# Quality Management Systems for non-laboratory settings – Toolkit

## Testing site inventory management and ordering process

World Health Organization

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Effective inventory management is essential to ensure that all necessary testing commodities (tests, consumables, protective equipment) are available while avoiding shortages and overstocks. For this purpose, different tasks (regular physical inventories, recording commodity movement, monitoring storage conditions, and ordering) need to be implemented using specific tools/forms.

It is important to maintain clear and organized records of stock levels, commodities movement (IN and OUT), and replenishment. This will permit tracking trends in consumption, anticipate shortage or overstock and implement necessary actions such as placing an order (see Request form template (XLSX, 15 kB)) or, organizing a donation.

Implementing digital inventory management tools, if feasible, can streamline the tracking process, automate reorder reminders, and provide analytical insights into stock usage patterns.

**Recording all commodities present in the testing site using an inventory/stock book (link to stock book)**

Developing a list of all commodities (tests and consumables) is important to have a clear overview of all commodities which are in stock. A physical or digital inventory/stock book should be developed and updated regularly (at least after each physical inventory).

**Recording all commodities movements using Stock Cards** (see Stock card (MS Word, 30 kB))

Stock cards visually represent each item's stock level and ensure tracking of the flow of items entering (IN) and exiting (OUT) the stock.

Each item (tests and consumables) should have a specific stock card that contains:

- Item Description: exact product and manufacturer names and details (e.g., test kits, reagents), expiration date, packaging
- Alert stock: A predefined quantity that triggers the immediate need to reorder supplies (see How to define needs (PDF, 230 kB)).
- Date of movements: date of every entry (in) and exit (out) of stock,
- Current stock level or balance stock: theoretically available stock calculated from the information in the stock card (initial stock plus IN minus OUT).

**Conducting regular physical inventory using the inventory form** (see Inventory management template (XSLX, 110 kB))

Conducting regular physical inventory checks ensures that theoretical stock levels are accurate and aligned with the quantities physically present in the testing site stock.

Physical inventories should be done regularly, at **predefined intervals** (according to testing site workload and capacity) plus **systematically before each order**. Ideally, inventory should be conducted at least once every three months. In places with stable activity all year long, and once a proven robust system is established, at least every six months.

Comparing the theoretical stock (e.g. from stock cards) to the physical stock helps identify discrepancies early and allows for timely adjustments. If discrepancies between the theoretical and physical stocks have been identified, it is also important to conduct a root cause analysis to understand the reason and identify corrective and preventive actions.

Standardized and validated inventory forms (see Inventory management template (XSLX, 110 kB)) should be used to keep records and analyze stock data.

**Monitoring store temperature using thermometers and a temperature log form** (see Temperature log sheet (XLSX, 95 kB))

Test kits and reagents must always be stored according to manufacturers' instructions (temperature, humidity…) to maintain their quality (e.g., shelf life, performance). Each place where items are stored (pharmacy, coolest part of the health facility), each testing point (e.g., laboratory, consultation rooms, emergency rooms…) must be temperature controlled twice a day, ideally at the beginning and end of the day's work shift and the temperature recorded on a standardized temperature log.

Any storage condition breach should be reported immediately to the site supervisor/QA officer to decide any follow-up actions such as: conduct an Internal Quality control event using known positive and negative samples (read more: Pillar 4: Process control, assessment and continuous quality improvement), or destroy affected items.

Different temperature monitoring tools exist such as liquid-in-glass thermometers and digital thermometers. Some digital thermometers can also record the temperature for several days/weeks (e.g: Fridge-tag®, LogTag®).

Some guidance exists on how to ensure appropriate storage conditions in remote testing sites.

**Ordering adequate quantity at the correct moment**

Depending on contexts, orders can be placed at predefined moments and/or as needed to adapt to activities (e.g., unexpected changes of workload) and should cover a predefined period. To avoid shortages and wastage, it is critical that testing sites define their needs and know their procurement system (including lead time) (see How to define needs (PDF, 230 kB)).

Orders should be placed using a standardized and validated ordering form (see Request form template (XLSX, 15 kB)). Ordering forms should include essential information for each ordered item, such as exact item names, name of manufacturers, packaging, date of order (to monitor delivery timelines), and order parameters (such as AMC, stock at the order time…).

**Checking the supply upon reception** (see Request form template (XLSX, 15 kB)).
It is crucial to verify that quantity and quality of items received correspond to what has been ordered. A process should be in place in testing sites to inspect the quantity and quality of supplies when they are delivered and before they are placed into storage or use. In case of any discrepancy, an immediate feedback should be given to the supplier entity. **In case of discrepancy, it is critical to inform the site supervisor/QA officer**, report to the supply center and ask for replacement when necessary.

Read more: specific module of the SLMTA e-learning training curriculum focuses on purchasing and inventory.