USAID GLOBAL HEALTH SUPPLY CHAIN PROGRAM
Procurement and Supply Management

Transforming efficiency and access for VL/EID testing through strategic procurement: vendor-managed inventory (VMI)

Photo: GHSC-PSM

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PEPFAR U.S. President's Emergency Plan for AIDS Relief

Vendor-managed inventory (VMI)

Vendor-managed inventory (VMI) is a supply chain agreement between the supplier/vendor and the customer that allows the supplier to take control (responsibility) of inventory management, including procurement and restocking and managing stock levels for the buyer/customer.

In supply terms this means the upstream agent is responsible for the inventory of the downstream agent.

Objectives of this discussion

1. Understand Vendor-managed inventory (VMI) process
2. Comprehend the stepwise process for pilot implementation and completion

Introduction and Background

What is VMI?

- **Innovative processes to improve supply chain management** through streamlining processes and improving efficiency, all with the goal of improving patient outcomes
- Next step in GHSC-PSM relationship with suppliers, **building on all-inclusive service-level agreements (SLA)**
- An agreement where **supplier takes greater control of inventory management**
- A **symbiotic relationship** between supplier and buyer (customer)
- In Viral Load testing: **joint national forecasting and quantification** based on real time, accurate data

Objectives of VMI

The overall objective for VMI is to increase inventory management efficiencies across the value chain

VMI implementation will aim to:

- **Improve service delivery** by shifting certain aspects of the inventory management to the supplier
- **Improve reagents and commodity security** by ensuring continuous stock supply
- **Streamline processes** by introducing levels of automation in stock management, provide more accurate data that will improve on forecasting and supply planning
- **Facilitate achievement of long-term sustainable solutions by leveraging private sector capabilities** to meet public health sector needs, enabling MOH and public laboratories to benefit from private sector engagement

Core components of VMI

Transparent inventory levels

Clarity of stock ordering

Items held securely in a warehouse

Monitoring the market

Shipping and delivery

Coverage of restocking needs

Cost management

Why is VMI important? What could implementation of VMI change for you?

Process streamlining & increasing efficiencies

Current status quo	VMI – New process
• Room for errors	• Cumulative accurate data
• Poor data quality	• Improved forecasting and quantification
• Delays in orders – leading to stockouts / overstocking	• Reduced overstock / understock
• Labor intensive – time consuming	• Automated inventory management – less labour intense • Time saving- more streamlined processes

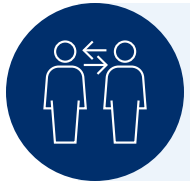
Advantages of VMI: Simplicity and efficiency

Increased stock availability
leading to

- Reduced stockouts
- Reduction in carrying costs
- Reduced need for safety stock

Efficient supply chain management
enabling

- Streamlined processes and delivery execution
- Productivity / cost savings that promote sustainability



VMI enables better communication between suppliers and labs

What VMI is not a:

- **Turnkey solution** – VMI is not a solution that we can simply flip the switch and walk away from. VMI **requires deep collaboration between MOH, procurement and SLA contract holders, and the supplier** to ensure proper inventory levels and delivery schedules

- **Quantification tool** – The supplier responsible for VMI will need to work in tandem with the procurement or SLA contract holder to best understand and quantify supply and demand plans that the country raises

- **Fix-all for KPI issues** – VMI **will require a set of KPIs** that will need to be monitored. Similar to implementing the all-inclusive procurement programs, all KPIs **will need to be consistently monitored**

There are 6 key criteria for VMI

1. ☐ **An all-inclusive agreement** for provision of reagents, consumables, maintenance, and other necessary services
2. ☐ **Data –** There must be sufficient historical data on supply chain and inventory management in the laboratories to allow trend analysis that justifies the transition
3. ☐ **Storage capacity –** the proposing countries must ensure that the laboratories where VMI will be implemented have sufficient storage capacity with correct equipment to ensure proper storage and cold chain, where required, for at least 3 or more months
4. ☐ **Incoterms –** for a successful VMI, suppliers must be willing to move to DAP (deliver at place) or DDP Incoterms
5. ☐ **Data sharing (VIPMA) –** For VMI to work well, manufacturers, procurement entities, and ministries of health (MOH) must have reliable and consistent data availability. This includes sharing annual VL/EID forecast, minimum of a year of historical consumption data
6. ☐ **Country testing volumes –** it is of critical importance that countries must have sufficient HIV VL/EID volumes that allow economies of scale on implementation

Key steps for VMI implementation

Identify key stakeholders and communicate intent to transition

- All key stakeholders matter
- MOH ****
- IP- procurement
- IP – lab implementation
- PEPFAR in country missions
- Other funders e.g GF

Assess feasibility of VMI implementation

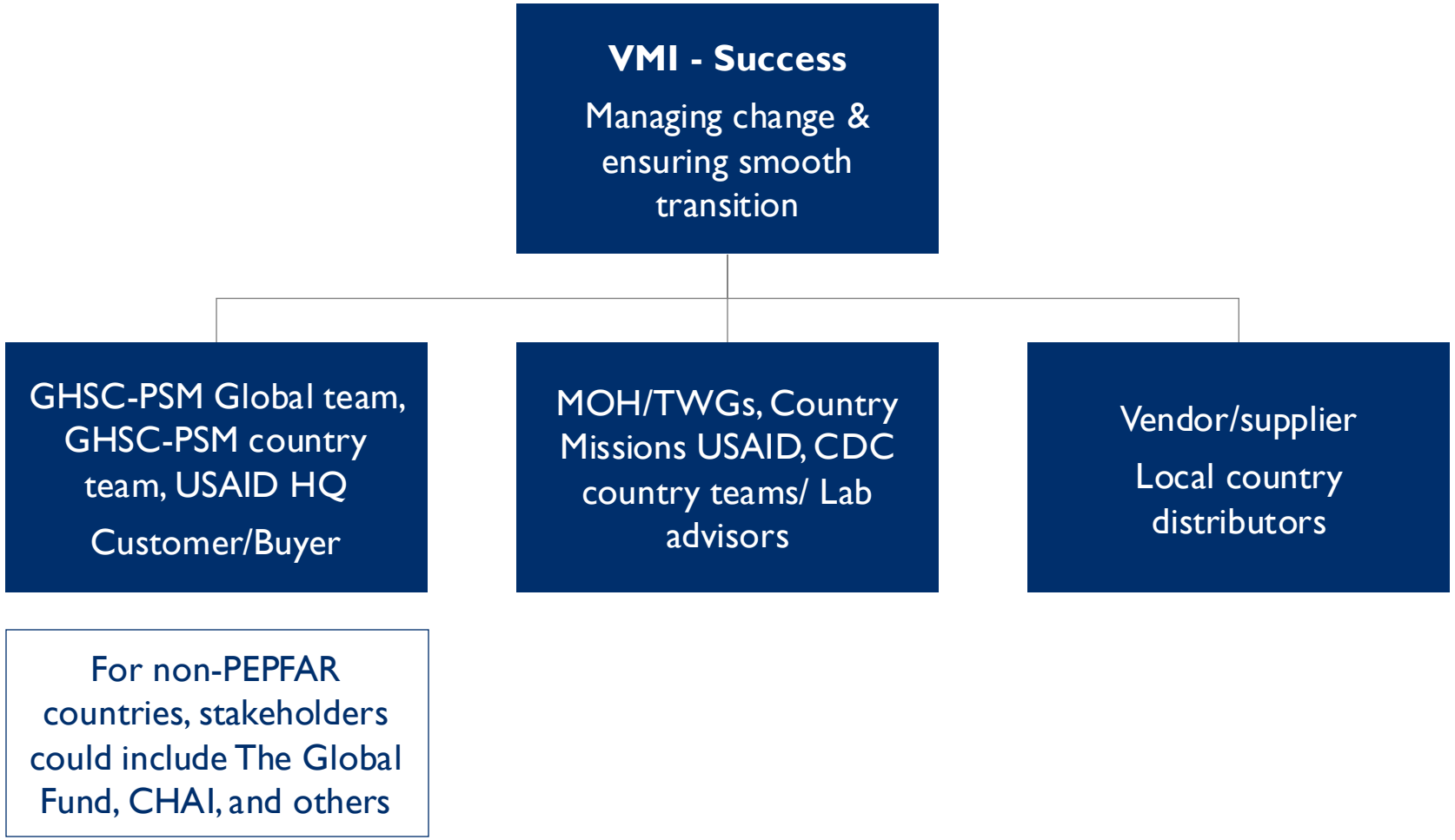
- Does the country have what it takes to implement VMI?
- Historical data
- In country storage
- Lab storage space
- Readiness to implement by supplier
- Correct incoterms – D terms
- Will a new contract be required?
- Do volumes handled justify the change?

Collaboratively draft a scope of work (SOW) for the project

- Who has to be part of this?
- Clear explicitly SOW
- RACI – defined
- Review performance defined KPIs

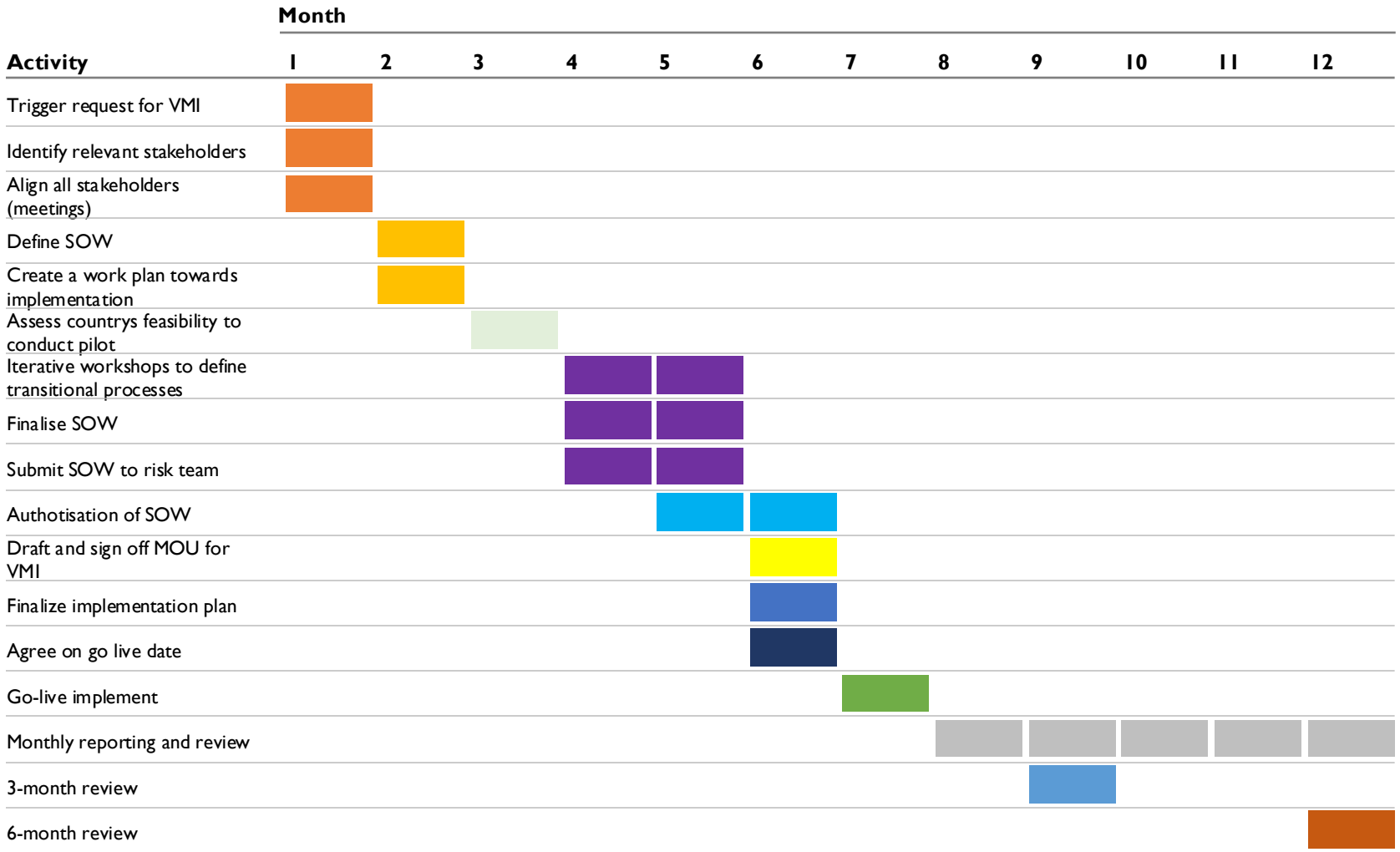
VMI implementation is a huge change - 70% of change efforts fail, thus collaborative effort is required to execute this succesfully

Managing the change – engaging the relevant stakeholders for success



"**Country ownership** with Ministries of Health **understanding the long-term benefits** and **co-driving change** with the procurer is crucial for success"

Timeline leading to VMI implementation



Key takeaways

- Time varies from one stage to another
- A clear SOW helps progression to execution faster
- Openness to new ways of operation is key as discussions progress

VMI Phase I Nigeria experience

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U.S. President's Malaria Initiative

Overview of Efforts to Support VMI in Nigeria

Worked with lab stakeholders including Nigeria's National AIDS and STIS Control Program (NASCP), the National Quantification Team (NQT), laboratories, and other stakeholders to:

- Develop the SOW, VMI implementation schedule (Gantt), and SOP for the first phase of implementation
- Conduct VMI surveys and inventory count at baseline (March 2024), end of quarter 1 (June 2024) and end of pilot phase (Sept 2024)
- Review the Jan-Feb LMIS data and generate the March 2024 LMD order
- Update forecast and supply plan for viral load commodities in April 2024 and August 2024
- Monitor VMI implementation and fill gaps in technical assistance
- Processed and issued purchase orders (POs) to supplier (8 POs)
- Monitored and tracked last mile deliveries against parent POs

Progress narrative- Planned vs Actual Implementation (1)

Component	Phase I VMI Plan	Phase I VMI implementation	Implications/ consequences
Quantification	NASCP in collaboration with GHSC-PSM (& NQT) to generate forecast and supply plan	Implemented as planned	NA
Order release	Guided by the quantification output, GHSC-PSM determines the PO quantity, quarterly based on min-max level of 4-9, liaises with vendor and releases order to vendor	Implemented as planned	NA
Import process	GHSC-PSM liaises with USAID to secure Import Duty Exemption Certificate (IDEC) and facilitate letter of authority. Supplier ships, clears and deliver products	There were delays in IDEC	Delays in shipment
Pre-shipment quality assurance	GHSC-PSM reviews and approves shipping document	Supplier occasionally shipped commodities without a pre-approval	IDEC related demurrage at the ports

Progress narrative- Planned vs Actual Implementation (2)

Component	Phase I VMI Plan	Phase I VMI implementation	Implications/consequences
Laboratory resupply	-Supplier to calculate re-order quantity (4MOS) based on forecast and the validated inventory data from the bimonthly CRRF and resupply laboratories by 2nd week of the odd months -Supplier to share LMD order (with NASCP and GHSC-PSM) and notify the laboratory of impending deliveries	-Agreed methodology for determining re-order quantity not adhered to - Often insufficient commodities in-country to support resupply -Deliveries made to the laboratory without pre-notice, and sometime at odd hours	-Oversupply of some products -Resupplies not consistent with agreed timelines. - Multiple supplies within one cycle due to inadequate in-country stock - Increased paperwork - Inconsistencies in PODs
Inventory management & LMIS reporting	-Supplier to support laboratories validate CRRF data entered on NHLMIS -Supplier to deploy inventory management solution -Supplier to support laboratories to ensure good inventory management including FEFO	-Supplier conducted independent monthly physical counts & provided little support in ensuring validated data on NHLMIS. -Supplier did not deploy inventory management solution - Poor inventory management and non-adherence to FEFO in some laboratories	-Unreliable data repository for planning -Risk of expiries (e.g., Specimen Diluent)

Progress narrative- Planned vs Actual Implementation (3)

Component	Phase I VMI Plan	Phase I VMI implementation	Implications/consequences
POD review and payment processing	Supplier expected to submit Invoice and proof of delivery (PODs) with clear indication of PO numbers	Multiple PODs submitted within each cycle with each POD having quantities from different POs	Reconciliation of PODs against POs cumbersome
Interfacility redistribution	Vendor initiates interfacility re-distribution and ensures this is documented using the return and transfer form	Implemented as planned	NA
Replacement of controls & consumables in short supply	Vendor replaces consumables that are short of main reagent	Supplier has not accepted to replace products (positive control, negative control ,wash buffer and solid waste bag) short of main reagent	-Risks of testing interruption with stockout of consumable -Higher cost incurred per test

Summary of key achievements of VMI

- Improved government ownership
- The Nigeria Health Logistics Management Information System (NHLMIS) reporting rate sustained at 100%
- Commodity availability to support testing – 2 of 3 laboratories reported zero stockout & testing interruption in the last three months

Summary of Challenges

- Inadequate in-country stock causing multiple deliveries within a cycle and increased impact of shipment delays e.g., due to IDEC
- IDEC-related delays in shipment
- Shortfall of controls, wash buffer, and solid waste bag (compared to reagents in the pipeline)
- High risk of expiry, especially for Specimen diluent
- Increased LOE for POD reconciliation and payment processing

Lessons Learned

1. Government ownership and leadership are key to the success of VMI.
2. Streamlining the number of POs and ensuring that each POD draws from only one PO will help manage the additional paperwork and LOE associated with VMI.
3. Procuring in test bundles rather than individual products will reduce paperwork and ensure a fixed cost per test.
4. Laboratories should be resupplied based on routinely reviewed (and updated) forecast rather that reported consumption to avert bullwhip effect and artificial consumption
5. Scaling VMI to include other vendors will create a healthy competition and ensure that increasing utilization on any platform is performance driven (and not artificial)

What lessons have you learned in the VMI presentation?

- VMI is a project that involves significant change to the normal way of doing things (change management journey *)
- VMI is important to those who qualify as it increases operational efficiencies.
- A holistic stakeholder approach from the beginning is the key to a progressive approach towards implementation. DO NOT leave out anyone who will play a role in planning and execution.
- VMI facilitates country Local ownership of procurement and allows Private - Public –partnerships that increases chances of supply chain sustainability.

A collaborative approach will ensure successful transition to VMI

Many thanks for your participation

Feel free to let anyone of the GHSC-PSM team know if you have any follow-up questions

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