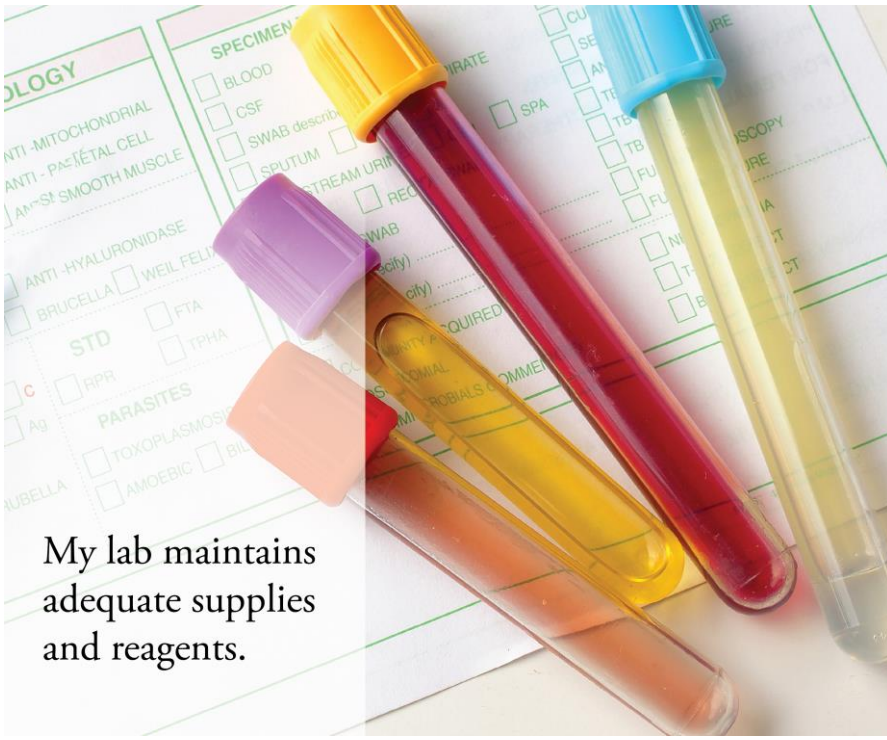
MODULE 4

Procurement Management



SLMTA Participant's Manual

TABLE OF CONTENTS

NOTE: Print this document single-sided and in color if possible.

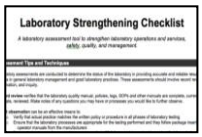
Activity: Forecasting and Calculating Ordering Amounts 1

ACTIVITY SUMMARY SHEET

ACTIVITY	Forecasting and Calculating Ordering Amounts	Module 4

PURPOSE:

An effective procurement management system is one that ensures sufficient inventory is available to meet testing needs while simultaneously avoiding waste incurred from unused and expired reagents. In this activity, participants learn how to forecast and determine reorder levels for their laboratory. The concepts are reinforced with an assigned homework activity.

This activity supports the following laboratory management tasks and SLIPTA checklist items	
Management Tasks 	3.3 Monitor consumption rate and inventory level to determine when and how much to re-order 4.1 Accurately evaluate needs for equipment, supplies and reagents taking into consideration past patterns, present trends, and future plans 4.2 Place orders as necessary in accordance with needs and budgetary constraints 4.4 Appropriately document and maintain accurate records of all purchase orders and requisitions
Checklist Items 	1.5 Laboratory Policies and Standard Operating Procedures Are policies and/or standard operating procedures (SOPs) for laboratory functions, technical and managerial procedures current, available and approved by authorized personnel? (Purchasing and Inventory Control) 2.2 Management Review Does the laboratory management perform a review of the quality system at a management review meeting at least annually? 7.1 Inventory and Budgeting System Is there a system for accurately forecasting needs for supplies and reagents? 7.5 Budgetary Projections Are budgetary projections based on personnel, test, facility and equipment needs, and quality assurance procedures and materials? 7.7 Laboratory Inventory System 7.12 Laboratory Testing Services Has the laboratory provided uninterrupted testing services, with no disruptions due to stock outs in the last year or since last audit?

KEY MESSAGES

- An effective procurement management system is one that ensures sufficient inventory is available to meet testing needs while simultaneously avoiding waste incurred from unused and expired reagents.
- An orderable amount needed to sustain testing can be calculated instead of relying on guesswork by utilizing data available to laboratory staff.
- Due to the interrelationship between the procurement and inventory management systems, errors or oversight in one will affect the other resulting in service interruptions and decreased patient care.

Can you:

- Define key terms and concepts related to calculating and forecasting supplies?
- Calculate the correct amount of supplies to order based upon a given lead time and orderable unit?

SELF-ASSESSMENT

For this activity, you will need:

- ❑ Worksheet 1: Urinalysis (401)
- ❑ Worksheet 2: Glucometer (402)
- ❑ Job Aid: Calculating Supplies (403)

Urinalysis[401]

Procedure:

Routine Urinalysis with Microscopic

Number of Tests Performed in One Month: **(a)**

Patients: 500
Total QC: 70 (normal and abnormal controls analyzed daily during morning workstation set-up, and each time a new reagent bottle is opened)

	List Each Item	Item # needed to perform one procedure **(b)**	Item # needed per month *(Reserve Quantity)* **(a) x (b) = (c)**	Minimum Stock required for a three month lead time *(Reorder Level)* **(c) x 3 = (d)**	Stock on hand (*physical inventory*) **(e)**	Quantity to be ordered **(c) + (d) - (e) = (f)**	Vendor's item amount **(g)**	Orderable Amount (rounded **UP** to the nearest whole number) **(f) / (g)**	Orderable Unit
1	collection cup				1000		1000 cups/bag		bag
2	cleaning towelette				1600		500 packets/box		box
3	urine dipstick				500		100 strips/bottle		bottle
4	4 x 4 gauze				2000		50 pieces/bag		bag
5	centrifuge tube				2300		100 tubes/box		box
6	plastic disposable pipette				1700		300 pipettes/box		box
7	slide				800		100 slides/box		box
8	coverslip				1900		50 slips/box		box
9	Normal QC	10 ml			1300		200 ml/box **		box
10	Abnormal QC	10 ml			650		200 ml/box **		box

Box of QC material = 4 bottles/box x 50ml/bottle

Glucometer[402]

Procedure:

Glucose by Glucometer

Number of Tests Performed in One Month: **(a)**

Patients: 300
Total QC: 66 (low and high controls analyzed daily during phlebotomy workstation morning set-up, and each time a new reagent bottle is opened)

	List Each Item	Item # needed to perform one procedure **(b)**	Item # needed per month *(Reserve Quantity)* **(a) x (b) = (c)**	Minimum Stock required for a two month lead time *(Reorder Level)* **(c) x 2 = (d)**	Stock on hand (*physical inventory*) **(e)**	Quantity to be ordered **(c) + (d) - (e) = (f)**	Vendor's item amount **(g)**	Orderable Amount (rounded **UP** to the nearest whole number) **(f) / (g)**	Orderable Unit
1	lancet				400		1000 lancets/box		box
2	alcohol pad				800		100 packets/box		box
3	2x2 gauze				100		50 pieces/bag		bag
4	reagent strip				800		50 strips/bottle		bottle
5	QC Low**				75		50 tests/bottle		bottle
6	QC High**				25		50 tests/bottle		bottle

** Manufacturer's QC package insert specifies that the quantity in each bottle is sufficient for 50 tests (dispense 1 drop, wipe, test second drop)

Calculating Supplies[403]

An efficient procurement management system will provide the amount of required supplies to fulfill needs without waste due to the expiration of unused supplies.

Key Terms and Concepts:

- **Lead Time** – time between placing an order and receiving it.
- **Average Usage** - number of test kits, reagents or supplies used in a given time period.
- **Minimum Stock** -amount of stock required to support testing operations until additional supplies are received.
- **Reorder Level** - the minimum stock level at which you should reorder the item and the amount you should reorder.
- **Reordering Equation** - Average Usage x Lead Time = Minimum Stock (Reorder Level).

(f) The calculation takes into account your reorder level and includes a reserve quantity. To avoid wastage from expired reagents, the calculation subtracts the available stock you currently

(a) Determine the average number of patients, survey samples, and QC performed for a month. To obtain an average, review several month's worth of tally data to reflect an accurate testing volume. Many sites will include a 10% wastage factor to accommodate repeat testing, training or competency assessments. However, by including column (c) as a reserve quantity into the equation used to calculate column (f) that may not be necessary. If testing volume fluctuates for specific time periods

(g) Catalogs and order requisitions can be used as a resource to determine the vendor's amount. For example, if you list a test kit as an essential supply and the test kit accommodates 20 individual tests, then the amount is 20 tests per kit. Likewise, if you indicated 3 ml of a stain is required for each test in column b for AFB testing and the stain comes in a liter bottle, then the amount is 1000ml per bottle. Ensure proper units are used to calculate the correct orderable

(b) Determine the amount of supply needed to perform one procedure.

List the essential supplies required to perform the test

Calculating Ordering Amounts

Number of Tests Performed in One Month: **(a)**

Item	Item # needed to perform one procedure **(b)**	Item # needed per month **(a) x (b) = (c)**	Minimum Stock **(c) x lead time = (d)**	Stock on hand **(e)**	Quantity to be ordered **(c) + (d) - (e) = (f)**	Vendor's item amount **(g)**	Orderable Amount **(f) / (g)**	Orderable Unit

(f) / (g) Always round up to the nearest whole number. This number is the amount to indicate on the ordering requisition for the specific catalog number or description

(d) This is the minimum stock you must have on hand to support testing until additional supplies are received. When this quantity is reached, you must reorder. You will not sustain testing services for this procedure if you go below this quantity. Lead times may vary for different vendors. Review your previous ordering/receiving history to

(c) This is the average usage for the month for test kits, reagents or supplies. This amount will also be used as the reserve quantity

(e) You determine the stock you have on hand by performing a physical stock count, physically counting the available supplies. The available stock should never run below the minimum stock level. To determine the correct quantity, the stockroom must be organized and maintained. The inventory records must