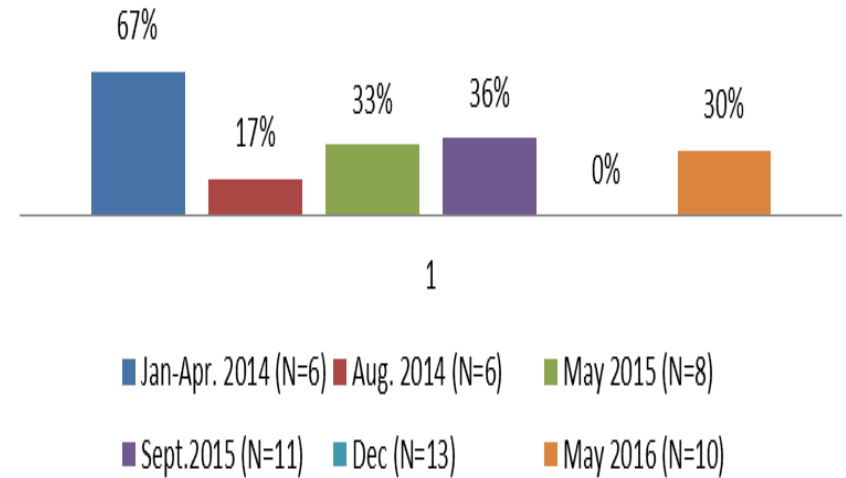
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Results (3)

Total Percentage of Countries with at Least One FLD Stocked-out



Total Percentage of Countries with at Least One SLD Stocked-out



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Limitations

- Unfulfilled procurement commitments
- Prolonged procurement lead times
- Lack of rapid response mechanism in case of overstocks or potential expiries
- Huge variation between forecasts and actual consumption, leading to overstocks
- Staff turnover or transfers
- Delayed approvals and fund disbursement



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Lesson Learned

- A national quantification mechanism responsible for regular stock status monitoring is essential.
- EWS alert actions when not executed in a timely manner can still result in supply chain risks.
- Countries need to provide evidence to donors to justify why realistic targets based on historical data and not ambitious targets should be used for procurement.
- Weak and delayed data reports for quantification contributes to inaccurate results and risks to the system.
- Government fund commitments for procurement are not always accessed on time.



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Conclusion

- Implementation of an early warning system and use of targeted technical assistance to build capacity at country level is an effective approach to ensure continuous access to medicines.
- Early warning system alerts if not acted on can still lead to supply chain risks.
- Financial, skilled, dedicated human resources and a functional SC system is essential for success.
- For sustainability, countries should institutionalize EWS process and take full ownership



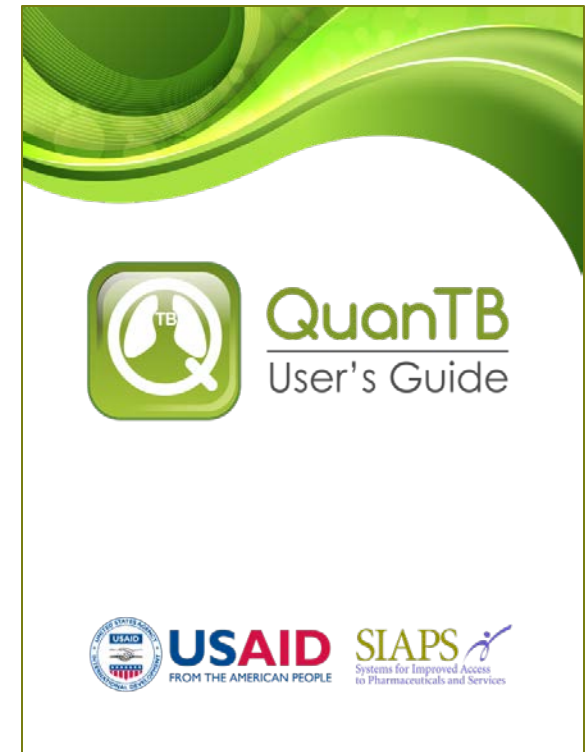
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Download: <http://siapsprogram.org/quantb/>



The screenshot shows a web browser window with the URL <http://siapsprogram.org/quantb/>. The page header features the USAID logo (United States Agency for International Development) and the SIAPS logo (Systems for Improved Access to Pharmaceuticals and Services) with the tagline "Improved Access. Improved Services. Better Health Outcomes." Below the header is a navigation menu with items: Home, About Us, How We Work, Health Elements, Where We Work, Tools and Guidance, Publications, and Events. The main content area is titled "QuanTB" and includes a search bar. A large green button labeled "DOWNLOAD QuanTB" with a downward arrow is prominent. Below the button are three required form fields: "Your Name (required)", "Organization (required)", and "Country (required)". To the left of the form, there is a description of QuantTB: "Ensuring that patients have continuous access to tuberculosis (TB) treatment requires complex projections and calculations by program staff. These projections are becoming more challenging as new diagnostic tools rapidly increase the number of individuals diagnosed, and thus the quantities of medicines needed. If treatment regimens change, national programs must plan carefully for phasing in and out various medicines in order to manage the risks of stock out. QuanTB improves this process by combining two different methods of quantification, morbidity and consumption, to produce a more accurate estimate." Below the description is a link "What is QuanTB?".



The cover of the "QuanTB User's Guide" features a green and white abstract design at the top. The title "QuanTB" is in a large, bold, green font, with "User's Guide" in a smaller, black font below it. To the left of the title is a green square icon containing a white silhouette of a person's lungs with a white 'Q' and 'TB' inside. At the bottom of the cover, the USAID logo and the SIAPS logo are displayed side-by-side.

Version 4 now available on SIAPS website for download



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For your information

Will be available on
leadernet.org in
December 2016



The graphic features a green background with the title "SIAPS QuanTB e-Course" at the top. Below the title, there are images of a desktop monitor, a laptop, a tablet, and a smartphone, all displaying the course interface. The desktop monitor shows a navigation menu on the left and a main content area with a green header and text. The laptop shows a similar interface with a "Introduction" section. A white arrow with an orange outline points from the right towards the devices, containing the text "Coming Soon to LEADERNet". At the bottom of the graphic, the text "Accessible on desktop and mobile devices" is written in white.

SIAPS QuanTB e-Course

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