

# Expanding Lab Infrastructure Sustainably

## The Partnership for Supply Chain Management

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### Background

- Access to laboratory and medical imaging services is crucial for the diagnosis, treatment, and prevention of both communicable and non-communicable diseases.
- These services require adequate infrastructure, well-maintained equipment, suitably trained personnel, and well-defined quality assurance programs.

### Challenges

- Laboratory and medical imaging services have traditionally been characterized by shortages in equipment and skilled workforce.
- Up to 40% of this equipment is often out of service, thereby negatively affecting the provision of reliable services necessary for good patient outcomes.
- Equipment procurement can easily turn into turnkey projects requiring site preparation, special transportation and handling, professional installation and training.
- Site readiness is often referenced as a major cause for delay in the delivery of laboratory equipment. Site readiness depends on sector and project type, and may range from simple activities, such as ensuring that there is enough room in the laboratory for the machines, to more complex issues, such as appropriate electrical supply or civil works.
- Equipment purchases require planning to ensure long term access to quality, affordable consumables like reagents, and transport plans are needed to manage time and temperature sensitive products (TTSPs).

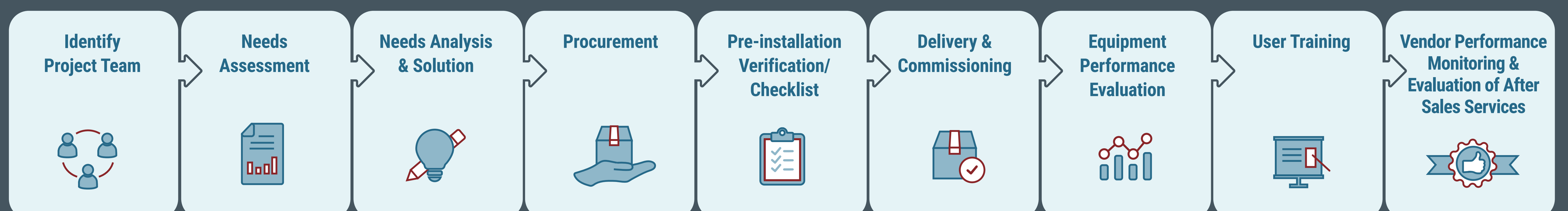


### MALAWI CUSTOM SUPPLY CHAIN SOLUTION

- Tailored procurement and delivery solution for equipment, consumables, reagents, and services like installation, training, and warranties.
- First Immucor NEO Iris automated blood grouping machine to be installed at Malawi Blood Transfusion Service (MBTS) in Blantyre. Supplier new market entrant.
- Blood typing reagents have a short shelf life of about 3 to 4 and must be shipped cold chain (1°C to 10°C) from the US to Malawi.
- No time for storage in-country. Reagents are moved directly from the airfield to the blood bank.
- Logistics solution entails global freight forwarder (FF) and in-country logistics services provider (3PL) to manage—100% without exception—importation documents, and pre-clearance for customs.
- Staggered deliveries ensure the restocking of reagents every two weeks.

### Solutions

- 1 Follow national laboratory equipment policies.
- 2 Establish an in-house team to
  1. determine the correct equipment requirements
  2. create a plan of action for site preparation and procurement and
  3. ensure sustainable follow-up on the implementation.
- 3 Map the roles and responsibilities of the in-house team, supplier, procurement agent and logistics partners.
- 4 Do a needs assessment using a robust needs assessment tool (Scan QR code).
- 3 Determine the most suitable procurement mode (for molecular diagnostics): direct/outright purchase, hybrid or all-inclusive (rental and leasing agreements).
- 4 Do pre-installation, and site preparation. Based on the site assessment earlier performed, a crosscheck of the selected equipment requirements with the current infrastructure conditions to identify if there is additional work to be performed.
- 5 Read and understand the manufacturer's site preparation guide(s).
- 6 Work with the supplier and/or procurement agent, on a logistics plan to ensure
  1. the equipment can be delivered, offloaded and installed, and
  2. to ensure TTSPs like consumables can be properly managed to avoid stockouts or waste.



### Concluding considerations

- Equipment options: compatibility, performance, limitations, intended use.
- Budget and total cost of ownership: new purchase, replacement, cost per sample.
- Training and installation: time and place, online or on-site, number of trainees.
- Warranties, maintenance, and after-sales service: existing or new agreements.
- Infrastructure, and site-readiness: electric, environmental, and network considerations.
- Supply chain and distribution: restocking consumables, and TTSPs.

