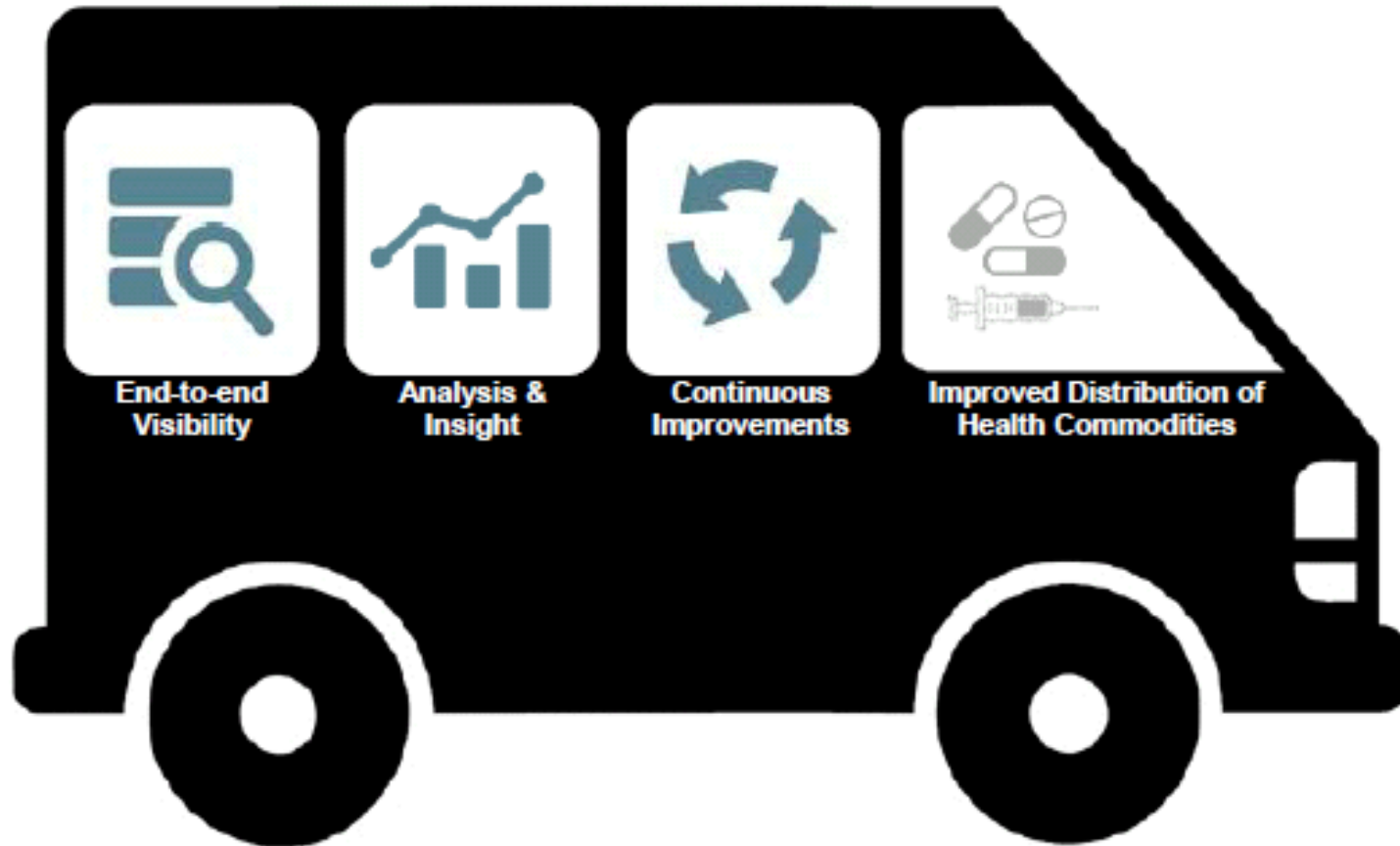


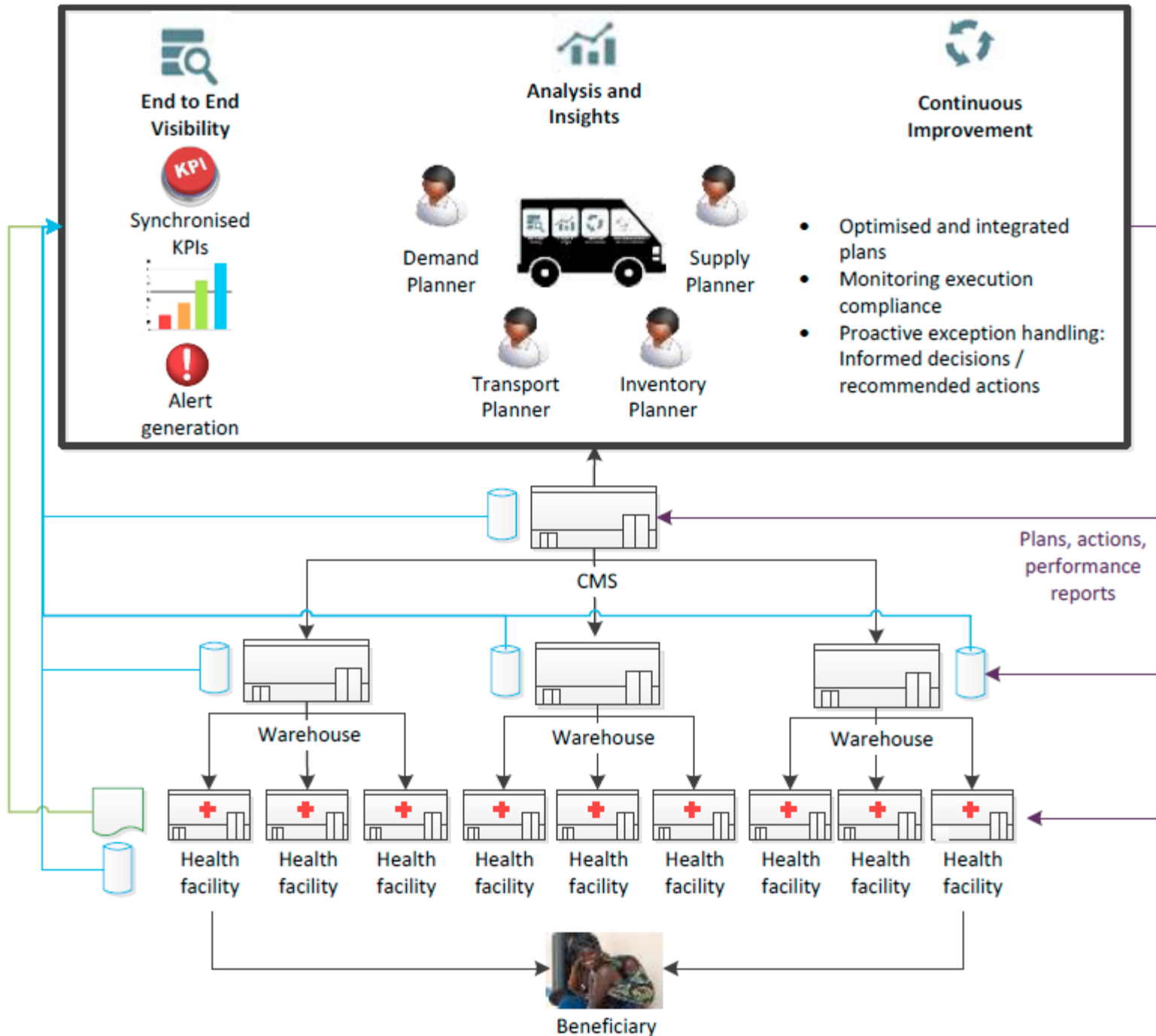
VAN High Level Design

BILL & MELINDA
GATES *foundation*



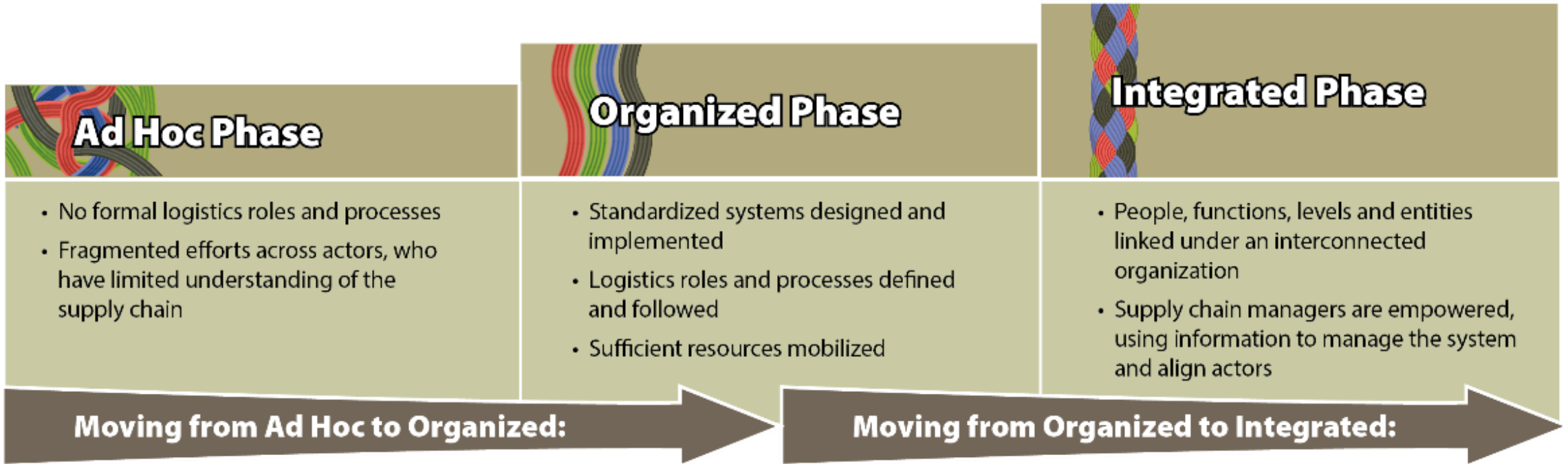
What is the VAN concept?

Element	The VAN is...	The VAN is more than...
People	<ul style="list-style-type: none"> Centralized and integrated team, of supply chain professionals 	<ul style="list-style-type: none"> People trained on quantitative analysis of supply chain performance A new name for the existing roles that operate the supply chain
Process	<ul style="list-style-type: none"> Data driven processes that use analytical methods to plan, proactively respond and recommend continuous improvements that improve availability to beneficiaries 	<ul style="list-style-type: none"> Better SOP's and improved adherence Business process re-engineering of everything on the 'World on a Page' One-off system redesign
Technology	<ul style="list-style-type: none"> Systems for data collection and aggregation that generate alerts and deliver actionable insight, with automation wherever possible 	<ul style="list-style-type: none"> New supply chain transactional systems for recording orders, shipments, budget etc.
Policy	<ul style="list-style-type: none"> Enabled with visibility of the end to end supply chain Setup to deliver supply chain services to all programs and tiers Empowered to measure performance 	<ul style="list-style-type: none"> An improvement mechanism for one domain (procurement, warehousing) A project to improve milestones/KPIs for one program



The Cross-Program VAN can be situated at any level of the Supply Chain but it should still be able to:

- Have end to end visibility of ***what happens and how well it happens (closed loop)***
- Have a ***highly skilled*** team of people on board delivering a set of well defined services
- Perform ***complex analytics*** (what if, root cause, predictive)
- Provide ***optimized holistic plans and proactive corrective action recommendations*** down to the execution layers aiming for ***meeting the beneficiary needs***



- Conduct system assessment, using process mapping, network optimization and costing analysis
- Undertake system design for functions and products using segmentation analysis
- Roll out logistics system by conducting training on developed SOPs and supervision guidelines
- Conduct regular quantification of commodity needs

- Establish logistics management units and technical working groups
- Professionalize supply chain managers
- Optimize performance with analysis and tools
- Strengthen automated processes for data collection and sharing
- Develop performance management indicators and incentives

What are the VAN priorities outcomes?

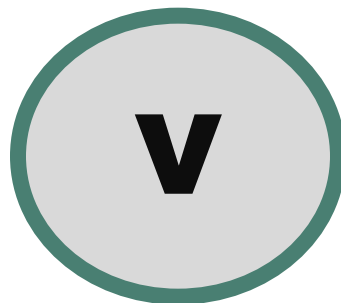
Six priority outcomes were identified:

1. Sufficient quantities forecasted and ordered
2. Commodities ordered on time
3. Order delivered in full
4. Order delivered on time
5. Commodity arrives with sufficient remaining lifetime before consumption
6. Commodity maintains potency/efficacy

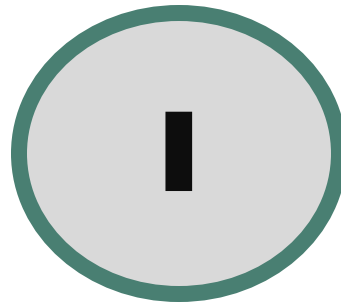
The VAN will improve the identified priority outcomes through:

- End-to-end visibility and analytics across all supply chain tiers
- Improved business processes and proactive planning
- Exception handling processes to deal with emergency events (mitigate risk / impact)

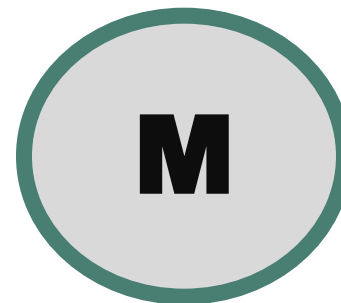
The United Republic of Tanzania Ministry of Health and Social Welfare



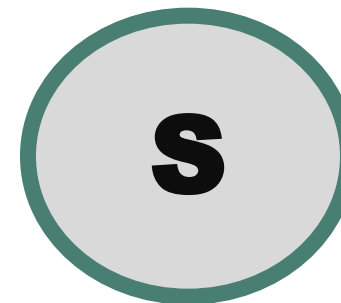
Vaccines



Information



Management



System

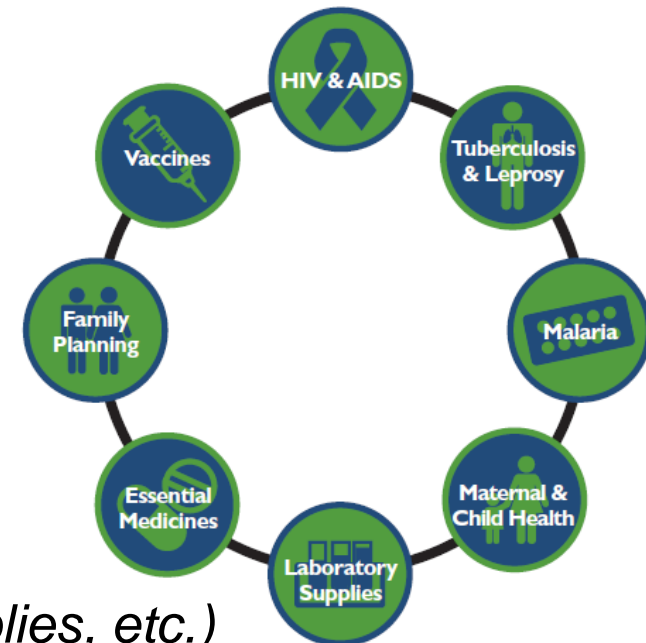
14th TechNet Meeting, Bangkok, Thailand, May 11th – 15th, 2015

Tanzania's eLMIS vision

An effective and sustainable electronic logistics management information system (eLMIS) should be user friendly and facilitate that adequate quality and quantities of health commodities are always available at the point of service to meet patient demand. The eLMIS must provide integrated access to:*

- *Accurate, timely and routine consumption data*
- *Real-time logistics management capabilities covering point of origin to point of consumption*
- *Demand forecasting, capacity planning & modeling based on consumption*

(vaccines, medicines, medical & diagnostic supplies, etc.)*



eLMIS is driving supply chain system strengthening

eLMIS		Manual LMIS
	Health facility staff calculate order quantities and order new supplies	
	Quarterly report and order sent to district for approval	
	Quarterly report and order sent to the Medical Stores Department (MSD) zones	
	Report and order data from the nine MSD zones made visible in the central system	
	Time it takes for health facility data to reach the central level	
	Time it takes for the health facility to get feedback from the MSD	



Generates cost savings by eliminating books and couriers



Simplifies data gathering, reporting, and authorization through commodity integration



Improves data quality and timeliness



Increases accountability by improving data visibility for managers



Reduces workload for health facility staff and logisticians



Provides access to real time and historical data for more informed decisionmaking



Flexibility to adapt to changes in existing and future logistics systems



Developed to interface with other e-tools supporting health initiatives



Faster, easier, and more accurate reporting data for supply chain managers



Improved stock management for better decisionmaking



Better decisions regarding stock levels



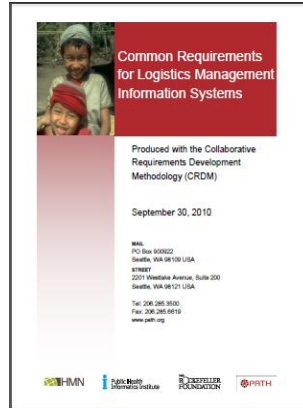
Reduced stockouts



Better health outcomes

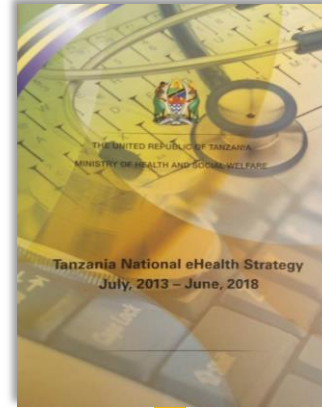
Key milestones in the evolution of Tanzania's vaccine supply chain system

IVD stock management requirements established



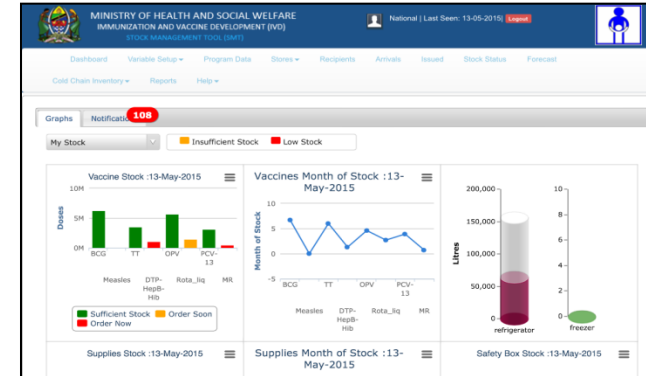
Jul 2013

eHealth strategy launched



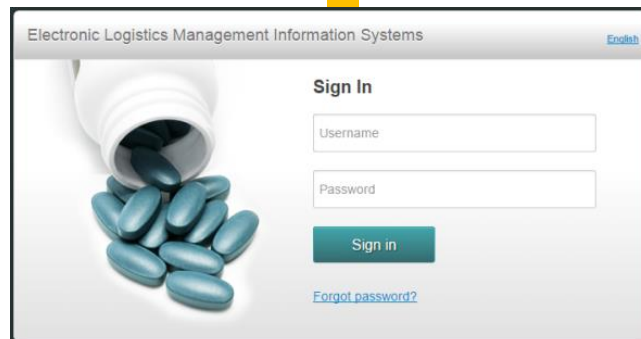
Oct 2013

SMT and Cold Chain Inventory Tool rolled out nationally



Sep 2014

Sep 2013



eLMIS rolled out nationally

Jun 2014



Piloted use of GS1 barcodes on packaging

Dec 2014



VIMS requirements review workshop

VIMS conceptual framework

<p>Logistics National, District and Regional Levels</p> <ul style="list-style-type: none"> • Forecasting • National Arrival Tracking/Receipt • Regional and District Receipt • Inventory Management of Vaccines and CCE • Order Requisition • Temperature Monitoring • Barcoding 		<p>Routine Data Facility Level</p> <ul style="list-style-type: none"> • Facility information • Number of children vaccinated • Stock management vaccine and supplies • Cold chain and temperature monitoring • Adverse events following immunization • Disease surveillance • Vitamin A supplementation 			
<p>↕↕↕</p>		<p>Interfaces and Exports</p>		<p>↕↕↕</p>	
<p>EPICOR E9 Only at MSD Level</p> <ul style="list-style-type: none"> • Storage (central vaccine stock, receipts, issued to each region) • Distribution (picking and packing, delivery schedules, arrivals) 		<p>Forecasting & Financing</p> <ul style="list-style-type: none"> • Take logistics and routine immunization data to create national forecast 		<p>DHIS2 All levels</p> <p>Takes from Program Data:</p> <ul style="list-style-type: none"> • Coverage rates • Drop-out rates • Access and Utilization 	

VIMS is being implemented through a multi-stakeholder partnership

Leadership



Donors

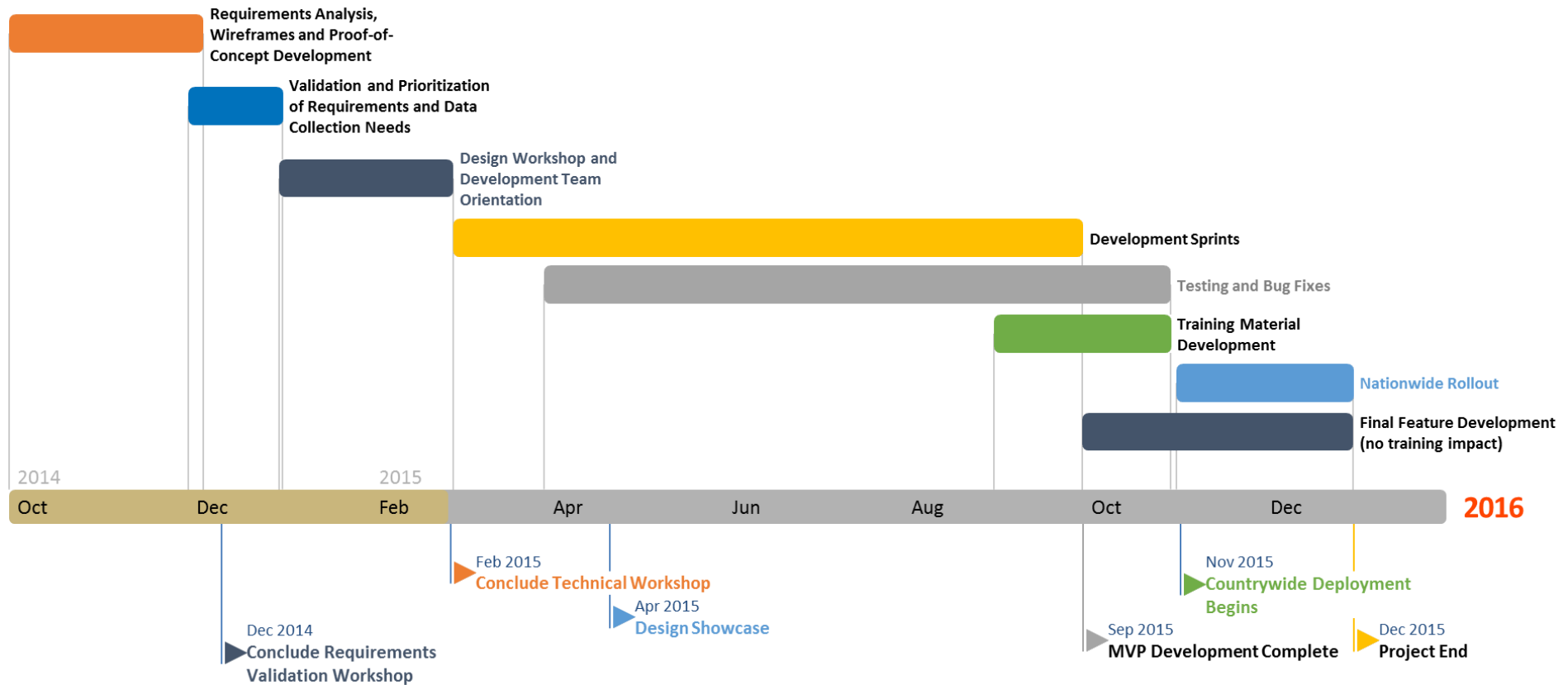
BILL & MELINDA
GATES foundation



Partners

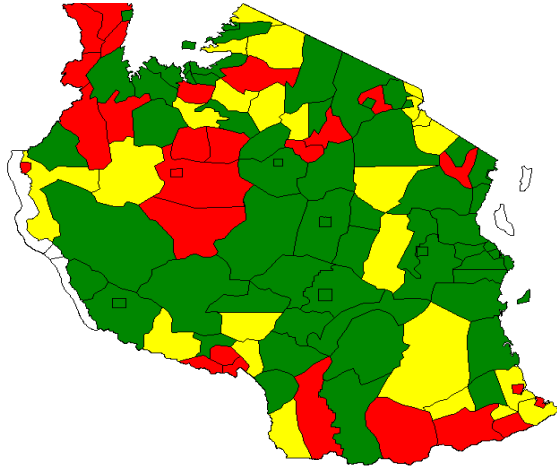


VIMS project schedule

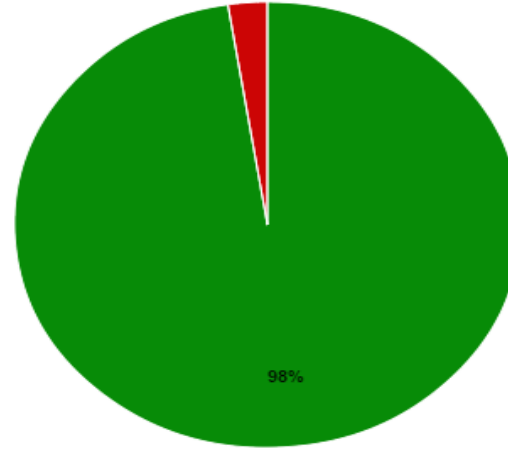


VIMS dashboard is set to visualize KPIs to enhance data for management

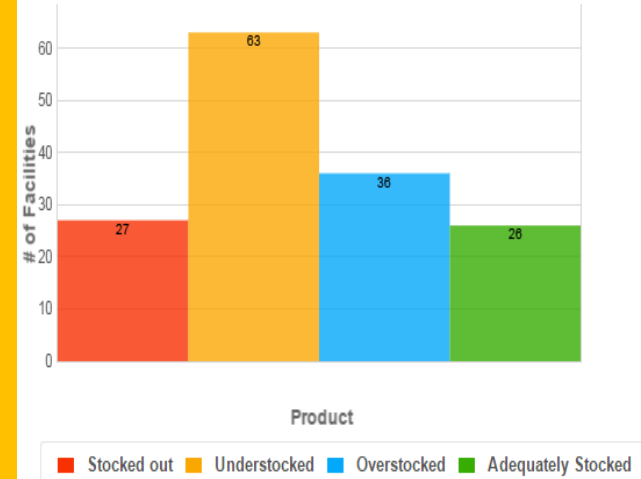
Vaccine Coverage



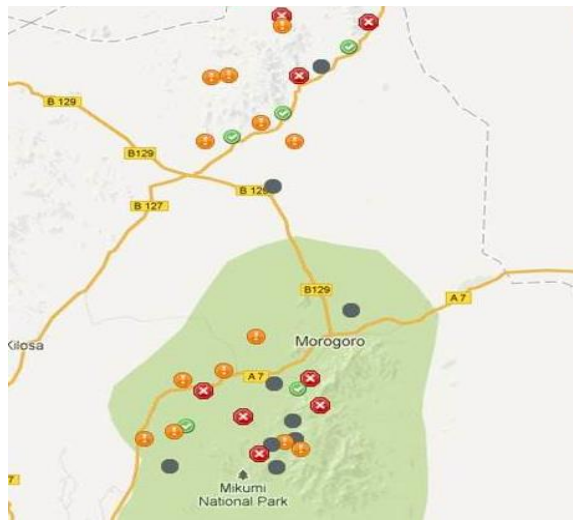
Order On Time & In Full



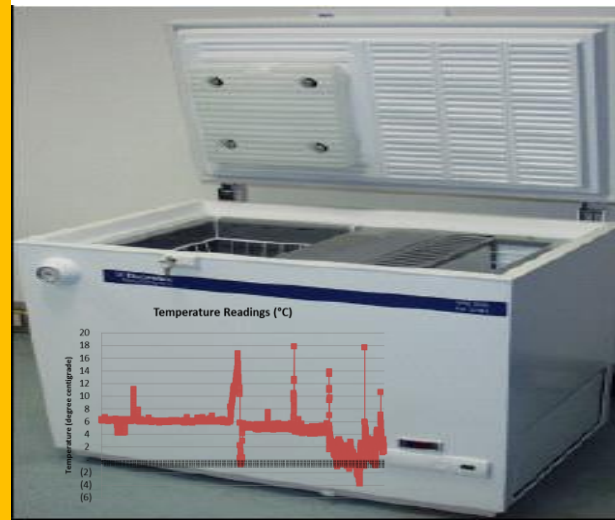
Stocked According to Plan



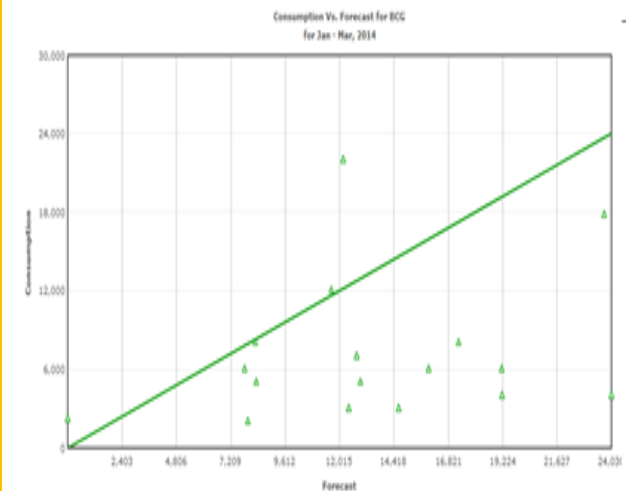
Stock Out Rates



CCE Functioning



Forecasted Demand Ratio

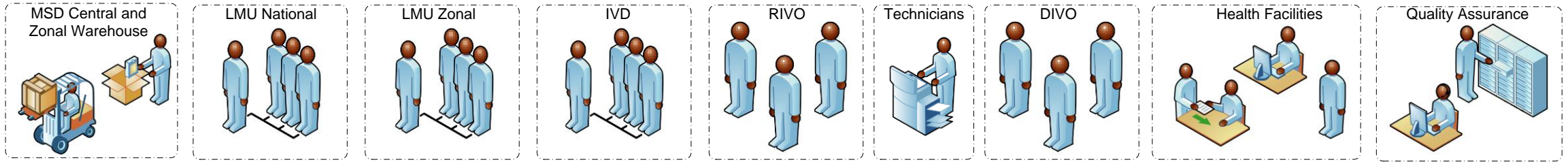


Key takeaways on VIMS objectives

- VIMS is maintaining the standards of WHO and UNICEF in reporting for DVDMT and SMT
- VIMS will facilitate critical linkages between DVDMT and SMT for improved immunization supply chain decision making
- As an open source tool, VIMS code base will be freely available to countries to adapt with minimal configuration
- VIMS can be implemented in a phased approach beginning with districts or facilities that have the requisite infrastructure
- VIMS will enhance the quality of data reported throughout the immunization system through improved checks and balances
- To work VIMS will need trained people willing to use the data it generates for decision making

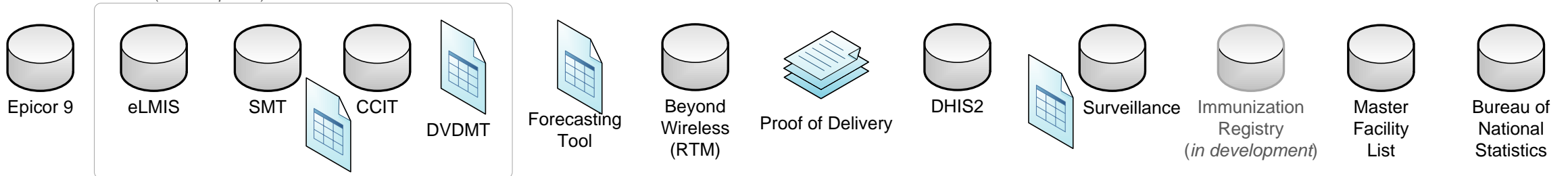
What are the key supply chain challenges that remain?

- Complex paper-based reporting and requisitioning
- Insufficient staff capacity at facilities, districts, regions, and nationally to use data for appropriate analysis, proactive action, and continuous improvement
- Inadequate definition of roles and accountability for supply chain performance
- Limited knowledge of continuous improvement options and approaches
- Insufficient compliance with standard operating procedures
- Uncertain denominators for forecasting supply needs at various facilities



DP 1.2.1 Define forecast KPIs & targets	DP 1.1.3 Escalate about non-receipt of expected demand data	SPIM 2.1.3 Set planning parameters	SPIM 2.5.2 Review supplies	DTM 3.2.2 Generate distribution plans	DTM 3.1.5 Update inventory count	DTM 3.3.2 Alert stock mismatch	CCM 4.3.2 Review faulty equipment	CCMO 4.3.2 Submit status report on scheduled maintenance/breakdown	CCM 4.6.3 Identify stock that needs to be moved to other health facility
DP 1.1.2 Update expected demand data	DP 1.3.3 Create statistical projection	SPIM 2.1.2 Define service levels	SPIM 2.4.1 Inventory reporting & analysis	DTM 3.1.4 Pick, pack & ship	DTM 3.2.3 Monitor delivery (in country)	DTM 3.3.3 Alert Regional/Zonal Officer and/or health facility for exception	CCM 4.3.1 Coordinate with Technician	CCM 4.1.2 Temperature monitoring	CCM 4.4.3 Perform root cause analysis
DP 1.4.1 Consolidate regional/zonal demand plans	DP 1.4.2 Review forecasted demand against allocated budget and previous budget used	SPIM 2.2.2 Calculate net inventory requirement at each supply point	SPIM 2.2.1 Redistribute material with lesser shelf life between facilities	DTM 3.1.1 Receive materials	DTM 3.2.1 Recalculate lead time	DTM 3.3.1 Alert Transport Planner & Regional/Zonal Officer for exception	CCMO 4.3.1 Inform reason for breakdown/tentative date to finish repair	CCM 4.1.1 Report status of cold storage equipment	CCM 4.4.2 Calculate KPIs
DP 1.2.2 Inform Demand Planner & health facility about budget & demand change	DP 1.5.1 Track/report KPIs	SPIM 2.5.1 Generate supply plan based on material receipt schedule	SPIM 2.3.1 Initiate inventory distribution/stock transfers	DTM 3.1.2 Put away (good stock)	DTM 3.4.1 Calculate material requirement and excess stock at nearest location	DTM 3.5.1 Perform root cause analysis	CCM 4.5.1 Arrange spare parts	CCM 4.6.1 Calculate remaining cold storage space at facility with broken fridge	
DP 1.1.1 Review previous performance		SPIM 2.5.4 Communicate supply plan to facility representatives		DTM 3.1.3 Put away (rejected stock)	DTM 3.1.7 Dispose of rejected stocks	DTM 3.1.8 Calculate KPIs	CCM 4.3.3 Perform maintenance/repair work	CCM 4.6.2 Check cold storage space availability at nearby health facility	

VIMS (in development)



Snapshot of existing systems and processes

What key processes are we targeting for improvement?

1. Demand planning (DP)
2. Supply planning and inventory management (SPIM)
3. Distribution/transportation management (DTM)
4. Cold chain management (CCM)

What additional activities do we plan to undertake to implement the VAN?

- Build capacity to institutionalize VAN roles and accountability
- Link demand planning to forecast accuracy
- Ensure continuous improvement of “on-time, in-full” delivery
- Track funding in full
- Improve cold chain maintenance
- Increase visibility of facility accounts and stock held at the Medical Stores Department
- Deploy facility-based electronic logistics management information system (eLMIS) at high-volume facilities
- Use manufacturer barcode data to manage batches and expiry

What is our planned approach?

PHASE 1 (Q4-2015)

- Baseline evaluation
- Job analysis and initial capacity building
- Continuous improvement tracking for demand planning, OTIF, and funding
- Cold chain and barcode management integration
- Deploy facility-based eLMIS at high-volume facilities

PHASE 2 (Q4-2016)*

- Transportation planning
- Facility-to-facility transfers
- Forecast modeling
- Integrated temperature monitoring (facility-based and in transit)
- Programmatic dashboards
- Mid-point evaluation

PHASE 3 (Q4-2017)

- Business process automation
- Network optimization
- VAN maintenance activities
- Final evaluation

* Pending Phase 1 analysis

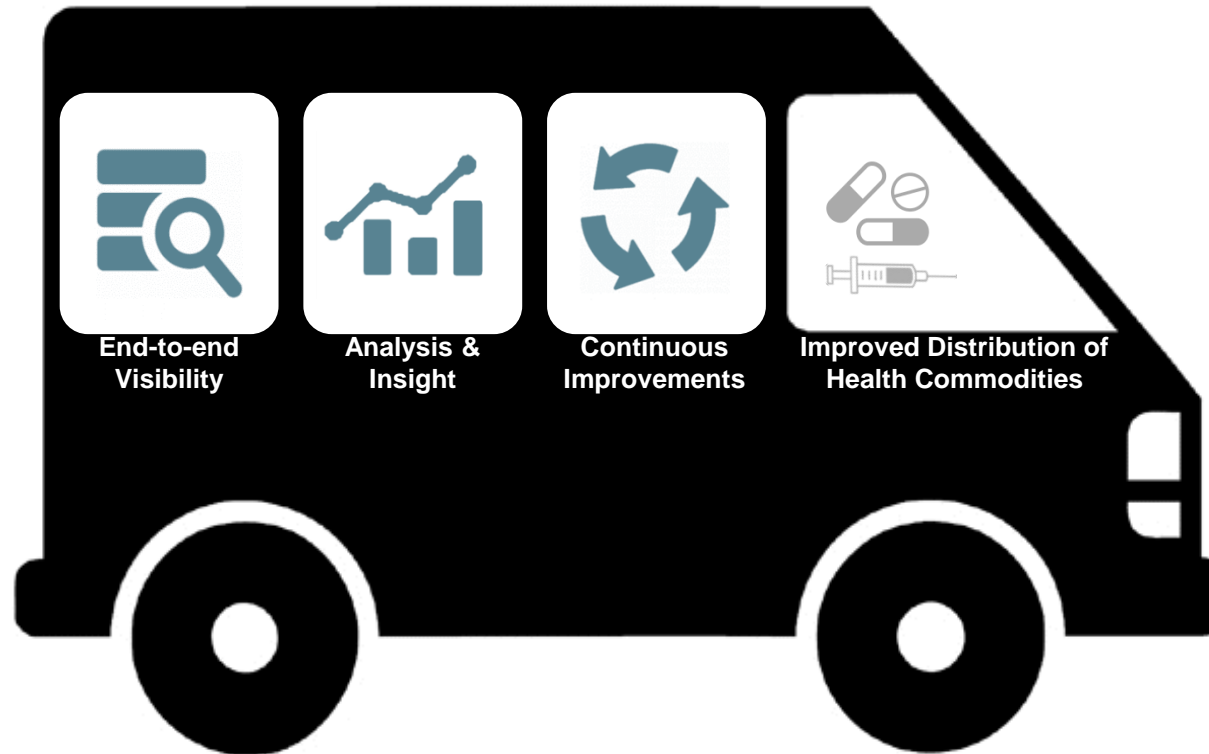


Driving the VAN in Mozambique

TechNet Conference

May 14, 2015

Taking the VAN vision....



...into Mozambique reality



Challenges Identified by EPI Program

Duplicate Data in Multiple Systems

Facility-Level Stock Data Not Available Nationwide

EPI Indicators and Stock Data In Different Systems

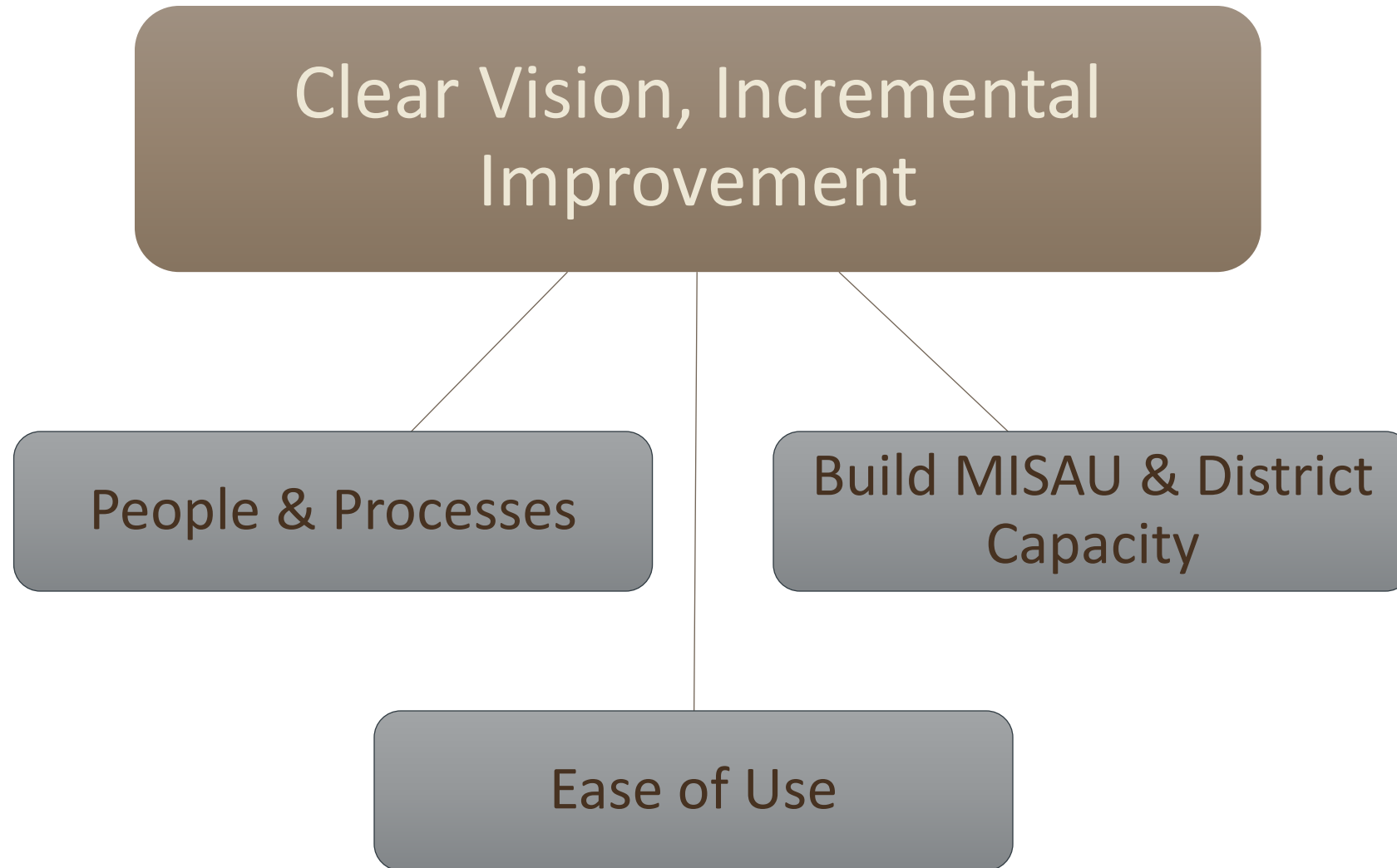
Poor Data Utilization at Lower Levels

Difficult to Assess Wastage Rate

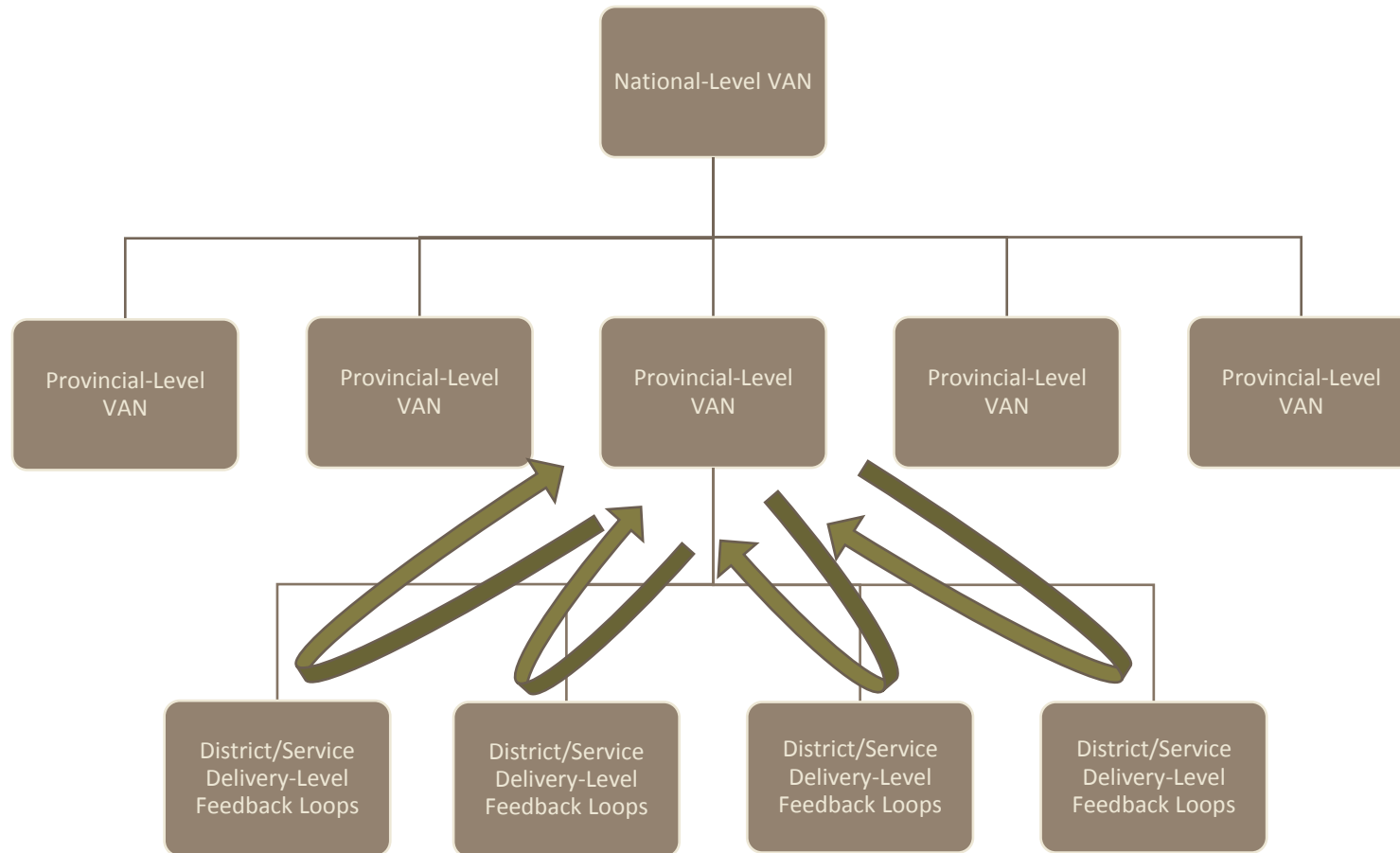
Limited Data Feedback to Lower Levels

SMT Hard to Use

VAN Approach



Mapping VAN to Administrative Hierarchy



Building the VAN

People

- Secured Logistics Data Analyst to MISAU
- Transport Management Capacity

Processes

- Systematic Monthly Data Review Process
 - KPIs tied to roles
 - Data Collection Process
- Data Feedback to Health Centers

Technology

- Consolidated Vaccine Data Platform
 - Exception Alerts
- Transport Management/GIS
 - What-If Analysis

Policy

- Flexibility to Change Annual Plan
 - System redesign?
 - Outsources transport?
- Integration of vaccines with CMS?



THANK YOU



MAY 2015

TECHNET BRIEFING

Visibility & Analytics Networks in Nigeria

NATIONAL PRIMARY HEALTH CARE DEVELOPMENT AGENCY (NPHCDA)

CLINTON HEALTH ACCESS INITIATIVE (CHAI)

eHEALTH SYSTEMS AFRICA (eHA)

MCKINSEY & COMPANY

WHO & UNICEF - NIGERIA

ACCENTURE DEVELOPMENT PARTNERS (ADP)

VAN nigeria

Background

- Formation of DL&HC
- Gavi graduation and funding gaps
- New vaccine introductions

VAN in Nigeria

- Construct for reframing programmatic challenges
- Adaptation of blueprint through the White Paper

VAN OVERVIEW

Build on existing systems

- Integrate and network existing systems

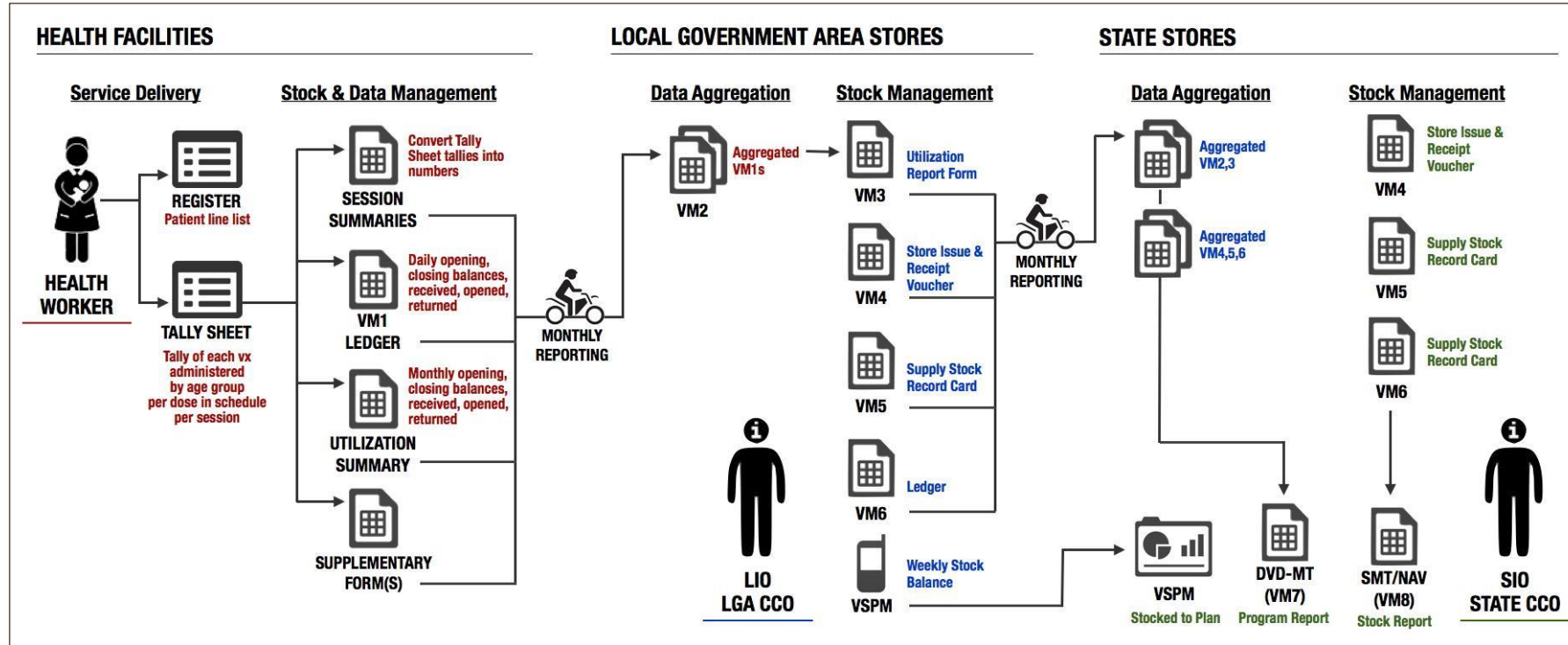
Analytics framework

- Value-chain views
- Performance management
- Bottleneck analysis

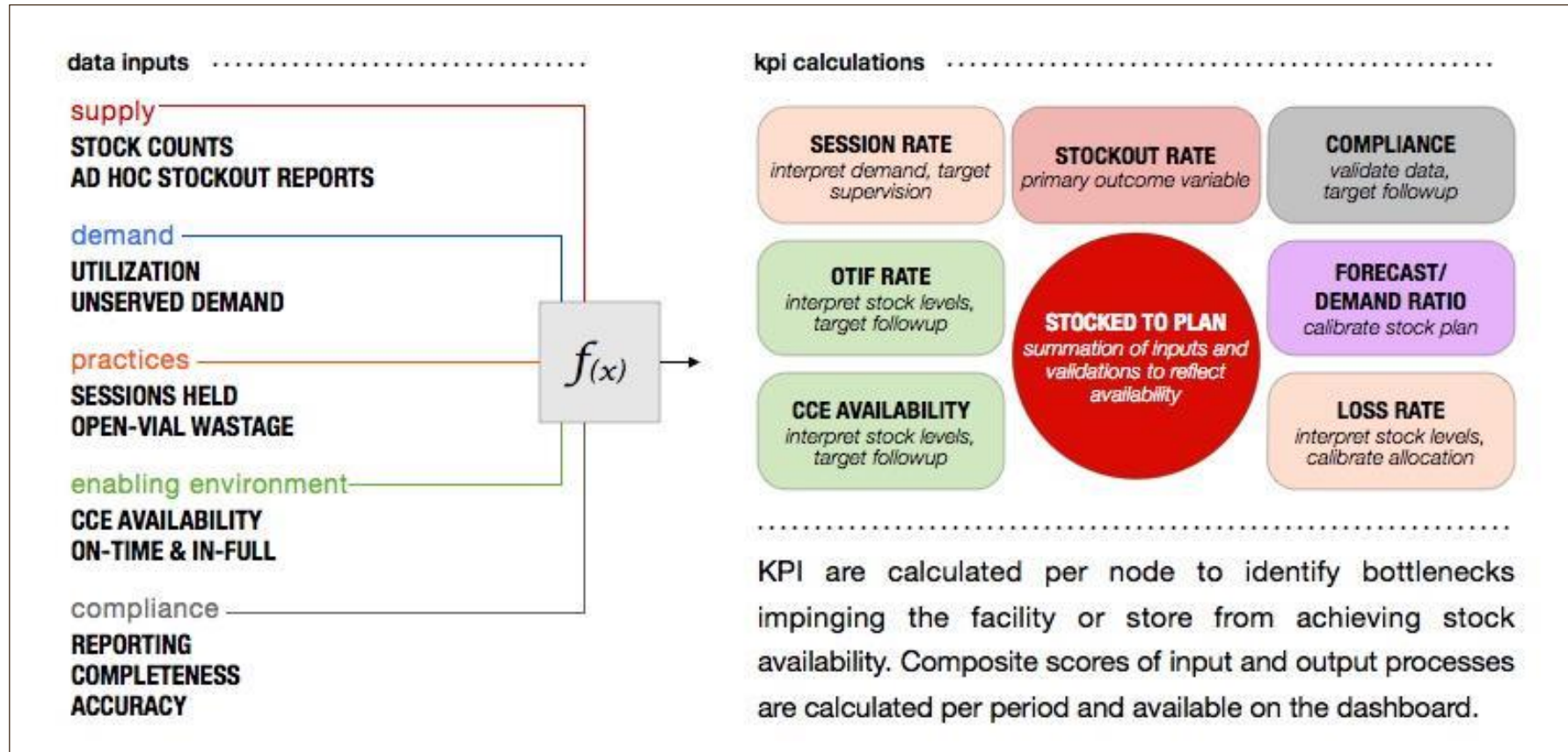
Focus States

- All along maturity curve
- Custom strategies
- Build reference models for scale

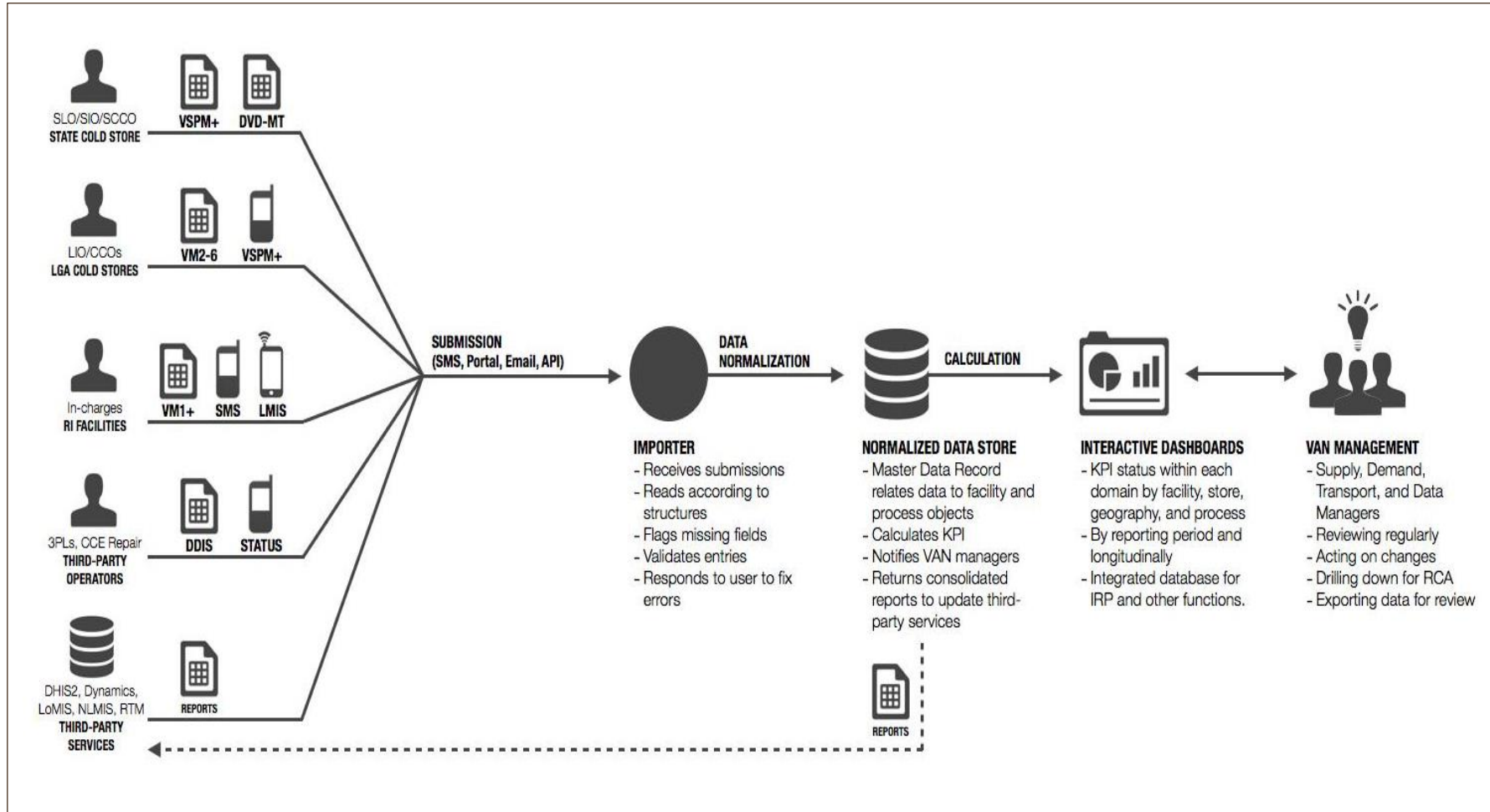
VAN BASELINE SYSTEM



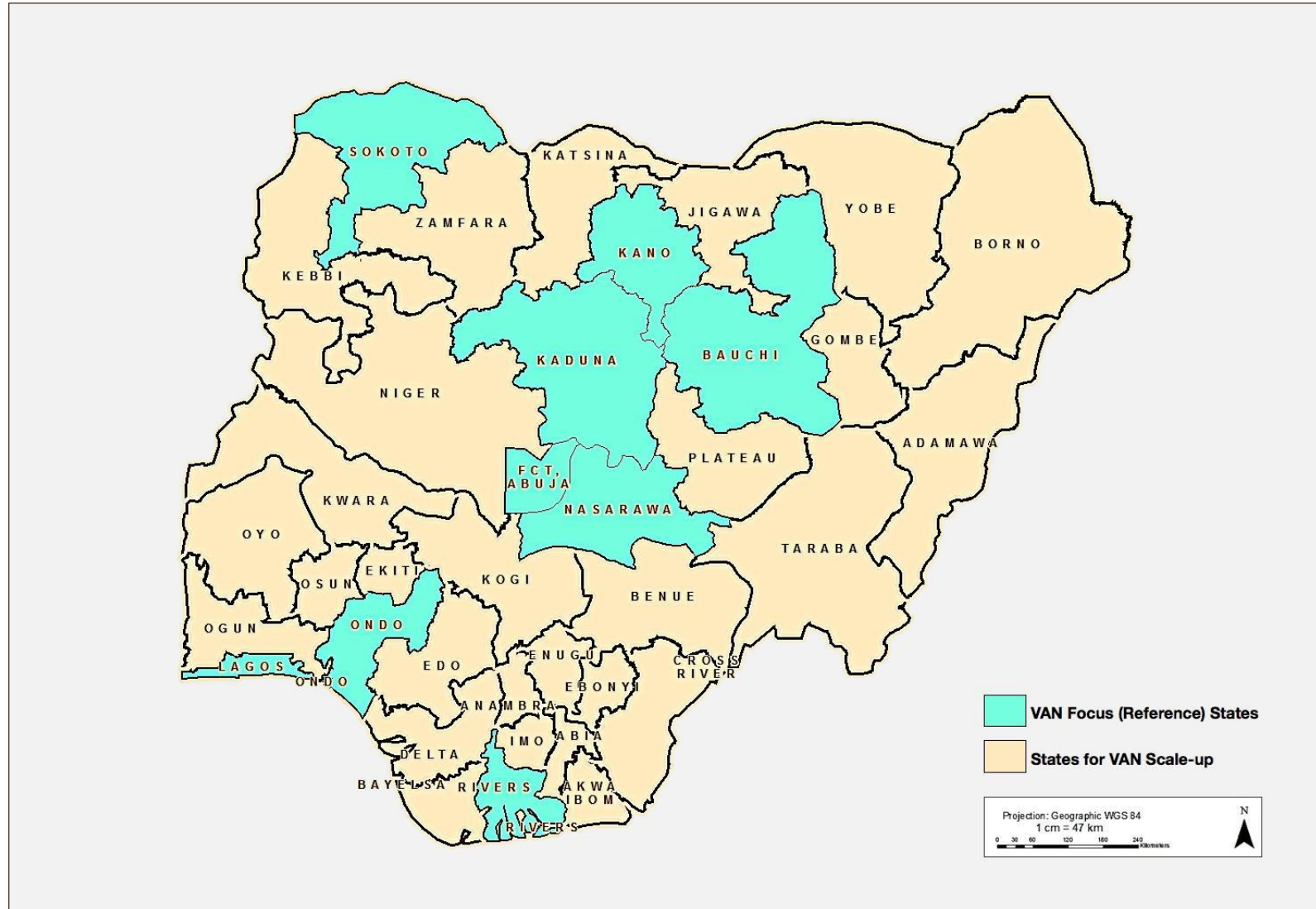
VAN ANALYTICS FRAMEWORK



VAN TECH STRATEGY

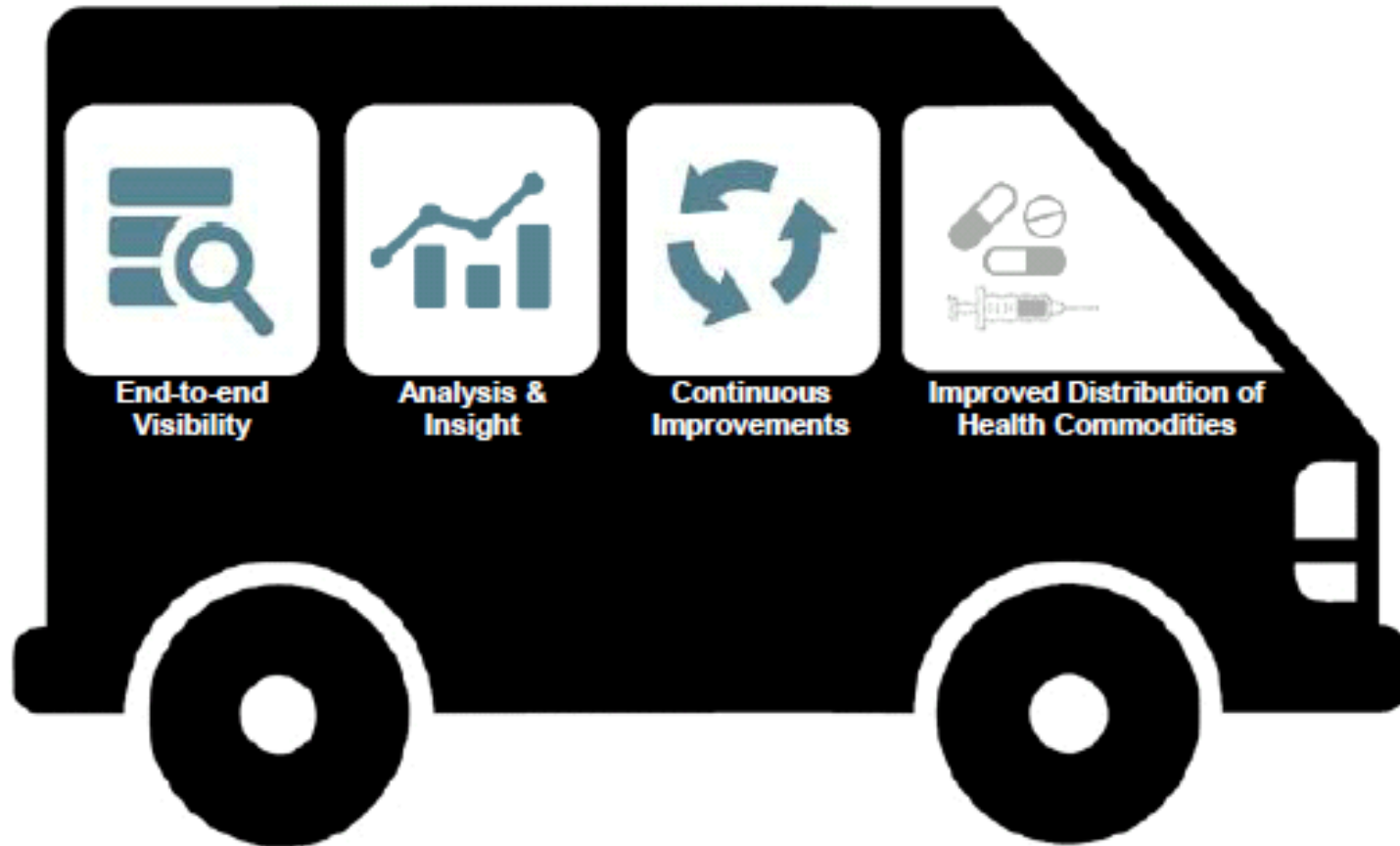


VAN FOCUS STATES



It's time for a song...

BILL & MELINDA
GATES *foundation*





Here are the lyrics if you'd like to sing along...

It has to VAN! It has to be VAN!

The data it flows, to a dashboard it goes

To an aspirational plan, and finally you can

Get all vaccines there, not lost in the air,
and not Disneyland

Some centers we've seen, excellent and
clean

Puts us on track, there's no turning back

We'll land and expand!

For nothing else gives visibility

Please David help, it's not going to be free

It has to be VAN, analytical VAN

Fabulous VAN!!