USAID | GHANA

FROM THE AMERICAN PEOPLE

GHANA: QUANTITATIVE AND QUALITATIVE LOGISTICS SYSTEM ASSESSMENT (LIAT AND LSAT) REPORT 2006

MARCH 2007

This publication was produced for review by the United States Agency for International Development. It was prepared by the DELIVER project.

DELIVER

No Product? No Program. Logistics for Health

GHANA: QUANTITATIVE AND QUALITATIVE LOGISTICS SYSTEM ASSESSMENT (LIAT AND LSAT) REPORT 2006

The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

DELIVER
DELIVER, a six-year worldwide technical assistance support contract, is funded by the U.S. Agency for International Development (USAID).

Implemented by John Snow, Inc. (JSI) (contract no. HRN-C-00-00-00010-00) and subcontractors (Manoff Group, Program for Appropriate Technology in Health [PATH], and Crown Agents Consultancy, Inc.), DELIVER strengthens the supply chains of health and family planning programs in developing countries to ensure the availability of critical health products for customers. DELIVER also provides technical management of USAID's central contraceptive management information system.

Recommended Citation
McLaughlin, Colleen, Erika Ronnow, Erin Shea, Parfait Edah, and Egbert Bruce. 2006. *Ghana: Quantitative and Qualitative Logistics System Assessment (LIAT and LSAT) Report 2006*. Arlington, Va.: DELIVER, for the U.S. Agency for International Development.

Abstract
The Ghanaian Ministry of Health (MOH)/Ghana Health Services and their partners recognized that a sound logistics system is critical for achieving the continuous availability of public health commodities at health facilities. As a result, attention and resources have been allocated to strengthen logistics systems. Key steps have been taken to ensure the availability of public health commodities, including the design and implementation of logistics systems, training of health workers on logistics, provision of technical expertise, and policy formulation to achieve commodity security.

In 2006, a Logistics System Assessment and Stock Status Survey was conducted to provide information to the MOH, USAID/Ghana, and other stakeholders in Ghana on the availability of health commodities and logistics information at the central, regional, district, and health facility levels. This comprehensive assessment of the logistics system consisted of both quantitative and qualitative data collection using two separate data collection tools: the Logistics Indicators Assessment Tool (LIAT) and the Logistics System Assessment Tool (LSAT), respectively. Specific assessment objectives included assessing selected inventory control procedures and logistics management practices (i.e., ordering, transport and distribution, supervision, etc.) within the system, as well as collecting data on stockout rates, stockout frequency and duration, consumption/issue rates, current stock on hand, and storage conditions. The commodities included in this study were family planning, essential medicines, and HIV test kits. With previous and subsequent assessments, these studies will allow the MOH and its partners to monitor progress over time and to adjust the logistics system as needed.

DELIVER
John Snow, Inc.
1616 North Fort Myer Drive, 11th Floor
Arlington, VA 22209 USA
Phone: 703-528-7474
Fax: 703-528-7480
Email: deliver_project@jsi.com
Internet: www.deliver.jsi.com

CONTENTS

Acronyms ..... **vii**
Acknowledgments ..... **ix**
Executive Summary ..... **xi**
Background **1**
Assessment Purpose and Objectives **3**
Assessment Methodology **5**
Logistics Indicators Assessment Tool (LIAT) 5
Sample Methodology 5
Indicator Choice and Instrument Development 5
Data Collection 6
Logistics System Assessment Tool (LSAT) 7
Data Collection 7
Assessment Findings **9**
Logistics Indicators Assessment Tool (LIAT) 9
Logistics Management Practices 9
Logistics Records 9
Logistics Reports 16
Personnel 19
Supervision 20
Transportation/Distribution 22
Storage Conditions 23
Stock Availability by Product Type 27
Findings for Contraceptives 28
Findings for Essential Medicines 31
Findings for HIV Test Kits 36
Logistics System Assessment Tool (LSAT) 39
Section Scores 39
Summary and Recommendations **43**
System Wide Summary and Recommendations 43
Family Planning Program Summary 44
Essential Medicine Program Summary 45
HIV Test Kit Program Summary 46

Appendices

1. Ghana Logistics Indicators Assessment Tool 2006 47
2. LIAT Facility Sample 75
3. LIAT Data Collectors 79
4. Ghana Logistics System Assessment Tool (LSAT) 81
5. LSAT Participants 149
6. LSAT Strengths, Weaknesses and Recommendations 151

Figures

1. Utilization of Stock Cards to Manage Commodities 10
2. Stock Cards Available versus Stock Cards Updated for Use in Managing Contraceptives at Hospitals 11
3. Stock Cards Available versus Stock Cards Updated for Use in Managing Contraceptives at Health Centers/Clinics 11
4. Stock Cards Available versus Stock Cards Updated for Use in Managing Essential Medicines at Hospitals 12
5. Stock Cards Available versus Stock Cards Updated for Use in Managing Essential Medicines at Health Centers/Clinics 13
6. Stock Cards Available versus Stock Cards Updated for Use in HIV Test Kits at Hospitals 14
7. Percentage of Health Facilities that had Accurate or Near Accurate Balance Entries on Contraceptive Stock Cards 15
8. Percentage of RMS Facilities that had Accurate or Near Accurate Balance Entries on Essential Medicine Stock Cards 15
9. Percentage of Health Facilities that had Accurate or Near Accurate Balance Entries on Essential Medicine Stock Cards 16
10. Facilities Utilizing Reports with Logistics Information 17
11. Percentage of Health Facilities that had Accurate or Near Accurate Stock Status on LMIS Reports 18
12. How Commodity Managers Learned to Complete Reports/Forms 20
13. When Facilities Received their Last Supervisory Visit 21
14. Who Conducted the Last Supervisory Visit 21
15. Who Transports Commodities 22
16. Storage Conditions at Regional Medical Stores 24
17. Storage Conditions at Health Facilities 25
18. Percentage of Storage Conditions Met Within the Family Planning Program 26
19. Percentage of Storage Conditions Met Within the Essential Medicines Program 26
20. Percentage of Storage Conditions Met Within the HIV Test Kit Program 27
21. Contraceptive Stock0uts on the Day of the Visit 29
22. Contraceptive Stockouts between October 1, 2005 and March 31, 2006 29
23. Frequency of Contraceptive Stockouts 30
24. Duration of Contraceptive Stockouts 30
25. Contraceptive Stock on Hand on the Day of the Visit 31
26. Essential Medicine Stockouts on the Day of the Visit 32
27. Essential Medicine Stockouts between October 1, 2005 and March 31, 2006 33

28. Frequency of Essential Medicine Stockouts 34
29. Duration of Essential Medicine Stockouts 35
30. Essential Medicine Stock on Hand on the Day of the Visit 36
31. HIV Test Kit Stockouts on the Day of the Visit 37
32. HIV Test Kit Stockouts between January 1, 2006 and March 31, 2006 37
33. Frequency of HIV Test Kit Stockouts 38
34. Duration of HIV Test Kit Stockouts 38
35. HIV Test Kit Stock on Hand on the Day of the Visit 39
36. LSAT Section Scores 40

Tables

1. List of Indicators 5

ACRONYMS

CMS	Central Medical Stores
CS	commodity security
DFID	Department for International Development
DHMT	District Health Management Team
FEFO	first-to-expire, first out
FPLM	Family Planning Logistics Management Project
GHS	Ghana Health Service
HC	health center
HIV	human immunodeficiency virus
HMIS	health management information system
LIAT	Logistics Indicators Assessment Tool
LMIS	logistics management information system
LSAT	Logistics System Assessment Tool
MOH	Ministry of Health
NACP	National AIDS/STI Control Program
OI	opportunistic infection
ORS	oral rehydration salts
PHRL	Public Health Reference Laboratory
POW	Plan of Work
NGO	nongovernmental organization
PMTCT	preventing mother-to-child transmission
RHMT	Regional Health Management Team
RIRV	Requisition, Issue and Receipt Voucher
RMS	Regional Medical Stores
SDP	service delivery point
SPSS	statistical analysis software
SSDM	Stores, Supply and Drug Management
STI	sexually transmitted infection
USAID	U.S. Agency for International Development

ACKNOWLEDGMENTS

The authors gratefully acknowledge the support given to this activity by the Ministry of Health for Ghana (MOH), Ghana Health Service (GHS), the Public Health Reference Laboratory (PHRL), international donors and cooperating agencies, the staff of the Central Medical Stores (CMS) and the Regional Medical Stores (RMS), and the health facilities that directly participated in the survey.

We express our profound gratitude for the efforts made by these groups. The success of the health system in Ghana, especially in our core area of commodity logistics system improvements, depends on the collaboration of everyone and their goodwill and hard work to overcome the myriad of challenges that must be confronted.

The continuance of positive attitudes will help Ghana realize the aim of equitable distribution of health commodities to every facility in the country to ensure that every citizen will have access to the necessary health commodities required for proper care. To realize this goal and to improve the logistics system, timely and accurate data will be needed from each health facility and regional store.

We also thank all of the data collectors who carried out the field work with dedication.

Finally, our appreciation goes to the U.S. Agency for International Development for its continuous support and assistance.

EXECUTIVE SUMMARY

The Logistics System Assessment and Stock Status Survey was undertaken to provide the Ministry of Health (MOH), USAID/Ghana, and other stakeholders in Ghana with information on the availability of health commodities and logistics information at the central, regional, district, and health facility levels. This comprehensive assessment of the logistics system consisted of both quantitative and qualitative data collection using two separate data collection tools: the Logistics Indicators Assessment Tool (LIAT) and the Logistics System Assessment Tool (LSAT), respectively. With previous and subsequent assessments, these studies will enable the MOH and its partners to monitor progress over time and to adjust the logistics system as necessary. Specific assessment objectives included—

- assessing selected inventory control procedures and logistics management practices (i.e., ordering, transport and distribution, supervision, etc.) within the system
- collecting data on stockout rates, stockout frequency and duration, consumption/issue rates, current stock on hand, and storage conditions.

FINDINGS AND RECOMMENDATIONS

Across Ghana's health system, a number of systemwide observations were made while executing both the LIAT and the LSAT. First, logistics record and report utilization varied by program but, across programs, logistics records and reports were rarely found in combination. In addition, the accuracy of these records and reports was found to decline when moving further down the health system. Logistics records, used to collect logistics data, and logistics reports, used to aggregate logistics data, are critical elements of a fully functioning, efficient logistics system. Without either of these elements—executed with a high level of accuracy—the logistics system cannot successfully provide managers with data for decision making and prevent stock imbalances throughout the health system.

Currently, Central Medical Stores (CMS) managers estimate that 80 percent of Regional Medical Store (RMS) commodities are purchased from local suppliers rather than from the CMS. To buy locally, the RMS must obtain a certificate of nonavailability from the CMS for each product. Given the current practice, to ensure the availability of essential medicines at the CMS, a procurement and supply management plan **(**PSMP) must be developed. A working group has been assigned to this task, and it is currently underway. To continuously determine the appropriate product amounts to procure, accurate and timely consumption-based data will be required from all health facilities throughout the country.

RECOMMENDATIONS

- **Develop a procurement and supply management plan (PSMP).**
- **Implement routine and consistent supervision of logistics activities across all levels of the health system:**
  - **Actively engage RMS managers in supervision.**
  - **Institute quarterly central-level meetings with regional representatives to monitor supervision activities.**

In readiness for full integration, to collect consumption-based data the stakeholders must establish clear roles and responsibilities for staff at each level of the system. These roles and responsibilities need to clarify who will handle products; track consumption; and send complete, accurate, and timely reports for all product types. Standard operating procedures (SOPs) have been developed that clearly outline the logistics system policies.

Enforcing the SOPs will require *routine and consistent supervision* at all levels of the system. Supervision helps improve individual and system performance and can alert managers to potential problems, such as stock imbalances, poor storage conditions, and products near their expiry date. Therefore, supervision is related to all aspects of management and is an important element of quality assurance for logistics system performance. The absence of supervision, including the oversight of logistics activities, can contribute to the breakdown of the logistics system and the inability of managers to make adjustments to the system when necessary. Some supervision was occurring. However, it was occurring infrequently across programs, and the visits rarely included oversight of logistics activities (i.e., stock management including checking stockcards, checking logistics reports, removing expired stock, checking supply levels, and checking storage conditions). It is recommended that the *RMS managers be included on these routine supervision teams.* Quarterly central-level meetings with regional representatives can serve as a reporting venue to track supervision activities at the district- and health-facility level and provide managers with an opportunity for on-the-job training.

The storage of health commodities was observed and found to be good or acceptable on average across programs. Acceptable storage conditions, as measured by the 12 universally recognized guidelines for proper storage, are critical for ensuring that health programs are able to provide clients with high-quality products. To do this, each facility must have safe, protected, and well-organized storage areas to help prevent damage and ensure efficient handling of products.

Finally, specific assessment findings related to individual assessment indicators varied widely by program. Therefore, the findings for each specific program are addressed separately.

Assessment Findings		
Family Planning Program	**Essential Medicine Program**	**HIV Test Kit Program**
• Only 21% of facilities are using both stockcards and the monthly Family Planning Report. • Supervision of logistics activities is occurring infrequently. • Fifty percent of hospitals have unacceptable storage conditions for family planning products. • Frequency of stockouts happened less frequently, but the duration of stockouts was far longer at health centers/clinics. • Months of stock of Lo-Femenal in different levels of the health system suggests that stock needs to be redistributed.	• Only 20% of facilities are using both stockcards and the monthly Stock Availability Report; use of both is inconsistent at varying levels of the health system. • Multiple products are being incorrectly tracked on the same stockcards (artesunate & amodiaquine (3x3, 6x6, and 12x12) and ferrous fumarate and ferrous sulphate). • Supervision of logistics activities is occurring infrequently. • Essential medicines are being adequately stored across all levels of the health system. • The frequency of stockouts was greater and the duration longer at health centers/clinics. • Months of stock of albendazole in the different levels of the health system suggest that stock needs to be redistributed.	• Use of stock cards is very low while use of the monthly Test Kit Usage Report is very high. • Supervision of logistics activities is occurring infrequently. • HIV test kits are being adequately stored across all levels of the health system. • Frequency of stockouts is relatively low but the duration is high across the health system. • Months of stock of both Determine and Rapi-test in the different levels of the health system suggests that that stock needs to be redistributed.

BACKGROUND

Before 2001, the MOH/GHS operated more than four vertical supply chains for the management and distribution of health commodities to its public sector health institutions. As part of its Five Year Programme of Work (POW) 1997-2001, the MOH identified the need to integrate the vertical supply chains and to make them more efficient.

To support the MOH objectives, USAID/Ghana requested DELIVER to conduct an assessment to identify major systemic weaknesses and breakdowns in the overall management of all health commodities.

DELIVER's assessment was conducted in May 2001 through a process mapping exercise that revealed the following results:

- The system consists of supply chains that are each highly complex,
- The system has many non-value-added steps; some required, some established to handle breakdown in performance,
- The system is supplier rather than customer driven,
- The system lacks measurable standards for determining its capacity to meet supply chain objectives and to meet customer requirements.

The issues identified as a part of this assessment have been addressed through the design of a re-engineered integrated supply chain for contraceptives, essential medicines and non-drug consumables.

The streamlined, integrated supply system was designed with a customer/health facility focus and consisted of the following changes to the original system:

- Reduction in the number of processes required to get the product to the consumer,
- Reduction in the number of administrative/inventory handling levels (i.e. the removal of the district medical stores),
- Re-definition of the role of the District Health Management Team to include the provision of technical and supportive supervision to district health facilities,
- Introduction of a scheduled delivery system from CMS to the various RMS and from the RMS directly to health facilities,
- Introduction of an integrated Requisition, Issue and Receipt Voucher (RIRV) with pre-printed list of commodities to facilitate potential computerization of the system while easing the manual input from current users.

In an effort to implement the new system, the following activities were undertaken by the MOH/GHS with technical assistance from DELIVER;

- Reorganization of the CMS,
- Execution of a transportation study resulting in the development of scheduled delivery and route for each RMS,

- Execution of a pharmaceutical pricing study intended to inform policy and affect pricing structure,
- Execution of Willingness to Pay, Ability to Pay and Market Segmentation studies for contraceptives,
- Development of the full supply list for inclusion on the RIRV,
- Development and printing of the RIRV,
- Development of Standard Operating Procedures for the Management of Health Commodities, and
- Training of personnel responsible for logistics activities in the new procedures and systems.

The integrated supply system for contraceptives, essential drugs and non-drug consumables including a scheduled delivery format, has been put in place and implemented in 3 regions (Western, Central and Eastern Regions) as a pilot exercise. The success of this activity to date has compelled the Stores, Supply and Drug Management (SSDM) division of the GHS to initiate plans for the quick implementation of the integrated system in the rest of the country (the remaining seven regions). All tools necessary for full implementation are being provided; for example, printing of RIRV forms to be used in the whole country has already been completed.

Additionally, CMS has been renovated and is conducting the scheduled delivery of health commodities to the RMS. All of the RMS facilities have been provided with 7 ton trucks to support arrangements for scheduled delivery (currently the regions are using the 7 ton trucks for general services). The MOH is also planning to buy 3.5 ton trucks (recommended from the transportation study) for each of the regions to support commodity distribution. By implementing the new integrated supply system, the total length of the pipeline has been shortened from 21 months to 12 months, and bypassing the district medical stores has reduced the number of steps that were in place for commodity distribution. To date, more than 800 personnel (pharmacists, supply officers, storekeepers, accounts officers, nurses, midwives, dispensing technicians and technologists) have been trained in the application of the Standard Operating Procedures for the management of the health commodities at all levels of the system.

In 2003, the Public Health Reference Lab (PHRL) in conjunction with the MOH/GHS/, USAID and DELIVER designed and implemented an interim Logistics Management Information System (LMIS) for HIV/AIDS test kits. As part of the long-term plan, HIV test kits are intended to be included in the integrated supply chain for general public health commodities. As the country wide scale-up of HIV/AIDS treatment services is implemented, a critical component is supporting laboratory testing capability to ensure the proper use of scarce resources for those who need testing and treatment. Effective and efficient planning for resource utilization is needed to meet the National AIDS/ STI's Control Program (NACP) testing and treatment targets.

The LIAT and LSAT, tailored specifically to address the needs of Ghana's health system, assess the performance of the logistics systems in the country in a quantitative and qualitative manner. Interventions can be planned to make the system better, replicate system strengths in needy areas and generally allow all the stakeholders (MOH, GHS, PHRL, JSI/DELIVER, USAID and other partners) to monitor progress and adjust strategies as appropriate. These efforts are working towards the goal of providing all Ghanaians access to necessary health commodities via service providers when needed

ASSESSMENT PURPOSE AND OBJECTIVES

The purpose of the Logistics System Assessment and Stock Status Survey was to provide the Ministry of Health (MOH), USAID/Ghana, and other stakeholders in Ghana with information on the availability of health commodities and logistics information at the central, regional, district and health facility levels.

This, along with previous and subsequent assessments, will allow the MOH and its partners to monitor progress over time and to adjust the logistics system as necessary. Specific assessment objectives included:

- Assessing selected inventory control procedures and logistics management practices (i.e., ordering, transport and distribution, supervision, etc.) within the system;
- Collecting data on stockout rates, stockout frequency and duration, consumption/issue rates, current stock on hand, and storage conditions.

ASSESSMENT METHODOLOGY

The comprehensive assessment of the logistics system consisted of both quantitative and qualitative data collection using two separate data collection tools; the Logistics Indicators Assessment Tool (LIAT) and the Logistics System Assessment Tool (LSAT) respectively.

LOGISTICS INDICATORS ASSESSMENT TOOL (LIAT)

The Logistics Indicators Assessment Tool (LIAT), a quantitative data collection instrument developed by DELIVER, was used to conduct a facility-based survey to assess health commodity logistics system performance and commodity availability. For the purposes of this assessment, the LIAT was tailored specifically for Ghana and used to assess selected contraceptives, essential medicines and HIV test kits. A copy of the final Logistics Indicators Assessment Tool (LIAT) used for the purposes of this survey can be found in Appendix 1.

SAMPLE METHODOLOGY

In order ensure that a nationally representative sample was chosen for the baseline study, a total of 148 facilities were randomly selected across all 10 regions within Ghana. A total of 10 teams, consisting of two trained data collectors, were dispatched to each of the regions over a two week period to collect data from the selected health facilities. The teams visited the following sample of sites:

- 1 Central Medical Store (CMS)
- 1 Public Health Reference Laboratory (PHRL)
- 10 Regional Medical Stores (RMS)
- 46 Hospitals
- 90 Health Center/Clinics

A list of all the facilities visited can be found in Appendix 2. Additionally, a list of the data collectors that carried out the survey can be found in Appendix 3.

INDICATOR CHOICE AND INSTRUMENT DEVELOPMENT

The instrument used for the survey was a modified version of the DELIVER Logistics Indicators Assessment Tool (LIAT). The number and type of indicators being assessed were selected to ensure that meaningful baseline metrics are measured for use in comparison to future assessments while also providing stakeholders with up-to-date information on the current operation of the system.

Table 1. List of Indicators

Indicator	Data Source(s)
1. Percentage of facilities using stock cards by program.	Presence of stock cards for each of the selected products.

Indicator	Data Source(s)
2. Percentage of facilities with stock cards available and updated by product.	Stock cards for each of the selected products.
3. Percent of facilities with accurate stock balances on stock cards.	Comparison of stock card balance and physical inventory count on the day of the visit.
4. Percentage of facilities utilizing logistics reports.	Family Planning Report, Stock Availability Report, and Test Kit Usage Report.
5. Percent of facilities with accurate logistics reports.	Comparison of the stock balance on the most recent LMIS report and on the stock card.
6. Percentage of health facilities submitting the appropriate LMIS reports.	Respondent.
7. Percentage of facilities receiving supervision within a reasonable amount of time.	Respondent and visitor's book.
8. Percentage of storage conditions met by facility, by program.	Observations of data collectors on the day of the visit.
9. Percentage of sites stocked out of product at time of visit.	Stock card records, respondent, and physical inventory.
10. Percentage of sites stocked out of product in last 6 months (contraceptives and essential medicines) or in the last 3 months (HIV test kits).	Stock card records and respondent.
11. Frequency of stockouts.	Stock card records and respondent.
12. Average number of days stocked out in 6 months (contraceptives and essential medicines) or in the last 3 months (HIV test kits) by product.	Stock card records and respondent.
13. Percentage of sites stocked according to plan; months of supply on hand.	Average monthly consumption, physical count of product at health facility, and min-max of 1–3 months at health facilities and RMS, and min-max of 3-6 months at CMS.
14. LSAT Section Scores.	Results of the LSAT discussion group.

DATA COLLECTION

Before implementing the survey tool, data collectors participated in a four-day training course instructing them on the use of the LIAT instrument. As part of the orientation, data collection guidelines were discussed to identify the types of information to be gathered, to standardize the data collection process, and to promote comparability of results. At this time, input from survey team members was integrated into the survey tool; which was then pilot tested on four health facilities in the Greater Accra Region. After the field test, slight modifications were made to the tool prior to its use in the assessment.

Over a two week period, data were collected in all 10 regions. A single data collection team, consisting of two people, was deployed to each region. Each team was assigned a leader who was responsible for overseeing the data collection process in their assigned region.

Following data collection, a preliminary analysis was prepared and a presentation of preliminary data was made to MOH and GHS counterparts, USAID and other stakeholders. As part of an ongoing process, data were entered into statistical analysis software (SPSS) for analysis. After further cleaning of the data and verification of the preliminary analysis, the data was brought back to Washington DC for final analysis and report writing.

LOGISTICS SYSTEM ASSESSMENT TOOL (LSAT)

The Logistics System Assessment Tool (LSAT) is the second of the two data gathering tools developed by DELIVER and used in Ghana to assess the health commodity logistics system and provide contextual information about the environment within which the system operates. The LSAT is a comprehensive, qualitative, diagnostic and monitoring tool from which strengths and weaknesses of the logistics system are identified in a group discussion format, involving participants from all levels of the health system. The information collected using the LSAT is analyzed to identify issues and opportunities and, from those, to outline appropriate work plan activities and/or targeted interventions. A copy of the Logistics System Assessment Tool (LSAT) used in this study can be found in Appendix 4.

DATA COLLECTION

The LSAT was conducted as a one-day workshop with 23 participants including representatives from all levels of the health system and key stakeholders from several other organizations involved in contraceptive and essential medicine commodity logistics. See Appendix 5 for a list of LSAT participants.

The areas assessed included organization and staffing, logistics management information system, product selection, forecasting, obtaining supplies/procurement, inventory control procedures, warehousing and storage, transport and distribution, organizational support for the logistics system, product use, and finance/donor coordination and commodity security. Each section was scored to allow for tracking of progress over time, and the identification of strengths and weaknesses; helping managers to focus on areas of concern.

ASSESSMENT FINDINGS

The Logistics Indicators Assessment and the Logistics System Assessment yielded both quantitative and qualitative data that together provide a complete picture of Ghana's health commodity logistics system in April 2006. The findings from each of these assessments will provide information on current health logistics system function as well as provide a baseline for future assessments.

LOGISTICS INDICATORS ASSESSMENT TOOL (LIAT)

LOGISTICS MANAGEMENT PRACTICES

Currently, the Ghanaian health logistics system is in a state of transition. Three of ten regions in the country are operating under an integrated health logistics system in which contraceptives and essential medicines are being managed together, while the other seven regions are still operating with vertical systems for these commodities. As well, HIV test kits are being managed by the Public Health Reference Laboratory (PHRL) in a separate vertical program in all 10 regions. Due to these varying levels of integration, commodities across all three programs are not managed consistently at all levels of the health system. As a result, the Family Planning and HIV Test Kit Programs were only able to be assessed at the hospital and the health center/clinic level while the Essential Medicine Program was able to be assessed at all levels of the health system.

LOGISTICS RECORDS

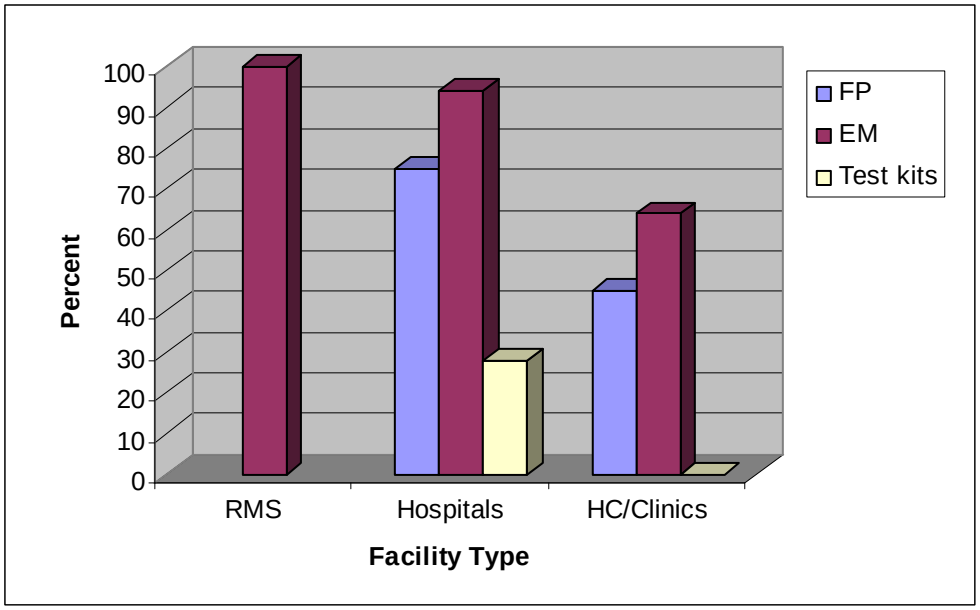
Logistics records serve as the backbone of every logistics system. They are designed to capture critical logistics data at each level of the health system. The data captured on logistics records are then brought together to form logistics reports used for crucial decision making about resupply quantities, forecasting and procurement.

Utilization of Logistics Records

Stock Cards

The stock card, the most fundamental of all logistics records, captures essential inventory data such as stock balance, receipts, issues/consumption, and losses/adjustments. Therefore, utilization of stock cards was identified as an important indicator to assess logistics system performance. Figure 1 illustrates the percent of facilities utilizing stock cards to manage health commodities at each level in the health system, in each of the three programs being assessed.

Figure 1. Utilization of Stock Cards to Manage Commodities



Note: FP products are not consistently handled at the RMS level and therefore do not appear in this graph.

Stock cards were found to be used in the management of health commodities across all programs and at all levels of the health system with stock card utilization considerably higher for essential medicines. However, regardless of the program, utilization steadily declined with each lower level in the health system; down to no utilization for HIV test kits at the health center/clinic level.

Three additional inventory management tools were considered during the assessment; a ledger, a daily register and a requisition and issue voucher. Similar to the stock card, these records are designed to capture logistics information that is used for reporting and decision making throughout the health logistics system.

However, throughout the course of conducting the facility-based survey, even in the health facilities that were found to be using these additional records, they were most commonly being used to capture patient information as opposed to logistics data. As a result, these records were not considered in the analysis of logistics system performance.

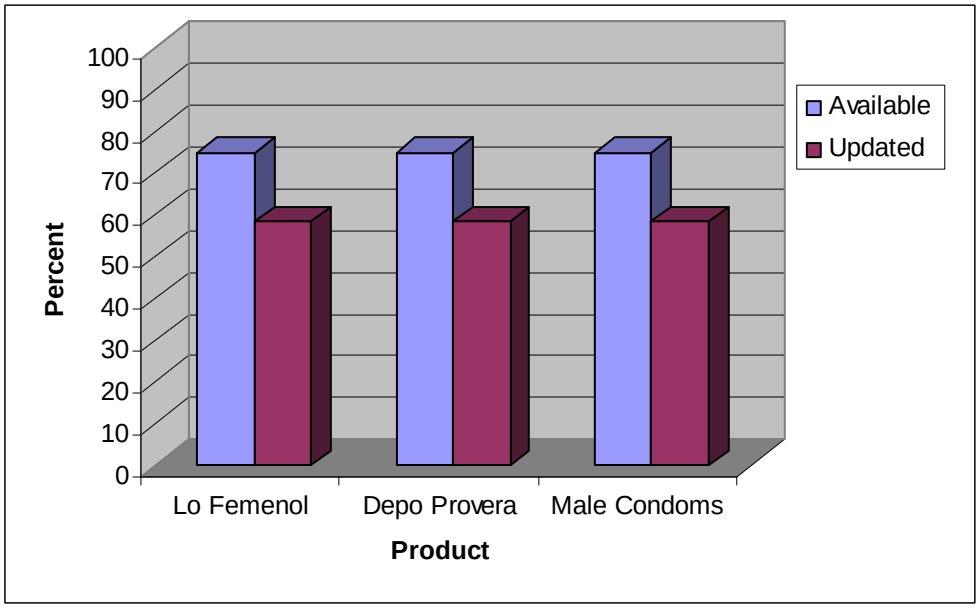
Reliability and Accuracy of Logistics Records

Percentage of Facilities with Stock Cards Available and Updated

The value in logistics records lie in the extent to which they are used appropriately and consistently. In the case of stock cards, inventory information kept on the stock cards allows facilities themselves as well as managers throughout the health system to make informed decisions about what and how much to order each month. Consistent and accurate use of stock cards is essential to successful inventory management. Consequently, the percentage of facilities with stock cards available and updated was also identified as an important indicator of logistics system performance. The percentage of facilities that had stock cards available for those products that they manage, along with the percentage of facilities whose stock cards were updated (defined as having had an entry within last 30 days) are illustrated in Figures 2 through 6 for Contraceptives, Essential Medicines and HIV Test Kits at various levels within the health system.

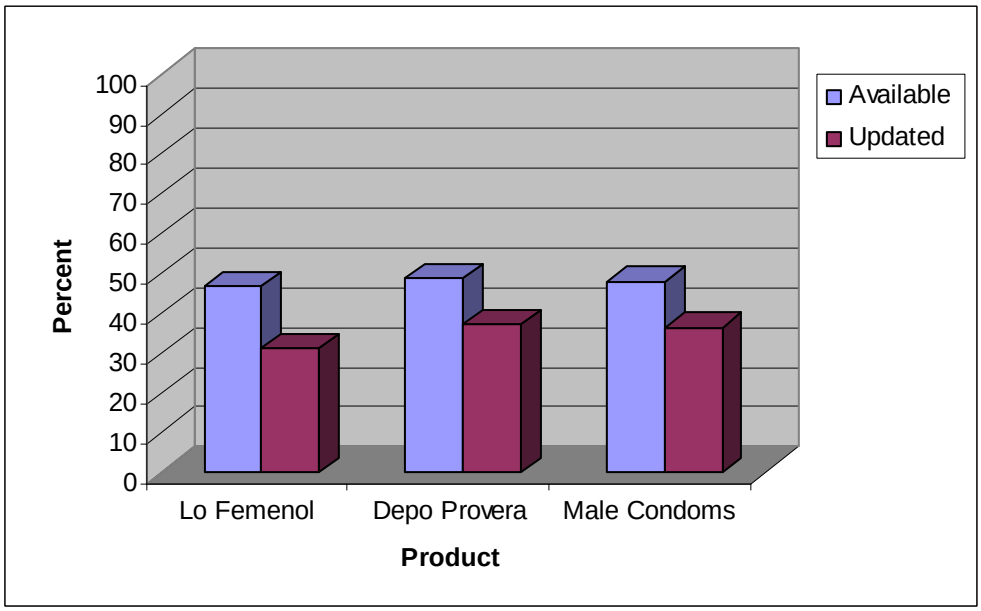
Contraceptives

Figure 2. Stock Cards Available versus Stock Cards Updated for Use in Managing Contraceptives at Hospitals*



* The data represented in this figure is based on facilities that managed the product.

Figure 3. Stock Cards Available versus Stock Cards Updated for Use in Managing Contraceptives at Health Centers/Clinics*



* The data represented in this figure is based on facilities that managed the product.

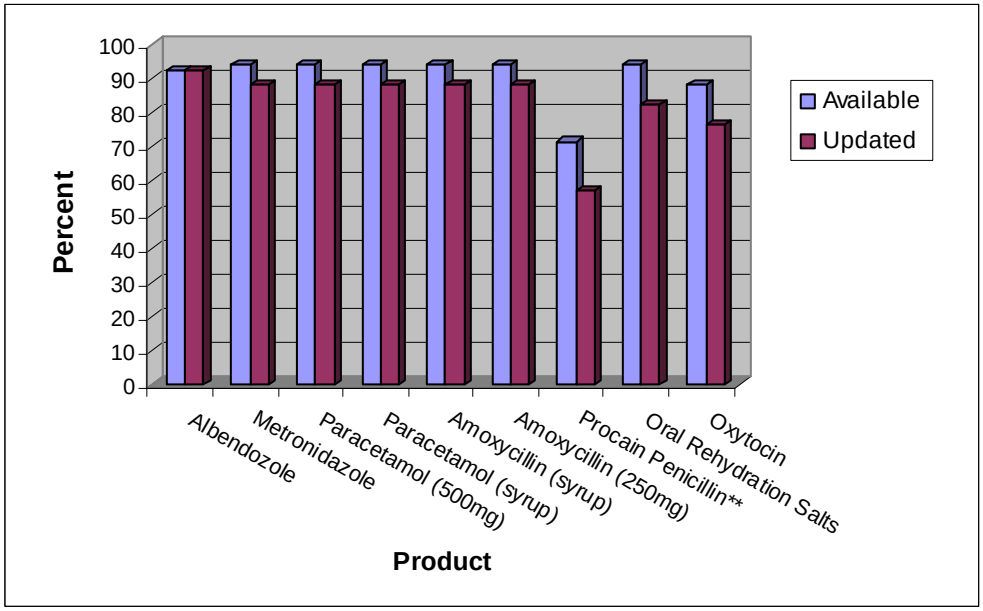
Across contraceptives, not only was availability of stock cards found to be low but stock cards that were updated appropriately and consistently were found even less frequently. At the hospital level, across products, an average of 75 percent of facilities had stock cards available but an average of only 58 percent of facilities actually had stock cards that were updated within 30 days of the visit. The situation was found to be even worse at the health center/clinic level where an average of only 48 percent of facilities had stock cards available with only an average of 35 percent of those facilities having stock cards that were updated.

Essential Medicines

The consistency and accuracy with which facilities are using stock cards was also evaluated within the Essential Medicine Program at all three levels of the health system. The best results were found at the Regional Medical Stores where stock cards were found to be nearly 100 percent available and updated. The only exceptions to this were found with Amoxicillin Syrup, found to be available at 100 percent of facilities but only updated at 80 percent of facilities, and Oral Rehydration Salts, found to be available at 89 percent of facilities but only updated at 78 percent of facilities.

Results were found to be less consistent across products at hospitals and health centers/clinics. The findings for these health facilities are illustrated in Figures 4 and 5.

Figure 4. Stock Cards Available versus Stock Cards Updated for Use in Managing Essential Medicines at Hospitals*

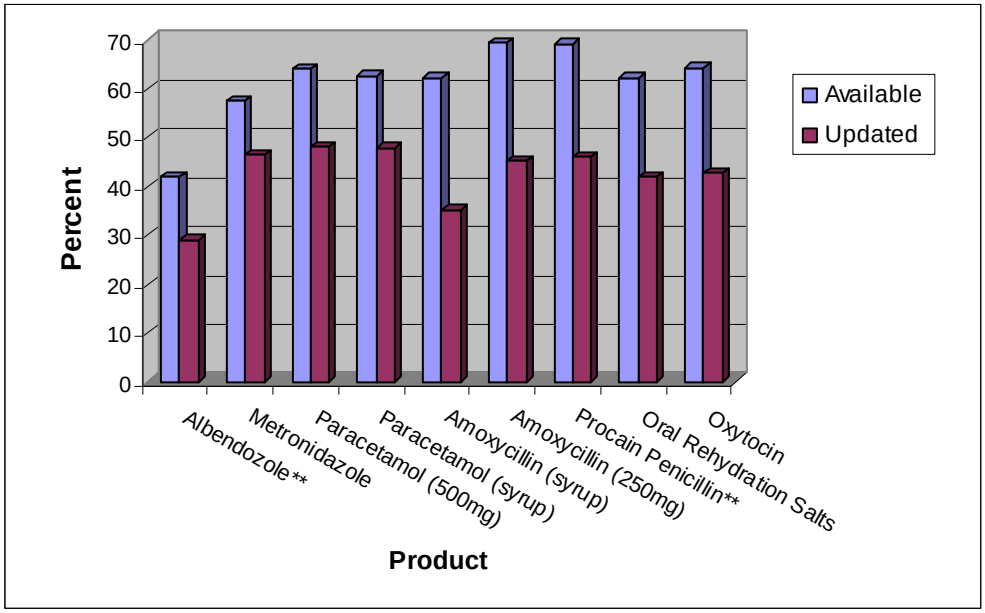


* The data represented in this figure is based on facilities that managed the product.

** A limited amount of data was collected for Procain Penicillin due to the fact that there were a limited number of hospitals that manage this drug.

At hospitals, overall stock card availability for essential medicines looked good. An average of 91 percent of facilities had stock cards available; however, stock card utilization was found to be an average of 83 percent of facilities having updated stock cards. The exceptions were found with Procain Penicillin, Oral Rehydration Salts and Oxytocin injections; the worst being Procain Penicillin with 71 percent of facilities having stock cards and only 57 percent of facilities with stock cards that are updated.

Figure 5. Stock Cards Available versus Stock Cards Updated for Use in Managing Essential Medicines at Health Centers/Clinics*



* The data represented in this figure is based on facilities that managed the product.

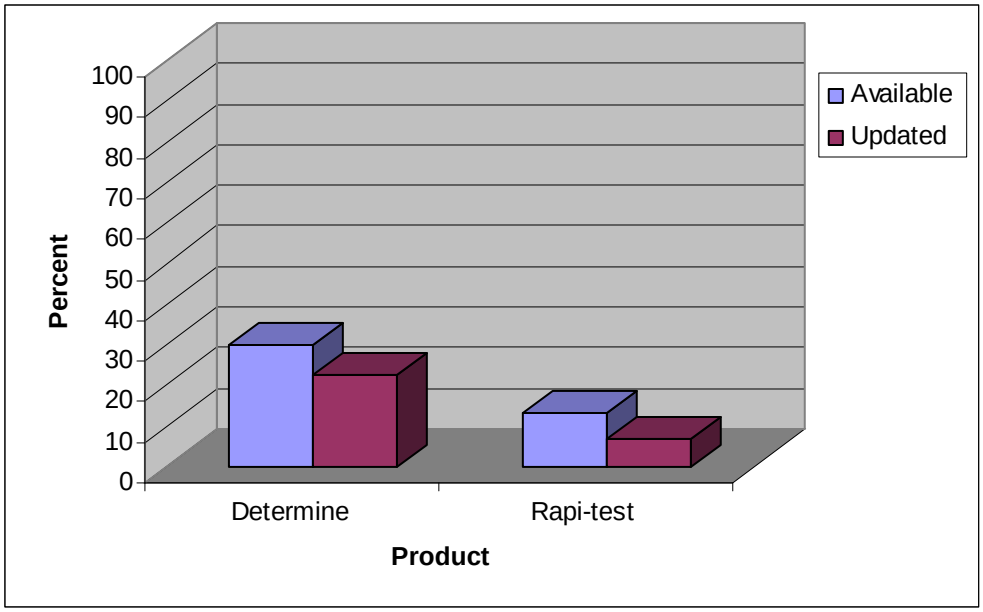
** A limited amount of data was collected for Albendazole and Procain Penicillin due to the fact that there were a limited number of health centers/clinics that manage these drugs.

Results at health centers/clinics were found to be significantly worse than those seen at the Regional Medical Stores and Hospitals. On average, stock cards were only found to be available at 61 percent of facilities. However, even more troubling, on average only 43 percent of health centers/clinics had stock cards that were updated.

HIV Test Kits

Finally, the consistency and accuracy of stock cards was evaluated within the HIV Test Kit Program. Figure 6 illustrates the percentage of facilities that had stock cards available along with the percentage of facilities whose stock cards were updated for each test kit found at hospitals. Data collectors also attempted to gather this information at health centers/clinics but no stock cards were found at health centers/clinics, thus eliminating health centers/clinics from this particular analysis.

Figure 6. Stock Cards Available versus Stock Cards Updated for Use in Managing HIV Test Kits at Hospitals*



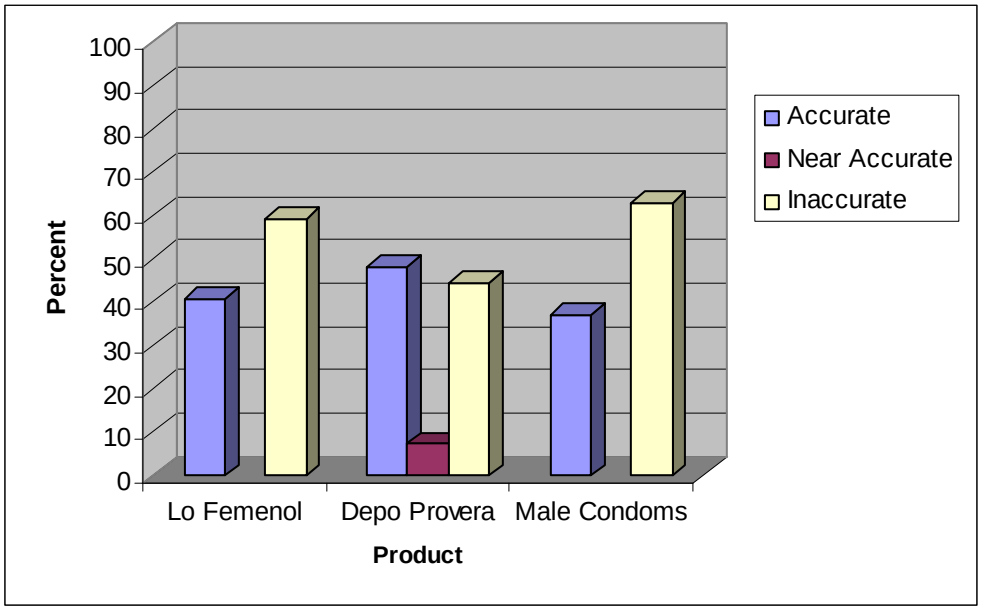
* The data represented in this figure is based on facilities that managed the product.

Once again, data collectors confirmed a major deficiency of logistics records within the HIV Test Kit Program. Stock card availability was found to be nearly nonexistent at an average of only 19 percent of hospitals while updated stock cards were found in an average of only 7 percent of hospitals. As well, data collectors encountered facilities that managed SD Bioline but no stock cards were found to be available for this product; confirming that the most fundamental record used to capture logistics information is not being used with any regularity within the HIV Test Kit Program.

Percentage of Facilities that had Accurate Balances on Stock Cards

Data collectors also observed the accuracy of the balance on stock cards at those facilities that both managed the product and had stock cards available and updated; another indicator of logistics system performance. This was done by comparing the balance listed on the stock cards to the results of a physical inventory count conducted for each of the selected products on the day of the visit. For a stock card to be considered accurate, no discrepancies could be found between the stock card and the physical count while a near accurate stock card was defined as one having less than a 10 percent discrepancy. Figures 7 through 9 illustrate the percent of facilities within each of the Contraceptive and Essential Medicine Programs that had accurate or near accurate balance entries on their stock cards. **These percentages are based only on those facilities that had stock cards available.** .

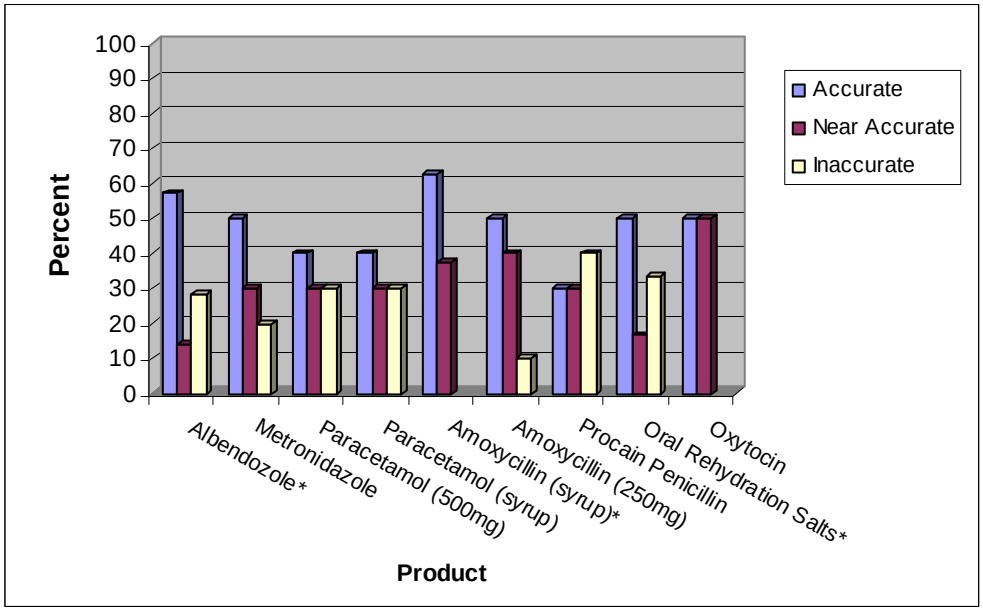
Figure 7. Percentage of Health Facilities that had Accurate or Near Accurate Balance Entries on Contraceptive Stock Cards*



* Health facilities include both hospitals and health centers/clinics.

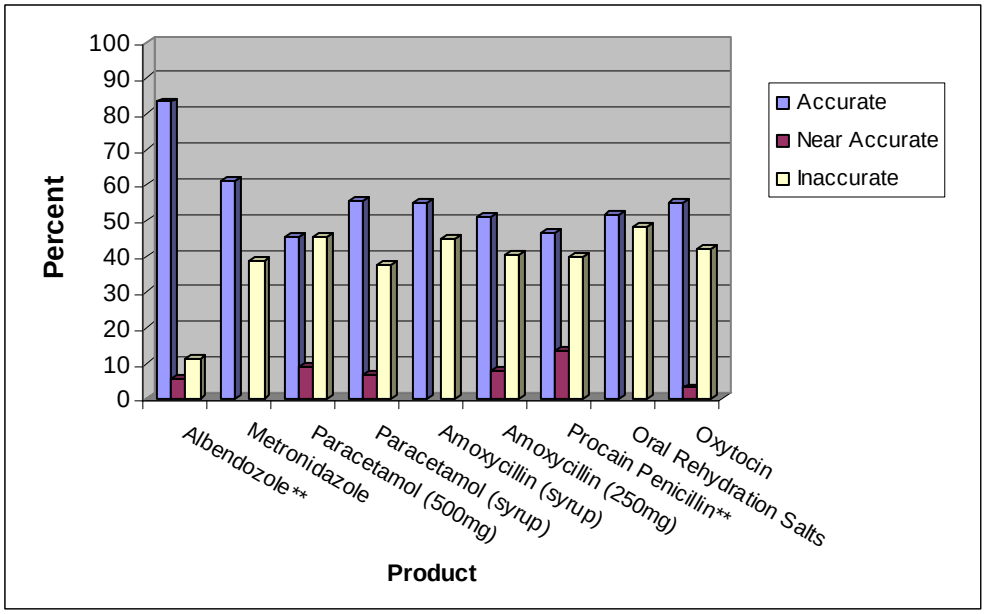
Within the Family Planning Program, regardless of product, stock card accuracy was found to be extremely low. On average, contraceptive stock cards we only found to be accurate at 42 percent of those facilities that had stock cards available, while an average of 56 percent of facilities had completely inaccurate stock cards.

Figure 8. Percentage of RMS Facilities that had Accurate or Near Accurate Balance Entries on Essential Medicine Stock Cards



Accuracy of essential medicine stock cards at RMS facilities was found to be poor; an average of only 48 percent of facilities had completely accurate stock cards. However, results were more encouraging when taking into account those facilities that had near accurate stock cards. Data collectors found that, on average, 31 percent of RMS facilities had near accurate stock cards resulting in an average of almost 80 percent of RMS facilities having either accurate or near accurate stock cards for essential medicines.

Figure 9. Percentage of Health Facilities that had Accurate or Near Accurate Balance Entries on Essential Medicine Stock Cards*



* Health facilities include both hospitals and health centers/clinics.

** A limited amount of data was collected for both Albendazole and Procain Penicillin due to the fact that there were a limited number of facilities that managed these products and had stock cards available.

Stock card accuracy and inaccuracy at health facilities were found to be consistent across products. The exception was found in Albendazole. Stock cards for Albendazole were accurate at 83 percent of facilities and near accurate at 6 percent facilities. However, across the remaining products stock card accuracy drops down to and average of 53 percent of facilities while inaccuracy increases to an average of 42 percent of facilities.

Data collectors also attempted to observe the accuracy of the balance on stock cards within the HIV Test Kit Program. However, stock cards were only found to be available at 4 health facilities for Determine, 2 health facilities for Rapi-test and 0 health facilities for SD Bioline HIV tests. Consequently, conclusions on stock card accuracy within the HIV Test Kit Program could not be reached.

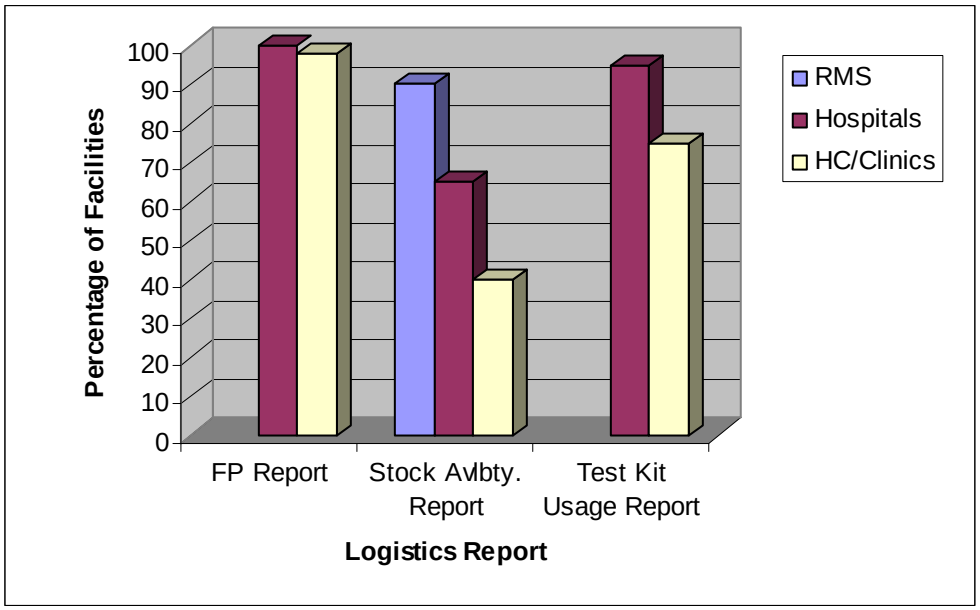
LOGISTICS REPORTS

Percentage of Facilities Utilizing Reports with Logistics Information

The reported information needed for proper commodity management includes the stock on hand, amount dispensed to clients or used for testing, and any losses and adjustments. These three essential data items constitute the foundation of a functional and an effective logistics system and are the basis of all logistics decision making. Therefore, it is critical that these data be supplied to decision makers at all levels of the health system. Consequently, the percent of facilities utilizing logistics reports was chosen as an indicator of logistics system performance.

Each of the three health programs has designed a logistics report intended for use in communicating the three essential data items up through the logistics system, the Family Planning Report for contraceptives, the Stock Availability Report for essential medicines and the Test Kit Usage Report for HIV test kits. Figure 10 illustrates the percentage of facilities utilizing reports with logistics information at each level of the health system.

Figure 10. Facilities Utilizing Reports with Logistics Information



Note: FP products and test kits are not consistently handled at the RMS level and therefore do not appear in this graph

Logistics data and information for contraceptives is effectively moving through the health system through the use of the Family Planning Report, 100 percent of hospitals and 98 percent of health centers/clinics were found to be utilizing the Family Planning Report. This was not found to be the case for logistics data and information for essential medicines and HIV test kits. With essential medicines, at the regional level of the health system, utilization of the Stock Availability Report is good at 90% utilization. However, at the hospital level, utilization drops to 65% and continues to decline to less than 40% at the health center/clinic level. With HIV test kits; there is 95% utilization at the hospital level trailing off to only 75% utilization at the health center/clinic level. As a result, logistics data and information required for both the essential medicine and HIV programs are not reaching the higher levels of the health system for use in critical decision making.

Percentage of Facilities that had Accurate LMIS Reports

In addition to collecting data on LMIS report utilization, the accuracy of those reports was also observed; another chosen indicator of logistics system performance. This was done by comparing the most recent LMIS report to the stock card at the facility. Specifically, data collectors observed the balance on hand reported in the LMIS report and compared that balance to the balance on hand represented on the stock card on the date that the LMIS report was completed.

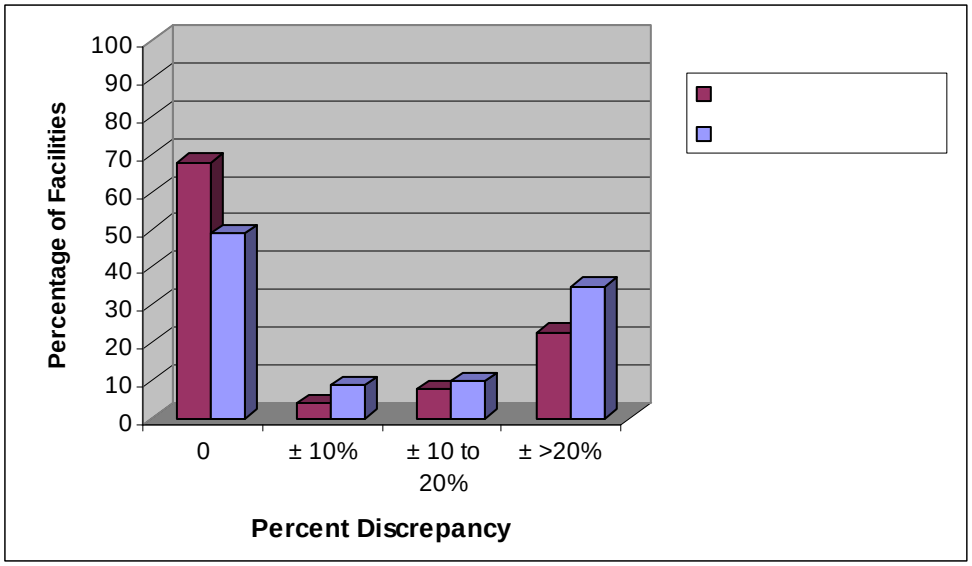
Figure 11 represents the percentage of facilities that have accurate or near accurate stock balances on their LMIS reports. This is defined as having no discrepancy and having less than a 10 percent discrepancy between the balance stated on the stock card and the stock status stated on the LMIS report, respectively.

It should be noted that the data collectors found very few facilities in which both stock cards and LMIS reports were being utilized, regardless of the program. Across both the Contraceptive and Essential Medicine Programs, an average of only 20 percent of facilities had the records required to assess the accuracy of LMIS reporting. This percentage drops to below 20 percent of facilities in the HIV Test Kit Program.

Within the Essential Medicine Program only 20 percent of the RMS had both stock cards and reports available for comparison. Of those, accuracy of the stock status on LMIS reports at the Regional Medical Stores was found to be acceptable. An average of approximately 85 percent of RMS facilities had accurate or near accurate stock status information on LMIS reports across the selected products.

At health facilities, only 21 percent of facilities had valid data for comparison with contraceptives and only 20 percent of facilities had valid data for comparison for Essential Medicines (had both logistics records and reports). HIV Test Kit data was eliminated due to lack of data.

Figure 11. Percentage of Health Facilities that had Accurate or Near Accurate Stock Status on LMIS Reports*



* Health facilities include both hospitals and health centers/clinics.

Across each of the three programs, accuracy of the stock status on LMIS reports at health facilities was found to be poor. The Contraceptive Program was found to be the strongest of the three programs with an average of 72% of health facilities having accurate or near accurate stock balances on LMIS reports across the selected products. However, the level of accuracy was found to drop within the Essential Medicine, where LMIS stock status was determined to be accurate or near accurate at an average of only 60 percent of facilities.

Timeliness of Reporting

The three essential logistics data items (stock on hand, consumption and losses/adjustments) are critical for use by decision makers. However, if this data does not arrive in a timely manner the data begins to lose its value for use to prevent short-term stock imbalances throughout the logistics system. Therefore, the timeliness of logistics reporting has been identified as critical to logistics system function.

During the facility based survey, timeliness of reporting was assessed within each of the three programs. First, within the Family Planning Program, it was found that, not only does the program have a high utilization of logistics reports, but it is also sending those reports to higher levels in the health system in a timely manner (94% of reports were sent within the last month, with an additional 2% sent within 1-3 months for a total of 96% having been sent within the last quarter); resulting in an effective and efficient reporting system throughout the Family Planning Program.

Timeliness of reporting within the HIV Test Kit Program, while not as good as the Family Planning Program, was found to be pretty good. Logistics reports on HIV test kits were found to be sent to a higher level within the last month 83% of the time, with 100% of reports being sent within one quarter's time.

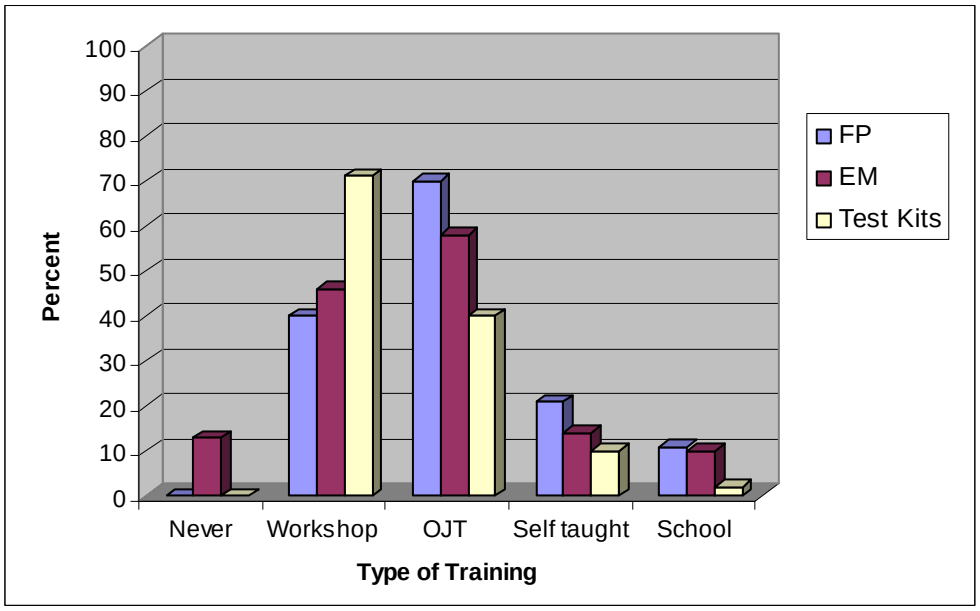
In contrast to both the Family Planning and HIV Test Kits Programs, reporting timeliness was found to be extremely low within the Essential Medicines Program. Only 58% of reports were sent to a higher level within the last month. Most troublesome though is the fact that, in the Essential Medicines Program, 26% of facilities have never sent a monthly Stock Availability Report to a higher level; forcing decisions to be made based upon vastly incomplete data.

PERSONNEL

Training on Logistics Management

In every logistics system, personnel managing commodities will require training in the use of logistics forms and reports. Training through a logistics workshop provides the most focused and most efficient means with which to train personnel. However, financial constraints can limit its use on a large scale. Consequently, numerous personnel are trained on logistics activities by another trained staff member while on-the-job. Additionally, some personnel receive various levels of logistics training during their schooling while other personnel rely on self-teaching to master the use of logistics forms and reports. Figure 12 illustrates how managers throughout the health system learned to complete logistics forms and reports. It should be noted, training on logistics forms and reports was self-reported and individual forms were not specified. As a result, training on logistics forms may be overstated and may not be representative of training on all logistics forms and reports.

Figure 12. How Commodity Managers Learned to Complete Forms/Reports



Regardless of the program, the majority of health care personnel learned to complete logistics forms and reports by either learning on the job or by attending a training workshop; both training methods that have been found to yield the highest likelihood that forms will be filled out correctly. Of the most concern was the 13 percent of managers of essential medicines who were found to have never learned to fill out logistics forms and reports.

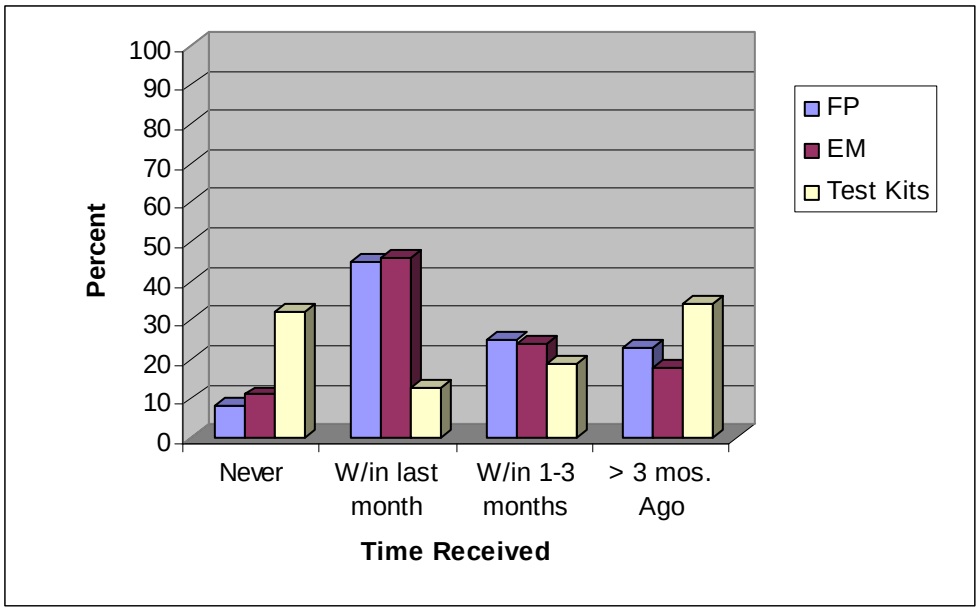
SUPERVISION

Supervision, an important element of quality assurance for the performance of any logistics system, is related to all aspects of logistics management. Supervision helps to improve individual and system performance and can alert managers to potential problems such as stockouts, understocks and overstocks, poor storage conditions, and products near their expiry dates. Supervision can take several forms: the supervisor may review incoming reports, have face-to-face contact with those he or she supervises by bringing them to a central location, or the supervisor can visit each site.

Frequency of supervision is an essential element and therefore identified as a useful indicator in assessing the potential quality of system management and its effect on system performance. Supervision also presents an opportunity to reinforce new systems and forms.

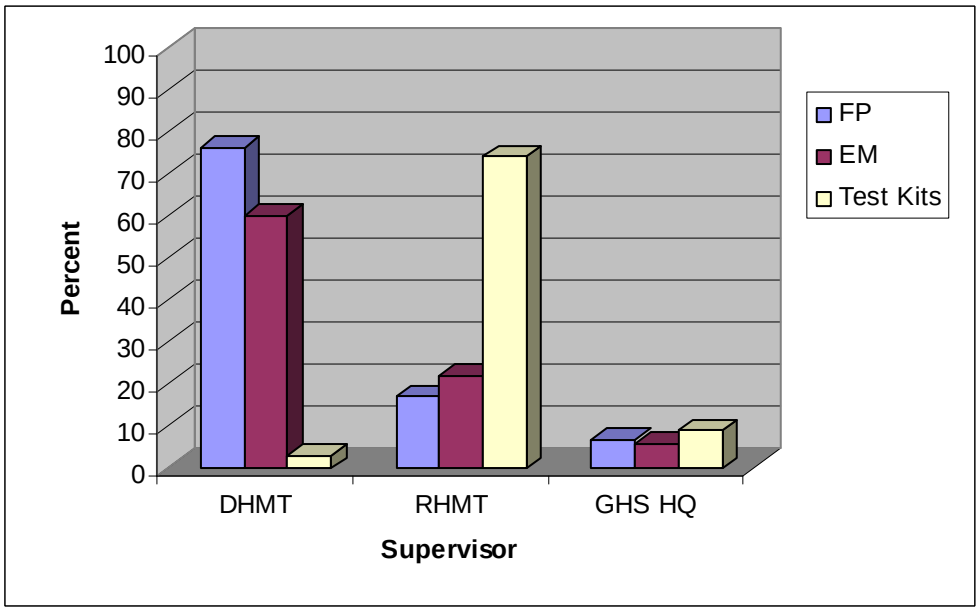
Figure 13 illustrates the timing of supervision visits across each of the three programs and Figure 14 represents the type of supervision visit received based upon the personnel providing the supervision.

Figure 13. When Facilities Received their Last Supervisory Visit



In each of the family planning and essential medicine programs, 70% of facilities have received a supervision visit within the last quarter. Although supervision needs to improve across programs, the biggest problem is being seen in the HIV Test Kit Program. The supervisory system in this program is not functioning; 32% of facilities have never received a supervisory visit and, of those that have received supervision, 50% of those received the supervisory visit more than three months ago. In such a young program, the lack of supervision can prove fatal to programmatic success.

Figure 14. Who Conducted the Last Supervisory Visit



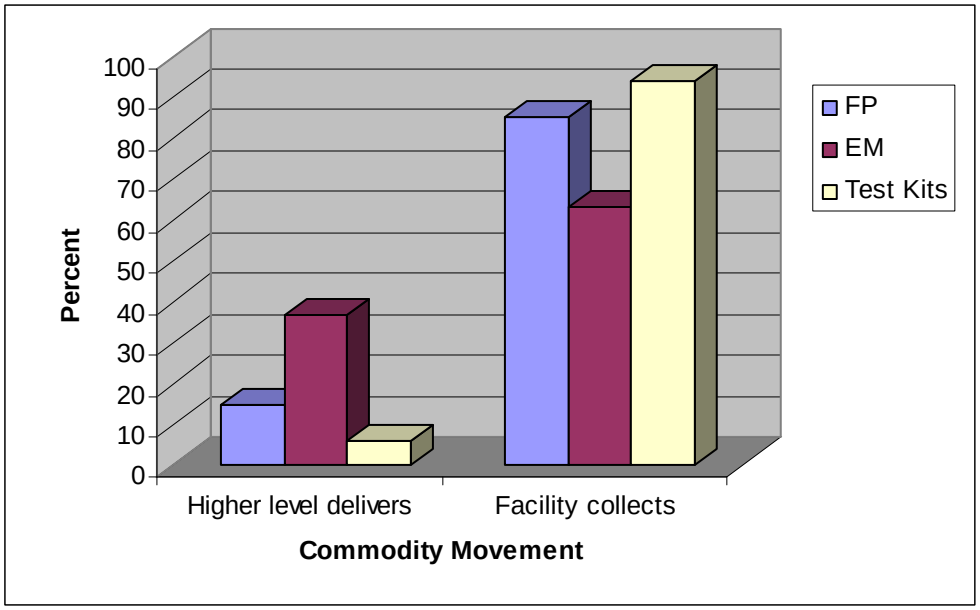
The logistics survey revealed that although supervisory visits are rarely occurring within the HIV test kit program, the supervision that is taking place is likely including oversight on logistics activities. On the other hand, in both the family planning and essential medicine programs, supervision is occurring on a more regular basis but these visits are likely not involving oversight of logistics activities; only 24% of family planning supervisory visits and 28% of essential medicine supervisory visits were made by personnel from the RHMT level or higher.

Note: Supervision including oversight of logistics activities (i.e. stock management including checking stock cards, checking logistics reports, removing expired stock, checking supply levels and checking storage conditions) most likely occurs when Regional Health Management Teams as well as Ghana Health Services Headquarters teams conduct supervisory visits. However, supervisory visits conducted by the District Health Management Team were not thought to always include oversight of logistics activities. This assumption provided the base of the assessment of the supervisory system.

TRANSPORTATION/DISTRIBUTION

Fundamental to the success of a health logistics system is the ability to reliably move commodities through the supply chain so they are available for use at health facilities when needed. Currently, the Ghanaian health logistics system is in a state of transition due to an on-going effort to integrate the vertical commodity programs within the health system. As a part of this integration, a scheduled delivery system will be instituted for commodity distribution and the higher level facilities will bear the responsibility of delivering commodities to the lower level health facilities. At the time of the assessment, three of the ten regions had undergone the integration process (Central, Eastern and Western). As a part of the assessment, data collectors determined how facilities were being supplied with commodities across programs. Figure 15 demonstrates the percentage of facilities that receive commodities via a scheduled delivery from a higher level versus the percentage of facilities that collect their needed commodities.

Figure 15. Who Transports Commodities



Across each of the three programs, the vast majority of facilities are still collecting commodities from a higher level in the health system. Because integration has taken place in three of ten regions, we expect to see some facilities receiving their supplies via scheduled delivery from a higher level versus facilities collecting their supplies. The results of the survey revealed that only 15 percent of facilities in the Family

Planning Program and 6 percent of facilities in the HIV Test Kits Program are receiving supplies via delivery from a higher level. With the Essential Medicines Program 37 percent of facilities had commodities being delivered from the higher level and 63 percent of facilities were collecting their commodities. Therefore, it appears as if the scheduled delivery system, as a part of integration, is not yet fully functional as was expected.

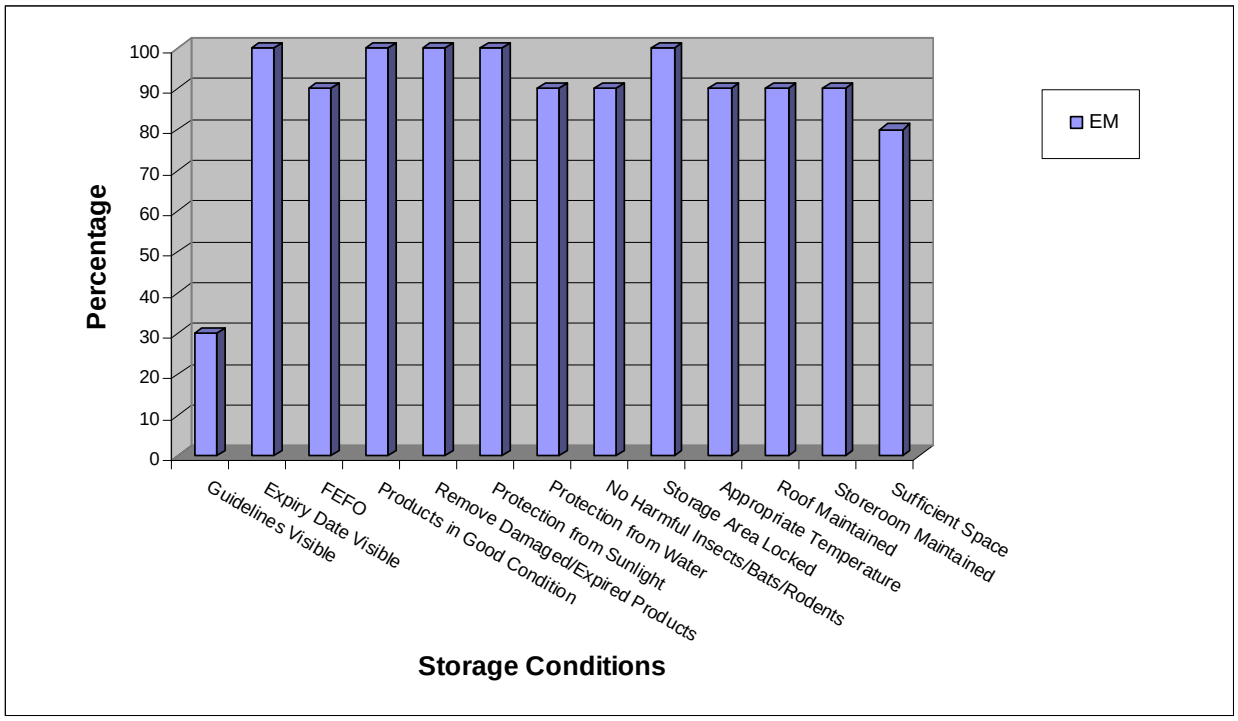
STORAGE CONDITIONS

To provide clients with high-quality products, each facility must have safe, protected and well organized storage areas to help prevent damage and ensure efficient handling of products. In assessing storage areas, the survey examined the level of compliance with 12 universally-recognized guidelines for proper storage. In addition, data collectors specifically looked within the storage area to determine whether these storage guidelines (which were widely distributed to health facility supervisors at the regional level) were posted anywhere as a reference for storeroom personnel. This brought the toal number of storage guidelines to 13. The data collection teams assessed each facility's adherence to these storage conditions through direct observation and interview questions asked of facility staff. The guidelines include:

1. Products that are ready for distribution are arranged so that identification labels and expiry dates and/or manufacturing dates are visible.
2. Products are stored and organized in a manner accessible for first-to-expire, first-out (FEFO) counting and general management.
3. Cartons and products are in good condition, not crushed due to mishandling. If cartons are opened/ damaged, personnel check whether products are wet or cracked due to heat/radiation.
4. Facility makes it a practice to separate damaged and/or expired products from good products and remove them from inventory.
5. Products are protected from direct sunlight.
6. Cartons and products are protected from water and humidity.
7. Storage area is visually free from harmful insects and rodents.
8. Storage area is secured with a lock and key but is accessible during normal working hours, with access limited to authorized personnel.
9. Products are stored at the appropriate temperature according to product temperature specifications.
10. Roof is maintained in good condition to avoid sunlight and water penetration.
11. Storeroom is maintained in good condition (i.e., clean, all trash removed, sturdy shelves, and organized boxes).
12. The current space and organization is sufficient for existing products and reasonable expansion (i.e., receipt of expected product deliveries for the foreseeable future).

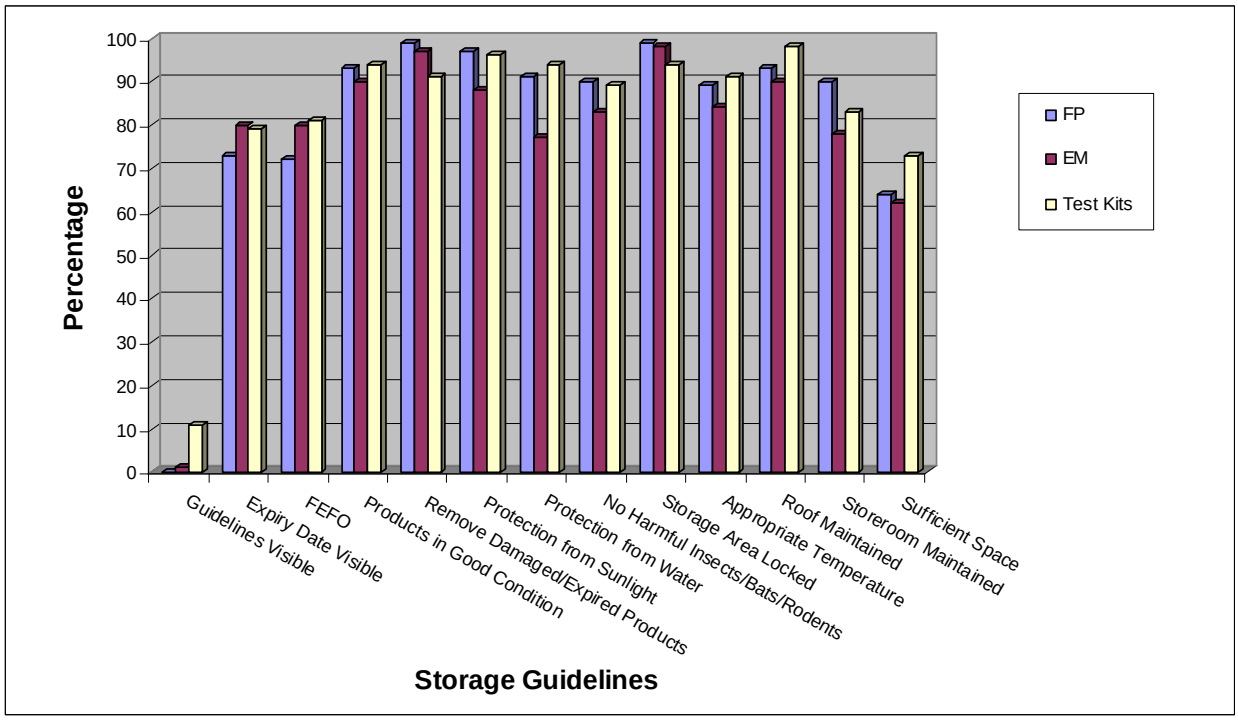
At each facility, data collectors visually inspected storage areas based on the above conditions. Figures 16 and 17 illustrate the percentage of facilities following each of the storage guidelines at the RMS and at all other health facilities combined.

Figure 16. Storage Conditions at the Regional Medical Stores



At the RMS level, across the board, products are being stored in excellent conditions; 11 of 13 storage conditions are being met at 9 or more of the RMS facilities. Only two storage conditions were found to be at an unacceptable level; 7 RMS facilities did not have storage guidelines visibly posted as a reference to storeroom personnel and 2 RMS facilities do not have sufficient space and organization for existing products and future expansion.

Figure 17. Storage Conditions at Health Facilities*

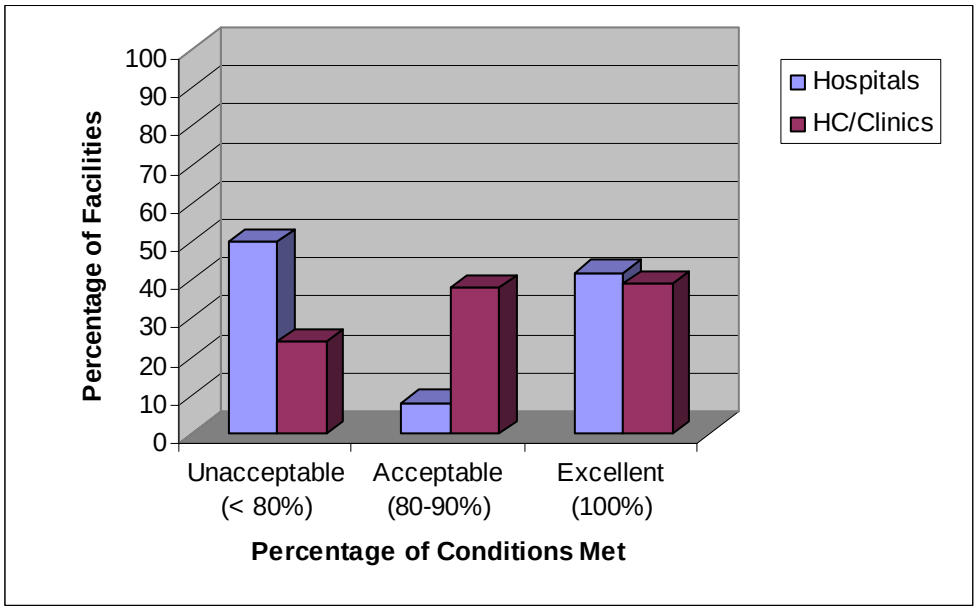


* Health facilities include both hospitals and health centers/clinics.

In assessing storage conditions at all health facilities, data collectors found that seven of thirteen storage conditions were at an acceptable level, defined as being met 80 percent of the time or more, across health facilities in all three programs. These storage conditions included products in good condition, removal of damaged/expired products, products protected from sunlight, no harmful insects/bats rodents, storage areas secured with a lock, products kept at an appropriate temperature and a well maintained roof. However, of concern were the low levels of facilities found to be utilizing the First to Expire, First Out (FEFO) inventory control methodology, the low levels of facilities in which expiry dates of products were found to be visible and the almost nonexistence of visible storage guidelines. Each of these conditions is critical to ensuring product quality and limiting product expiry. Failure to meet these conditions is sure to result in stockouts and product expiry at facilities across the health system.

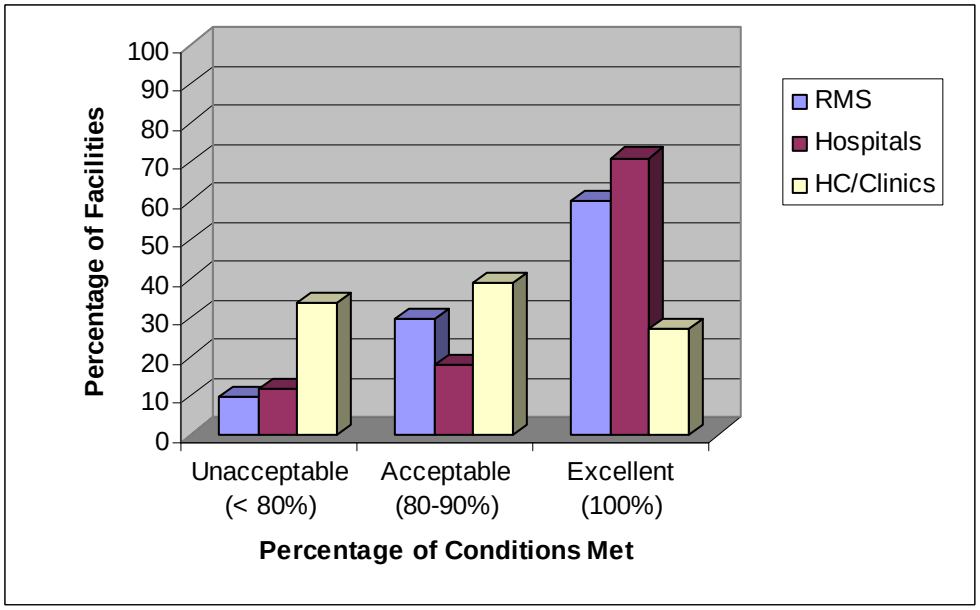
In addition to assessing storage conditions across programs, storage conditions were assessed within programs by each level of the health system. Figures 18 through 20 illustrate the percentage of storage conditions met with each of the programs.

Figure 18. Percentage of Storage Conditions Met within the Family Planning Program



Across contraceptives, the acceptability of storage conditions was found to vary widely by level. Storage conditions observed were better at the health center/clinic level, where 77 percent of facilities met at least an acceptable level of storage conditions, as opposed to the hospital level with only 50 percent. However, regardless of the level, the percentage of facilities falling within the acceptable range for storage conditions within the Family Planning Program was found to be very low.

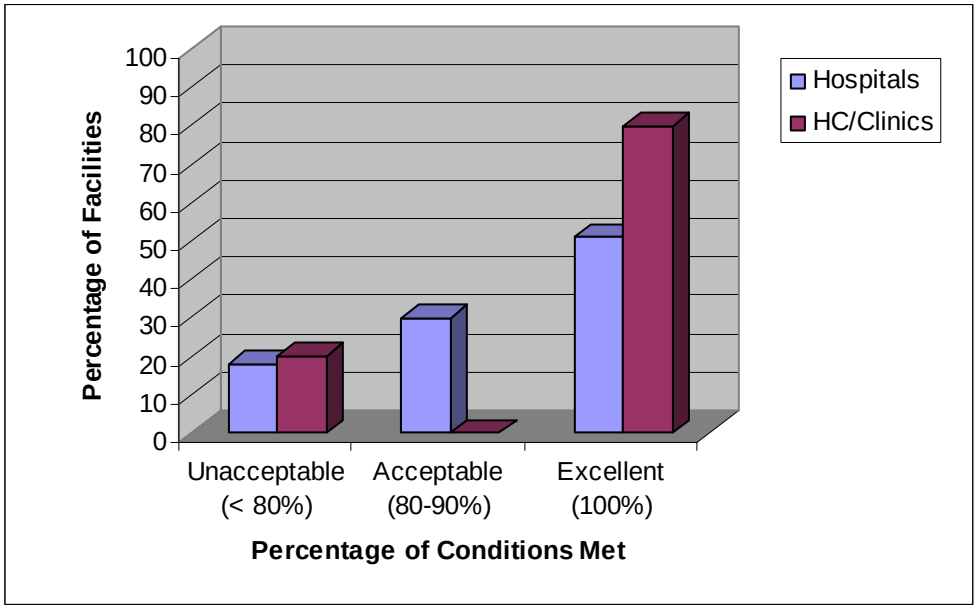
Figure 19. Percentage of Storage Conditions Met within the Essential Medicines Program



Unlike the results found in the Family Planning Program, facilities within the Essential Medicines Program were found to be doing fairly well when it came to proper storage of health commodities.

Specifically, facilities at both the RMS and hospital levels were found to be excellent with approximately 90 percent of all facilities falling within the acceptable level or above for storage conditions. This number dropped at the health center level where only 66 percent of facilities met an acceptable or excellent percent of the outlined storage conditions.

Figure 20. Percentage of Storage Conditions Met within the HIV Test Kit Program



Within the HIV Test Kit Program, facilities were found to be doing well storing test kits. At each level in the health system, approximately 80 percent of facilities met an acceptable or excellent level of storage conditions.

STOCK AVAILABILITY BY PRODUCT TYPE

The most important outcome of a logistics system is stock availability. The survey collected data on both stock on hand and stockouts on the day of the visit and measured both the frequency and duration of stockouts during a recent 6 month period, in the case of contraceptives and essential medicines, and during a recent 3 month period, for HIV test kits.

Stockouts in any health system represent a critical failure of the logistics system. They can result in patients without life-saving medicines and a reduced level of confidence in the health system. Even where stockouts are not high, facilities with too little stock at the time of the visit are either likely to stock out or will require an emergency order before they receive their next routine order.

While stockouts demonstrate one outcome of a poorly functioning logistics system, overstocks are another important indicator of a logistics system's effectiveness. Overstocks put the products at greater risk of expiration or damage before they can be distributed and used; they also take up space, and other facilities may have inadequate stocks at the same time indicating a need for redistribution.

To assess a facility's stock status, the average monthly consumption was calculated over the previous 3 or 6 months, depending on the commodity, and adjusted for periods of stockouts. The current stock on hand or physical inventory count was divided by average monthly consumption to determine how many months of stock were available for each product at each facility. This calculation could only be made for facilities maintaining adequate stock records. Therefore, figures in this report referring either to stockouts in the last 3 or 6 months or to months of supply are likely to underestimate stock imbalances

(overstocked, understocked or stocked out) as a result of the inability to account for product availability at those facilities with inadequate record keeping.

The findings are organized by product type and include analysis of the following indicators.

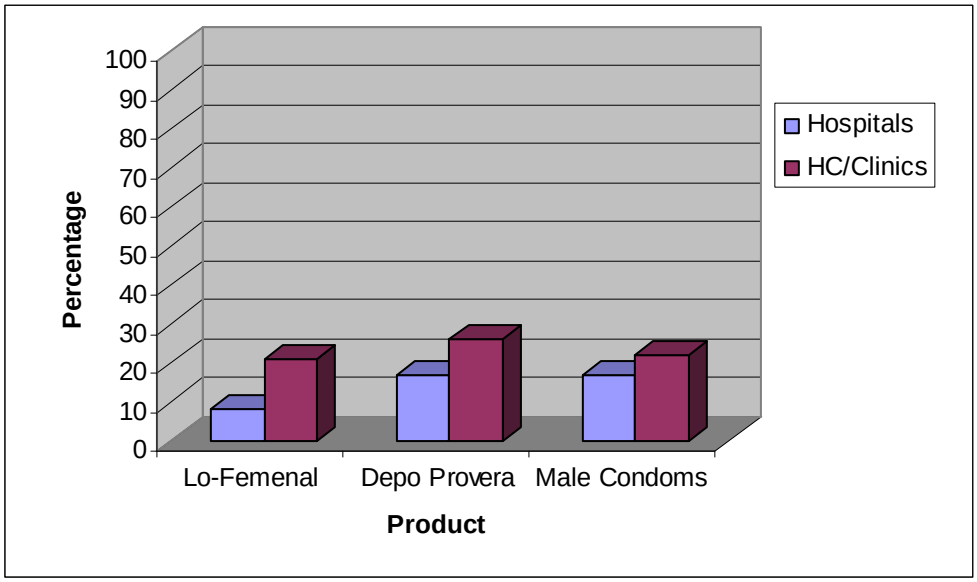
- Percent of facilities (by level) that manage the commodities included in the survey. All analysis by product type was done only for facilities that report managing the product.
- Percentage of facilities that manage the product and were experiencing a stockout on the day of the visit.
- Percentage of facilities that manage the product and experienced a stockout during the six-month period October 1 2005 to March 30 2006 for contraceptives and essential medicines and during the three-month period of January 1 2006 to March 30 2006 for HIV test kits. Since some facilities did not have adequate records, the stockouts that were recorded underestimate the actual frequency of stockouts. Presumably, facilities with accurate and complete records manage their stock better, so they should have fewer stockouts than facilities without records.
- Average frequency of stockouts. This calculation is based on stockouts observed in facilities' records. Consequently, this analysis only includes facilities that had stockkeeping records available for the full 3 or 6 month period; where these data are unavailable, this measurement cannot be made (i.e., data universe is lower for these indicators). Therefore, the stockouts in this section's tables potentially underestimate the frequency of stockouts for the products in this survey.
- Average duration of stockouts. This calculation is based on stockouts observed in facilities' records. Consequently, this analysis only includes facilities that had stockkeeping records available for the full 3 or 6 month period; where these data are unavailable, this measurement cannot be made (i.e., data universe is lower for these indicators). Therefore, the stockouts in this section's tables potentially underestimate the duration of stockouts for the products in this survey.
- Mean months of stock on hand on the day of the visit by facility type. This is based only on facilities that had physical inventory and consumption records available, thus the number of facilities included in these calculations (i.e., "n") is lower than the number of overall facilities managing each product. Where there are large months of stock on hand in the system, the mean illustrates the amount of stock that is at risk of damage and/or expiration. The minimum stock that should be held at hospitals and health centers is 1 month, and the maximum is 3 months. The minimum that should exist at the RMS is 3 months, and the maximum is 6 months.

FINDING FOR CONTRACEPTIVES

Contraceptives in the survey included Lo-Femenal®, Depo-Provera®, male condoms and Norplant. However, during data collection, it was determined that Norplant had to be excluded from the contraceptive commodity analysis because stock records were found in very few facilities. As a result, the sample of data collected could not be considered representative of the health system as a whole and Norplant was left out of the analysis.

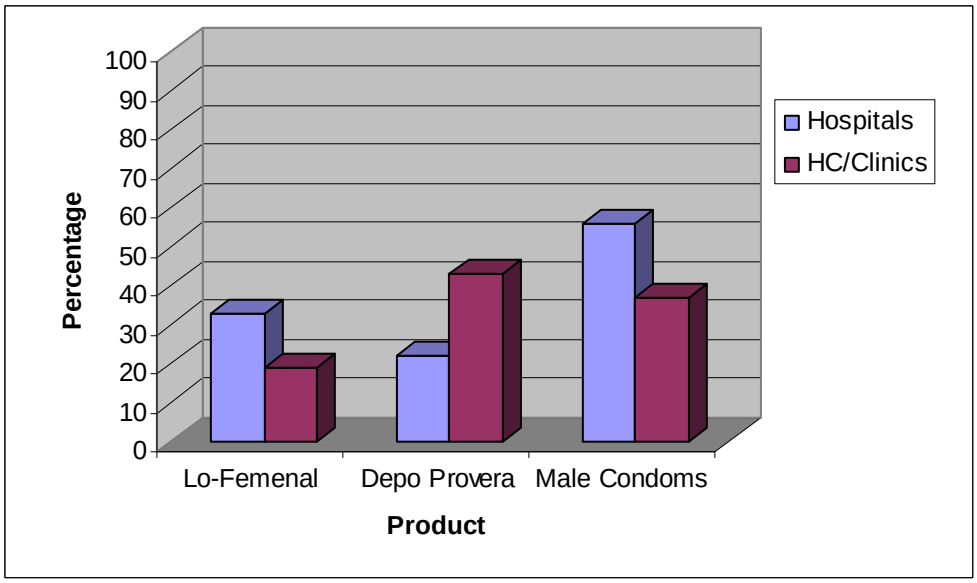
All analysis by product type was done only for facilities that report managing the product. Figures 21 through 25 illustrate the stock availability findings for the remaining contraceptives assessed in the survey.

Figure 21. Contraceptive Stockouts on the Day of the Visit



On the day of the visit, data collectors consistently found a greater number of stockouts at health centers/clinics than at hospitals. However, the percentage of facilities experiencing stockouts on the day of the visit varied across products and across levels. For example, at hospitals the most stockouts were found with Depo Provera and Male Condoms at 17 percent, followed by Lo Femenal at 8 percent. On the other hand, at health centers/clinics stockouts were most frequently seen with Depo Povera, at 26 percent, followed by Male Condoms and Lo Femenal at approximately 21 percent.

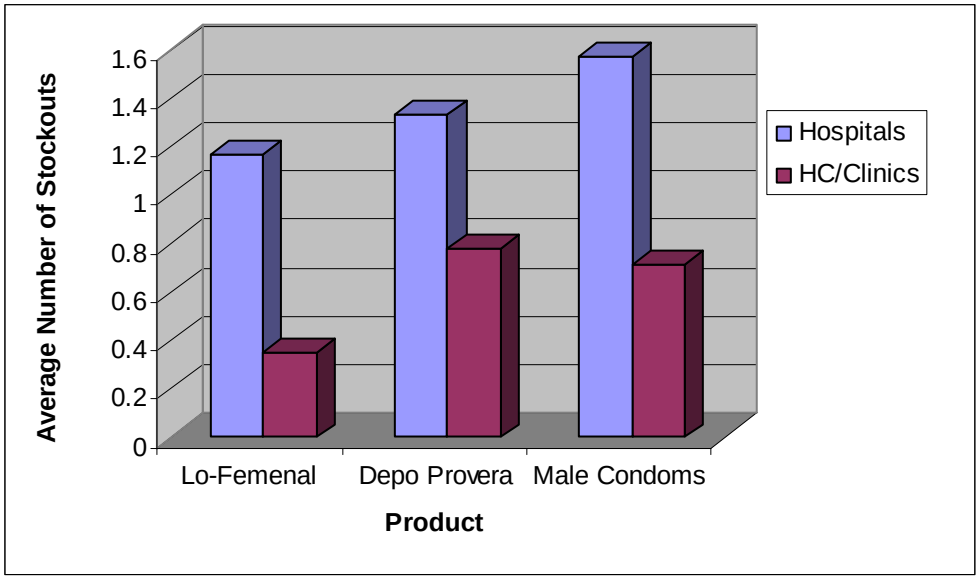
Figure 22. Contraceptive Stockouts between October 1, 2005 and March 31, 2006



When assessing stock availability over the 6 month period of October 1, 2005 through March 31, 2006, data collectors found a very different picture than they had seen on the day of the visit. Over the 6 month review period, a higher percentage of hospitals as opposed to health centers/clinics experienced at least

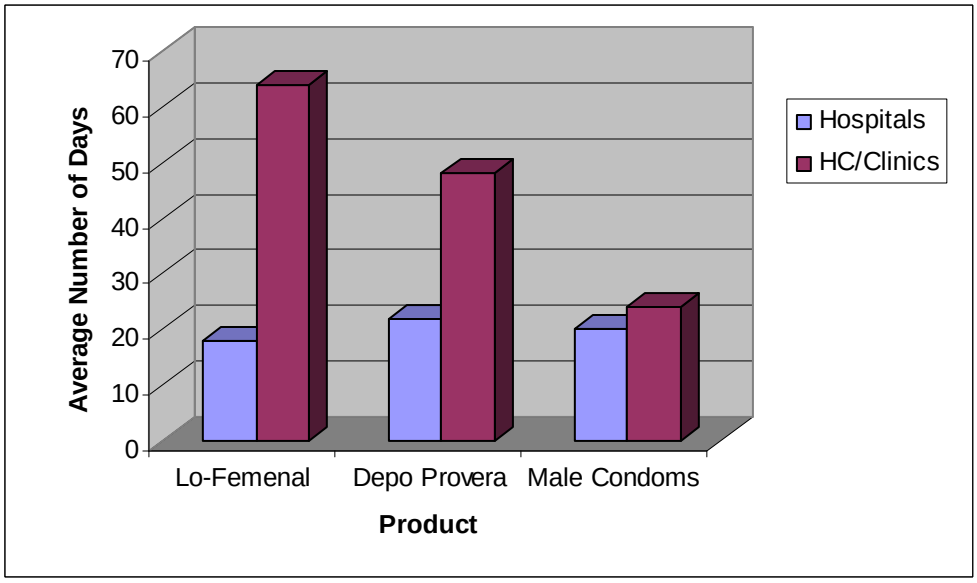
one stockout of contraceptive products. The exception to this was found with Depo Provera where two times as many stockouts were seen at health centers/clinics as in hospitals. The most troubling discovery found was that, with every product at health facilities, 19 percent or more facilities experienced at least one stock out over the 6 month review period.

Figure 23. Frequency of Contraceptive Stockouts



At those facilities that had stock availability data from the period of October 1, 2005 to March 31, 2006, the frequency of stockouts was assessed. Hospitals had at least one stockout of each product during that time frame. Stockouts of each product were consistently less at the health center and clinic level.

Figure 24. Duration of Contraceptive Stockouts



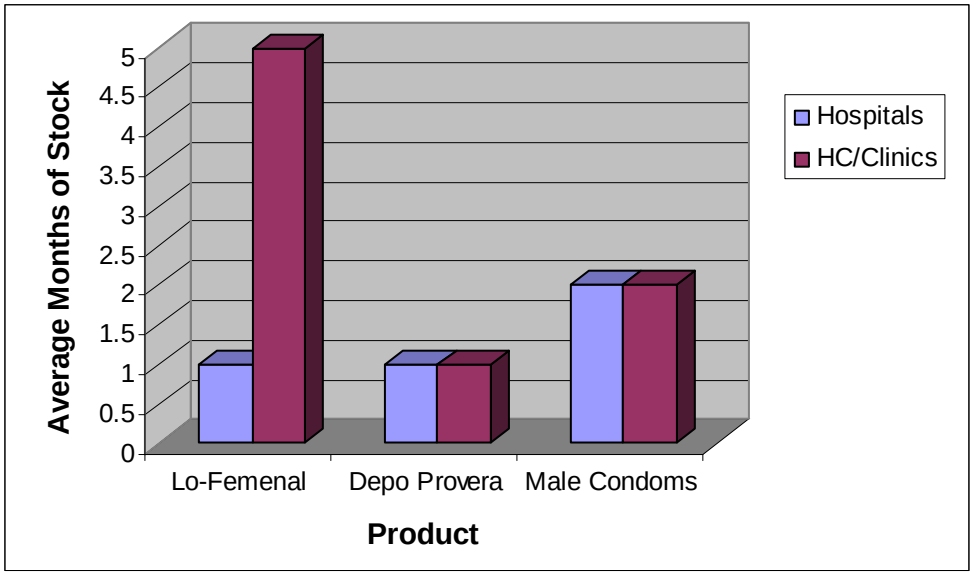
Stockouts of contraceptives were consistently found to have lasted longer at the health centers/clinics than at hospitals; with the longest average duration found being Lo-Femenal at two months or longer. As well, at the health centers/clinics, average stockout duration varied widely with each product. This was not the case at hospitals, where the average duration of stockouts was approximately 20 days across products.

Stock on Hand (Months of Stock)

Minimum and maximum inventory levels have been set for each level in the supply chain. Specifically, within the Family Planning Program, both hospitals and health centers/clinics have a minimum inventory level of 1 month of stock and a maximum inventory level of 3 months of stock. Proper commodity management should ensure that inventory levels remain within this set range.

Figure 25 illustrates the months of stock on hand found on the day of the visit for contraceptives. The numbers presented in this analysis are based upon the stock available in physical inventory, divided by the average monthly consumption over the 6 month review period adjusted of periods of stockout.

Figure 25. Contraceptive Stock on Hand on the Day of the Visit



The findings of the assessment revealed that stock levels across the health logistics system are generally being adequately managed. The exception to this was found in Lo-Femenal at health centers/clinics. Lo-Femenal was found to be overstocked, with 5 months of stock, at the health center/clinic level. As well, although stock of Lo-Femenal at the hospital level and Depo Provera at both the hospital and health center/clinic level is close to within the required range, in each case, there are understocked facilities with average months of stock just below the minimum of 1 month.

Note: The amount of expired products found in the facilities was virtually non-existent. The only expired products found were male condoms at 1 percent of health centers/clinics.

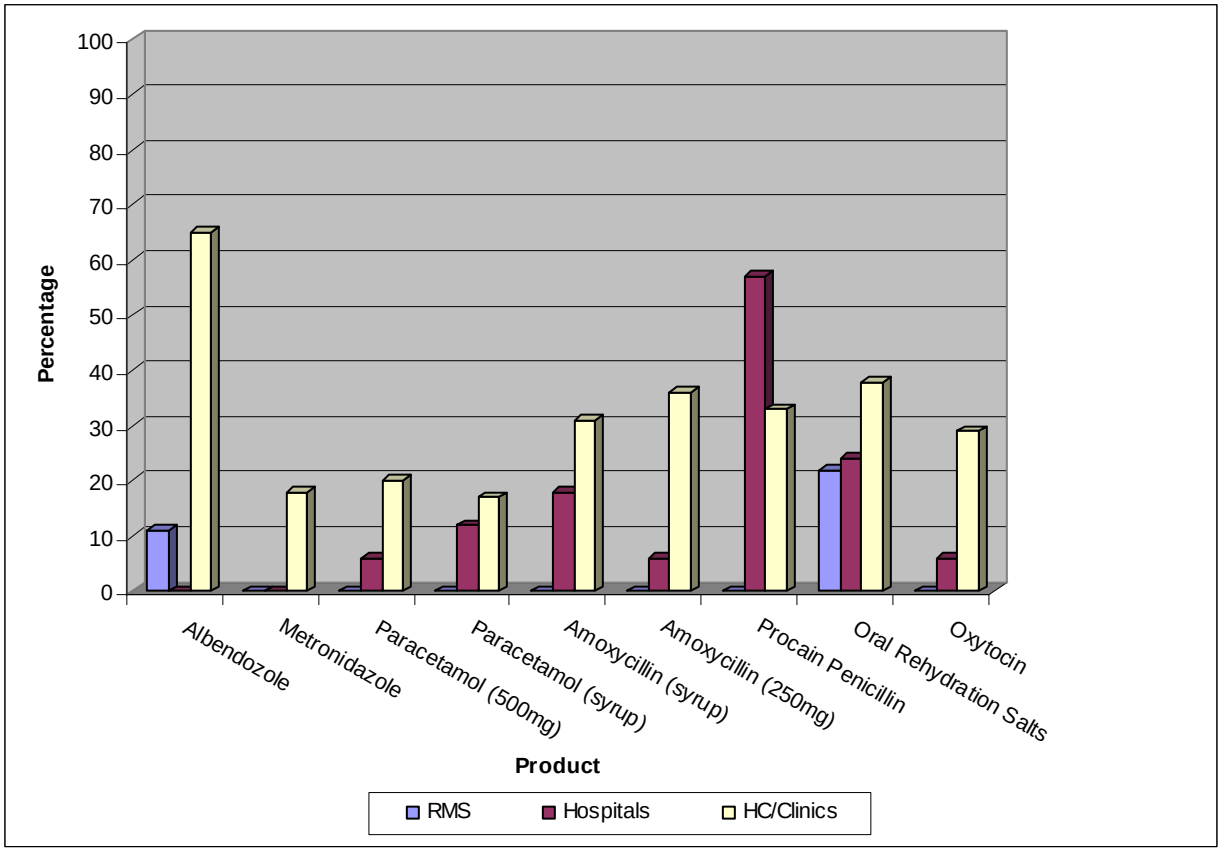
FINDINGS FOR ESSENTIAL MEDICINES

Essential Medicines in the survey included Artesunate & Amodiaquine, Albendazole, Metronidazole, Paracetamol 500mg tablets, Paracetamol syrup, Amoxycillin syrup, Amoxycillin 250 mg capsules, Procain Penicillin, Oral Rehydration Salts, Oxytocin injections, Ferrous Sulphate and Ferrous Fumarate. However, three products, Artesunate & Amodiaquine, Ferrous Sulphate and Ferrous Fumarate, had to be excluded from the essential medicine commodity analysis for reasons discovered during data collection. First, Artesunate & Amodiaquine combination is a new product and stock records were found in very few

facilities. Additionally, it comes in three distinct package sizes, 3 x 3, 6 x 6, and 12 x 12 and the stock records that were found for each combination were not kept consistently across facilities. As a result, analysis of stock availability was not possible. Second, in many facilities stock transactions for Ferrous Sulphate and Ferrous Fumarate were recorded interchangeably on the same stock cards rendering separate analysis of the two products unreliable.

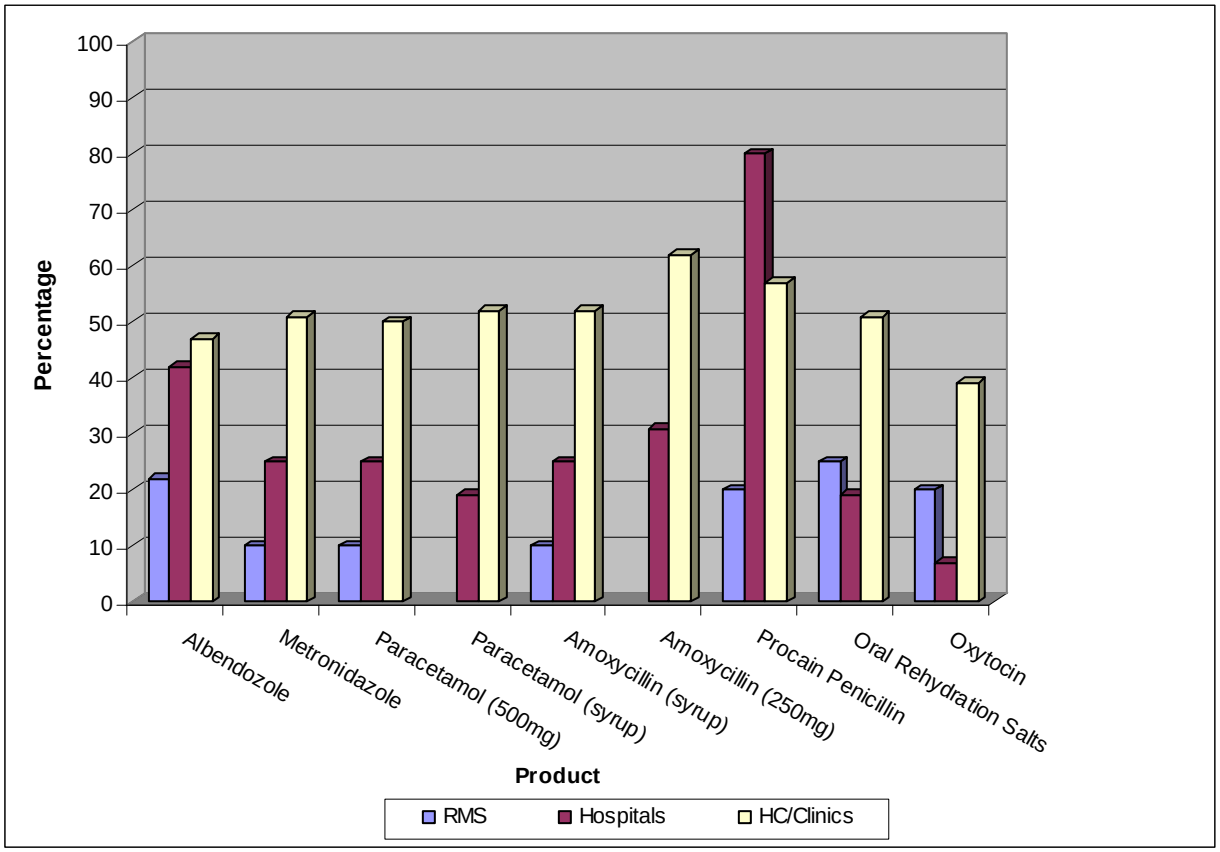
All analysis by product type was done only for facilities that report managing the product. Figures 26 through 30 illustrate the stock availability findings for the remaining essential medicines assessed in the survey.

Figure 26. Essential Medicine Stockouts on the Day of the Visit



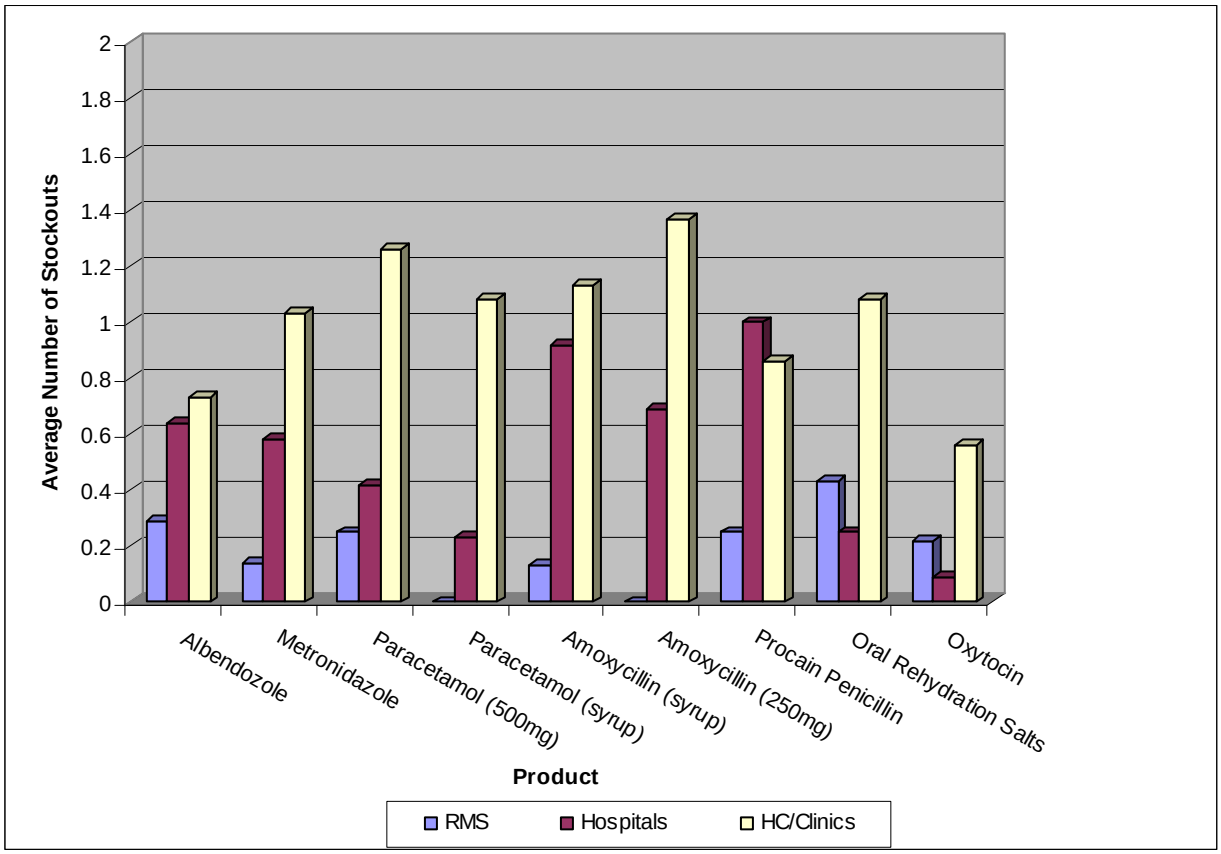
With the exception of Procain Penicillin, the greatest percentage of facilities experiencing stockouts on the day of the visit were found at health centers/clinics; with the worst stockouts being Albendazole at 65 percent of health centers/clinics. At the hospital level, the most stockouts were seen with Procain Penicillin where 57 percent of hospitals were experiencing a stockout on the day of the visit. Finally, although the fewest stockouts on the day of the visit were seen at the RMS, stockouts on the day of the visit of Albendazole and ORS were found at 1 RMS and 2 RMS facilities respectively.

Figure 27. Essential Medicine Stockouts between October 1, 2005 and March 31, 2006



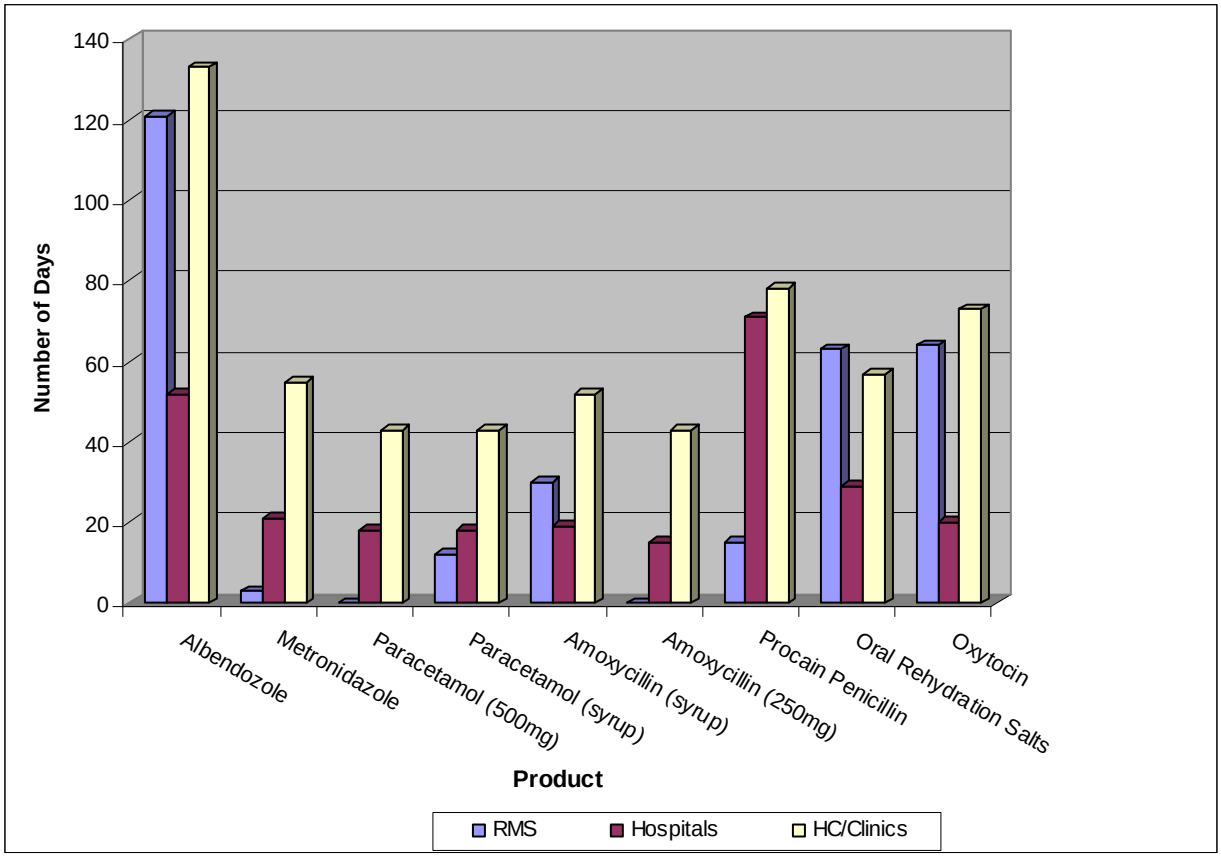
During the 6 month review period of October 1, 2005 through March 31, 2006, stockouts of essential medicines occurred across all products and at all levels of the health system. The only exception was found at the RMS, where no stockouts occurred for either Paracetamol syrup or Amoxycillin (250mg) tablets. The most concerning data was seen at health centers/ clinics where, across products, at least 40 percent of facilities experienced a stockout in the 6 month review period of each essential medicine assessed.

Figure 28. Frequency of Essential Medicine Stockouts



There were few stockouts of essential medicines at the RMS, as a trend slightly more at the hospitals. Aside from Oxytocin and Albendozole all of the health centers/clinics reported at least one stockout of each product during that time period.

Figure 29. Duration of Essential Medicine Stockouts



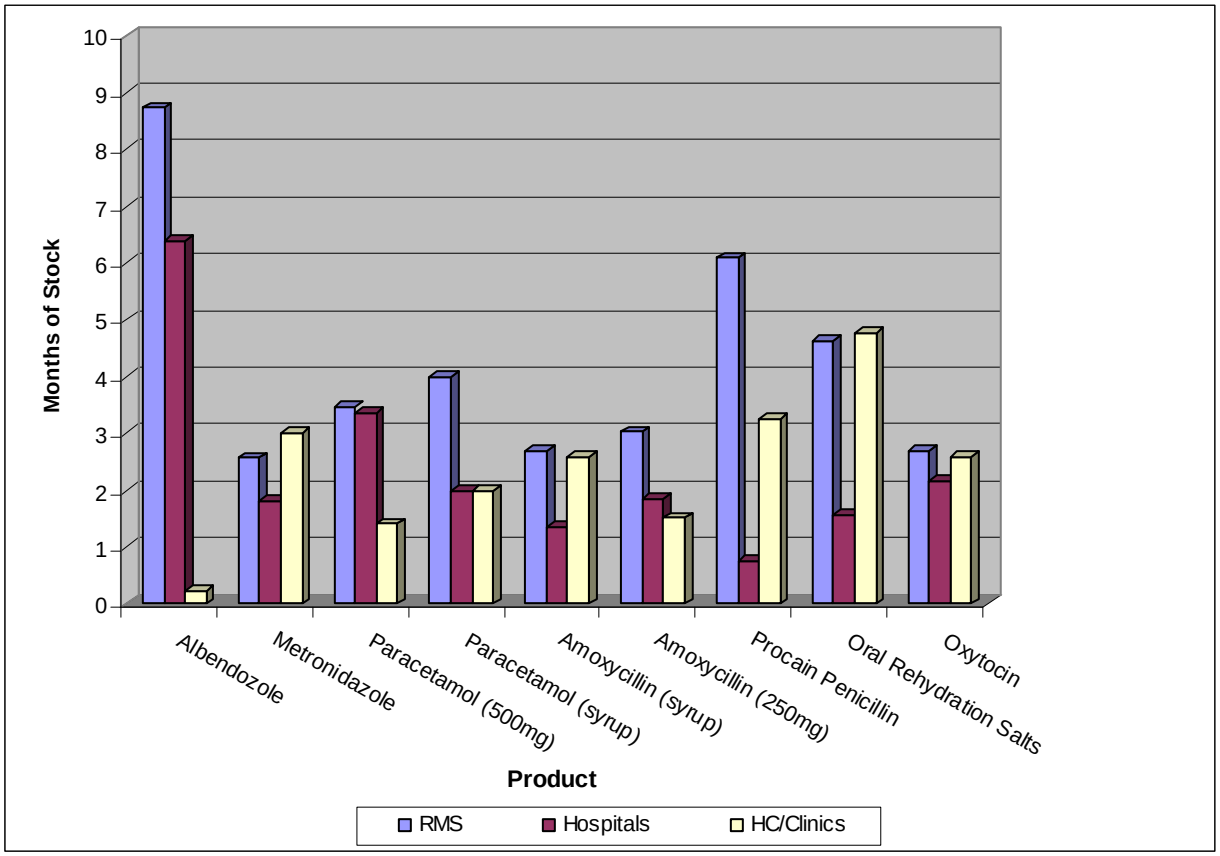
Not only were health centers found to be experiencing stockouts on the day of the visit and during the 6 month review period, the duration of those stockouts were also found to be consistently longer than at higher levels of the logistics system. For example, the average duration of stockouts of essential medicines at health centers/clinics was 64 days, as opposed to 36 days at Regional Medical Stores and 29 days at hospitals. Of most concern are the duration of stockouts seen for Albendazole, Procain Penicillin, ORS and Oxytocin. For each of these essential medicines, stockouts at more than one level of health logistics system are lasting for 50 days or more.

Stock on Hand (Months of Stock)

As seen in the Family Planning Program, minimum and maximum inventory levels have been set in all levels of the health system. The Regional Medical Stores have a minimum inventory level of 3 months of stock and a maximum inventory level of 6 months of stock while both hospitals and health centers/clinics have a minimum inventory level of 1 month of stock and a maximum inventory level of 3 months of stock. Proper commodity management should ensure that inventory levels remain within this set range.

Figure 30 illustrates the number of months of stock on hand for essential medicines. The numbers presented in this analysis are based upon the stock available in physical inventory, divided by the average monthly consumption over the review period (adjusted for times of stockout), or in the case of RMS, the stock available divided by the average monthly issues over the review period to all facilities in that region.

Figure 30. Essential Medicine Stock on Hand on the Day of the Visit



Within the Essential Medicines Program, inventory management practices were found to be working well; with the majority of products falling in or around the set minimum and maximum stock level ranges for both Regional Medical Stores and all other health facilities.

The biggest concerns were the findings seen with both Albendazole and Procain Penicillin. With each of these two products, stock was not found to be distributed adequately throughout the system; resulting in some levels being overstocked while others remain at understocked inventory levels.

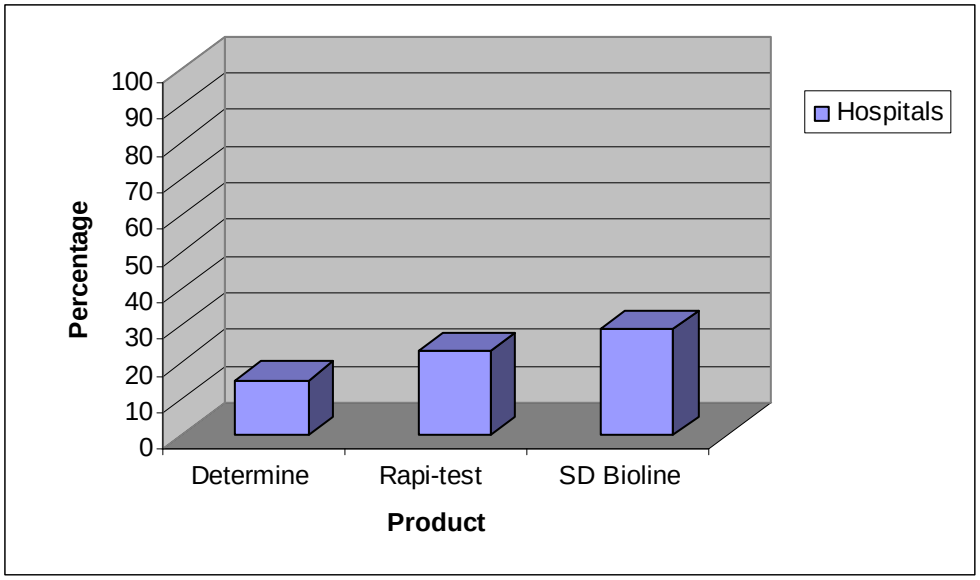
Note: The number of expired products found in the facilities was very low. The exceptions were found with Albendazole, Procain Penicillin, and Oral Rehydration Salts. Procain Penicillin was found to be the worst across all three levels of the health system with 11 percent of facilities having expired products and each of the three products were found to have expired products at an average of 11 percent of Regional Medical Stores.

FINDINGS FOR HIV TEST KITS

HIV test kits in the survey included Determine HIV-1/2, Rapi-Test, and SD Bioline HIV-1/2 tests. All analysis by product type was done only for facilities that report managing the product. As well, unlike both the Family Planning and Essential Medicine Programs whose products were assessed for availability over a 6 month period, the assessment of stock availability for HIV test kits was only done over the 3 month period of January 1 through March 31, 2006 because of the newness of the HIV Test Kit Program. Figures 31 through 35 illustrate the stock availability findings for the HIV tests assessed in the survey. For the analysis of stockouts, health centers/clinics were not included in the analysis because no health

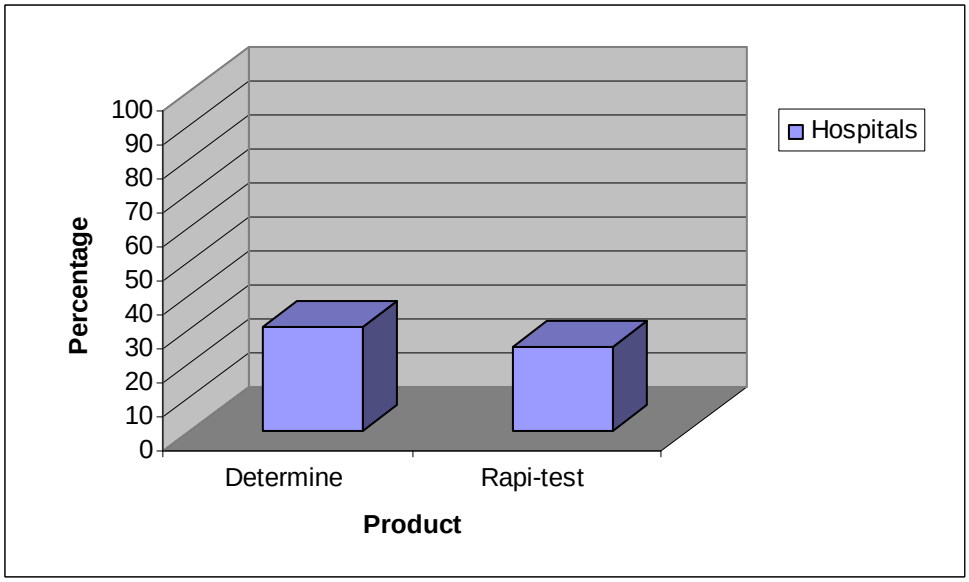
centers/clinics were found to have updated stock cards from which to gather the appropriate data. As a result, stockout information was only analyzed for hospitals.

Figure 31. HIV Test Kit Stockouts in the Day of the Visit



On the day of the visit, data collectors found a high percentage of facilities stocked out of each of the three products. The lowest stockouts were seen with Determine where 15 percent of facilities were stocked out on the day of the visit, followed by Rapitest stocked out at 23 percent of facilities and SD Bioline stocked out at 29 percent of facilities.

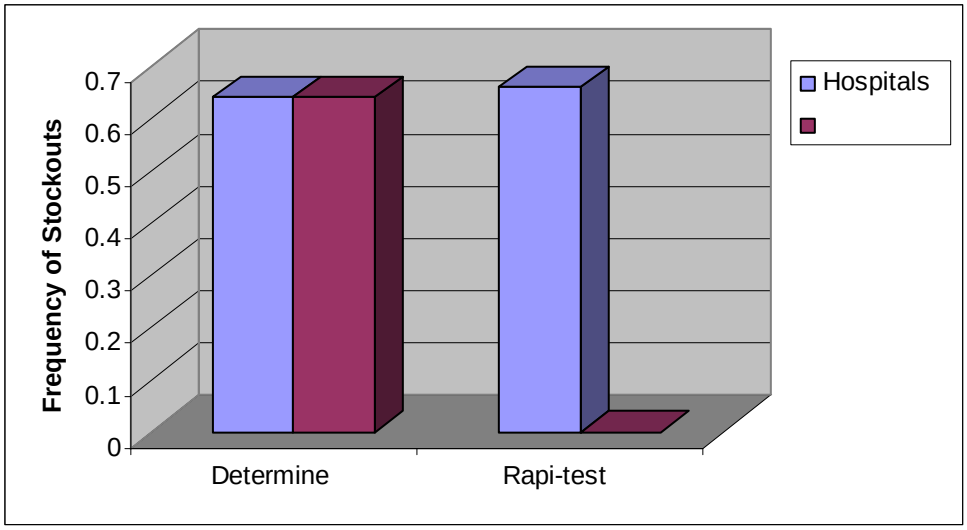
Figure 32. HIV Test Kit Stockouts between January 1, 2006 and March 31, 2006



Data collectors were unable to find updated SD Bioline stock cards with the required three months of data at hospitals. Therefore, SD Bioline could not be assessed for stockouts during this period. The two products that were assessed, Determine and Rapi-test, were found to have had very high levels of

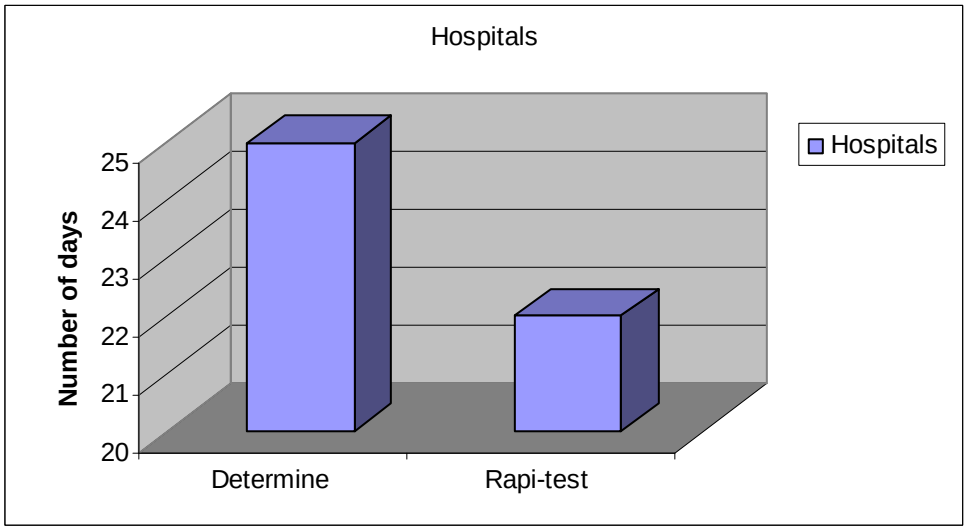
stockouts over the three month period prior to the assessment. Determine HIV tests had been stocked out at least once at 42 percent of hospitals and Rapi-tests had been stocked out at least once at 25 percent of hospitals during this time.

Figure 33. Frequency of HIV Test Kit Stockouts



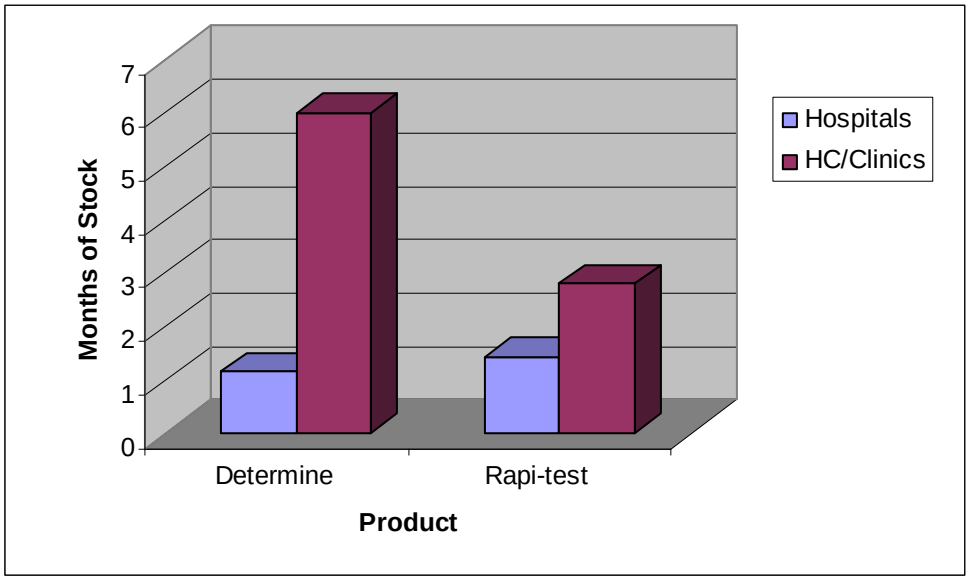
On average there were less then one stockout of Determine and Rapi-test at health facilities. There were no stockouts of Rapi-test at the health center level, but they did occur at the hospitals.

Figure 34. Duration of HIV Test Kit Stockouts



Where stockouts did occur, the stockouts lasted an average of 22 days for Rapi-test and 25 days for Determine. During these times facilities were not able to conduct testing services according to the national protocol.

Figure 35. HIV Test Kit Stock on Hand on the Day of the Visit



Within the HIV Test Kit Program, inventory management practices were found to be working well. The only exception to this was found with the months of stock of Determine HIV tests found at health centers/clinics. Data collectors found that health centers/clinics were overstocked with an average of double, 6 months, of the maximum stock level.

Note: The amount of expired products found in the facilities was found to be very low. The worst expiries were seen at hospitals where an average of 8 percent of facilities were found with expired Determine and SD Bioline HIV tests.

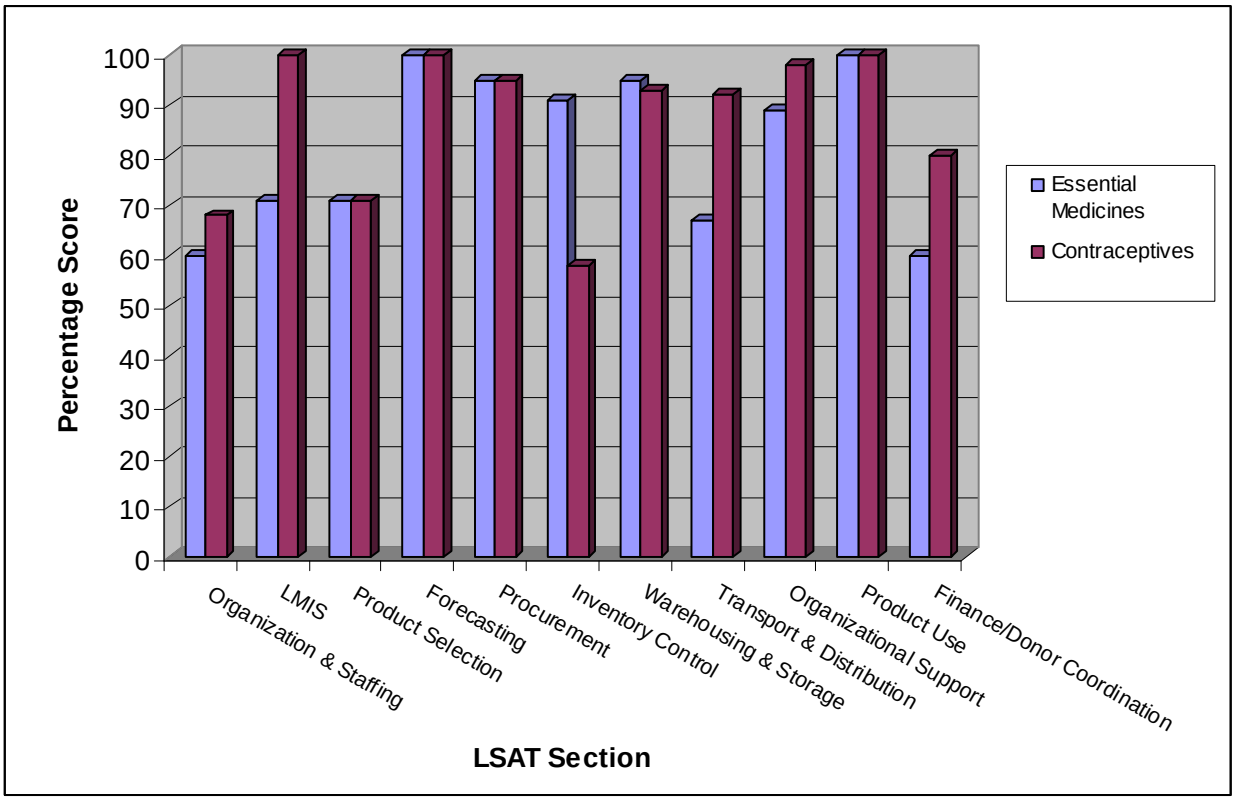
LOGISTICS SYSTEM ASSESSMENT TOOL (LSAT)

SECTION SCORES

The LSAT utilized for this study was adapted specifically to the health system in Ghana and involved the assessment of both the Family Planning Program and the Essential Medicine Program in the following areas; organization and staffing, logistics management information system, product selection, forecasting, obtaining supplies/procurement, inventory control procedures, warehousing and storage, transport and distribution, organizational support for the logistics system, product use, and finance/donor coordination and commodity security. Each section of the LSAT was scored, reflecting the viewpoint of the participants acting within the system.

Figure 36 represents the percentage scores of each section of the LSAT and helps to identify program strengths and weaknesses as well as to allow for tracking of progress over time.

Figure 36. LSAT Section Scores



Across programs and across sections, wide variability was seen in percentage scores received. However, this variability remained consistent with the results found in the LIAT survey. For example, the variation in scores seen in the LMIS section for the different programs is reflective of the data that was gathered during the LIAT survey conducted in the field. Within the Family Planning Program, utilization of the Family Planning Report as a logistics management tool was found to be very high and consistent reporting was found to occur across facilities. Concurrently, the participants within the Family Planning Program also felt that the logistics management tools were being utilized effectively, resulting in a 100% score for that section in the LSAT. On the other hand, within the Essential Medicine Program, utilization of the Stock Availability Report for logistics management in the field was found to be low, a fact that was reflected in the essential medicine LMIS score.

Additionally, the answers given by the participants in the LSAT exercise resulted in inventory control scores that confirmed the findings in the field. The lower inventory control score seen within the Family Planning Program confirms the findings of low stock card utilization within that program while the higher inventory control score within the Essential Medicine Program confirms the high utilization of stock cards for essential medicines found during the LIAT survey.

Overall, the only scores that were found to be consistently low within each program were scores for organization and staffing; 60 percent for essential medicines and 68 percent for contraceptives. And the only other scores that varied greatly by program were the transport and distribution scores and the finance/donor coordination scores in which the Essential Medicine Program scored significantly lower than the Family Planning Program.

See Appendix 6 for the strengths, weaknesses and recommendations that were identified for each section by the group of LSAT participants.

SUMMARY AND RECOMMENDATIONS

SYSTEM WIDE SUMMARY AND RECOMMENDATIONS

Across Ghana's health system, a number of system wide observations were made in the course of executing both the Logistics Indicators Assessment Tool (LIAT) and the Logistics System Assessment Tool (LSAT). First, while logistics record and report utilization varied by program, across programs logistics records and reports were rarely found in combination. As well, the accuracy of those records and reports was found to decline when moving further down the health system. Logistics records, used to collect logistics data, and logistics reports, used to aggregate logistics data, are a critical elements of a fully functioning, efficient logistics system. Without either of these elements, executed with a high level of accuracy, the logistics system can not be successful in providing managers with data for decision making and preventing stock imbalances throughout the health system.

- **Develop a Procurement and Supply Management Plan (PSMP).**
- **Implement routine and consistent supervision of logistics activities across all levels of the health system.**
    - **Actively engage RMS managers in supervision.**
    - **Institute quarterly central level meeting with regional representatives to monitor supervision activities.**

Currently CMS managers estimate that 80 percent of RMS commodities are purchased from local suppliers as opposed to from CMS. In order to do this the RMS is required to obtain a certificate of non-availability from CMS for each product. Given the current practices there is a need to **develop a procurement and supply management plan (**PSMP) to ensure availability of essential medicines at the CMS. A working group has been assigned to this task and it is currently underway. In order to continuously determine appropriate amounts to procure accurate and timely consumption based data will be required from all health facilities throughout the country.

In order to collect consumption based data the stakeholders need to establish clear rolls and responsibilities for staff at each level of the system in readiness for full integration. These roles and responsibilities need to clarify who will handle products, track consumption and send complete, accurate and timely reports for all of the product types. Standard operating procedures (SOPs) have been developed which clearly outline the logistic system policies. To enforce the SOPs will require **routine and consistent supervision** at all levels of the system. Supervision helps to improve individual and system performance and can alert managers to potential problems such as stock imbalances, poor storage conditions, and products near their expiry date. Therefore, supervision is related to all aspects of management and is an important element of quality assurance for logistics system performance. The absence of supervision including the oversight of logistics activities can contribute to the breakdown of the logistics system and the inability for managers to make adjustments to the system when necessary. Some supervision was found to be occurring. However, it was occurring infrequently across programs and those visits were thought to rarely include oversight of logistics activities (i.e. stock management including checking stock cards, checking logistics reports, removing expired stock, checking supply levels and checking storage conditions). It is advised that the **RMS managers be included on these routine supervision teams**. **Quarterly central level meetings with regional representatives** will serve as a reporting venue to track supervision activities at the district and health facility level and provide managers with an opportunity for on the job training (OJT).

The storage of health commodities was observed and found to be good or acceptable on average, across programs. Acceptable storage conditions, as measured by the 12 universally-recognized guidelines for proper storage, are critical to ensuring that health programs are able to provide clients with high-quality products. In order to do this, each facility must have safe, protected and well organized storage areas to help prevent damage and ensure efficient handling of products.

Note: Observations of stock availability across programs varied widely. Therefore, stock availability is summarized by each specific program.

FAMILY PLANNING PROGRAM SUMMARY

In the course of executing both the Logistics Indicators Assessment Tool (LIAT) and the Logistics System Assessment Tool (LSAT), the Family Planning Program was also assessed separately from the entire Ghana health system. Program-wide observations included an assessment of logistics records and reports, supervision, storage conditions and stock availability.

- **Only 21 percent of facilities are utilizing both Stock Cards and the monthly Family Planning Report.**
- **Supervision of logistics activities is rarely occurring.**
- **Fifty percent of hospitals have unacceptable storage conditions for family planning products.**
- **Frequency of stockouts was less prevalent but the duration of those stockouts far longer at health centers/clinics.**
- **Months of stock of LoFemenal in the different levels of the health system suggest that a redistribution of stock is needed.**

Within the Family Planning Program the utilization of logistics records and reports was rarely found in combination. Only 21 percent of facilities were found to be utilizing both stock cards and the monthly Family Planning Report. While utilization of the monthly Family Planning Report was found to be excellent at both hospitals and health centers/clinics, the utilization of stock cards at these same facilities was very low. As a result, the accuracy of the Family Planning Report is called into question because this report should be based upon stock transaction data, recorded as transactions occur, on the product's stock card. As was seen across programs, supervision including the oversight of logistics activities was rarely found to be occurring within the Family Planning Program.

Although storage conditions were found to be good or acceptable on average across programs, this was found to break down when observing storage conditions at the different levels within the Family Planning Program. Storage conditions at both levels were found to be poor. However, the worst conditions were observed with contraceptives at hospitals where 50 percent of hospitals were found to have unacceptable storage conditions.

Stock availability indicators varied widely both across level and across product for each of the different indicators. For example, the worst stockouts on the day of the visit were seen at health centers/clinics, an average of 23 percent of facilities had stockouts on the day of the visit. However, when observing stockouts over the six month period of October 1, 2005 to March 31, 2006, it was found that stockouts varied as much by level as they did by product. The worst problems with stockouts over the review period were seen with male condoms which were found to be stocked out at least once at an average of 38 percent of health facilities over the six month review period. On average hospitals had at least one stockout of each contraceptive in the six month time frame prior to the survey. The frequency of stockouts was less prevalent at health centers. However, the duration of stockouts was consistently far longer at health centers/clinics than at hospitals. Even so, the duration of stockouts was found to vary widely depending on the product. The worst data was found with Lo Femenal where on the average duration of a stockout at the health center/ clinic was over two months. Finally, the months of stock on the day of the visit was observed for each product. Across products, the months of stock were generally within the established minimums and maximums for the inventory control system. However, Lo Femenal saw the largest discrepancy with 1 month of stock (the minimum) at hospitals and 5 months of stock at health centers.

ESSENTIAL MEDICINES PROGRAM SUMMARY

In the course of executing both the Logistics Indicators Assessment Tool (LIAT) and the Logistics System Assessment Tool (LSAT), the Essential Medicine Program was also assessed separately from the entire Ghana health system. Program wide observations included an assessment of logistics records and reports, supervision, storage conditions and stock availability.

- **Only 20 percent of facilities are utilizing both Stock Cards and the monthly Stock Availability Report; with inconsistent usage of both at varying levels of the health system.**
- **Multiple products are being incorrectly tracked on the same Stock Cards (Artesunate & Amodiaquine (3x3, 6x6, and 12x12) and Ferrous Fumarate and Ferrous Sulphate).**
- **Supervision of logistics activities is rarely occurring.**
- **Essential Medicines are being adequately stored across all levels of the health system.**
- **The frequency of stockouts was greater and the duration longer at health centers/clinics.**
- **Months of stock of Albendazole in the different levels of the health system suggest that a redistribution of stock is needed.**

Within the Essential Medicines Program the utilization of logistics records and reports was also rarely found in combination. Only 20 percent of facilities were found to be utilizing both stock cards and the monthly Stock Availability Report. The exception to this was seen at the Regional Medical Stores. At this highest level, utilization of both stock cards and the monthly Stock Availability Report was found to be good. However, utilization of both logistics records and reports was found to vary depending on the level of the health system being assessed. For example, at hospitals, utilization of stock cards was excellent while utilization of the Stock Availability Report was found to be almost nonexistent. In contrast, at health centers, utilization of both stock cards and the Stock Availability Report were found to be extremely poor. It was observed that a few of the products were being tracked on the same stock cards. This included Artesunate & Amodiaquine (3x3, 6x6, and 12x12) and Ferrous Fumarate and Ferrous Sulphate. Each of these products is unique and need to be managed with their own stock card. Finally, even when logistics records and reports were being utilized, the accuracy of these tools was found to be poor across all levels of the health system.

As was seen across programs, supervision including the oversight of logistics activities was rarely found to be occurring within the Essential Medicines Program. Routine and consistent supervision will help to ensure proper management of logistics data based on the established SOPs.

When observing storage conditions of essential medicines, data collectors found that essential medicines were being adequately stored across all levels of the health system. The worst results were seen at health centers/clinics where approximately 30 percent of facilities were found to have inadequate or inappropriate storage conditions.

Stock availability indicators were found to be consistent across levels but found to vary greatly by product. For example, the percentage of facilities experiencing stokouts on the day of the visit and stockouts over the 6 month review period was found to be consistently highest at health centers/clinics. Furthermore, the frequency of stockouts was greater and the duration of stockouts longer at health centers/clinics. However, each of these indicators varied widely by product. The worst results were found with Albendazole. Albendazole was found to be stocked out at 65% of health centers/clinics on the day of the visit, and at least once at 46% of health centers/clinics between October 1, 2005 and March 31, 2006. As well, Albendazole was stocked out an average of 121 days at the Regional Medical Stores, 52 days at hospitals, and 133 days at health centers/clinics. Finally, regardless of level, the months of stock for essential medicines were generally found to in or around the established minimum and maximum stock levels, but Albendazole was overstocked at both the Regional Medical Stores and hospitals and understocked at health centers/clinics; indicating that product is not effectively flowing through the supply chain.

HIV TEST KIT PROGRAM SUMMARY

- **Utilization of Stock Cards is very low while utilization of the monthly Test Kit Usage Report is very high.**
- **Supervision of logistics activities is rarely occurring.**
- **HIV Test Kits are being adequately stored across all levels of the health system.**
- **The frequency of stockouts is relatively low but the duration high across the health system.**
- **Months of stock of both Determine and Rapi-test in the different levels of the health system suggest that a redistribution of stock is needed.**

Finally, also in the course of executing both the Logistics Indicators Assessment Tool (LIAT) and the Logistics System Assessment Tool (LSAT), the HIV Test Kit Program was assessed. Program wide observations included an assessment of logistics records and reports, supervision, storage conditions and stock availability.

Use of stock cards for management of test kits was found to be very low with only 30 percent of the hospital and 13 percent of the health centers that manage test kits. However, reporting on test kit usage using the Test Kit Usage Report was quite high with over 80 percent having sent the report in the last month and 100 percent within the last quarter. The low use of stock cards is surprising given that 70 percent of the respondents indicated they had attended a logistics workshop and over 30 percent reported receiving some typ of OJT. Similar to the Essential Medicine and Family Planning Programs, supervision was lacking for test kits. Thirty two percent of the facilities reported never receiving supervision and another 34 percent reported that supervision including test kits was more than three months ago.

Storage conditions for test kits were found to be better than that of the other programs with 66 percent acceptable or excellent. Challenges still remain with one third (34%) storing test kits in unacceptable conditions.

As with contraceptives, HIV test kits are intended to be in full supply throughout the system. As a result of this exercise 15 percent of the hospitals were found to have had a stockout of Determine on the day of the visit and 23 and 29 percent were stocked out of Rapi-test and SD Bioline respectively. Retrospectively, 31 percent of the hospitals experienced at least one stockout of Determine and 25 percent a stockout of Rapi-test in the six months prior to the survey. Although the frequency of stockouts was relatively low, the duration ranged from 22 days (Rapi-test) to 25 days (Determine). Hospitals were understocked of Determine with less than one month on hand and slightly over one month of Rapi-test. At health centers the stock levels will last between two and a half months for Rapi-test and 6 months for Determine based on current consumption patterns.

APPENDIX 1: LOGISTICS INDICATORS ASSESSMENT TOOL 2006

Ghana Public Sector Health Commodities

Logistics Indicators Assessment Tool (LIAT) 2006

Acronyms

DK	Don’t know
LIAT	Logistics Indicators Assessment Tool
LMIS	logistics management information system
LPG	liquified petroleum gas
MOH	Ministry of Health
NGO	nongovernmental organization
SDP	service delivery point
STI	sexually transmitted illness
TB	tuberculosis

Interviewer's Guide

Facility Identification	Record the name of the facility and location. Using the codes provided for each question, place all other responses in the boxes on the right.
Information about Interview	Record the date the interview took place and list the names of the interviewers.
Introduction	Use the text here to guide your introduction of the survey to facility staff.
Questions 01 to 06	Receive permission to conduct the interview and record information regarding the interviewees.
Questions 101 to 115; 201 to 215; 301 to 315	Record responses by clearly circling either the number or letter that corresponds to the interviewee's response. Questions with letters may have multiple responses; questions with numbers have only a single response.
Table 1: Stock Status	Record the maximum months of stock, minimum months of stock, and order interval above the table. If the interviewee does not know these, mark DK as the response. To fill in the cells, follow the instructions above the table.
Table 2: Storage Conditions	Record observations on the main storage area (even if it is a cabinet) by responding to storage conditions 1 to 12 for every facility visited. For large storage areas that require stacking of multiple boxes, continue to complete storage conditions 13 to 17.
Table 3: LMIS Data Quality	Complete the table for all or for a selection of products.
Table 4: Order Fill Rate	Percentage Difference between Quantity Ordered and Quantity Received – for essential medicines.
End Interview	Ask the interviewee/s if they want to ask you any questions. Thank them for their time and cooperation.

Facility Services and Infrastructure

FACILITY IDENTIFICATION

Name of the facility _____

Facility location

City/town: _____

Region _____

District _____

Code of the facility.....

Mark the type of facility:
(1= CMS; 2=RMS; 3=Public Hospital; 4=Mission Hospital; 5=Health Centre/Clinic 7=Other _____) .....

Operating Authority 1=MOH; 2=GHS; 3=Mission

Facility characteristics:
Tarmac to the facility? (0=no; 1=yes) .....

Operational electricity on day of visit? (0=no; 1=yes) .....

Region..... ☐

District…….. ☐

Facility Code..... ☐☐

SDP Facility Type..... ☐

Operating Authority……. ☐

Tarmac ..... ☐

Electricity ..... ☐

INFORMATION ABOUT INTERVIEW

Date: _____

Interviewer/s: _____

_____

DAY/ MONTH/ YEAR

☐☐ ☐☐ ☐☐☐☐

Introduction

INTRODUCE ALL TEAM MEMBERS AND ASK FACILITY REPRESENTATIVES TO INTRODUCE THEMSELVES.

EXPLAIN THE OBJECTIVES OF THIS SURVEY:

Good day. My name is _____. My colleague and I are representing _____ (e.g., the MOH/GHS in the country under study). We are conducting a survey regarding the health commodity logistics system. We are looking at the availability of selected commodities and information about how you order and receive those products. We are visiting selected health facilities throughout the country; this facility was selected to be in the survey. The objectives of the survey are to collect current information on logistics system performance and stock status of key health products.

The results of this national survey will provide information to make decisions and to promote improvements. The survey has been/will be conducted again in the future to measure changes in the logistics system. The data collected during our visit will not be used to assess job performance or facility performance.

We would like to ask you a few questions about the products and supplies available at this facility. In addition, we would like to actually count selected products you have in stock today and observe the general storage conditions. We will be looking at a variety of forms. These include, stock cards, ledgers, RIVs, receipt books and forms, etc. Do you have any questions?

No.	Question	Code Classification	Comments
01.	Can we continue?	Yes ..... No	➔STOP
02.	Name and title of person interviewed for this section	_____ Title	
03.	Number of years and months you have worked at this facility?	Years: _____ Months: _____	
04.	Who is the principal person responsible for managing contraceptives at this facility? Name: _____	Facility does not manage……0 (**IF THE FACILITY DOES NOT MANAGE SKIP QUESTIONS 101 TO 115**) Nurse ....1 Midwife……..2 Supply Officer……3 Pharmacist……4 Dispensing Technician ....5 Medical Assistant……6 Other (Specify) _____9	
05.	Who is the principal person responsible for managing essential medicines at this facility? Name: _____	Facility does not manage……0 (**IF THE FACILITY DOES NOT MANAGE SKIP QUESTIONS 201 TO 205**) Pharmacist……1 Medical Assistant……..…..2 Dispensing Technician ……..3 Nurse……..4 Store Keeper……..5 Other (Specify) _____ 9	
06.	Who is the principal person responsible for managing HIV test kits at this facility? Name: _____	Facility does not manage……0 (**IF THE FACILITY DOES NOT MANAGE SKIP QUESTIONS 301 TO315**) Laboratory Technologist……..1 Nurse……..2 Medical Assistant……3 Other (Specify) _____ 9	

First, ask the following questions of the acting store manager for each of type of commodity. After asking the following questions, visit the warehouse, storeroom, or storage area where the health products listed are managed. If you are referred to another staff member for the stocktaking exercise, introduce the survey goals and objectives as you did during the introduction. Read the respondent the list of products that are included in the survey, and explain that we will refer to the list for some of the following questions.

REINTRODUCE THE TEAM AND SURVEY IF THE PERSON INTERVIEWED FOR THIS SECTION IS NEW

No.	Question	Code Classification	Comments

07.	Name and title of person interviewed for this section	_____ Title	
08.	Number of years and months you have worked at this facility?	Years: _____ Months: _____	
09.	Who is the principal person responsible for managing contraceptives at this facility? Name: _____	Nurse ..... 1 Midwife……..2 Supply Officer……3 Pharmacist……4 Dispensing Technician ..... 5 Medical Assistant……6 Other (Specify) _____ 9	

Facility Code: _____

Questions for contraceptives

No.	Questions	Code Classification	Comments
101	Do you use and fill out the following logistics forms to manage contraceptives?		
	A. stock cards/bin card/tally card (**MUST BE OBSERVED**)	Yes .....1 No 0	
	B. Ledger (**MUST BE OBSERVED**)	Yes .....1 No 0	
	C. daily register	Yes .....1 No 0	
	D. FP Daily Log	Yes .....1 No 0	
	E. RIV	Yes .....1 No 0	
	F. other	Yes (specify).....1 No 0	
102.	What LMIS reports do you use for reporting for contraceptives?		
	A. Family Planning Report	Yes .....1 No 0	
	B. other	Yes (specify).....1 No 0	
	Do LMIS reports include the following essential data items?		
	A. stock on hand	Yes .....1 No 0	
	B. quantities used	Yes .....1 No 0	
	C. losses and adjustments	Yes .....1 No 0	

104.	How often are these LMIS reports sent to the higher level? *(CIRCLE ALL THAT APPLY)*	Monthly ..... A Quarterly .....B Semi-annually ..... C Annually ..... D Other (specify) _____ W	
105.	When was the last time you sent a report for products at this facility?	Never .....1 Within the last month .....2 2 months ago .....3 3 months ago .....4 More than 3 months ago 5	
106.	How often are you supposed to send these reports to the higher level? *(CIRCLE ALL THAT APPLY)*	Monthly ..... A Quarterly ..... B Semi-annually ..... C Annually ..... D Other (specify)_____W	
107.	How did you learn to complete the forms/records used at this facility? *(CIRCLE ALL THAT APPLY)*	Never learned ..... A During a logistics workshop ..... B On-the-job training ..... C On-the-job (self-learning) ..... D FP training involving logistics ……E Other (specify) _____W	
108.	How many emergency orders for contraceptives have you placed in the last 3 months?	None .....0 1……..1 2.....2 3.....3 More than 3.....4	
109.	Who determines this facility's contraceptive resupply quantities? *(CIRCLE ALL THAT APPLY)*	The facility itself ..... A Higher-level facility ..... B Other (specify) _____W	
110.	How are the facility's resupply quantities determined?	Formula (specify) _____ 1 Don't know .....2 Other (specify) 9	
111.	Who is responsible for transporting contraceptives to your facility? *(CIRCLE ALL THAT APPLY)*	Local supplier delivers ..... A Higher level delivers ..... B This facility collects from RMS……C This facility collects from higher level facility……..…D This facility collects from CMS……..E Other (specify) .....W	
112.	What type of transportation is most often used?	Facility vehicle .....1 Public transportation .....2 Private vehicle .....3 Boat .....4 Motorcycle .....5 Bicycle .....6 Other (specify)_____9	
113.	On average, approximately how long does it take between ordering and receiving contraceptives from your public commodity source (CMS/RMS)?	Less than 2 weeks.....1 2 weeks to 1 month .....2 Between 1 and 2 months .....3 More than 2 months 4	

114.	When did you receive your last supervision visit that included stock management for contraceptives (e.g., stock cards checked, reports checked, expired stock removed, supplies checked)?	Never received.....1 Within the last month .....2 Within the last 3 months .....3 Within the last 6 months .....4 More than 6 months ago .....5 Other (specify) _____9	
115.	Who conducted the most recent supervisory visit to your facility that included stock management (e.g., stock cards checked, reports checked, expired stock removed, supplies checked)?	DHMT……1 RHD supervisor……2 GHS headquarters……..…3 Other (specify) 9	

Facility Code: _____

REINTRODUCE THE TEAM AND SURVEY IF THE PERSON INTERVIEWED FOR THIS SECTION IS NEW

No.	Question	Code Classification	Comments
10.	Name and title of person interviewed for essential medicines.	_____ Title	
11.	Number of years and months you have worked at this facility?	Years: _____ Months: _____	
12.	Who is the principal person responsible for managing essential medicines at this facility? Name: _____	Pharmacist……1 Medical Assistant……..…..2 Dispensing Technician ……..3 Nurse……..4 Store Keeper……..5 Other (Specify) _____ 9	

Questions for essential medicines

No.	Questions	Code Classification	Comments
201	Do you use and fill out the following logistics forms for essential medicines?		
	A. stock cards/bin card/tally card (**MUST BE OBSERVED**)	Yes .....1 No 0	
	B. Ledger (**MUST BE OBSERVED**)	Yes .....1 No 0	
	C. daily register	Yes .....1 No 0	
	D. RIV	Yes .....1 No 0	
	E. other	Yes (specify).....1 No 0	
202.	What LMIS reports do you use for reporting?		
	A. Stock Availability Report	Yes .....1 No 0	
	B. Tracer Medicines Report	Yes .....1 No 0	
	C. other	Yes (specify).....1 No 0	
	Do LMIS reports include the following essential data items?		

	A. stock on hand	Yes .....1 No 0	
	B. quantities used	Yes .....1 No 0	
	C. losses and adjustments	Yes .....1 No 0	
204.	How often are these LMIS reports sent to the higher level? *(CIRCLE ALL THAT APPLY)*	Monthly ..... A Quarterly .....B Semi-annually ..... C Annually ..... D Other (specify) _____ W	
205.	When was the last time you sent a report for essential medicines at this facility?	Never .....1 Within the last month .....2 2 months ago .....3 3 months ago .....4 More than 3 months ago 5	
206.	How often are you supposed to send essential medicine reports to the higher level? *(CIRCLE ALL THAT APPLY)*	Monthly ..... A Quarterly ..... B Semi-annually ..... C Annually ..... D Other (specify)_____W	
207.	How did you learn to complete the forms/records used at this facility? *(CIRCLE ALL THAT APPLY)*	Never learned ..... A During a logistics workshop ..... B On-the-job training ..... C On-the-job (self-learning) ..... D Other (specify) _____W	
208.	How many emergency orders for essential medicines have you placed in the last 3 months?	None .....0 1……..1 2.....2 3.....3 More than 3.....4	
209.	Who determines this facility's essential medicine resupply quantities? *(CIRCLE ALL THAT APPLY)*	The facility itself ..... A Higher-level facility ..... B Other (specify) _____W	
210.	How are the facility's essential medicine resupply quantities determined?	Formula (specify) _____ 1 Don't know .....2 Other (specify) 9	
211.	Who is responsible for transporting essential medicines to your facility? *(CIRCLE ALL THAT APPLY)*	Local supplier delivers ..... A Higher level delivers ..... B This facility collects from RMS……C This facility collects from higher level facility…….....…D This facility collects from CMS……..E Other (specify) .....W	

212.	What type of transportation is most often used?	Facility vehicle .....1 Public transportation .....2 Private vehicle .....3 Boat .....4 Motorcycle .....5 Bicycle .....6 Other (specify) _____9	
213.	On average, approximately how long does it take between ordering and receiving essential medicines from your public commodity source (CMS/RMS)?	Less than 2 weeks.....1 2 weeks to 1 month .....2 Between 1 and 2 months .....3 More than 2 months 4	
214.	When did you receive your last supervision visit that included stock management for essential medicines (e.g., stock cards checked, reports checked, expired stock removed, supplies checked)?	Never received.....1 Within the last month .....2 Within the last 3 months .....3 Within the last 6 months .....4 More than 6 months ago .....5 Other (specify) _____9	
215.	Who conducted the most recent supervisory visit to your facility that included stock management for essential medicines (e.g., stock cards checked, reports checked, expired stock removed, supplies checked)?	DHMT……1 RHD supervisor……2 GHS headquarters……3 Other (specify) 9	

Facility Code: _____

REINTRODUCE THE TEAM AND SURVEY IF THE PERSON INTERVIEWED FOR THIS SECTION IS NEW

No.	Question	Code Classification	Comments
13.	Name and title of person interviewed for HIV test kits.	_____ Title	
14.	Number of years and months you have worked at this facility?	Years: _____ Months: _____	
15.	Who is the principal person responsible for managing HIV test kits at this facility? Name: _____	Laboratory Technologist……..1 Nurse……..2 Medical Assistant……..3 Other (Specify) _____ 9	

Questions for HIV test kits

No.	Questions	Code Classification	Skip/ Comments
301	Do you use and fill out the following logistics forms to manage HIV test kits?		
	A. stock cards/bin card/tally card (**MUST BE OBSERVED**)	Yes .....1 No 0	
	B. Ledger (**MUST BE OBSERVED**)	Yes .....1 No 0	
	C. daily register	Yes .....1 No 0	
	D. RIV	Yes .....1 No 0	
	E. other	Yes (specify).....1 No 0	
302.	What LMIS reports do you use for reporting on HIV test kits?		
	A. Monthly HIV Test Usage Report	Yes .....1 No 0	
	B. other	Yes (specify).....1 No 0	
	Do LMIS reports include the following essential data items?		

	A. stock on hand	Yes .....1 No 0	
	B. quantities used	Yes .....1 No 0	
	C. losses and adjustments	Yes .....1 No 0	
304.	How often are these LMIS reports sent to the higher level? *(CIRCLE ALL THAT APPLY)*	Monthly ..... A Quarterly .....B Semi-annually ..... C Annually ..... D Other (specify) _____ W	
305.	When was the last time you sent a report for HIV test kits at this facility?	Never .....1 Within the last month .....2 2 months ago .....3 3 months ago .....4 More than 3 months ago 5	
306.	How often are you supposed to send these reports to the higher level? *(CIRCLE ALL THAT APPLY)*	Monthly ..... A Quarterly ..... B Semi-annually ..... C Annually ..... D Other (specify)_____W	
307.	How did you learn to complete the forms/records used for HIV test kits at this facility? *(CIRCLE ALL THAT APPLY)*	Never learned ..... A During a logistics workshop ..... B On-the-job training ..... C On-the-job (self-learning) ..... D Other (specify) _____W	
308.	How many emergency orders for HIV test kits have you placed in the last 3 months?	NA …….....7 None .....0 1……..1 2.....2 3.....3 More than 3.....4	
309.	Who determines this facility's HIV test kits resupply quantities? *(CIRCLE ALL THAT APPLY)*	The facility itself ..... A Higher-level facility ..... B Other (specify) _____W	
310.	How are the facility's resupply quantities determined?	Formula (specify) _____ 1 Don't know .....2 Other (specify) 9	
311.	Who is responsible for transporting HIV test kits to your facility? *(CIRCLE ALL THAT APPLY)*	Local supplier delivers ..... A Higher level delivers ..... B This facility collects from Regional Laboratory ……C This facility collects from higher level facility……..…D This facility collects from CMS……..E Other (specify) .....W	

312.	What type of transportation is most often used?	Facility vehicle .....1 Public transportation .....2 Private vehicle .....3 Boat .....4 Motorcycle .....5 Bicycle .....6 Other (specify) _____9	
313.	On average, approximately how long does it take between ordering and receiving HIV test kits from your public commodity source (CMS/RMS)?	Less than 2 weeks.....1 2 weeks to 1 month .....2 Between 1 and 2 months .....3 More than 2 months 4	
314.	When did you receive your last supervision visit that included HIV test kits stock management (e.g., stock cards checked, reports checked, expired stock removed, supplies checked)?	Never received.....1 Within the last month .....2 Within the last 3 months .....3 Within the last 6 months .....4 More than 6 months ago .....5 Other (specify) _____9	
315.	Who conducted the most recent supervisory visit to your facility that included HIV test kits stock management (e.g., stock cards checked, reports checked, expired stock removed, supplies checked)?	DHMT……1 RHD supervisor……2 GHS headquarters……3 Other (specify) 9	

TABLE 1: Stock Status (October 2005 – March 31, 2006 and the day of visit)

Column:
1. Name of all authorized products that will be counted
2. Unit of count for the product

Note*:* Columns 1 and 2 should be filled out before questionnaires are printed for the survey.

3. Whether or not the product is managed at this facility, answer Y for yes or N if no. Note that for some products, at certain levels all facilities should manage the product. In such cases, this column should be marked Y.
4. Check if the stock card is available, answer Y for yes or N for no.
5. Check if the stock card had been updated within the last 30 days, answer Y for yes or N for no. Note: If the stock card was last updated with the balance of 0 and the facility has not received any resupply, consider the stock card up-to-date. Also, if the product has not been issued since the last entry, consider the stock card up-to-date.
6. Record the balance on the stock card.
7. Record if the facility has had any stockout of the product during the most recent six full months before the survey (three months for test kits), answer Y for yes or N for no.
8. Record how many times the product stocked out during the most recent full 6 months before the survey according to stock cards, if available, or to a key informant if not. Note source information.
9. Record the total number of days the product was stocked out during the most recent full 6 months before the survey.
10. Record the quantity of product dispensed to users or issued from the primary storeroom during the most recent 6 months before the survey (three months for test kits). Note: If the answer to column 4 is N, record NA in this column.
11. Record the number of months the issued data represents (may be less than 6); record the months for which there is any data recorded, including 0. Note: If column 4 is N, record NA in this column.
12. Record the quantity of usable product in the storeroom. Estimate to ¼ of a bottle for open containers or tablets. (Usable = ready for distribution and not expired)
13. Record if the facility is experiencing a stockout of the product on the day of the visit, *according to the physical inventory*, answer Y for yes or N for no.
14. Record the quantity of expired products. Count all expired products on the day of the visit. If there are products that are near expiry (within one week), note in the comments section.

Maximum months of stock_____**3**_____ Minimum months of stock _____**2**_____ Order interval____**1**_____ month

Facility Code: _____

Source documents: Stock cards, ledger

Product	Units of count	Managed at this facility? (Y/N)	Stock card available? (Y/N)	Stock card updated ? (Y/N)	Balance on stock card	Stockout most recent 6 months (Y/N)	Number of stockouts	Total number of days	Total issued (most recent 6 months)	Number of months of data available	Physical inventory—Store room	Stockout today? (Y/N)	Quantity of expired products
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Lo-Femenal	Cycle												
Depo Provera	Vial												
Male condoms	Piece												
Norplant	set												
Artesunate (50mg) + Amodiaquine (153.1 mg)	Tab												
Albendazole 200/400 mg	Tab												
Metronidazole 200 mg	Tab												
Paracetamol 500 mg	Tab												
Paracetamol 120mg/5ml	Bottle												

Product	Unit of Count	Managed at this facility?	Stock Card Available? (Y/N)	Stock Card Updated? (Y/N)	Balance on Stock Card	Stockout most recent 6 months (Y/N)	Number of Stockouts	Total Number of Days	Total Issuesd (most recent 6 months)	Number of Months of Data Available	Physical Inventory – Store Room	Stockout Today (Y/N)	Quantity of expired products
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Amoxycillin 125mg/5ml	Bottle												
Amoxycillin 250mg	Capsule												
Procaine penicillin 4 mu	Vial												
ORS	Sachet												
Oxytocin injection	Ampule												
Ferrous Sulphate 200 mg	Tab												
Ferrous Fumarate 322 mg **(IF STOCKCARD IS COMBINED RECORD IN THIS ROW AND CHECK HERE)** _____	Tab												

Comments:

Product	Units of count	Managed at this facility?	Stock card available? (Y/N)	Stock card updated? (Y/N)	Balance on stock card	Stockout most recent 3 months (Y/N)	Number of stockouts	Total number of days	Total issued (most recent 3 months)	Number of months of data available	Physical inventory—Store room	Stockout today? (Y/N)	Quantity of expired products
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Determine HIV 1/2	Test												
Rapi- test HIV 1/2	Test												
SD Bioline	Test												
Vironostika Uniform II HIV 1/2 plus O	Test												

Comments:

No.	Question	Code Classification	Go To
16.	Are stock cards recorded using the smallest unit of count?	Yes (always) ……1 Yes (sometimes)……2 No (not at all) 0	

Facility name and code: _____

TABLE 2: Storage Conditions

Items 1–12 should be assessed for all facilities for products that are ready to be issued or distributed to clients. Place a check mark in the appropriate column based on visual inspection of the storage facility; note any relevant observations in the comments column**. *To qualify as "yes," all products and cartons must meet the criteria for each item.***

		Contvs.	Essential medicines	HIV test kits
No	**Description**	**Yes = 1 No = 0**	**Yes = 1 No = 0**	**Yes = 1** No = 0
01.	Products that are ready for distribution are arranged so that identification labels and expiry dates and/or manufacturing dates are visible.			
02.	Products are stored and organized in a manner accessible for first-to-expire, first-out (FEFO) counting and general management.			
03.	Cartons and products are in good condition, not crushed due to mishandling. If cartons are open/damaged, determine if products are wet or cracked due to heat/radiation (fluorescent lights in the case of condoms, cartons right-side up for Depo-Provera®) or crushed.			
04.	The facility separates damaged and/or expired products from usable products and removes them from inventory.			
05.	Products are protected from direct sunlight at the time of visit.			
06.	Cartons and products are protected from water and humidity at the time of the visit.			
	Condition	**Yes = 1 No = 0**	**Yes = 1 No = 0**	**Yes = 1 No = 0**
07.	Storage area is visually free from harmful insects, bats and rodents. (Check the storage area for traces of rodents [droppings], bats or insects.)			
08.	Storage area is secured with a lock and key, but is accessible during normal working hours; access is limited to authorized personnel.			

09.	Products are stored at the appropriate temperature on the day of the visit according to product temperature specifications.			
10.	Roof is maintained in good condition to avoid sunlight and water penetration.			
11.	Storeroom is maintained in good condition (clean, all trash removed, sturdy shelves, organized boxes).			
12.	The current space and organization is sufficient for existing products and reasonable expansion (i.e., receipt of expected product deliveries for foreseeable future).			
GL	Do you see DELIVER yellow guidelines? (MUST BE VISIBLE)			

The additional standards below can be applied to any facility large enough to require stacking of multiple boxes.

		Contvs.	Essential medicines	HIV test kits
No.	**Description**	**Yes = 1** **No = 0**	**Yes = 1** **No = 0**	**Yes = 1** No = 0
13.	Products are stacked at least 10 cm off the floor.			
14.	Products are stacked at least 30 cm away from the walls and other stacks.			
15.	Products are stacked no more than 2.5 meters high.			
16.	Fire safety equipment is available and accessible (any item identified as being used to promote fire safety should be considered (e.g. water bucket, sand). Do not consider empty and/or expired fire extinguishers as valid fire safety equipment).			
17.	Products are stored separately from insecticides and chemicals.			

Additional guidelines for specific questions:

Item 2: In noting proper product arrangement, consider the shelf life of the different products.

Item 4: Conduct the discarding of damaged or expired products according to the facility's procedures (this may differ from one facility to another). Specify if procedures exist and note what they are.

Item 8: This refers to either a warehouse secured with a lock or to a cabinet in a clinic with a key.

Facility Code: _____

Source documents: Contraceptives: Stock cards, ledger and Family Planning Report
Essential medicines: Stock cards, ledger, Stock Availability Report
Test kits: Stock cards and Monthly Facility Test Usage Report

TABLE 3: LMIS DATA QUALITY: USABLE STOCK ON HAND AT TIME OF MOST RECENT LMIS REPORT

Column:
1. List of products
2. Record if this product is managed at the facility; Y for yes and N for no.
3. Get the most recent LMIS report showing the selected products, and record the stock on hand from the LMIS report .
4. Write the quantity of usable stock on hand from the stock records from the time of the selected LMIS report.
5. Note the reasons for any discrepancy.

Product	Usable Stock on Hand (at time of most recent LMIS report)			
	Managed at this facility? (Y/N)	According to most recent LMIS report	**From stock ledger or stock cards from time of LMIS report**	**Reasons for discrepancy**
1	**2**	**3**	**4**	**5**
Lo-Femenal				
Depo- Provera				
Norplant				
Paracetamol 500mg tabs				
Artesunate (50mg) + Amodiaquine (153.1 mg) tabs				
ORS				
Amoxycillin 250 capsules				
Oxytocin injection				

ampules				
Ferrous fumarate tabs				
Determine HIV 1/2				
Rapi- test HIV 1/2				
SD Bioline				
Vironostika Uniform II HIV 1/2 plus O				

Facility Code: _____

Source documents: Stock cards, ledger, Requisition, RIV, Receipt book or forms

TABLE 4. PERCENTAGE DIFFERENCE BETWEEN QUANTITY ORDERED AND QUANTITY RECEIVED – FOR ESSENTIAL MEDICINES

Column:

1. List the same products as in table 1 or use a sample of those products.
2. Enter the quantity ordered for the last order period for which products should have been received (i.e., don't include open orders whose expected receipt date has not arrived).
3. Enter the date the order was placed.
4. Enter the quantity received in the last order.
5. Enter the date the order was received.

Product	Source	Quantity Ordered for Last Order Period	Date Order Placed	Quantity Received in Last Order/Procurement	Date Order Received
1	**2**	**3**	**4**	**5**	**6**
Paracetamol 500mg tabs					
Artesunate (50mg) + Amodiaquine (153.1 mg) tabs					
ORS					
Amoxycillin 250 capsules					
Oxytocin injection ampules					
Ferrous fumarate tabs					

ASK THE PERSON/PEOPLE YOU INTERVIEWED IF THEY WANT TO ASK YOU ANY QUESTIONS.

Comments or general observations on products management:

THANK THE PERSON/PEOPLE WHO TALKED WITH YOU. REITERATE HOW THEY HAVE HELPED THE PROGRAM ACHIEVE ITS OBJECTIVES, AND ASSURE THEM THAT THE RESULTS WILL BE USED TO DEVELOP IMPROVEMENTS IN LOGISTICS SYSTEM PERFORMANCE.

Notes/Comments:

APPENDIX 2: LIAT FACILITY SAMPLE

Region	District	Facility
Ashanti	Kwabre	Ankaase Methodist Hospital
	Adansi South	New Edubiase Hospital
	Adansi West	Obuasi Hospital
	Kwabre	Asonomaso Hospital
	Afigya Sekyere	Wiamoase
	Ahafo Ano South	Biemso MCH
		Wioso MCH
	Akim North (Konongo)	Juansa Heatlh Centre
		Agogo Presbyterian Hospital
	Amansie East	Dominase SDA Hospital
	Amansie West	Manso Nkwanta MCH/FP Centre
		Odaho Clinic
	Atwima Nwabiagya	Nkawie-Toase Hospital
	Ejisu Juaben	Kwaso Health Centre
	Kumasi	Kwadaso SDA Hospital
		Regional Medical Stores
		Public Health Lab
	Offinso	St. Patrick's Hospital - Manse-Offinso
		Offinso Maternity Clinic
	Sekyere West	Asubuaso Clinic
		Beposo Health Centre
		Nsutaman Health Centre
		Effiduase Govt. Hospital
		Benim Health Center
		Kofiase Health Center
Brong Ahafo	Jaman	Manyera Rural Clinic
		Abuokrom Rural Clinic
	Dorma	Dorma Presbyterian Hospital
	Kintampo	RMS Kintampo
	Techiman	Techiman Ahmadiyaa Hospital
		Techiman Holy Family Hospital
	Wenchi	Wenchi Methodist Hospital
		Government Maternity Home
		Nsawkaw Health Centre
	Nkoranza	Akuma Rural Clinic Nkoranza
	Asutifi	St. Elizabeth Hospital
	Sunyani	Abesim Rural Clinic
		Fiapre Rural Clinic
	Yeji	St. Mathias
Central	A.A. Kwamankese	Ayeldu Clinic (CHPS facility)
	A.O.B. Asikuma	Breman-Asikuma Catholic Hospital
	Agona	Swedru Government Hospital

	Ajumako	Ajumako Biesease Health Centre
	Gomoa	Apam Catholic Hospital
	Lower Denkyira	Twifo Mokwaa Health Centre
		Camp Community Clinic
	Mfanstiman	Essushyia Health Centre
	Upper Denkyira	Diaso Health Centre
	Cape Coast	Regional Medical Stores
Eastern	Afram Plains	Kwasi Fante Health Centre
	Birim North	Akokoaso RCH
		Mukyia Clinic
	East Akim	Kibi Government Hospital
	Fanteakwa	Begoro Hospital
		Bosuso Health Centre
	Kwahu South	Apradang RCH
		Atibie Government Hospital
		Nkawkaw RCH
	Kwahu West	Holy Family Catholic Hospital
	New Juaben	Densuano Clinic
	Suhum Kraboa/Coaltar	Marfokrom RCH
	West Akyem	Asamankese Health Centre
		Danso RCH
	Koforidua	Regional Medical Stores
	Akwapin South	Nsawam RCH
		Nsawam Government Hospital
	Asuogyaman	Akrade RCH
		Boso Health Centre
	Manya Krobo	Akuse Government Hospital
		Atua Government Hospital
	New Juabeng	St. Joseph's Hospital, Koforidua
	Yilo Krobo	Klo Agogo Health Centre
		Nsutapong RCH
		Huhunya RCH
Greater Accra		
	Accra	Princess Marie Louis Hospital
	Accra	Mamprobi Polyclinic
	Dangbe West	Agomeda Clinic
	Tema	Tema Polyclinic
	Ga	RMS
	Tema	CMS
	Korle Bu	Public Health Reference Laboratory
	Dangbe East	Dangbe East Hospital
Northern	East Gonja	Kpandai Health Centre
		Kpalbe Health Centre
		Salaga Hospital
	Nanumba	Lanja Clinic
	Savelugu/Nanton	Zoggu Health Centre
	Tamale	RMS
		Bilpeila Heatlh Centre
	Tolon/Kumbungu	Dalun Heatlh Centre
	West Gonja	Damango Hospital
		Bawena Health Centre
	Yendi	Yendi Hospital
	West Mamprusi	Nasia Clinic (CHPS)

Upper East	Bawku East	Mognori Clinic
		Pusiga Health Centre
		Kupkarigu CPHS
		Tubon Community Clinic
	Bawku West	Garu Health Centre
	Bolgatanga	Zuarungu Health Centre
		Datoku Clinic
	Bongo	Namoo Health Centre
	Builsa	Wiaga Catholic Clinic
	Navrongo	Navrongo War Memorial Clinic
	Bolgatanga	Regional Medical Stores
	Garu	Sum Aduri Community Clinic
Upper West	Jirapa	Ulloh Health Centre
		Billaw Health Centre
	Nadowli	Kamehegu Clinic
		Nadowli Hospital
	Sissala	Tumu Hospital
	Wa	Loggu Heatlh Centre
		RMS
		Gurungu Health Center
Volta	Akatsi District	Ave Afiadenyigba MCH
		Ave Dakpa Health Centre
	Ho District	Tsito Heatlh Centre
		Abutia Agove Health Centre
		Dzolo Gborgame Health Centre
		Lume Health Centre
	Hohoe District	Nyagbo Sroe Health Centre
		Have Health Centre
	Jasikan District	Nkonya Wurupong Health Centre
		Abotoase Health Centre
		Abotoase RCH
	Keta District	Abor/weme Sacred Heart Hospital
		Tsiame/Asadame HC
		Keta Government Hospital
		Penyi MCH
	Dambai District	Dambai MCH/FP Clinic
	Krachi District	Dormabin Health Centre
		Grubi MCH/FP
	Nkwanta District	Breweniase MCH Clinic
	North Tongu District	Fodzoku Health Centre
	South Dayi	Peki Government Hospital
	South Tongu District	Sogakope Hospital
		Combone Poly, Sogakope
	Ho	RMS
	Kpando	Vakpo RCH Comm. Clinic
Western	Ahanta West	Dixcove Hospital
	Bibiani Anhwiaso Bekwai District	Wenchi EU Clinic
		Merewa EU Clinic
		Bibiani Hospital
	Jomoro	Half Assini Hospital
		Siloam (VCT)

	Tikobo No. 2 Clinic
Juabeso Bia District	Sefwi Mempeasem Health Centre
	Agyemandiem EU Clinic
Sefwi Wiawso District	Nsawura Health Centre
	Kramokrom Heatlh Centre
	Ackaakrom EU Clinic
Wassa Amenfi West	Asnakraguwa Hospital
Wassa West	Bogoso Clinic
Shama Ahanta East Metro	RMS

APPENDIX 3: LIAT DATA COLLECTORS

LOGISTICS INDICATORS ASSESSMENT TOOL TRAINING ALISA HOTEL – TUESDAY 18 – 21 APRIL 2006		
	Name	**Title and Institution**
CENTRAL	1. Inua I. Yusuf	Principal Pharmacist – GHS, ICD, HQ
	2. Bernard Asamany	Ag. Dep. Dir. Logistics – GHS, SSDM HQ
	3. Romeo Tetteh	Ag. Mgr. Logistics – SSDM, GHS
REGIONAL		
ASHANTI	4. Joshua Arthur	Senior Supply Officer – RMS, Ksi
BRONG-AHAFO	5. Phyllis Afenyo	Principal Storekeeper – Regional Health Directorate, Syi
CENTRAL	6. R.R.Paintsul	RMS, C/R, P.S.O
EASTERN	7. Philip Opoku Amponsah	Pharmacist – RMS, K'dmea
GREATER ACCRA	8. Ruth Ayanful	
NORTHERN	9. James Abugri	
UPPER WEST	10. Dery Y. Lazarus	Pharmacist - RMS, WA
UPPER EAST	11. Azure Benson	Pharmacist – Upper East
VOLTA	12. Abudgy Mawfred	Pharmacist – RMS, Volta
WESTERN	13. Emmanuel Graves Smith	Supply Officer – RMS, Takoradi
CONSULTANTS	14. Ruth Ayanful	University of Ghana – Noguchi
	15. Alberta Addo	University of Ghana – Noguchi
	16. Henry Tagoe	University of Ghana – Noguchi
	17. James Abugri	University of Ghana – Noguchi
	18. Charlotte Agbemazi	University of Ghana – Noguchi
DELIVER STAFF	19. Parfait Edah	Resident Advisor, DELIVER Ghana
	20. Egbert Bruce	Program Officer DELIVER Ghana
	21. Erika Ronnow	Senior Research & Evaluation Officer DELIVER Washington
	22. Colleen McLaughlin	Public Health Advisor DELIVER Washington
	23. Erin Shea	Program Coordinator DELIVER Washington

APPENDIX 4: GHANA LOGISTICS SYSTEM ASSESSMENT TOOL (LSAT)

Ghana Logistics System Assessment Tool (LSAT)

2006

DELIVER
DELIVER, a six-year worldwide technical assistance support contract, is funded by the U.S. Agency for International Development (USAID).

Implemented by John Snow, Inc. (JSI), (contract no. HRN-C-00-00-00010-00) and subcontractors (Manoff Group, Program for Appropriate Technology in Health [PATH], and Social Sectors Development Strategies, Inc.), DELIVER strengthens the supply chains of health and family planning programs in developing countries to ensure the availability of critical health products for customers. DELIVER also provides technical management of USAID's central contraceptive management information system.

This document does not necessarily represent the views or opinions of USAID. It may be reproduced if credit is given to John Snow, Inc./DELIVER.

Recommended Citation
John Snow, Inc./DELIVER. 2004. *Logistics System Assessment Tool (LSAT)*. Arlington, Va.: John Snow, Inc./DELIVER, for the U.S. Agency for International Development.

John Snow, Inc.
1616 North Fort Myer Drive, 11th Floor
Arlington, VA 22209 USA
Phone: 703-528-7474
Fax: 703-528-7480
Email: deliver_project@jsi.com
Internet: deliver.jsi.com

Contents

Acronyms .....

Logistics System Assessment Tool (LSAT) User's Guide .....

Background and Intended Use .....

Benefits .....

Overall Process .....

Planning for the LSAT .....

Using the LSAT in a Decentralized Health System .....

Applying the LSAT .....

Analysis of the Collected Information .....

Logistics System Assessment Tool (LSAT)

Introduction

Background Information

SECTION I: Organization and Staffing

SECTION II: Logistics Management Information System (LMIS)

SECTION III: Product Selection

SECTION IV: Forecasting

SECTION V: Obtaining Supplies/Procurement

SECTION VI: Inventory Control Procedures

SECTION VII: Warehousing and Storage

SECTION VIII: Transport and Distribution

SECTION IX: Organizational Support for Logistics System

SECTION X: Product Use

SECTION XI: Finance/Donor Coordination/RHCS Planning

Acronyms

ARV	antiretroviral
BCC	behavior change communication
CPR	contraceptive prevalence rate
CPT	Contraceptive Prevalence Tables
CS	contraceptive security
DK	Don't know
DOT	directly observed treatment short-course
FEFO	first-to-expire, first-out
FP	family planning
HIV/AIDS	human immunodeficiency virus/acquired immune deficiency syndrome
HMIS	health management information system
IEC	information, education, and communication
IUD	intrauterine device
LIAT	Logistics Indicators Assessment Tool
LMIS	logistics management information system
LPG	liquified petroleum gas
LSAT	Logistics System Assessment Tool
MDG	Millennium Development Goals
MOH	Ministry of Health commodity security
NA	not applicable
NGO	nongovernmental organization
PRSP	Poverty Reduction Strategy Plan
RH	reproductive health
RHCS	reproductive health commodity security
RHCS/CS	reproductive health commodity security/ commodity security
SDP	service delivery point
STI	sexually transmitted illness
SWAp	sector wide approach
TB	tuberculosis

Background and Intended Use

The Logistics System Assessment Tool (LSAT) is one of two data-gathering tools (with the Logistics Indicators Assessment Tool) developed by the DELIVER project to assess a logistics system and the system's environment. The LSAT is a diagnostic and monitoring tool that can be used to complete an annual assessment or as an integral part of the work planning process. The information collected using the LSAT is analyzed to identify issues and opportunities and, from those, to outline further assessment and/or appropriate interventions.

As assessments using the LSAT are conducted and analyzed in successive years, the results can contribute to the monitoring, improvement, and sustainability of system performance; and to provide critical non-logistics data that can identify a country's contraceptive security strengths and weaknesses.

Benefits

The LSAT can:

- Provide stakeholders with a comprehensive view of all aspects of a logistics system.
- Be used as a diagnostic tool to identify logistics and contraceptive security issues and opportunities.
- Raise collective awareness and ownership of system performance and goals for improvement.
- Be used by country personnel as a monitoring tool (to learn and continually improve performance).
- Provide input for work planning.

Overall Process

Assessment Period/Cycle

The LSAT can be conducted annually or as agreed upon within selected countries, ideally, within the three-month period prior to work planning or strategic planning exercises.

Data Collection

There are two methods for data collection:

a. Discussion groups (preferred approach) involving either (1) a central-level discussion group and a separate lower-level discussion group (e.g., district representatives) or (2) a joint discussion group composed of central and lower-level participants. Plan to conduct, at a minimum, one discussion group of central-level people.

b. Key informant interviews can be conducted at both the central and lower levels using the LSAT as a guide.

It is highly recommended that the discussion group participants or interviewer and interviewees complete a limited number of field visits. These visits can be made pre-data collection to sample current circumstances or post-data collection to follow-up on issues that arise during data collection.

Data Analysis and Recommendations for Work Plan

Data analysis and development of recommendations and a work plan should take place immediately following data collection. This process should include a thorough review of system strengths and weaknesses in order to develop and prioritize a set of objectives and interventions that will address issues raised during the LSAT exercise.

Annual Learning and Performance Improvement

Each year, the findings from the current and prior year's assessments should be compared to measure progress. Likewise, the results of interventions and the assumptions they are based on should be examined so the experience can be applied to the coming year's work plan.

Analysis of the Collected Information

The information collected through the LSAT can be used both as part of the work planning process, and/or to monitor progress over time. These are discussed separately below.

Work Planning

To inform the work planning, users can review the strengths and weaknesses of the logistics system, and use the information to develop appropriate objectives and interventions as part of an effective work plan. If there is time, it is highly recommended that a participatory analysis of the LSAT discussion results be done. This is especially recommended if a group discussion is used because the participants are already together, but the analysis can also be arranged if option 2 is used. The session can take up to a day, and it can occur on a separate day with a slightly different participant mix (most participants should attend both sessions).

The main steps include:

- Develop a consolidated summary of the key points and observations (e.g., strengths and weaknesses).
- If an LSAT has been done previously, compare findings of the current and prior year LSAT findings and note the reasons for any significant changes, including assumptions that did not work. The consolidated LSAT II format should be used.
- Identify key existing conditions or circumstances (the context) that will influence the choice of objectives and interventions.
- Identify your objectives or reevaluate objectives from last year. Describe the objectives as the desired state, to the extent possible. For each objective, generate intervention ideas by reviewing the LSAT questions and responses in the areas identified as areas of strength or weakness.
- Select intervention ideas using the set of criteria provided in table 2.
- Use a scale of 1–3, lowest to highest, for each criterion per objective and per intervention selected. List as many objectives as participants think are necessary and as many interventions as necessary to achieve each objective.

If advisors elect to use the LSAT as the basis to begin a strategic planning process in commodity security, then it is likely that country stakeholders from other sectors, in addition to logistics, will need to be included as part of the main steps described above.

Use the following decision criteria to complete table 2:

- For *priority*, consider how large and wide the impact will be, whether this is an important pre-cursor/ first step, or synergism with other objectives/initiatives, and with funding source and MOH priorities. Score the objectives and then the interventions within each objective independently, by priority.
- For *feasibility*, consider the extent of political support, relevant policies, country and logistics system infrastructure, and cultural support. Independently score the objectives and then the interventions within each objective to reflect the feasibility of accomplishing the overall objective or intervention.
- For *resources*, consider if available resources (e.g., funds, materials, knowledge/skills) meet, exceed, or fail to meet resource requirements. The score assigned should reflect the level of resources available, compared to what is required to accomplish each intervention.

Use the results to develop a work plan consistent with the program's policies and procedures. Focus on the objectives and interventions with the greatest need, greatest likelihood of success, and/or available resources. If the priority and feasibility are high, but resources are not available, a resource development plan should be developed.
To assist in the development of the work plan, complete table 3 by identifying the following:

A. A description of the *desired state* that each intervention is expected to produce.
B. The *resources* for each intervention and their sources.
C. The *key assumptions* underlying each intervention. In other words, what needs to be in place to carry out the intervention.
D. The *indicators* for measuring progress toward completing the interventions and, therefore, toward achieving the objectives.
E. The *data sources* for each indicator.

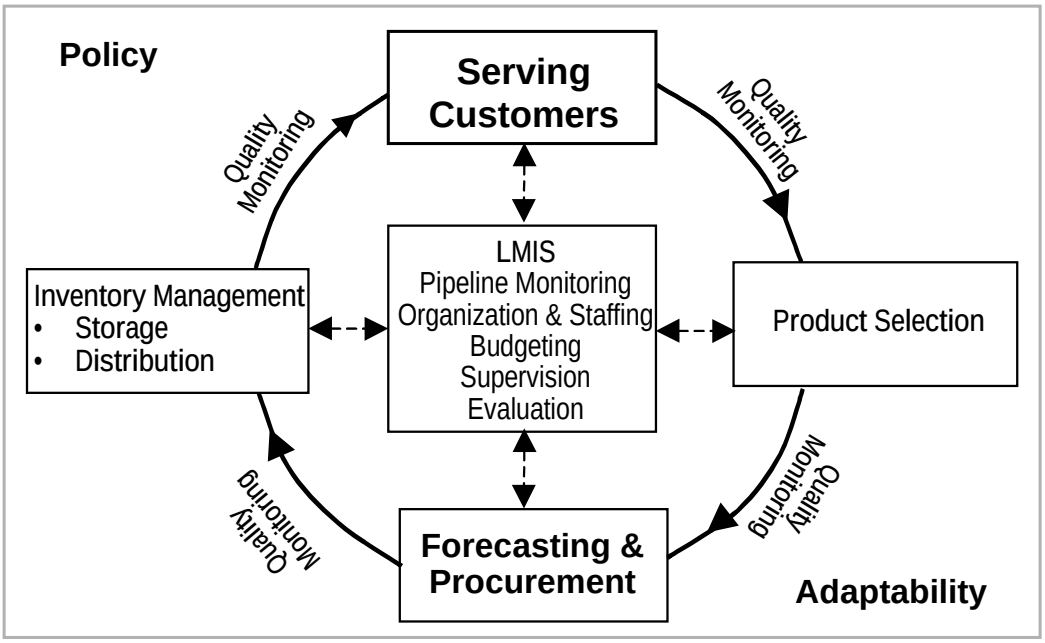
TABLE 3. WORK PLAN WORKSHEET

	DESIRED STATE	RESOURCES	ASSUMPTIONS	INDICATORS	DATA SOURCES
Objective 1:					
Interventions ■ ■ ■ ■					
Objective 2:					
Interventions ■ ■ ■ ■					

INTRODUCTION

The Logistics System Assessment Tool (LSAT) allows for a comprehensive system-level assessment of the performance of a logistics system for any health program managing any health commodity. The tool follows the logistics cycle (see figure 1) and includes questions on all components of the cycle. It can be used with the Logistics Indicators Assessment Tool (LIAT)* to provide an overall assessment of a program's ability to ensure the continuous availability of health commodities at service delivery points (SDPs).

Figure 1. Logistics Cycle



The background and use of the logistics cycle, and the overall process and analysis, are described in the *LSAT User's Guide*.

The overall purpose of the LSAT is to:

- Diagnose areas that need improvement.
- Monitor the system's performance.
- Raise stakeholders collective awareness about system performance.
- Gather informants' (logistics) knowledge, and use results of the analysis for work planning.

More information on the process of carrying out and analyzing the LSAT can be found in the *LSAT User's Guide*.

- The LIAT is a quantitative evaluation tool that measures five logistics indicators: stock status, stockout frequency, storage condition, forecast accuracy, and data quality. It can be accessed at www.deliver.jsi.com

Ghana 2006 Logistics System Assessment Tool (LSAT)

BACKGROUND INFORMATION

Date: 11/05/06 (DD/MM/YY)

Facilitator: Parfait Edah, Erika Ronnow and Colleen McLaughlin Country: Ghana

Name of program: MOH/GHS commodity logistics system

Type of program: ❑ Government ❑ NGO ❑ Private

Number of facilities visited: LIAT conducted which visited 141 facilities including CMS, PHRL, 10 RMS and over 100 hospitals and health centers

Levels visited: ❑ Central ❑ Regional ❑ District ❑ Service delivery point

Product categories covered in this assessment: (Check all that apply.)

❑ Contraceptives ❑ STI drugs ❑ HIV test kits ❑ Essential drugs

Total number of products managed in the system being assessed: See LIAT list of commodities and the GHS/MOH list of essential medicines (tracer drugs)

List the name and title of participants:

Name	Title	Name	Title
_____	_____	_____	_____
_____	_____	_____	_____

General notes:

Attach a copy of the organizational chart that describes the logistics personnel structure for the supply chain being assessed.

SECTION I: ORGANIZATION AND STAFFING

1. Does the national level have a logistics management unit?
   ❑ Yes ❑ No *Comments:*

If no, please check NO in questions 2 a–h and follow instructions for question 2.

2. Is the logistics management unit fully responsible for the following activities (If not, note the departments or positions responsible for each logistics task.):

   a. managing and using the logistics management information system?
   ❑ Yes ❑ No *Comments:*

   b. forecasting quantities needed?
   ❑ Yes ❑ No *Comments:*

   c. procurement?
   ❑ Yes ❑ No *Comments:*

   d. inventory management, storage, and distribution?
   ❑ Yes ❑ No *Comments:*

   e. product selection?
   ❑ Yes ❑ No *Comments:*

   f. staffing of logistics positions?
   ❑ Yes ❑ No *Comments:*

   g. budgeting for the logistics system?
   ❑ Yes ❑ No *Comments:*

   h. supervision and logistic staff development?
   ❑ Yes ❑ No *Comments:*

3. Are there documented guidelines for:

   a. managing and using the logistics management information system?
   ❑ Yes ❑ No *Comments:*

   b. forecasting quantities needed?
   ❑ Yes ❑ No *Comments:*

   c. procurement?
   ❑ Yes ❑ No *Comments:*

   d. inventory management, storage, and distribution?
   ❑ Yes ❑ No *Comments:*

   e. product selection?
   ❑ Yes ❑ No *Comments:*

   f. staffing of logistics positions?
   ❑ Yes ❑ No *Comments:*

   g. budgeting for the logistics system?
   ❑ Yes ❑ No *Comments:*

SECTION I: ORGANIZATION AND STAFFING

h. supervision and logistics staff development?
❑ Yes ❑ No *Comments:*

4. Is there a full-time logistics officer-in-charge?

❑ Yes ❑ No *Comments:*

If no, skip to question 6.

5. Does the logistics officer(s)-in-charge have the same level of authority for decision making as other functional unit heads?

❑ Yes ❑ No *Comments:*

6. What activities are used to coordinate key logistics tasks among those responsible for logistics?

❑ none
❑ joint work plans
❑ department meetings
❑ formal meetings
❑ written communications
❑ other_____

7. How many personnel positions have key logistics tasks?

8. How many of the positions with key logistics tasks are currently filled? If they are not filled, why not?

9. Provide or map an organogram that includes the relationship among key stakeholders, including government units, donors, other cooperating agencies and other supply chains (in terms of responsibilities for logistics activities).

10. Does the logistics system have a strategic plan that covers the next 1–3 years? Please attach.
❑ Yes ❑ No *Comments:*

SECTION I: ORGANIZATION AND STAFFING

11. What issues outside the supply chain impact the functioning of the supply chain?
(Note: Include major political, cultural, or economic factors such as political events, labor disputes, etc.)

12. Is there a national population policy?

❑ Yes ❑ No *Comments:*

If no, skip to question 19.

13. [CS] Does the national population policy address contraceptive security?

❑ Yes ❑ No *Comments:*

14. Does the population policy address HIV/AIDS and/or the link between contraceptives and HIV/AIDS?

❑ Yes ❑ No *Comments:*

15. Does the population policy influence the annual planning process?

❑ Yes ❑ No *Comments:*

16. [CS] Are there laws and regulations that hinder the importation or local production of contraceptives/other reproductive health commodities? If yes, give examples.

❑ Yes ❑ No *Comments:*

17. Are there policies or other restrictions that limit or encourage client access to family planning services or contraceptives?

❑ Yes ❑ No *Comments:*

In no, skip to question 19.

SECTION I: ORGANIZATION AND STAFFING

18. Describe the policies.

19. How are policymakers engaged in improving access to contraceptives?

20. Other comments on organization and staffing:

STRENGTHS	WEAKNESSES

SECTION I: ORGANIZATION AND STAFFING

RECOMMENDATIONS

SECTION II: Logistics Management Information System (LMIS) - Reproductive Health Program

1. Is there a logistics management information system?

❑ Yes ❑ No *Comments:*

If yes, go to question 3.

2. Is logistics information collected through another information system (e.g., HMIS)? Describe briefly.

3. Does the information system (LMIS, HMIS, other) include:

a. stockkeeping records (e.g., inventory control or tally cards, bin cards, stock registers) at all levels?
❑ Yes ❑ No *Comments:*

b. requisition and issue records (e.g., bills of lading, shipping records, requisition/issue vouchers) at all levels?
❑ Yes ❑ No *Comments:*

c. dispensed-to-user records at service delivery points?
❑ Yes ❑ No *Comments:*

d. summaries of consumption data at levels above service delivery points (e.g., districts, regions, central, etc.)?
❑ Yes ❑ No *Comments:*

e. stock on hand?
❑ Yes ❑ No *Comments:*

4. Do information system reports at all levels of the system show:

a. inventory balance (stock on hand)?
❑ Yes ❑ No *Comments:*

b. quantity dispensed or issued during a specified reporting period?
❑ Yes ❑ No *Comments:*

c. losses and adjustments?
❑ Yes ❑ No *Comments:*

d. quantities received?
❑ Yes ❑ No *Comments:*

SECTION II: Logistics Management Information System (LMIS) - Reproductive Health Program

5. Do LMIS or other information system reports received at the central level provide information on stock status at the SDP level (i.e., do central level staff have accurate routine information on which SDPs are stocked out, understocked, adequately stocked, or overstocked)?

❑ Yes ❑ No *Comments:*

---

6. How often are reports sent to each higher level of the system? Map the report flow.

---

7. How do managers monitor reporting rates and follow-up to obtain missing logistics reports?

---

8. What is the approximate percentage of information system reports received in time to be used for logistics decisions (ordering, distribution, etc.) at the following levels:

   a. Central? _____

   b. Regional?_____

   c. District? _____

   d. If below 100% at any level, explain why facilities don't report or don't report on time.

SECTION II: Logistics Management Information System (LMIS) - Reproductive Health Program

9. Are information system records reconciled against physical inventories at each level?

❑ Yes ❑ No

a. If yes, how is this done?

b. How often?

10. Is the information system automated at the following levels:

a. Central?
❑ Yes ❑ No *Comments:*

b. Regional?
❑ Yes ❑ No *Comments:*

c. District?
❑ Yes ❑ No *Comments:*

d. Service delivery points?
❑ Yes ❑ No *Comments:*

If no to questions 10 a–d, skip to 12.

11. Briefly describe the functions and processes that are automated.

SECTION II: Logistics Management Information System (LMIS) - Reproductive Health Program

12. Is external assistance provided to manage the information system? Describe.

13. Is the information system used to monitor and evaluate the program's performance?

    ❑ Yes ❑ No *Comments:*

14. How is logistics data recorded, managed, analyzed, and used at each level (forms, reports)?

15. What indicators related to logistics and/or product availability does the information system track (e.g., stockout rate, percentage of reporting, rational prescribing practices, etc.)?

    a. Who tracks these indicators? How often?

16. What decisions are based on information system reports (list what reports are used)?

    ❑ forecasting
    ❑ procurement
    ❑ transport/delivery
    ❑ scheduling supervisory visits
    ❑ inventory management
    ❑ how much to resupply
    ❑ other

SECTION II: Logistics Management Information System (LMIS) - Reproductive Health Program

17. Are logistics data used at each level of the system as appropriate for:

a. continuous monitoring of stock balances?

Central
❑ Yes ❑ No *Comments:*

Region
❑ Yes ❑ No *Comments:*

District
❑ Yes ❑ No *Comments:*

Service delivery point
❑ Yes ❑ No *Comments:*

b. calculating quantities for resupply?

Central
❑ Yes ❑ No *Comments:*

Region
❑ Yes ❑ No *Comments:*

District
❑ Yes ❑ No *Comments:*

Service delivery point
❑ Yes ❑ No *Comments:*

---

18. What feedback mechanisms are in place to channel logistics information back to lower levels?

❑ telephone ❑ reports ❑ meetings ❑ supervisory visit

❑ other ❑ none *Comments:*

---

19. Are issues data or dispensed-to-user data cross-checked against other data sources (e.g., service statistics, demographic surveys, etc.)?

❑ Yes ❑ No *Comments:*

If none, skip to 21.

SECTION II: Logistics Management Information System (LMIS) - Reproductive Health Program

20. a. What type of data are they checked against?

❑ service statistics ❑ demographic statistics ❑ survey data ❑ supervisors reports

❑ other_____

b. How often are they checked against each data type?

❑ quarterly ❑ semi-annually ❑ annually ❑ other_____

c. Who is responsible for cross-checking?

---

21. a. Is logistics information provided to appropriate decision makers for logistics planning (e.g., Ministry of Health, Ministry of Finance, UNFPA, USAID, World Bank, NGOs)?

❑ Yes ❑ No *Comments:*

b. What information is provided?

c. Who provides the information?

d. Who receives the information?

e. How often?

❑ monthly ❑ quarterly ❑ semi-annually ❑ annually ❑ other_____

f. How is the information used?

SECTION II: Logistics Management Information System (LMIS) - Reproductive Health Program

22. Other comments on LMIS:

STRENGTHS	WEAKNESSES

RECOMMENDATIONS

SECTION III: Product Selection

1. Is there a National Drug Policy document?

   ❑ Yes ❑ No *Comments:*

If no, skip to question 4.

2. a. When was the document published? Attach a copy.

   b. Who developed it?

   c. How often is it updated?

   d. Who receives it?

   e. How is it used?

3. Does the National Drug Policy contain written guidelines for donation of products?

   ❑ Yes ❑ No *Comments:*

4. Is duty tax imposed on imported drugs or products?

   ❑ Yes ❑ No *Comments:*

5. Are donated commodities exempt from duty tax?

   ❑ Yes ❑ No *Comments:*

6. How are new drugs or products registered?

7. Does the program have a written policy for maintaining continuity of brands and avoiding unnecessary duplication of interchangeable products (e.g., hormonal formulations of contraceptives and socially marketed products)?

   ❑ Yes ❑ No *Comments:*

SECTION III: Product Selection

8. a. Is there an essential services package?

❑ Yes ❑ No

b. If yes, what services are included?

9. Is there a national essential drug list?

❑ Yes ❑ No *Comments:*

If no, skip to question 16.

10. What categories of products does the list include? (check all that apply)

❑ contraceptives	❑ STI	❑ HIV/AIDS
❑ TB	❑ malaria	❑ vaccines
❑ vitamin supplements	❑ injection safety supplies	❑ other

11. List all contraceptives that are available in the country, and specify which contraceptives are on the essential drug list.

12. How many products, including contraceptives, does the list contain? (Provide a copy of the list.)

13. What criteria is used to select a product for the list?

14. To which levels of the system is the national essential drugs list officially distributed?

❑ Central	❑ Regional
❑ District	❑ Service delivery point

SECTION III: Product Selection

15. Is the list used for product selection and ordering commodities? If yes, explain how it is used.

16. Other comments on product selection:

STRENGTHS	WEAKNESSES

RECOMMENDATIONS

SECTION IV: Forecasting

1. Describe the forecasting process
   a. Who initiates it?

   b. When does it take place?

   c. How long does the process take?

---

2. Are forecasts developed using:

   a. dispensed-to-user data?
   ❑ Yes ❑ No *Comments:*

   b. distribution/issues data?
   ❑ Yes ❑ No *Comments:*

   c. stock on hand at all levels?
   ❑ Yes ❑ No *Comments:*

---

3. Are forecasts developed using the following:

   a. demographic data or disease prevalence/morbidity?
   ❑ Yes ❑ No *Comments:*

   b. service statistics?
   ❑ Yes ❑ No *Comments:*

---

4. Are forecasts validated by comparing previous estimated consumption with actual consumption?
   ❑ Yes ❑ No *Comments:*

---

5. How close have most forecasts been to actual consumption?
   ❑ less than 0–10% ❑ between 10–25%

   ❑ between 25–50% ❑ more than 50% discrepancy

---

6. a. How many products had serious forecast discrepancies in the past 2 years (+/- 25%)?

   b. Which ones?

   c. Which products had the smallest forecast discrepancies?

SECTION IV: Forecasting

7. What other factors are considered in the preparation of forecasts (e.g., consolidating decentralized forecasts or quantifications, seasonal and regional variations, standard treatment guidelines, national essential drug list, stockout periods, etc.)?

8. Do forecasts take into account programmatic plans (e.g., expansion of service outlets, training, IEC or behavior change campaigns, other organization's activities, etc.)? Describe.

9. a. Is technical assistance provided to develop correct forecasts?

   ❑ Yes ❑ No

   b. If yes, by whom?

10. What is the role of regional or lower levels in the forecasting process?

11. Are forecasts updated at least annually?

    ❑ Yes ❑ No *Comments:*

12. Are forecasts prepared on a schedule coinciding with local budgeting and procurement cycles?

    ❑ Yes ❑ No *Comments:*

13. Are long-term (e.g., 3 or more years) forecasts prepared?

    ❑ Yes ❑ No *Comments:*

SECTION IV: Forecasting

14. Are forecasts costed out and incorporated into budget planning by the MOH and/or donors? Explain.

15. Other comments on forecasting:

STRENGTHS	WEAKNESSES

RECOMMENDATIONS

SECTION V: Obtaining Supplies/Procurement

1. Who is responsible for procurement planning, and ordering and scheduling of shipments (e.g., logistics unit, procurement unit) at appropriate levels?

2. Describe the coordination between staff or unit(s) responsible for logistics activities and procurement staff.

3. Are short-term procurement plans based on forecasted needs?

   ❑ Yes ❑ No *Comments:*

4. Do these procurement plans take into account the following logistics system elements:

   a. current inventory levels (stock on hand)?
   ❑ Yes ❑ No *Comments:*

   b. consumption (dispensed to user or issues)?
   ❑ Yes ❑ No *Comments:*

   c. losses and adjustments?
   ❑ Yes ❑ No *Comments:*

   d. required order lead times of suppliers/donors?
   ❑ Yes ❑ No *Comments:*

   e. established stock levels, if relevant (i.e., maximum and minimum levels)?
   ❑ Yes ❑ No *Comments:*

   f. shipment and handling schedules?
   ❑ Yes ❑ No *Comments:*

   g. need for safety stock?
   ❑ Yes ❑ No ❑ NA *Comments:*

SECTION V: Obtaining Supplies/Procurement

5. Are procurement plans responsive to other factors related to product supply and demand (e.g., demographic trends, program changes or expansion, IEC campaigns, etc.)?

---

6. Are procurements limited to:

   a. pre-qualified suppliers?
   ❑ Yes ❑ No *Comments:*

   b. products on the national essential drugs list?
   ❑ Yes ❑ No *Comments:*

---

7. In general, are the correct amounts of all products procured and obtained at the appropriate time at the following levels:

   a. Central? ❑ Yes ❑ No ❑ NA *Comments:*

   b. Regional? ❑ Yes ❑ No ❑ NA *Comments:*

   c. District? ❑ Yes ❑ No ❑ NA *Comments:*

   d. Service delivery point? ❑ Yes ❑ No ❑ NA *Comments:*

   Specify the products, if any, that do not arrive in a timely manner or in appropriate amounts and why.

---

8. a. What are the procedures and time frames for ordering products from suppliers and donors?

   b. Do these take into account trade, regulatory, and currency restrictions? How?

SECTION V: Obtaining Supplies/Procurement

9. What is done to monitor/manage the coordination of procurement plans among suppliers/donors?

---

10. a. Is pipeline status regularly monitored so that procurement decisions can be made and actions can be initiated in time to avoid stockouts?

    ❑ Yes ❑ No *Comments:*

    b. If yes, who does this and how?

    c. How effective has this monitoring been? Explain.

---

11. Does the procurement unit or persons responsible for procurement:

    a. write and issue tenders?
    ❑ Yes ❑ No *Comments:*

    b. evaluate bids?
    ❑ Yes ❑ No *Comments:*

    c. monitor supplier performance?
    ❑ Yes ❑ No *Comments:*

---

12. Does the program have written procedures for ensuring that products meet defined standards of quality?

SECTION V: Obtaining Supplies/Procurement

13. What are the procedures for quality assurance, who is responsible, and how often are they done?

14. Is there a procedure for recording and reporting complaints about product quality to suppliers?

15. What other actions are carried out to ensure product quality?

16. Other comments on procurement:

STRENGTHS	WEAKNESSES

RECOMMENDATIONS

SECTION VI: Inventory Control Procedures

1. Specify what type of inventory control system is used (e.g., push, pull, etc.) and describe the system. Draw a diagram showing the relationships between the various levels.

---

2. What products are considered by the program to be in full supply?

---

3. Are there guidelines and established policies for maximum and minimum stock levels at which full supply products should be maintained (please note current maximum and minimum levels in comments section)?

   a. At the Central level?
   ❑ Yes ❑ No ❑ NA *Comments:*

   b. At the Regional level?
   ❑ Yes ❑ No ❑ NA *Comments:*

   c. At the District level?
   ❑ Yes ❑ No ❑ NA *Comments:*

   d. At the service delivery point level?
   ❑ Yes ❑ No ❑ NA *Comments:*

---

4. a. Are the inventory control guidelines for full supply products respected at all levels so stock levels generally fall between maximum and minimum?

   ❑ Yes ❑ No ❑ NA

   b. If no, why?

SECTION VI: Inventory Control Procedures

5. a. Are stock levels (maximum and minimum) for full supply products reviewed periodically?

❑ Yes ❑ No ❑ NA

b. Do reviews take into account changes in transport and information availability?

---

6. How are products that cannot be maintained in full supply allocated at the following levels:

a. Central?

b. Regional?

c. District?

d. Service delivery points?

---

7. Are there written provisions for the redistribution of over-stocked supplies?

❑ Yes ❑ No *Comments:*

---

8. How are stock imbalances handled by supervisors/managers at the following levels:

a. Central?

b. Regional?

c. District?

d. Service delivery points?

---

9. Does the program have a policy of storing and issuing stock according to first-to-expire, first-out (FEFO) inventory control procedures at all levels?

❑ Yes ❑ No *Comments:*

If no, what system is used?

SECTION VI: Inventory Control Procedures

10. In practice, does the program manage and issue stock according to FEFO inventory control procedures at all levels? Describe.

❑ Yes ❑ No *Comments:*

---

11. Are damaged/expired products physically separated from inventory and removed from stock records at the following levels:

a. Central?	❑ Yes ❑ No ❑ NA	*Comments:*
b. Regional?	❑ Yes ❑ No ❑ NA	*Comments:*
c. District?	❑ Yes ❑ No ❑ NA	*Comments:*
d. Service delivery point?	❑ Yes ❑ No ❑ NA	*Comments:*

---

12. Note the approximate quantities of products that expired within the past two years.

---

13. Does the program have a system for tracking product losses and other adjustments?

❑ Yes ❑ No *Comments:*

---

14. a. Are there significant losses and adjustments?
❑ Yes ❑ No *Comments:*

b. If yes, how are they investigated?

❑ Yes ❑ No *Comments:*

c. Are appropriate actions taken to prevent recurrence?

❑ Yes ❑ No *Comments:*

SECTION VI: Inventory Control Procedures

15. How does each level of the system calculate resupply quantities?

    a. Central? *Comments:*

    b. Region? *Comments:*

    c. District? *Comments:*

    d. Service delivery points? *Comments:*

---

16. Have stockouts occurred for any product in the last 12 months at the following levels:

    a. Central?
    ❑ Yes ❑ No *Comments:*

    b. Regional?
    ❑ Yes ❑ No *Comments:*

    c. District?
    ❑ Yes ❑ No *Comments:*

    d. Service delivery points?
    ❑ Yes ❑ No *Comments:*

If no to 16 a–d, skip to question 19.

---

17. a. Which products stockout most frequently?

    b. How long do the stockouts normally last?

    c. What causes these stockouts?

    d. At which levels or what parts of the country do most stockouts occur?

SECTION VI: Inventory Control Procedures

18. How did the stockouts affect program services and performance (specify which products and levels)?

---

19. Are there established procedures for placing emergency orders?

❑ Yes ❑ No *Comments:*

---

20. a. How often are emergency orders placed by the following levels (include product):
    i. Central?
    ii. Regional?
    iii. District?
    iv. Service delivery points?

    b. In general, how successfully are emergency orders filled?

Other comments on inventory control:

STRENGTHS	WEAKNESSES

SECTION VI: Inventory Control Procedures

RECOMMENDATIONS

SECTION VII: Warehousing and Storage

1. Does the program have written guidelines for storage and handling of all products, at all levels of the system (e.g., manuals, posters, etc.)?

   ❑ Yes ❑ No *Comments:*

2. Are there written guidelines for disposal of sharps, biohazardous material, and other medical waste?

   ❑ Yes ❑ No *Comments:*

3. Does the program conduct at least one physical inventory of all products every year at storage facilities at the following levels:

   a. Central?

   ❑ Yes ❑ No *Comments:*

   b. Regional?

   ❑ Yes ❑ No *Comments:*

   c. District?

   ❑ Yes ❑ No *Comments:*

   d. Service delivery point?

   ❑ Yes ❑ No *Comments:*

4. Are there cold chain requirements in this supply chain?

   ❑ Yes ❑ No ❑ NA *Comments:*

If no, skip to question 7.

5. Are cold chain storage resources (e.g., refrigerator, paraffin/kerosene, and temperature chart) available at all levels of the system, where appropriate?

   ❑ Yes ❑ No ❑ NA *Comments:*

6. How is the cold chain monitored to ensure that products are consistently maintained at appropriate temperatures? (Check all that apply.)

   ❑ written guidelines ❑ supervision

   ❑ temperature log sheets ❑ other_____

SECTION VII: Warehousing and Storage

7. Is the existing storage capacity adequate to handle the current quantities of products at the following levels:

a. Central?	❑ Yes ❑ No ❑ NA	*Comments:*
b. Regional?	❑ Yes ❑ No ❑ NA	*Comments:*
c. District?	❑ Yes ❑ No ❑ NA	*Comments:*
d. Service delivery point?	❑ Yes ❑ No ❑ NA	*Comments:*

8. Can the existing storage capacity handle all the quantities needed to ensure that no stockouts occur at the following levels?

a. Central?	❑ Yes ❑ No ❑ NA	*Comments:*
b. Regional?	❑ Yes ❑ No ❑ NA	*Comments:*
c. District?	❑ Yes ❑ No ❑ NA	*Comments:*
d. Service delivery point?	❑ Yes ❑ No ❑ NA	*Comments:*

If yes to all, skip to question 10.

9. How does the program cope with inadequate storage space at the following levels:

a. Central?

b. Regional?

c. District?

d. Service delivery point?

10. Does the program have plans for meeting storage requirements for at least the next five years?

❑ Yes ❑ No *Comments:*

11. Describe the program's plans for accommodating growth (e.g., infrastructure, distribution, etc.).

SECTION VII: Warehousing and Storage

12. Specify storage conditions that need improvement, if any (e.g., cleanliness, organization, temperature, building structure, etc.).

13. a. Is there a procedure for recording complaints about product quality at all levels?

❑ Yes ❑ No *Comments:*

b. If yes, how are they handled?

14. Are visual quality assurance inspections of products conducted at the storage facility at the following levels:

Level	YES	NO	How Often?	Comments
Central?				
Regional?				
District?				
Service delivery point?				

15. Are there written procedures or guidelines for destroying damaged and expired products?

❑ Yes ❑ No *Comments:*

If no, skip to question 17.

SECTION VII: Warehousing and Storage

16. Describe the written procedures/guidelines for destroying damaged and expired products.

17. In practice, are damaged and expired products destroyed according to the program's disposal guidelines at the following levels:

a. Central?	❑ Yes ❑ No	*Comments:*
b. Regional?	❑ Yes ❑ No	*Comments:*
c. District?	❑ Yes ❑ No	*Comments:*
d. Service delivery point?	❑ Yes ❑ No	*Comments:*

18. Describe notable problems encountered in the past year, if any, regarding wastage due to damage or expirations. Please note product, level, location, approximate amount of goods, and actions taken.

19. Other comments on warehousing and storage:

STRENGTHS	WEAKNESSES

SECTION VII: Warehousing and Storage

RECOMMENDATIONS

SECTION VIII: Transport and Distribution

1. Does the program's budget have a line item for:

   a. vehicles?
   ❑ Yes ❑ No *Comments:*

   b. fuel?
   ❑ Yes ❑ No *Comments:*

   c. spare vehicle parts?
   ❑ Yes ❑ No *Comments:*

   d. vehicle maintenance and repair?
   ❑ Yes ❑ No *Comments:*

   e. per diem?
   ❑ Yes ❑ No *Comments:*

   f. salaries for drivers?
   ❑ Yes ❑ No *Comments:*

2. a. Are any of the above items supported by external funds?
   ❑ Yes ❑ No

   b. If yes, how much? By whom?

   c. If yes, are there plans to phase out or end this support?

3. Do written procedures specify what type of distribution system should be used to distribute products between each level?

   ❑ Yes ❑ No *Comments:*

SECTION VIII: Transport and Distribution

4. How are products delivered between each level of the system (include frequency and means of transportation)? Specify between which levels. How are routes determined?

5. Is there a documented distribution schedule for all levels?

❑ Yes ❑ No *Comments:*

6. Which essential health products are distributed together (e.g., contraceptives, essential drugs, TB drugs, STI and HIV test kits and drugs, laboratory supplies, etc.)? Specify by level.

7. a. Are a sufficient number of functioning vehicles available, with available petrol and drivers, at appropriate levels, to meet the desired product distribution schedule?

❑ Yes ❑ No *Comments:*

b. Are vehicles regularly available for supervision?

❑ Yes ❑ No *Comments:*

c. Are vehicles available for biohazardous material and sharps waste transport?

❑ Yes ❑ No *Comments:*

8. Are vehicles used effectively for routine and emergency deliveries at all levels? Explain (e.g., maximum use of vehicle capacity, coordination of distribution routes, etc.).

SECTION VIII: Transport and Distribution

9. a. Are all vehicles in running order?

   b. How is vehicle maintenance handled at the different levels?

---

10. Where are the vehicles kept (at what levels of the system)?

---

11. In general, are orders delivered as scheduled at the following levels:

a. Central?	❑ Yes ❑ No	*Comments:*
b. Regional?	❑ Yes ❑ No	*Comments:*
c. District?	❑ Yes ❑ No	*Comments:*
d. Service delivery point?	❑ Yes ❑ No	*Comments:*

---

12. a. Is transportation outsourced at any level of the system?

    ❑ Yes ❑ No

    b. If yes, how effective has it been?

SECTION VIII: Transport and Distribution

13. Other comments on transport and distribution:

STRENGTHS	WEAKNESSES

RECOMMENDATIONS

SECTION IX: Organizational Support for Logistics System

1. How often do personnel at the following levels communicate?

   a. Central-level logistics staff and next level (e.g., region, province, district) staff
   ❑ Never ❑ Weekly ❑ Monthly ❑ Quarterly ❑ Annually *Comments:*

   b. Regional-level (or level below central) of logistics staff with district level staff (or next level down) in their area
   ❑ Never ❑ Weekly ❑ Monthly ❑ Quarterly ❑ Annually *Comments:*

   c. District-level logistics staff with the SDP level
   ❑ Never ❑ Weekly ❑ Monthly ❑ Quarterly ❑ Annually *Comments:*

If never to question 1 a–c, skip to question 3.

2. Describe what is done during meetings with staff with logistics responsibilities.

3. Is there a supervision system that covers logistics activities?
   ❑ Yes ❑ No *Comments:*

4. How often is supervision conducted at the service delivery points?
   ❑ Never ❑ Weekly ❑ Monthly ❑ Quarterly ❑ Annually *Comments:*

5. Is there a process in place for improving any gaps in the knowledge and skills of logistics personnel at the following levels?

   a. Central? ❑ Yes ❑ No *Comments:*

   b. Regional? ❑ Yes ❑ No *Comments:*

   c. District? ❑ Yes ❑ No *Comments:*

   d. Service delivery point? ❑ Yes ❑ No *Comments:*

6. Are there written procedures and guidelines (e.g., manuals, job aids, standards) to help staff carry out

SECTION IX: Organizational Support for Logistics System

their logistics responsibilities?

❑ Yes ❑ No *Comments:*

If no, skip to question 9.

7. List all procedures/guidelines that cover logistics responsibilities.

8. Are the procedures and guidelines distributed to staff at the following levels:

   a. Central? ❑ Yes ❑ No *Comments:*

   b. Regional? ❑ Yes ❑ No *Comments:*

   c. District? ❑ Yes ❑ No *Comments:*

   d. Service delivery point? ❑ Yes ❑ No *Comments:*

9. Do staff who manage commodities have a written job description that includes logistics responsibilities at the following levels?

   a. Central? ❑ Yes ❑ No *Comments:*

   b. Regional? ❑ Yes ❑ No *Comments:*

   c. District? ❑ Yes ❑ No *Comments:*

   d. Service delivery point? ❑ Yes ❑ No *Comments:*

10. Do logistics staff have the tools and resources they need to do their jobs at all levels (e.g., job aids, forms, carbon paper, calculators, shelving, vehicles, funds for transport, etc.)? If not, which tools or resources are missing at the following levels:

    a. Central? ❑ Yes ❑ No *Comments:*

    b. Regional? ❑ Yes ❑ No *Comments:*

    c. District? ❑ Yes ❑ No *Comments:*

    d. Service delivery point? ❑ Yes ❑ No *Comments:*

SECTION IX: Organizational Support for Logistics System

11. a. Is external assistance used to complete management and supervision activities?
❑ Yes ❑ No *Comments:*

b. If yes, describe the extent of the external assistance.

12. Describe supervisory relationships by job position/title and by level. Indicate if any position receives supervision from more than one person or unit. Provide a chart if possible.

13. Are supervisory responsibilities described in written job descriptions?

❑ Yes ❑ No *Comments:*

14. Are guidelines available for how the supervisor is to conduct the supervisory visit (e.g., introductions, positive style of interaction, follow-up)?

❑ Yes ❑ No *Comments:*

15. Are tools available that describe what to cover when conducting a supervisory visit (e.g., guidelines, a checklist)?

❑ Yes ❑ No *Comments/describe:*

If no to 13–15, skip to question 18.

16. Are these guidelines and tools used by supervisors?

SECTION IX: Organizational Support for Logistics System

17. Are supervisory visits conducted for staff at the following levels:

a. Central?	❑ Yes ❑ No	*Comments:*
b. Regional?	❑ Yes ❑ No	*Comments:*
c. District?	❑ Yes ❑ No	*Comments:*
d. Service delivery point?	❑ Yes ❑ No	*Comments:*

If no to 17 a–d, skip to question 21.

18. What types of activities take place during the visits:

a. review procedures for forecasting needs?
❑ Yes ❑ No *Comments:*

b. review procedures for ordering products?
❑ Yes ❑ No *Comments:*

c. observe product storage?
❑ Yes ❑ No *Comments:*

d. conduct physical inventory?
❑ Yes ❑ No *Comments:*

e. review of logistics records and reports?
❑ Yes ❑ No *Comments:*

f. discuss budgeting for logistics activities?
❑ Yes ❑ No *Comments:*

g. review changes made since last supervisory visit?
❑ Yes ❑ No *Comments:*

h. on-the-job training to improve job performance?
❑ Yes ❑ No *Comments:*

i. discuss what is working and what is not working?
❑ Yes ❑ No *Comments:*

j. discuss what help is needed (staff, equipment, forms, etc.)?
❑ Yes ❑ No *Comments:*

19. Is there a documented schedule for supervision?

❑ Yes ❑ No *Comments:*

20. a. Are supervisory visits conducted according to the established schedule? If not, why not?

b. How often do they take place?

c. Are there any constraints to conducting supervisory visits?

SECTION IX: Organizational Support for Logistics System

21. If a staff member's performance in logistics is not satisfactory, is the person provided with:

a. in-service training? ❑ Yes ❑ No *Comments:*

b. on-the-job training? ❑ Yes ❑ No *Comments:*

c. written instructions on how to improve? ❑ Yes ❑ No *Comments:*

d. a coach or mentor? ❑ Yes ❑ No *Comments:*

e. other? (describe)_____

22. Does the program conduct periodic staff development activities (e.g., classroom training, coaching, on-the-job training, etc.)?

❑ Yes ❑ No *Comments:*

23. Has training been given to current staff at all appropriate levels in the following areas:

a. completion and submission of LMIS reports?
❑ Yes ❑ No *Comments:*

b. proper storage of health products?
❑ Yes ❑ No *Comments:*

c. maintaining proper stock levels?
❑ Yes ❑ No *Comments:*

d. determining order quantities?
❑ Yes ❑ No *Comments:*

e. determining issue quantities?
❑ Yes ❑ No *Comments:*

f. estimating annual needs?
❑ Yes ❑ No *Comments:*

g. reviewing reports and records?
❑ Yes ❑ No *Comments:*

h. other? (list):_____
❑ Yes ❑ No *Comments:*

SECTION IX: Organizational Support for Logistics System

24. Other comments on organizational support for the logistics system:

STRENGTHS	WEAKNESSES

RECOMMENDATIONS

SECTION X: Product Use

1. Do written standard treatment guidelines exist for conditions that are treated with commodities in the supply chain being assessed?

   ❑ Yes ❑ No *Comments:*

If no, skip to question 4.

2. Specify the commodities in this supply chain that are required to comply with the standard treatment guidelines. Attach the list.

3. Are guidelines distributed to all the service delivery points?

   ❑ Yes ❑ No *Comments:*

4. Are there written procedures for monitoring and supervising prescribing practices (e.g., monitoring number of products/drugs prescribed/dispensed per prescription)?

   ❑ Yes ❑ No *Comments:*

If no, skip to question 6.

5. Are the procedures distributed to service providers at all levels?

   ❑ Yes ❑ No *Comments:*

6. Do written universal safety precaution guidelines exist (e.g., disposing of used needles, washing hands before and after contact with patient)?

   ❑ Yes ❑ No *Comments:*

If no, skip to question 8.

7. Are precaution guidelines distributed to service providers at all levels?

   ❑ Yes ❑ No *Comments:*

8. a. What mechanisms and resources are in place to ensure the implementation of standard treatment guidelines and universal safety precautions?

   b. To what extent are they followed?

   c. If not followed, what are the barriers to putting them into practice?

SECTION X: Product Use

9. Are commodities provided only to facilities that have staff trained and equipped to use them (e.g., TB drugs only to DOT-trained facilities, IUDs only to sites with trained providers)?

❑ Yes ❑ No *Comments:*

10. a. Are prescribing practices monitored and compared to standard treatment guidelines?

❑ Yes ❑ No *Comments:*

b. If so, how often?

c. By whom?

11. What contraceptive methods does each provider type offer (public, NGOs, social marketing, commercial, other government)?

12. Within the past five years has there been a change in the percentage of market share of methods provided by each supplier?

❑ Yes ❑ No *Comments:*

If no, skip to question 14.

13. Indicate the percentage of market share of methods provided by each supplier in year 1 (5 years ago) and year 5 (currently).

Source of information:_____

SECTION X: Product Use

Commodity	Government		NGO		Commercial	
	Year 1	Year 5	Year 1	Year 5	Year 1	Year 5
Lo-Femenal						
Depo-Provera						
Male Condom						
Norplant						

14. Have implications of the contraceptive method mix been assessed by decision makers?

❑ Yes ❑ No

a. Explain/provide examples.

15. a. Are there behavior change communication campaigns underway (or undertaken in the previous 2–3 years) that encourage the use of modern contraceptive methods, especially long-term and/or permanent methods?

❑ Yes ❑ No *Comments:*

b. If yes, describe campaigns and specify who is responsible for these activities.

16. Do the following barriers limit client access to services that use products from the supply chain being studied today?

a. programmatic? ❑ Yes ❑ No *Comments:*

b. operational? ❑ Yes ❑ No *Comments:*

c. cultural? ❑ Yes ❑ No *Comments:*

d. religious? ❑ Yes ❑ No *Comments:*

e. price? ❑ Yes ❑ No *Comments:*

f. other? ❑ Yes ❑ No (specify) *Comments:*

SECTION X: Product Use

17. Is access to the programs services negatively affected by perceptions of quality at the following provider sites?

a. public?	❑ Yes ❑ No	*Comments:*
b. NGO?	❑ Yes ❑ No	*Comments:*
c. social marketing?	❑ Yes ❑ No	*Comments:*
d. other? (specify)	❑ Yes ❑ No	*Comments:*

If no, skip to question 19.

18. What are the problems most commonly expressed?

19. Other comments on product use:

STRENGTHS	WEAKNESSES

RECOMMENDATIONS

SECTION XI: Finance/Donor Coordination/RHCS Planning – Reproductive Health Program

1. Does the reproductive health program's budget include line items for (specify the program):

   a. products?
   ❑ Yes ❑ No *Comments:*

   b. warehousing/storage?
   ❑ Yes ❑ No *Comments:*

   c. logistics management information system?
   ❑ Yes ❑ No *Comments:*

   d. transportation?
   ❑ Yes ❑ No *Comments:*

   e. logistics staff development?
   ❑ Yes ❑ No *Comments:*

   f. salaries for logistics staff?
   ❑ Yes ❑ No *Comments:*

   g. waste management?
   ❑ Yes ❑ No *Comments:*

2. What is the RH program's annual budget and expenditure for:

Drug budget?_____ Reported year_____ Annual expenditure_____

Contraceptive budget?_____ Reported year_____ Annual expenditure_____

Logistic budget?_____ Reported year_____ Annual expenditure_____

3. a. Who finances the RH program's annual budget?

   b. What percentage of the cost of products procured is locally financed?

4. What process is used to develop the RH program's budget?

SECTION XI: Finance/Donor Coordination/RHCS Planning – Reproductive Health Program

5. Considering the last available year's expenditure (capital and operating costs), is the budget sufficient?

   If not, why?

---

6. Estimate the percentage of contraceptives bought from domestic versus international suppliers.

---

7. Are clients charged for:

   a. services? ❑ Yes ❑ No *Comments:*

   b. contraceptives? ❑ Yes ❑ No *Comments:*

If no to question 7 a and b, skip to instructions above question 11.

---

8. Are revenues generated from the cost recovery system used for:

   a. commodity costs? ❑ Yes ❑ No *Comments:*

   b. logistics costs? ❑ Yes ❑ No *Comments:*

   c. other costs? ❑ Yes ❑ No *Comments:*

---

9. What approximate percentage of costs is recovered (e.g., through user's fees)? If possible, separate by commodity versus logistics.

SECTION XI: Finance/Donor Coordination/RHCS Planning – Reproductive Health Program

10. a. Where is the cost recovery money physically kept and managed?

    b. What is it used for?

11. Are pricing policies among RH suppliers supportive, neutral, or unsupportive toward encouraging competition from private and social marketing providers?

12. [CS] Is there a contraceptive financing gap currently or in the short-term (1 to 3 years)?

    ❑ Yes ❑ No *Comments:*

    If yes, quantify amount annually.

13. [CS] Is there a contraceptive financing gap in the medium-term (3 to 5 years)?

    ❑ Yes ❑ No *Comments:*

    If yes, quantify amount annually.

14. Estimate the annual amount spent on contraceptives provided by each of the following sources:

    a. government direct expenditures (including World Bank credits)?

    b. donors?

    c. NGOs?

    d. households?

    e. other sources (list) (e.g., social insurance program, private insurance, employer-based programs, etc.).

SECTION XI: Finance/Donor Coordination/RHCS Planning – Reproductive Health Program

15. Is the country engaged in a Poverty Reduction Strategy Plan (PRSP)?

❑ Yes ❑ No *Comments:*

If no, skip to question 17.

16. Is there a reference to CS as a precursor for attaining the Millennium Development Goals (MDG) targets in the PRSP?

❑ Yes ❑ No *Comments:*

17. Has the country set up a sector wide approach (SWAp) for health, reproductive health, or family planning?

❑ Yes ❑ No *Comments:*

18. [CS] Are contraceptive supplies addressed as an explicit government budget line item, either within or outside the SWAp?

❑ Yes ❑ No *Comments:*

19. Is there a favorable environment that encourages the private sector to supply contraceptives?

20. Is there market segmentation of contraceptives?

21. What is the percentage of the private market for contraceptives?

22. [CS] Is there a process for coordinating with donors for contraceptive supply?

❑ Yes ❑ No *Comments:*

If no, skip to question 27.

23. Does this process occur at specified intervals?

❑ Yes ❑ No *Comments:*

24. Describe the process and specify intervals.

25. [CS] Does the RH program initiate the coordination with donors?

SECTION XI: Finance/Donor Coordination/RHCS Planning – Reproductive Health Program

❑ Yes ❑ No *Comments:*

26. Is there a mechanism or a unit that currently coordinates procurement and product shipment with donors?

27. Are any contraceptive procured through a basket funding mechanism?

❑ Yes ❑ No *Comments:*

If no, skip to 30.

28. Specify which contraceptives are procured through basket funding.

29. Describe the process (e.g., timing, donors, etc).

30. What are the program's future plans for local financing? Are there plans by donors to phase out or reduce donations during the next five years?

31. Has the MOH developed and convened a RHCS coordination meeting?

❑ Yes ❑ No *Comments:*

If no, skip to question 33.

32. Please identify the stakeholders who regularly take part in these RHCS coordination meetings.

SECTION XI: Finance/Donor Coordination/RHCS Planning – Reproductive Health Program

33. [CS] Is there a RHCS/CS committee?

❑ Yes ❑ No *Comments:*

If yes, skip to question 35.

34. Are there other coordination mechanisms in place? If yes, give examples.

❑ Yes ❑ No *Comments:*

35. Does the committee involve all of the relevant stakeholders (donors, MOH, NGOs, commercial provider representatives, other sectors, etc.)?

❑ Yes ❑ No *Comments:*

36. [CS] Does the committee hold meetings at specified intervals (e.g., quarterly, annually)?

❑ Yes ❑ No *Comments:*

37. Does the committee make decisions and take action? If yes, give examples.

❑ Yes ❑ No *Comments:*

38. [CS] Is the committee effective in responding to external changes that affect CS?

❑ Yes ❑ No *Comments:*

Describe a recent example.

39. [CS] Is there a local contraceptive security champion with decision-making authority?

❑ Yes ❑ No *Comments:*

40. [CS] Has the Ministry, with other stakeholders, developed a national RHCS strategic plan?

❑ Yes ❑ No *Comments:*

If no, skip to question 45.

41. Describe the plan.

SECTION XI: Finance/Donor Coordination/RHCS Planning – Reproductive Health Program

42. [CS] Is the National RHCS strategic plan fully financed/resourced?

❑ Yes ❑ No *Comments:*

43. a. [CS] Is the National RHCS strategic plan being implemented?

❑ Yes ❑ No *Comments:*

b. How (e.g. nationally, regionally, locally)?

44. [CS] Does the plan include/commit governmental funds to purchase contraceptives?

❑ Yes ❑ No *Comments:*

45. Other comments on finance/donor coordination/RHCS planning:

STRENGTHS	WEAKNESSES

RECOMMENDATIONS

SECTION XI: Finance/Donor Coordination/RHCS Planning – Reproductive Health Program

APPENDIX 5: LSAT PARTICIPANTS

Group I: Inventory Control, Product Use	
Name	**Title**
R. Paintsil	Regional Medical Stores, Cape Coast, Central Region
Cecilia Abboah	DHMT New Juaben,RCH Koforidua, Eastern Region
Paul Baidoo	Hospital Enchi, Western Region
Alhaji Inua I. Yusuf	Senior Pharmacist, Pharmacy Unit , GHS

Group II: Forecasting, Procurement, Product Selection	
Name	**Title**
Peter Kyerematenng	Regional Medical Stores, Eastern Region
Isaac Conduah	DHMT, Sefwi-Wiawso, Western Region
Gloria Quansah Asare	National Family Planning Coordinator, GHS
Joseph Adu	SSDM/GHS
Joycelyn Azeez	Head of Procurement Unit, MOH
Vincent Kotoka	District Hospital, Cape Coast, Central Region

Group III: Warehousing and Storage, Transport and Distribution, LMIS	
Name	**Title**
Peter Gyimah	Head of Central Medical Stores, MOH
Oscar Amissa	Regional Medical Stores, Western Region
Anthony Boafo	THLD, DHMT, Central Region
Thomas Akrofi	Atua Hospital, Eastern Region
Egbert Bruce	Program Officer, JSI/DELIVER
Kwasi Addai Donkoh	Director of Stores Supplies and Drug Management, GHS

Group IV: Organizational Support, Finance, Donor Coordination	
Name	**Title**
Emmanuel Essandoh	USAID Representative
Elena Trajkovske	Procurement Officer, UNICEF
Thomas Wobil	UNFPA Representative
Parfait Edah	Resident Advisor, JSI/DELIVER
Henrietta Agyarko	Deputy Director Public Health Division, GHS
Theresa Akuoko	Policy Planning, Monitoring and Evaluation, PPME/GHS
Martha Gyansa-Lutherodt	Ag. Program Manager, Ghana National Drug Program, MOH

APPENDIX 6: LSAT STRENGTHS, WEAKNESSES AND RECOMMENDATIONS

Section I: Organization and Staffing

Section I: Organization and Staffing		
	Contraceptives	**Essential Medicines**
Strengths	• Policies are in place and somewhat operational (there is trust in the policies at the facility level). • There are a few committed, knowledgeable and dedicated staff at headquarters and regional levels. • Committees are in place and the structures exist. • Program staff have the technical knowledge for logistics functions.	
Weaknesses	• MOH/GHS divide (CMS/RMS data/information issue) – linkages are very weak among the different parties involved in the health system. • Weak capacity to manage logistics at the lower level. • Programs don't want to open up and let go of their functions (because the program staff have the technical knowledge of logistics functions).	
		• Weak linkage between forecasting and procurement. • Regional procurement practices for EM products (CMS vs. open market suppliers).
Recommendations	• Strengthen capacity and linkage between forecasting and procurement. • Increase logistics capacity at all levels of the systems. • Open up programs and leverage their capacities in other needed functional units. • Bridge MOH/GHS divide for increased activity between technical units.	

Section II: Logistics Management Information System (LMIS)

Section II: Logistics Management Information System (LMIS)		
	Contraceptives	**Essential Medicines**
Strengths	• A well functioning LMIS system which is robust. • Committed and dedicated staff. • Monitoring and evaluation is regularly done	• LMIS Structure is available. • Improved forecasting and procurement capacity.

	and robust (but needs improvements). • Donor support is appreciable regularly available.	
Weaknesses	• Over-dependence on donor support. • Increasing number of community health nurses largely untrained in logistics.	• Poor implementation of plans. • LMIS staff is largely untrained. • No reports to Stores Supplies and Drug Management (SSDM), Procurement and Supply Directorate (P&S) and Central Medical Stores (CMS) – the units concerned with procurement, storage and supply. • Vertical programs.
Recommendations	• Incorporate inventory management into the training/curricula of Community Health Nurses. • Develop transitional program to be financially sustainable and outline pricing levels. Link this with Poverty Reduction Strategic Plan (PRSP). • Pricing structure review of the price of contraceptives. Currently prenatal and delivery of free but contraceptives are expensive ("sex is expensive") and the poorest populations are having the highest Total Fertility Rates (TFR).	• Rigidly enforce use of LMIS (accuracy, timeliness, etc.) • Train available staff and recruit appropriate staff for vacancies concerned with logistics management functions. • Reconfigure reporting format to include SSDM (GHS), P&S (MOH), CMS in addition to Chief Pharmacist.

Section III: Product Selection

Section III: Product Selection		
	Contraceptives	**Essential Medicines**
Strengths	• Existence of National Drug Policy, STG and EML list. • Subscription to generic policy. • Wide dissemination of policies (STG and EML). • The flexibility of adding new products to the EML for emerging diseases.	
Weaknesses	• No adherence to the EML at certain levels (even at hospitals). • Non use of STG by some service providers. • Non involvement of program managers in the committee of experts for product selection into the EML.	
Recommendations	• Automation of STG and EML in consulting rooms for greater acceptability. When doctors look information up in a book, it is the perception of the patient that the doctor doesn't know what they are doing. This perception would not be a problem if this information were being looked up on the computer. (underway) • Waiver on taxes on raw materials for local manufacturers. (Now, it is cheaper to import medicines because of taxes) (underway) • Wider consultation during the review of the National Drug Policy and EML.	

Section IV: Forecasting

Section IV: Forecasting		
	Contraceptives	**Essential Medicines**
Strengths	• Structures and systems exist to support forecasting. • Technical assistance exists in all areas for forecasting. • Contraceptive and HIV/AIDS programs offer best practices that can be emulated.	
Weaknesses	• Thin human resources and high attrition. • Untimely submission of reports. • Parallel forecasting for certain programs. This forecasting is done by whom ever is supplying the funding.	
Recommendations	• There is the need to develop a system that captures and utilizes stock out and non-availability information as a component for forecasting. • There is a need to constitute a multi-disciplinary team to develop an integrated system of forecasting for all health commodities (one group that does all forecasting for all products) to minimize the parallel forecasting problem. This committee would be charged with collating information and facilitating information flow. • Capacity building for data collection and management at all levels is needed.	

Section V: Obtaining Supplies/Procurement

Section V: Obtaining Supplies/Procurement		
	Contraceptives	**Essential Medicines**
Strengths	• The enactment of procurement law. • Functional procurement units at all approved levels. • Existing guidelines (e.g. Procurement Procedure Manual (PPM), Standard Operating Procedures (SOP) for stores, and guidelines for donations). • LMIS for some contraceptives.	
Weaknesses	• Weak linkages between MOH, P&S, SSDM, CMS, and RMS. • Weak monitoring and evaluation systems. • Unclear roles and responsibilities for MOH, P&S and GHS SSDM.	
Recommendations	• Strengthen the existing systems for monitoring and evaluation particularly for post market surveillance. • Define roles and responsibilities of MOH, P&S and SSDM. • Improve linkages between P&S, SSDM, CMS and RMS by developing and implementing an effective procurement information management system. Automate the procurement information management system in which all of the key players have access.	

	• Procurement should go through the International Competitive Bidding (ICB) process.	

Section VI: Inventory Control Procedures

Section VI: Inventory Control Procedures		
	Contraceptives	**Essential Medicines**
Strengths	• Use of consumption for reordering. • Existence of policies, guidelines and structures. • Training programs are frequently being run (SSDM in collaboration with pharmacy unit).	
Weaknesses	• Inability to establish and monitor stock levels. • Inability to implement policies/guidelines because of weak monitoring and supervision as well as general resistance to change.	
		• High expiry of STI/donated products. Inability to refuse obsolete products (STI Kits).
Recommendations	• Adequate funds need to be given to facilities for training, procurement, etc. • Regular monitoring and supervision. • Strict adherence to donation policy (unneeded donations are entering the country and going to the SDPs). Review of the donation policies and create a specific policy for drugs (currently all donations are under one, general policy) via a ministerial task force. (Once developed, disseminate so that they are well understood and adhered to). • Fix (motivate) inventory managers. • Ensure proper record keeping and data management.	

Section VII: Warehousing and Storage

Section VII: Warehousing and Storage		
	Contraceptives	**Essential Medicines**
Strengths	• An integrated logistics system is in place. • CMS/RMS has the infrastructure to support scheduled delivery. • Availability of unique warehouses. • A semi-automated system is in place.	
Weaknesses	• RMS and SDPs need infrastructure, handling and storage (including cold storage) equipment. • Weak capacity to adequately support the system. Low caliber of staff currently handling drugs. • Poor record keeping as a result of weak capacity at SDP level.	
Recommendations	• Refurbish the identified RMS and SDPs.	

	• Staff should be trained in logistics management, warehousing and storage procedures.

Section VIII: Transport and Distribution

Section VIII: Transport and Distribution		
	Contraceptives	**Essential Medicines**
Strengths	• Clearly defined distribution route. • Needs assessment for vehicle type and quantities has been carried out. • Drivers trained in planned preventive maintenance (PPM).	
Weaknesses	• Inappropriate type of vehicles being used for scheduled delivery. • Multiple users of available trucks (staff carrying building materials etc.).	
		• Non availability of products to be served to clients (low availability at CMS). • Slow insurance reimbursement to RMS, leading to an inability to buy products.
Recommendations	• Procure appropriate type and quantity of vehicles. • Make products available to clients. • Each region needs 2-3 covered vans (3.5 tons) with high clearance.	

Section IX: Organizational Support for Logistics System

Section IX: Organizational Support for Logistics System		
	Contraceptives	**Essential Medicines**
Strengths	• Documents, guidelines and policies are in place.	
Weaknesses	• Implementation needs to improve. • Human resources are weak. There is a need for experts at all levels. • Commodity security. • Sustainable availability of funds.	
Recommendations	• Communications should be structured well and strengthened. • Good practices can be replicated. • Appropriate documentation for best practices and standards should be encouraged. • Moving policy into practice! MOH is known for policy development but the implementation of these policies has been weak.	
		• There should be commodity security for essential medicines.

Section X: Product Use

Section X: Product Use		
	Contraceptives	**Essential Medicines**
Strengths	• Compliance to Standard Treatment Guidelines (STG). • Good monitoring and supervision system (Chief Pharmacist). • Good quality products supplied. • Sample testing – QA sampling is done at CMS.	
Weaknesses	• Sample testing – there is no QA sampling done as a part of the routine technical supervisory visits to lower level facilities. Food and Drug Board is not decentralized so QA is not available outside Accra/Tema (in Tigo). • Poor record keeping/data management on product use. • Late submission of reports. • Safety guidelines are not fully followed (specifically injection control and injection safety).	
Recommendations	• Adequate resources should be made available to promote rational drug use. • Develop a product surveillance system. • Policies/Guidelines on product use should be strictly followed. • Pharmaceutical vigilance needs to guide post market quality assurance (efficacy of the drugs needs to be tested via a surveillance system).	

Section XI: Finance/Donor Coordination/CS Planning

Section XI: Finance/Donor Coordination/CS Planning		
	Contraceptives	**Essential Medicines**
Strengths	• Policies, protocols, guidelines and documents are in place. • Regularly yearly training. • No funding gap for 2006. • Government support for contraceptive procurement. • ICC in place and meets regularly. • Contraceptive security plan available. • High caliber of qualified personnel (forecasting group) to forecast including public and social marketing. • There is a system in place and guidelines for tracking the system.	• Policies and guidelines are in place. • The selection process is available and well documented. • Strong commitment from senior staff for health commodities.

Weaknesses	• Vertical management of contraceptives. • Commitment of donors (especially commitment to long term support). • Procurement system is for other drugs and not for contraceptives. Contraceptives are procured through UNFPA not through the procurement unit.	• Supervision is a problem. • Thin/insufficient stall. • No norm for procurement experts (all at the regional level). • Lack of funds, especially with Multi-Donor Budget Support (MDBS). • Commitment of donors is weak. Make promised but do not follow through with money. • Lack of a pricing policy. • Administrative bureaucracies. • Weak forecasting by medical stores. • Information flow from SDP to the district to the region is not adequate. • ICB process was originally 2 years and had been brought down but it is still at 11 months.
Recommendations	• MOH/GHS should procure contraceptives. • MOH/GHS should try to integrate contraceptives into the normal supply chain distribution for essential drug supplies. There should be integration of the management of contraceptives into the rest of the system. • Look for an alternative funding source. Should strive to look for long term funds/support. • Contraceptives should be a part of the benefits packages of NHIS. • Supervision should be improved. • Monitoring and Evaluation should be improved.	• Tools for supervision must be developed and adhered to. • Monitoring and evaluation must be a part of the system. • Donor commitment must be increased. • Pricing policy has to be developed and agreed upon. There should be a legal framework that supports this pricing policy. • Review current organograms in an effort to simplify the procurement process. • Quality Assurance systems should be improved upon to ensure quality of products on the market. • Ensuring commodity sustainable availability. • Availability of funds for commodity security. • Need a redistribution scheme to deal with wastage in the system (expiries and stock outs are both occurring in the system). • A venue for learning needs to be created to develop the ability to replicate good practices in there systems.

For more information, please visit www.deliver.jsi.com.

DELIVER

John Snow, Inc.

1616 North Fort Myer Drive, 11th Floor

Arlington, VA 22209 USA

Phone: 703-528-7474

Fax: 703-528-7480

www.deliver.jsi.com