Quantification Analytics Tool (QAT)

The Quantification Analytics Tool (QAT) is a modern solution for country-led forecasting and supply planning, designed to enhance functionality through flexible forecasting structures, advanced extrapolation methods, scenario planning, and updated planning logic. QAT supports offline use, enabling data entry without network connectivity and leveraging master data management; it drives standardization and improves visibility across programs. QAT enables users to apply multiple forecasting methods, compare results, seamlessly transfer forecasts into supply plans to optimize procurement and delivery schedules, monitor stock status, and share data with external platforms and stakeholders.

The QAT Solution

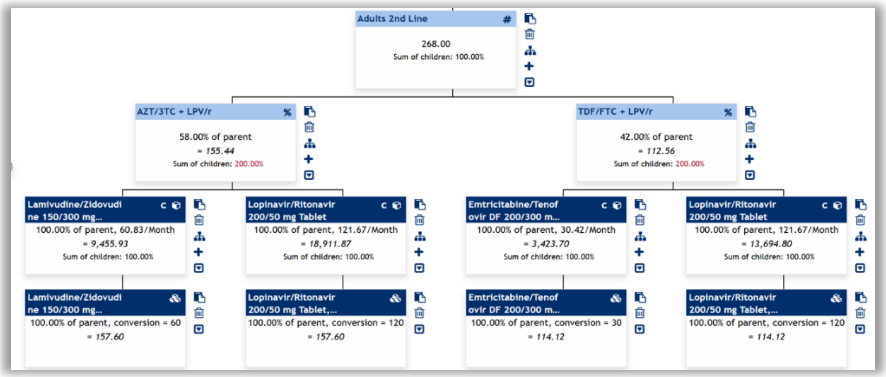
Functionality	PipeLine	Quantimed	QAT
Ability to work offline	✓	✓	✓
Available in multiple languages	✓	✓	English, French, Spanish, Portuguese; with ability to add languages
Integration with external systems	✗	Can import into PipeLine	✓ See QAT Data Flow Ecosystem
Cloud-based	✗	✗	✓
Role-based access for data security	✗	✗	✓
Standardized master data	✗	✗	Can individually customize at the program-level
Forecasting & Supply Planning in one tool	✗	✗	Seamless integration between modules
Data analytics and visualization	Basic	Basic	Enhanced and user friendly
Supply Planning			
Supply planning logic	Basic	✗	Enhanced with ability to add batch & expiry data, avoid negative stock, & auto-calculate MAX parameter
"What if" scenario planning	✗	✗	✓
In-tool Supply Plan Review	✗	✗	✓
Forecasting			
Consumption Forecasts	✗	Basic	Multiple data adjustment methods & advanced extrapolation techniques
Demographic, Morbidity, & Services Forecasts	✗	Basic	Flexibility to design own forecast with advanced modeling/transitions or use QAT's standard templates
Ability to compare forecast methods	✗	✗	✓

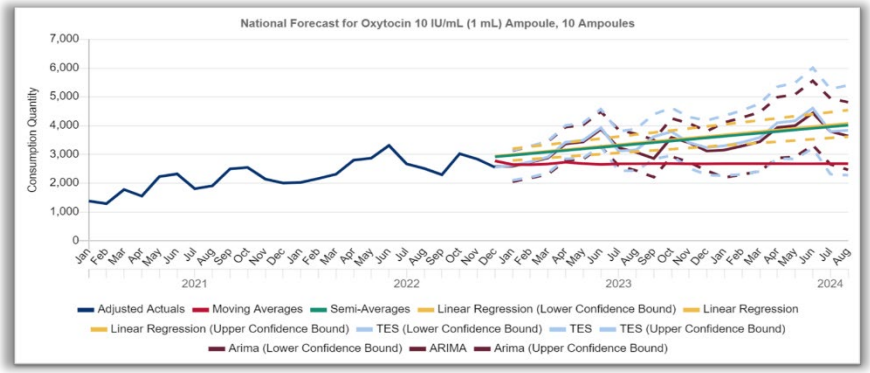
QAT Forecasting Module

Create forecasts by designing forecasting trees or by extrapolating from historical actual consumption to reach a final forecast. Each planning unit can utilize either consumption or tree methodology, or both!

Tree Forecast

Use QAT's dynamic and visual interface to build demographic, morbidity, or services forecasts. Trees can be built manually or based on pre-made tree templates, and include advanced features to model product scale ups/downs, transitions, and seasonality. Tree design is flexible and accommodates any and all commodity areas.





Consumption Forecast

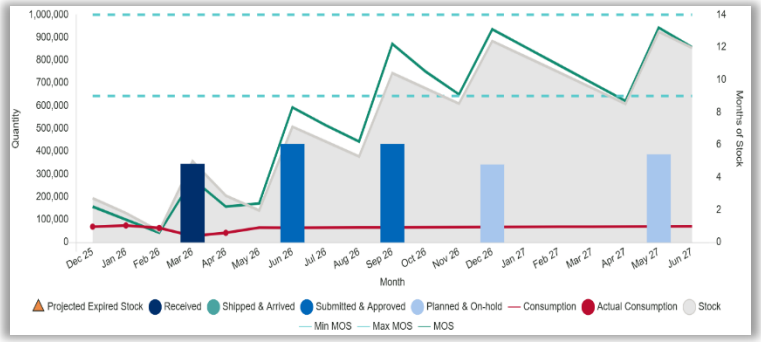
Using data either imported from the Supply Planning module or inputted manually, QAT will extrapolate on adjusted actual consumption time-series data. Extrapolations methods used in QAT include: moving averages, semi-averages, linear regression, triple exponential smoothing (TES), & ARIMA.

QAT Supply Planning Module

Use QAT's Supply Planning module to better schedule shipments and maintain appropriate stock levels for planning units over a future period of time with greater optimization, integrated analytics and enhanced visuals for easy decision-making.

Interactive Supply Planning

The big three supply planning data points (consumption, shipments, & inventory/adjustments) all come together in QAT's Supply Planning screen, where users can quickly visualize their stock status, update data, and conduct procurement planning in their supply plan all on one screen. Information includes: average monthly consumption (AMC), stock status over time, shelf life & potential expiries, incoming shipments & their status.



Stocked Out | Below Min | Stocked to Plan | Above Max | N/A | Shipment | Projected Expired Stock

Actual balance

Planning Unit	Plan By	Min / Max	Mar 26	Apr 26	May 26	Jun 26	Jul 26	Aug 26
GeneXpert Xpert MTB/RIF Assay, 50 Cartridges with Sample Reagent, 1 Kit | 3312	MOS	3 / 6	5.53	4.99	4.07	5.88	4.4	3.57
HIV-1/2, Bioline 3.0, 25 Tests | 3396	MOS	3 / 6	0.193	0.173	0	3.74	6.74	5.74
HIV-1/2, Bioline HIV/Syphilis DUO Bundle, 25 Tests | 3397	MOS	3 / 6	2.52	1.1	0.162	0	0	7.42
HIV-1/2, CheckNOW Self Test, 1 Test | 7309	MOS	3 / 6	14.3	4.93	1.31	3.81	2.29	1.29
HIV-1/2, Determine, 100 Tests | 3399	MOS	3 / 6	3.17	2.36	2.43	4.96	3.96	2.96
HIV-1/2, OraQuick Rapid Antibody Test, 1 Test | 3409	MOS	3 / 6	164	17.7	7.86	4.39	6	5
HIV-1/2, STAT-PAK Assay, 20 Tests | 3416	MOS	3 / 6	5.65	2.96	5.37	4.4	6.89	5.89
HIV-1/2, Wondfo Whole Blood HIV Self-Test, 20 Tests | 7914	MOS	3 / 6	7	1.59	0	6	5	4
Needle, Multi-Sample, Blood Collection, 21G, 1.5 in, Attached Tube Holder, 100 Each | 4574	MOS	3 / 6	10.8	8.75	13.8	149	149	152

Enhanced Visual Reports

QAT has over 20 reports to help users interpret and make decisions based on their data. One of the most useful reports is the Stock Status Matrix (left), which gives a high-level visual snapshot of the stock status of multiple product across time. All QAT reports can be exported as a PDF and CSV for sharing with external stakeholders.

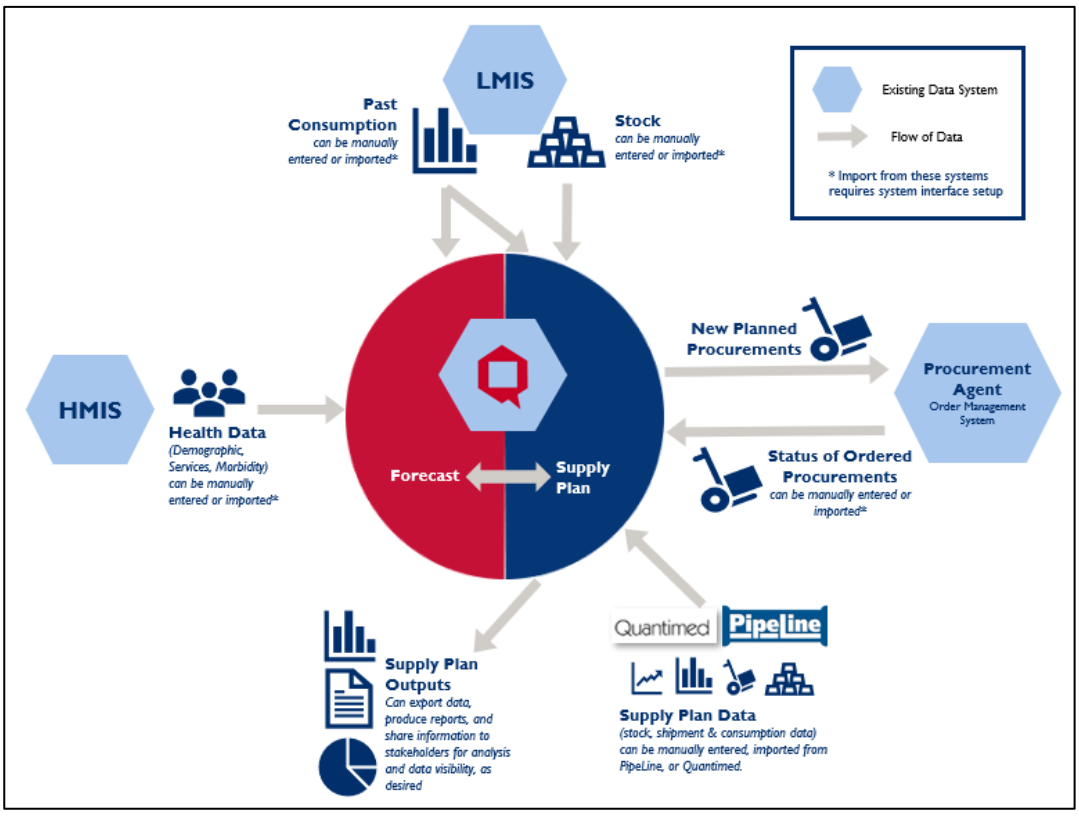
Who Should Use QAT and How?

QAT is useful to **supply planners**, **forecasters**, **Ministry of Health staff**, **procurers**, **donors** and **other stakeholders**, both in country and at the global level. Below is how you might use QAT to help quantification in country:

Forecasting	Supply Planning
QAT allows you to forecast using different methodologies (consumption, demographic, morbidity, services). • **Before annual quantification workshops**: Create your forecast directly in QAT, using flexible and easy-to-use templates to organize your assumptions with built-in validations to check your work –or directly apply advanced extrapolation methods to historical consumption data. • **During annual quantification workshops:** Use QAT's built-in visualizations to guide conversations, build/update assumptions (targets, regimens, protocols, etc.) and data (country population, actual consumption imported from the supply planning module, etc.), compare methodologies, and select final forecasts.	QAT can be used to bring together procurements (from all funders and procurement agents), forecast consumption and inventory data to calculate future shipment quantities and timing, project future expiries, inventory, and stock status. • **Day-to-Day:** Enter inventory, consumption and shipment information in QAT as it becomes available. Actively manage your procurements and monitor your stock status in a visual and interactive way. • **Quarterly stock review meetings**: Use QAT to review supply statuses and future procurement requirements and estimate future funding gaps and stock risks. • **During annual quantification workshops:** Update QAT with your latest forecasts and plan future procurements and procurement budget requirements.

QAT Data Flow Ecosystem

The QAT solution includes internal and external integration, interoperability, and Application Programming Interfacing (API) for data exchanges. Currently, QAT is integrated with GHSC-PSM's procurement platform ARTMIS, and the Global Family Planning VAN. Additionally, QAT provides CSV, PDF, and JSONs for the export of data. QAT can integrate with other procurement and logistics management information systems, such as LMIS (logistics management information systems) or HMIS (health management information systems) based on local requirements and resources to develop and implement integrations.



For more information regarding QAT, please contact the QAT Management Team at support@quantificationanalytics.org.