

LUBOMBO LABORATORY CLINICS LMIS TRAINING

November 2013



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SIAPS 
Systems for Improved Access
to Pharmaceuticals and Services

LUBOMBO LABORATORY CLINIC LMIS TRAINING

Sifiso Dlamini

November 2013



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About SIAPS

The goal of the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program is to assure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve desired health outcomes. Toward this end, the SIAPS result areas include improving governance, building capacity for pharmaceutical management and services, addressing information needed for decision-making in the pharmaceutical sector, strengthening financing strategies and mechanisms to improve access to medicines, and increasing quality pharmaceutical services.

Recommended Citation

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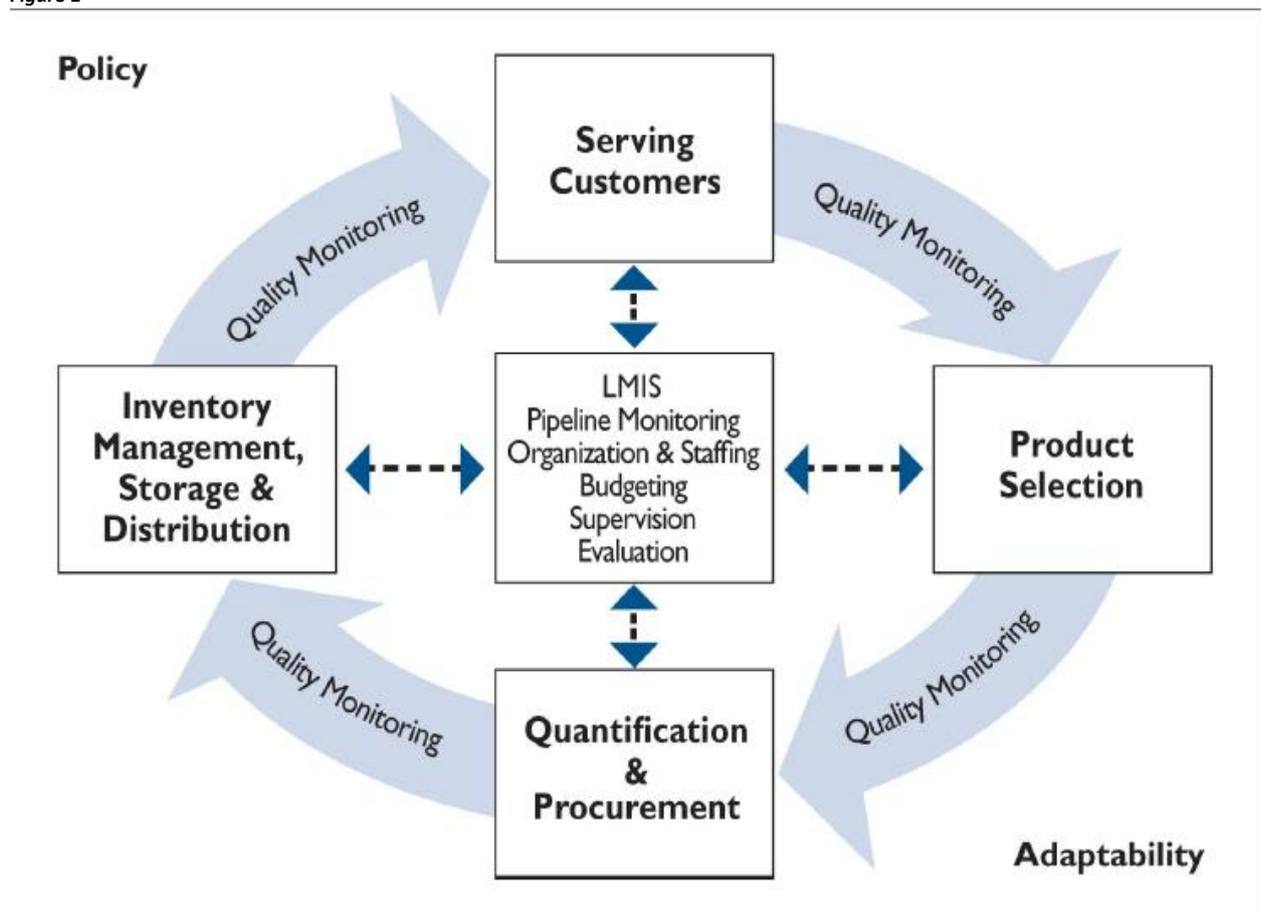
Acronyms and Abbreviations

LMIS	Logistics Management Information Systems
CMS	Central Medical Stores
HIV	Human Immunodeficiency Virus
MOH	Ministry of Health
MSH	Management Sciences for Health
MOS	Months of Stock
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
SIAPS	Systems for Improved Access to Pharmaceuticals and Services
SOP	Standard Operating Procedures
AMC	Average Monthly Consumption
USAID	US Agency for International Development

1. INTRODUCTION

In order to ensure uninterrupted supply of essential laboratory commodities there needs to be a sound and effective logistics management information system (LMIS) which is an integral part of supply chain management. As illustrated in figure 1 below (Supply Chain Cycle) logistics management information is at the center of the supply chain cycle and is important because it informs all the other aspects of supply chain. A well functioning LMIS system will derive information on the consumption of every product, the stock status as well the quality of desired laboratory commodities needed to fill the supply chain pipeline at all levels.

Figure 1

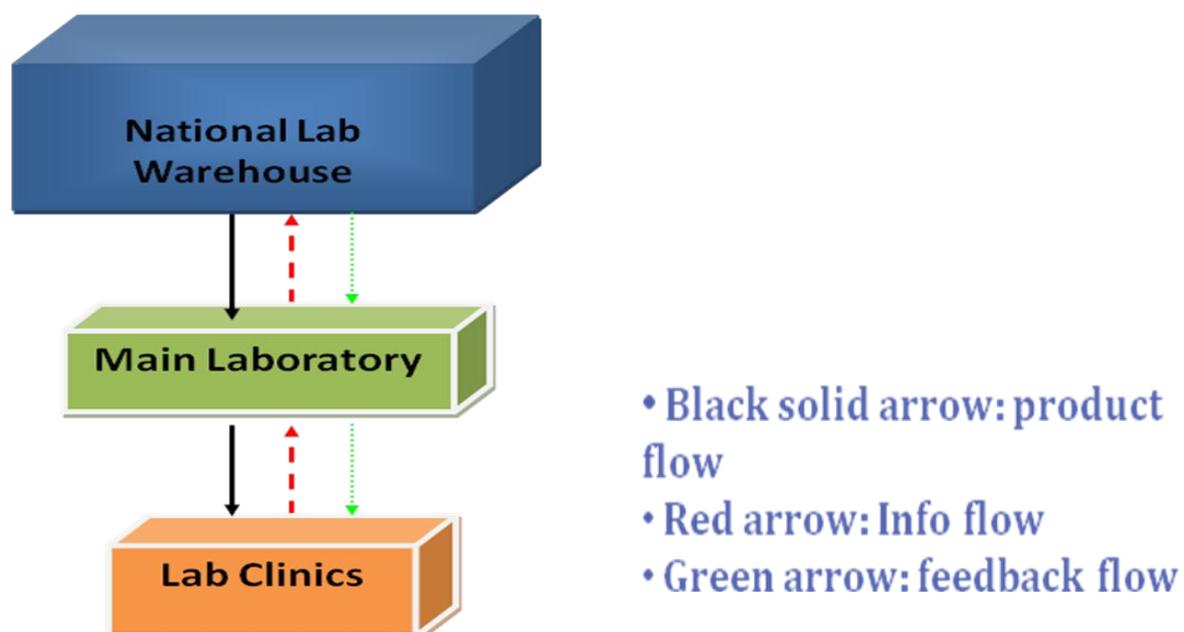


2. BACKGROUND

The mandate of the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) program in Swaziland is to assure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve desired health outcomes. SIAPS works to build capacity within Swaziland; to effectively manage pharmaceuticals and services, improve the rational use of pharmaceuticals and to strengthen supply chain management at all levels of health care delivery.

In its continued capacity building efforts SIAPS is supporting the National Clinical Laboratory Services under the Ministry of Health strengthen the LMIS to ensure product availability at all levels. The current in-country laboratory supply pipeline is designed in a three tier system (see figure 2 below). There are mini laboratories at clinics who form the last level in this system and they report and order laboratory commodities from main laboratories which are located in hospitals and health centres and they form the second and the middle level in the system. The main laboratories report and order laboratory commodities from the central warehouse after aggregating and incorporating consumption and stock levels of mini laboratories. The main warehouse issues stock to the main laboratories based on the report and order submitted by the main laboratories. Below figure 2 shows a graphical representation of the in country laboratory supply chain pipeline.

Figure 2



In order to ensure that accurate and reliable information flows from the laboratory clinics through to the laboratory clinics in this LMIS system, facilities have to be trained and mentored on stock management and the use of the LMIS report and order forms. It is for this reason that the NCLS and SIAPS undertook to schedule trainings aimed at building capacity for health care workers at clinics on the LMIS and inventory management.

3. GOALS AND OBJECTIVES OF TRAINING

The goal of the training was to ensure that by participants are able to accurately complete and send the clinic LMIS report and order form to their respective mother laboratories.

The Objectives of the training were:

- To explain supply chain, its purpose and components.
- Describe key terms in laboratory supply chain system
- Explain how to complete the laboratory clinic LMIS report and order form
- Explain proper storage practices for health commodities and how to utilize stock cards

4. PARTICIPANTS TRAINING EXPECTATIONS

- Understanding the meaning of supply chain
- Understanding the meaning of logistics
- Understanding how to record and update stock cards
- Understanding how to manage storerooms
- Understanding LMIS form and how to record
- Understanding the calculation of safety stock
- Understanding maximum and minimum stock levels and how they are calculated
- Understanding how to calculate AMC and how it is recorded
- Understanding the difference between consumption, issues and dispensed.
- Understanding the difference between maximum stock level and maximum quantity.

5. TRAINING SCOPE AND FACILITATORS.

There were two facilitators for this workshop who conducted different topics.

- a) Mr. Celani Malaza (Procurement and Inventory Officer at NCLS)
 - 1. Logistics Management Information System (Introduction of new Lab LMIS form).
 - 2. Proper storage practices for health commodities
 - 3. Stock cards (how to record and update stock cards)

- b) Sifiso Dlamini (Technical Associate for Supply Chain at SIAPS)
 - 1. Overview of laboratory supply chain system
 - 2. Definition and Purpose of Supply Chain
 - 3. Pre-test and post-test
 - 4. Components of supply chain and key terms
 - 5. Assessing stock status for decision making

6. TRAINING FORMAT

Training was structured in two ways;

- a) Theory session involved the facilitator explaining different concepts to participants and allowing an interactive session involving discussions, questions and answers.
- b) Practical session involved the facilitator giving participants practical exercises to perform and then discussing the answers.

7. TRAINING AND ATTENDANCE

The training was divided into two groups and each group covering sixteen hours of both theory and practical sessions.

The first group began their training on the 12th to 13th November 2013 and there were twenty participants from the following facilities;

Figure 3. List of Facilities from group 1 (12-13 November 2013)

1. Vuvulane Clinic	2. Sitsatsaweni Clinic
3. Siphofaneni Clinic	4. Bholi Clinic
5. Good Sherpered Hospital	6. Tikhuba Clinic
7. Hlane Clinic	8. Sinceni Clinic
9. Lomahasha Clinic	10. Mpolonjeni Clinic
11. Ikhwezi Clinic	12. Ndzevane Clinic
13. Khuphuka Clinic	14. Manyeveni Clinic
15. Nkalashane Clinic	16. Shewula Clinic
17. Tsambokhulu Clinic	18. New Thulwane Clinic
19. Gucuka Clinic	

The second group had their training on the 14th to 15 November 2013 and there was a total of eighteen participants from the following facilities;

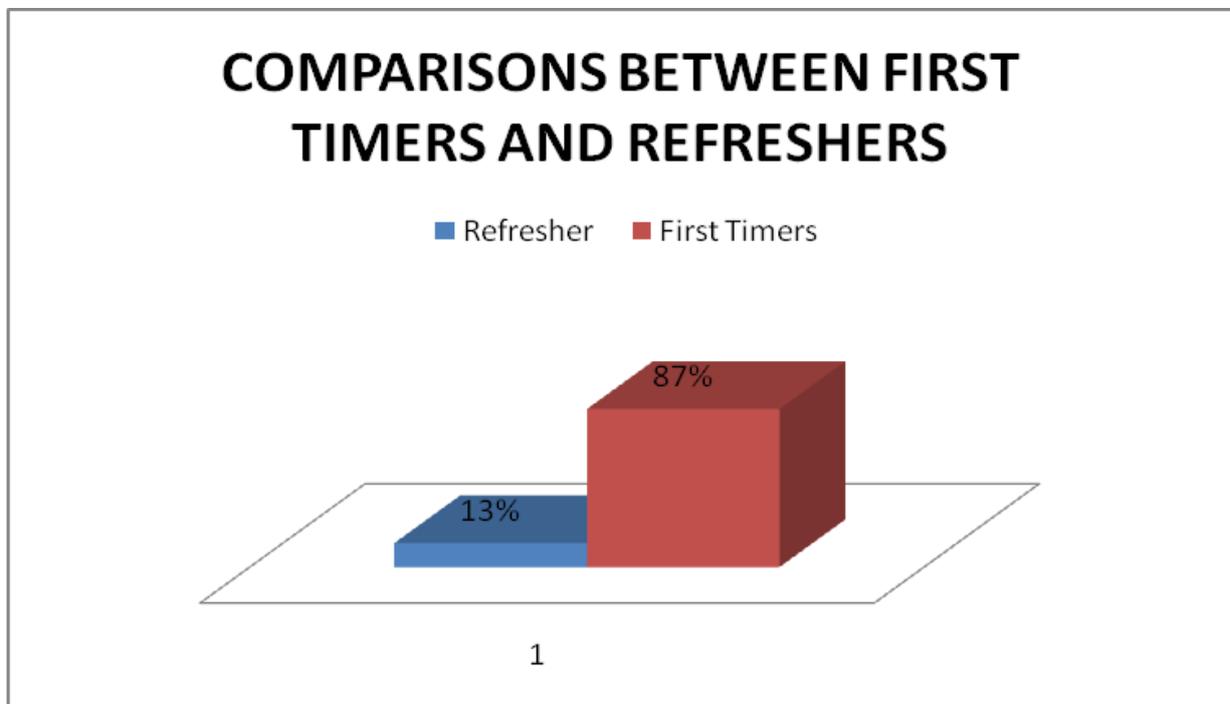
Figure 4. List of Facilities from group 2 (14-15 November 2013)

1. Cabrini Ministries	2. Mpolonjeni Clinic
3. Siphofaneni Clinic	4. Mlindazwe Military clinic
5. Tabankulu Clinic	6. New Tholwane Clinic
7. Good Sherpered Hospital	8. Shewula Clinic
9. Siteki Public Health Unit	10. Ebernezer Clinic
11. Malindza referal Clinic	12. Vuvulane Clinic
13. Tsambokhulu Clinic	14. Sithobela health Center
15. Lubulini Clinic	

8. FIRT TIME ATTENDEES AND REFRESHERS

The facilitators wanted to know the level of knowledge and skill of the participants before beginning the training. This was done by assessing if or not each participant was attending a training on inventory management and LMIS for the first time or it was a refresher training. The importance of this exercise was to enable facilitators to tailor the training according to the level of skill and knowledge of the audience.

Figure 5. Comparison between first time attendees and refreshers



As per figure 5 above, 87% of the total participants for both groups were attending this type of training for the first time and for 13% of them, it was a refresher training. This was evident in the high level of attention and participation received from the participants during the training. This further emphasises the importance of organising and conducting inventory management and LMIS trainings for these clinics as it is evident that most of them are involved with stock management and reporting and ordering but they are not properly trained for this type of activity.

9. PRE-TEST AND POST TEST RESULTS

FIGURE 6 shows Pre-test and Post-test results for the first group of participants

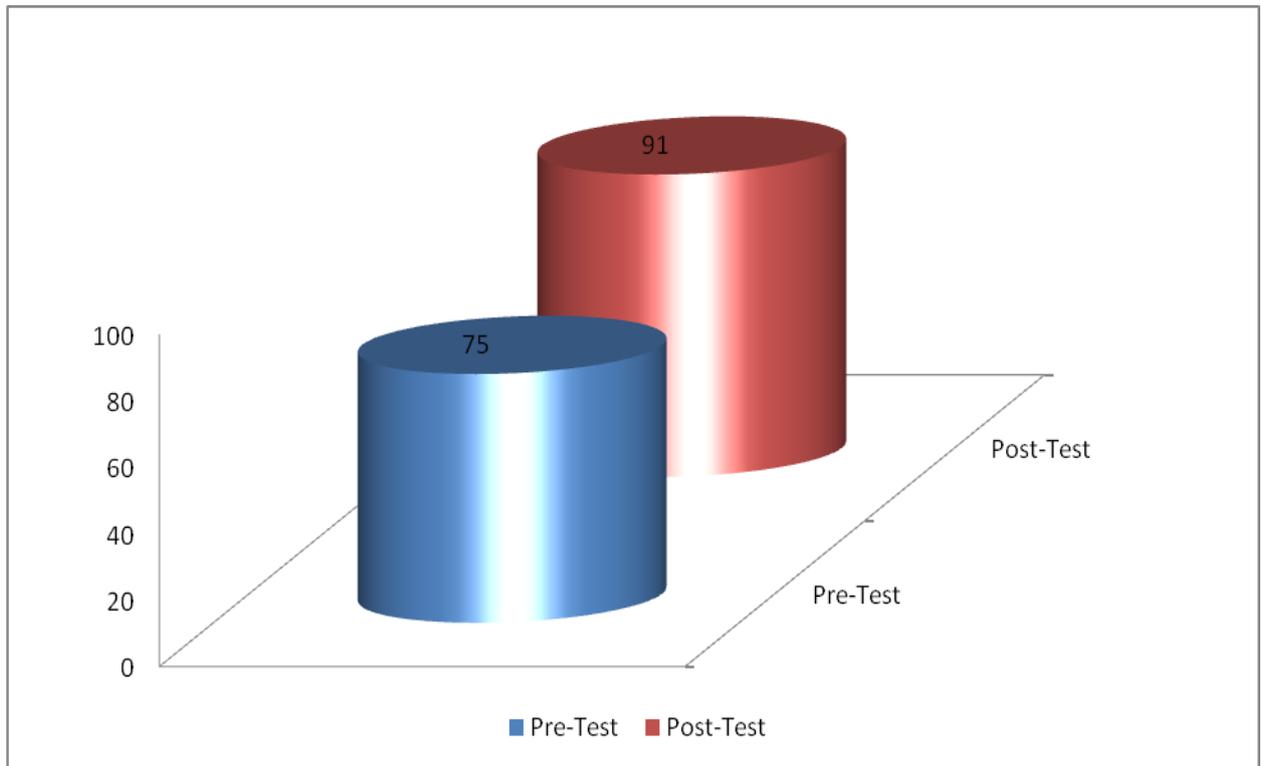
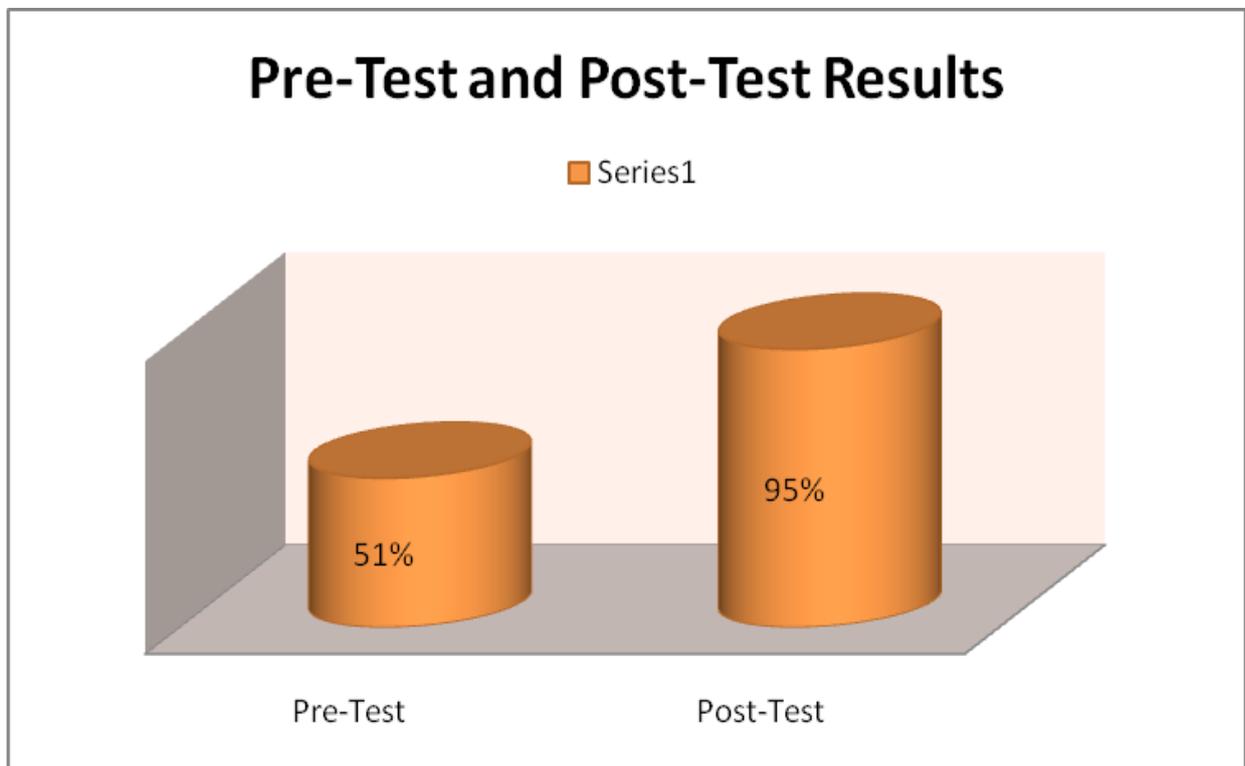


Figure 7 Pre-Test and Post Test Results for the second group of participants



Participants were given a pre-test before the start of the training session. The questions were structured in such a way that they cover principal concepts of the training. The main aim of the pretest was to assess the participants level of understanding and for the facilitators to note areas/gaps that require emphasis. The post test was given at the end of the training and encompasses the same questions from the pretest. The aim of the post test was to determine knowledge gain after the training. On average, the first group of participants scored 75% in the pre-test and scored 91% in the post test which is an improvement of 16%. The second group scored 51% in the pre-test and 95% in the post test which is an improvement of 44%.

10. DISCUSSIONS

A discussion session was opened for the participants to deliberate on a range of issues pertaining stock management LMIS, transportation and general clinical issues. Some of the discussion points were outside the training scope and some were ignited by the some of the concepts in the training. The aim of allowing these discussions was to facilitate knowledge exchange between the participants. Discussions revolved around the following topics

- a) Inadequate storage spaces at facilities.
- b) Stock outs of some key reagents and rapid test kits
- c) Quality assurance of reagents before distribution to facilities from the warehouse
- d) How to deal with donated stock that exceeds maximum stock levels
- e) How to deal with stock adjustments, when and how to return borrowed stock
- f) Calculation of maximum stock level, safety stock and working stock
- g) Transportation of reagents to facilities
- h) Lead times
- i) Reporting timelines
- j) Improvement of communication between mother lab and national warehouse on the stock status of reagents and supplies.
- k) Development of after training action plan.

11. DEVELOPMENT OF POST TRAINING ACTION PLAN

After the discussions, the participants then developed an after training action plan to be implemented at facilities. In developing the action plan, the participants stated issues or problems at facilities and then how they will tackle them after receiving this kind of training. Facilitators will then visit the facilities to assess the implementation of the action plan. Below is a list of problems or issues at facilities and their solutions and timelines.

PROBLEM OR GAP AT FACILITY	HOW TO TACKLE PROBLEM	TIMELINE
1. Lack of skill or knowledge of staff on how to report and place requisitions	Each participant agreed to train the other staff members on how to properly report and order using the new LMIS form and will be responsible for recording and sending reports to the relevant mother laboratory.	Starting with End of November 2013 reports
2. Timely reporting	Reporting times were established by the mother facilities which are Siphofaneni and Good Shepherd Hospital and were set to a deadline of the 25th of every month. Mother facilities will then consolidate all reports and send a report and order form to the national warehouse by the 5th of every month.	Starting with End of November 2013 reports
3. Lack of stock card update	Facility staff to update stock cards with every receipt and	Beginning at the end of November 2013

	issue transaction of each commodity and conduct monthly stock count.	
4. Sample transportation to check completeness of reports before sending to mother lab	Sample transportation personnel were also trained in this workshop and will assist facility staff when sending reports and make sure that they are properly filled out before being sent to mother lab	Beginning at the end of November 2013
5. Facilities to maintain the desirable stock level of laboratory commodities	Participants will maintain between 2-3 months of stock in order to avoid stock outs and overstocking of reagents and supplies and practise proper stock management.	After training when they reach their facilities
6. Effectively managing the available limited storage spaces at facilities	Participants to properly arrange health commodities at their storerooms and store health commodities to facilitate FEFO	Immediately when they reach their facilities, they will start this process.
7. Mother laboratories to continue training baby clinics on proper clinics	Mother laboratories will mentor baby clinics on proper recording on LMIS forms and ensure that new staff is also trained.	After receiving first reports in November 2013
8. Mother laboratories to turn back in accurate and incomplete LMIS forms.	Mother laboratories want to maintain a high standard of recording and ensure that the information is accurate	Start turning back LMIS form in January 2014

	and complete and therefore will turn back LMIS forms that are not properly filled out and show baby clinics how they want them filled out.	
9. Poor feedback from mother lab on stock availability	Mother laboratories to improve communication with baby clinics on stock that was not available and then made available.	End of November 2013
10. Poor AMC calculation	Participants to improve AMC calculation in order to improve the accuracy of reports	End of November 2013 reports
11. NCLS and its partners to make follow up visits to facilities	The NCLS and its partners such as SIAPS will visit facilities to assess improvement in stock management after this training.	From January 2014

12. CONCLUSION

Developing an effective logistics management information system for laboratory reagents and supplies in developing countries can be a long and difficult process due to the range of different challenges encountered in this process. One of the main challenges particularly in Swaziland in the implementation of an LMIS is the constant rotation and attrition of trained facility staff to manage inventory and as a result there needs to be continuous rigorous training and mentorship of new staff at facilities to enable the system to be stable. With the successful training of these participants who attended this training and the introduction of

the LMIS report and ordering tool there is hope that stock management at facilities will improve and thereby ensuring product availability at all levels of the laboratory supply chain pipeline.

13. NEXT STEPS

1. Implementation of the development and action plan by the different stakeholders.
2. Continuous support and on-site mentorship and training for facility staff.
3. Assessment of the implementation of development plan by the NCLS and its partners.

14. TRAINING CHALLENGES

- Poor accommodation facility.
- Poor conferencing facility.
- Transportation difficulties for participants on last day of training.

TRAINING PICTURES



Picture 1. Above Group 1 participants developing and action plan,Picture 2 below,recap session by participants





Pictures 3 Mr Malaza facilitating in for group 2 participants,picture 3&4 below,sections of group 2 participants listening to a lecture



ANNEX



**NATIONAL LABORATORY LMIS AND INVENTORY MANAGEMENT TRAINING
WORKSHOP FOR LAB CLINICS
NOVEMBER 12-13, 2013—SCHEDULE**

Day 1		
<u>Time</u>	<u>Session</u>	<u>Facilitator</u>
8:00-8:30	Arrival and Registration	Nonhlanhla Kgomo
8:30 – 9:00	Welcoming Remarks	Gugu Maphalala Kidwell Matshotyana
9:00 – 9:30	Introduction of Participants—Ice Breaker	Participants
9:30-10:00	Overview of Laboratory Supply Chain System: Definition and Purpose	Sifiso Dlamini
10:00-10:30	Pre-Test	Sifiso Dlamini
10:30 – 10:50	Tea Break	
10:50 – 12:30	Components of supply chain and key terms	Sifiso Dlamini
12:30 – 13:00	Assessing Stock Status for Decision Making	Sifiso Dlamini
13:00 – 14:00	Lunch	
14:00 – 16:00	Lab LMIS (Logistics Management Information System)	Celani Malaza
16:00 – 16:15	Tea Break	
16:15 – 17:00	Lab LMIS (Logistics Management Information System)	Celani Malaza
17:00 – 17:30	Discussions	Celani Malaza
Day 2		
08:00 – 09:00	Recap	Participants
09:30 – 10:30	LMIS (Logistics Management Information System): Exercises	Participants
10:30 – 10:50	Tea Break	
10:50 – 12:30	Guidelines for proper storage of health commodities. Guidelines for Proper storage-Poster	Celani Malaza
12:30—13:00	Completing stock cards	Celani Malaza
13:00 -14:00	Lunch	
14:00-15:00	Post Test	Sifiso Dlamini
15:00-16:30	Discussions and Development of Action Plan	Participants
16:30-17:00	Wrap up and Closing	Micheal Mndzebele





**NATIONAL LABORATORY LMIS AND INVENTORY MANAGEMENT TRAINING
WORKSHOP FOR LAB CLINICS
NOVEMBER 14-15, 2013–SCHEDULE**

Day 1		
<u>Time</u>	<u>Session</u>	<u>Facilitator</u>
8:00-8:30	Arrival and Registration	Nonhlanhla Kgomo
8:30 – 9:00	Welcoming Remarks	Gugu Maphalala Kidwell Matshotyana
9:00 – 9:30	Introduction of Participants—Ice Breaker	Participants
9:30-10:00	Overview of Laboratory Supply Chain System: Definition and Purpose	Sifiso Dlamini
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14:00-15:00	Post Test	Sifiso Dlamini
15:00-16:30	Discussions and Development of Action Plan	Participants
16:30-17:00	Wrap up and Closing	Micheal Mndzebele



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National Clinical
Laboratory Service
P.O. Box 6840
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THE KINGDOM OF SWAZILAND

28th October 2013

To: Matron(Lubombo Region)

Re: Clinical Inventory Management Training.

The Clinical Laboratory Stores Section operating under the Ministry of Health in conjunction with Management Sciences for Health(MSH/STAPS) is planning an Inventory Management Training for the Lubombo Region from the 12th to the 15th of November 2013. This Training will be held in one of the Hotels or Lodges in the region.

The aim of this training is to empower Phlebotomist and Nurses who are involved with the ordering of Laboratory Reagents from the Mother Labs and or the Laboratory Warehouse on the Management and Storage of Laboratory Reagents and Test Kits. We would be happy if every Clinic or Laboratory can be represented in the above mentioned Training.

The proposed training is going to be divided into Zones(Each zone will have two days) First training for the North Zone will start on the 12th at 8:30am to the 13th and the second Group(South) on the 14th to the 15th. Participants are expected to fund their transport to the training Venue and they will be Re-embursed out of pocket expenses.

Thanking you in advance for allowing us to help in the improvement of the service rendered to the Swazi population.

Yours Sincerely,


Ms Gugu Maphalala

Acting Chief Medical Laboratory Technologist
(National Clinical Laboratory Service)

