

# Assessment of Contraceptive Logistics Management Information System in Addis Ababa City Administration

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## Table of contents

	<b>Pages</b>
<b>Acknowledgements</b> .....	<b>i</b>
<b>Acronyms</b> .....	<b>iv</b>
<b>Abstract</b> .....	<b>v</b>
<b>Background</b> .....	<b>1</b>
<b>Literature review</b> .....	<b>4</b>
<b>Objectives</b> .....	<b>9</b>
<b>Methodology</b> .....	<b>10</b>
<b>Operational definitions:</b> .....	<b>14</b>
<b>Results</b> .....	<b>15</b>
<b>1.Organizational Structure and Supply Chain Description</b> .....	<b>15</b>
<b>2. Training</b> .....	<b>17</b>
<b>3.Availability of contraceptives</b> .....	<b>19</b>
<b>Stock outs</b> .....	<b>21</b>
<b>Expired contraceptives</b> .....	<b>24</b>
<b>4. Logistics Management Information System</b> .....	<b>25</b>
<b>5.Inventory control for contraceptives</b> .....	<b>28</b>
<b>6. Supervision</b> .....	<b>28</b>
<b>Discussion</b> .....	<b>29</b>
<b>Conclusions</b> .....	<b>32</b>
<b>Recommendations</b> .....	<b>32</b>
<b>References</b> .....	<b>34</b>
<b>Annexes</b> .....	<b>36</b>
<b>Annex 1: Questionnaire</b> .....	<b>36</b>
<b>Annex 2: Focus group discussion guide</b> .....	<b>48</b>

## List of Tables

	<b>Pages</b>
<b>Table 1: Facilities available in Addis Ababa by type, 2006.....</b>	<b>17</b>
<b>Table 2: Training in the ECLS and utilization of LMIS forms &amp; Inventory control system by type of facility in Addis Ababa, 2006.....</b>	<b>24</b>
<b>Table 3: Percentage of facilities that received the quantity ordered by type of contraceptive (in the last order they received), Addis Ababa, 2006....</b>	<b>26</b>
<b>Table 4: Percentage of facilities stocked out of a specific type of contraceptive on the day of visit, Addis Ababa, 2006.....</b>	<b>28</b>
<b>Table 5: Quantity of expired products on the day of visit by sub city and number of SDPs with the expired product in Addis Ababa, 2006.....</b>	<b>30</b>
<b>Table 6: Percentage of facilities with stock card/ bin card available for selected contraceptives in Addis Ababa, 2006.....</b>	<b>31</b>
<b>Table 7: Stock card availability and information accuracy on stock cards for contraceptives by type of facility in Addis Ababa, 2006.....</b>	<b>32</b>

## List of Figures

<b>Figure 1: The Logistics Cycle.....</b>	<b>8</b>
<b>Figure 2: Contraceptives and information flow map in Addis Ababa .....</b>	<b>12</b>
<b>Figure 3: Flow of Contraceptives and Information in Addis Ababa, 2006.....</b>	<b>23</b>
<b>Figure 4: Availability of contraceptive methods on day of visit in Addis Ababa in 2006 (Based on physical inventory).....</b>	<b>25</b>
<b>Figure 5: Percent of facilities that reported reasons for stock outs .....</b>	<b>28</b>
<b>Figure 6: Average duration of stock out (in days) in the last 6 months, June – December/2005, Addis Ababa.....</b>	<b>29</b>

## Acronyms

AAU-MF	Addis Ababa University – Medical Faculty
CLS	Contraceptive Logistics System
CPR	Contraceptive Prevalence Rate
CHA	Community Health Agent
DHC	Department of community health
ECLS	Ethiopian Contraceptive Logistics System
EOP	Emergency Order Point
FGD	Focus Group Discussion
FHD	Family Health Department
FP	Family Planning
HD	Health Department
IUCD	Intra Uterine Contraceptive Device
JSI/DELIVER	John Snow Inc. / Deliver project
LMIS	Logistics Management Information System
LR	Logistics Reports
MOH	Ministry of Health
PASS	Pharmaceutical Administration and Supply Services
PHW	Primary Health Worker
RHB	Regional Health Bureau
SDP	Service Delivery Points
SNNPR	Southern Nation Nationalities Peoples Region
TTBA	Trained Traditional Birth Attendant

## **Abstract**

**Background:** In order to attain contraceptive security in the country which is the guarantee that all people have continuous access to the quality contraceptives they need for family planning requires the presence of efficient contraceptive logistics system. The existence of a successful LMIS produces current information on quantities of contraceptives dispensed to users which enables to accurately estimate requirements for contraceptives – an essential precondition towards achieving contraceptive security. Logistics data are collected, processed, and reported through a logistics management information system (LMIS) which increases the likelihood of an adequate supply of all contraceptives for all clients. Since a contraceptive supply chain cannot function effectively without timely, accurate LMIS data, the LMIS is an essential tool for supply chain managers, clients, and policy makers. A poorly functioning LMIS can either lead to running out of contraceptives or overstock. The former leads to unwanted pregnancies and the latter can lead to wastage of contraceptives, congestion of the stores, and incurs additional cost in inventory control and disposal of the expired contraceptives.

**Objectives:** It is to describe how well the contraceptive logistics management information system functions in the public health sector of Addis Ababa city administration and make recommendations to all parties concerned, concerning what changes should be made, and how, to improve the utilization of LMIS. It will assess and identify the nature and extent of the LMIS problems.

**Methods:** The list of facilities run by the RHB which either distribute to other facilities or provide contraceptives to clients was made first and then stratified to sub cities, hospitals, health centers, clinics and health posts. Sample size was calculated using the formula for cross-sectional studies. Randomly selected facilities from each stratum proportionate to their size- 8 sub-city HDs, 3 hospitals, 21 health centers, 6 clinics and 28 health posts - were investigated through quantitative

methods using structured questionnaires interviews. The principal person responsible for managing contraceptives was interviewed by well trained interviewers using pretested questionnaires in each facility. The results of the quantitative study were used for the design of the qualitative method – the focus group discussion guide.

**Results:** There exists a well-designed contraceptive logistics system with trained personnel, distributed standard LMIS formats and established inventory control procedures through support for those activities from JSI/DELIVER. Although it was designed to operate in a pull system it was actually found operating predominantly as a push system. Majority of the facilities (56.72%) were stocked out for at least one contraceptive they manage in their facilities and the highest stock out rate was for minipills. Expired contraceptives were found in six of the sub cities and the RHB in big quantities. Only 24 facilities (35.82%) had stock cards or bin cards for at least one contraceptive managed in their facilities. Keeping quality records and reports are very low mainly due to lack of supervision and follow up from higher levels. Availability of separate stores for sub cities, training of personnels managing contraceptives and supportive supervision are among the major recommendations.

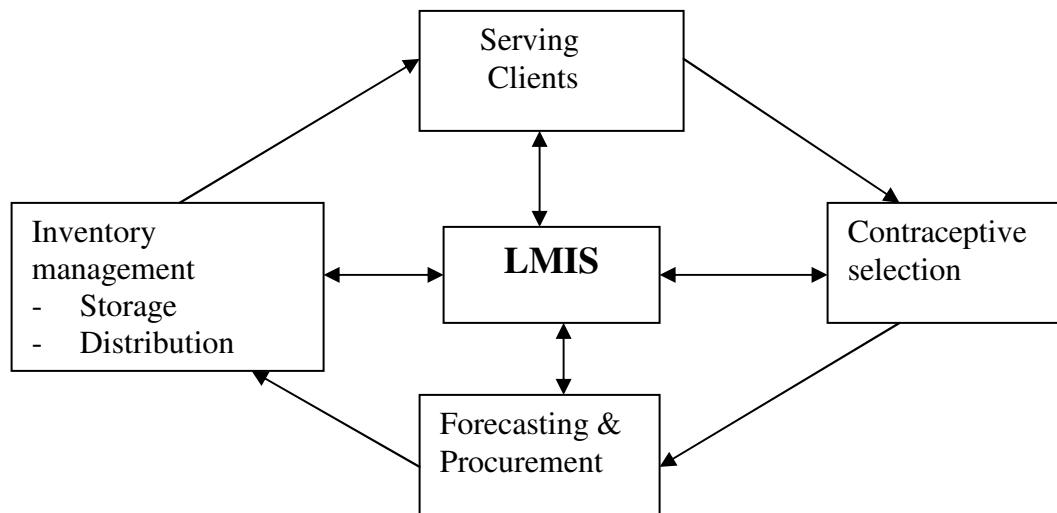
## **Background**

Family planning service was started in Ethiopia in 1966 by Family Guidance Association of Ethiopia, non-governmental and non-profit association to provide information, counseling & clinical services to families who voluntarily express their need & desire for spacing the birth of their children. The services were limited to a small, one-room clinic (in Addis Ababa), ran and managed by a single nurse which gradually expanded to a number of facilities throughout the country with the involvement of the Ministry of Health(1). The knowledge for any contraceptive method was initially limited to people residing in big cities but through time it expanded to the rural areas and it was 81.5% according to DHS Ethiopia 2000. This survey also showed a contraceptive prevalence rate of 6% for modern methods(2). This CPR is among the lowest in the world. With this increasing knowledge and practice of family planning will always come an increasing need for improvement of the contraceptive logistics system in the country.

Among other factors for the low contraceptive prevalence rate in Ethiopia is the low availability of contraceptives due to a poorly functioning contraceptive logistics system (CLS). In order to have a sustained improvement in the family planning service coverage and quality service the availability of contraceptives is critically important. It is the contraceptive logistics system that is responsible for getting the contraceptives from the central level to the family planning client. It encompasses a number of activities along the supply chain, such as transporting and storing the contraceptives, maintaining adequate supply levels, and keeping records. If the logistics system is not working well, service delivery sites will not have the contraceptive supplies their clients need. The purpose of a contraceptive logistics system is to get the right quantities of the right contraceptives to the right places at the right time in the right condition at the right cost (3).

Logisticians have developed a systematized approach (the logistics cycle) to describe the activities of a logistics system (4).

**Figure 1: The Logistics Cycle**



Information is the motor that drives the logistics cycle. Information has to be gathered and analyzed about each activity in the system to coordinate subsequent actions. Thus the need to manage the information system for other activities of the logistics cycle to function properly. Logistics management information system (LMIS) is the collection, processing and utilization of logistics information for decision-making.

The six rights also apply to the logistics management information system. Hence, we need to have the right information on the right contraceptives in the right quantities at the right time and right place for making the right decisions on what, when and how much to order (5). If the contraceptive LMIS is not functioning well, service delivery points will be forced to experience either stock outs or excess stocks finally leading to dissatisfaction of clients or wastage of contraceptives. Thus we

need to study the status of implementation of the LMIS both to determine the availability of contraceptives and recommend interventions to redesign the LMIS.

The essential logistics data to be collected, processed and utilized for decision making are stock on hand, consumption, and losses & adjustments. These data need to be collected, processed and analyzed at all levels of service delivery points (hospitals, health centers, and health posts) and warehouses at different levels (PASS in the MOH & RHBs, Sub city HDs, ).

This study focuses only on the facilities that are owned by the RHB. This is because the public sector is the major provider of family planning services (2) and the staffing pattern and administrative structures are similar since their major contraceptive supplier being the Ministry of Health (MOH).

## Literature review

Contraceptive security is a necessity for successful family planning programs and one of the key determinants of contraceptive security is the programmatic capacity in handling the contraceptive logistics system(6).

In July 2001, a national contraceptive inventory and logistics system survey was conducted by MOH in collaboration with JSI/DELIVER and other partners which showed the absence of a good contraceptive LMIS resulting in expiry of contraceptives worth of more than one million USD and stock out rate in 88.2% of facilities for one or more contraceptives they manage at the time of visit (7). Actual contraceptive consumption (dispensed to user data) was rarely available in the government sector. Contraceptive issues data from one level to the next was also not generally available. There was no maximum-minimum inventory control system and no established order intervals in place. These situations of stock outs and large quantities of expired contraceptives were found to be due to a poorly functioning logistics system. The survey had also found that there was no standard logistics management information system (LMIS), two thirds of facilities did not use stock cards or did not have accurate data on the stock cards, and logistics data were not often recorded and reported to the higher levels of the system (7).

The results of the study led to the recommendation that a comprehensive LMIS and inventory control system designs be developed for the national family planning program including all forms and reports for the LMIS and inventory control procedures (7).

In 2003, the MOH in collaboration with JSI/DELIVER and other partners designed a contraceptive logistics system mainly focusing on the public sector. The goal of this initiative is to increase availability, quality, and utilization of family planning services throughout the country. The Ethiopian Contraceptive Logistics System (ECLS) procedures manual(8) was developed and

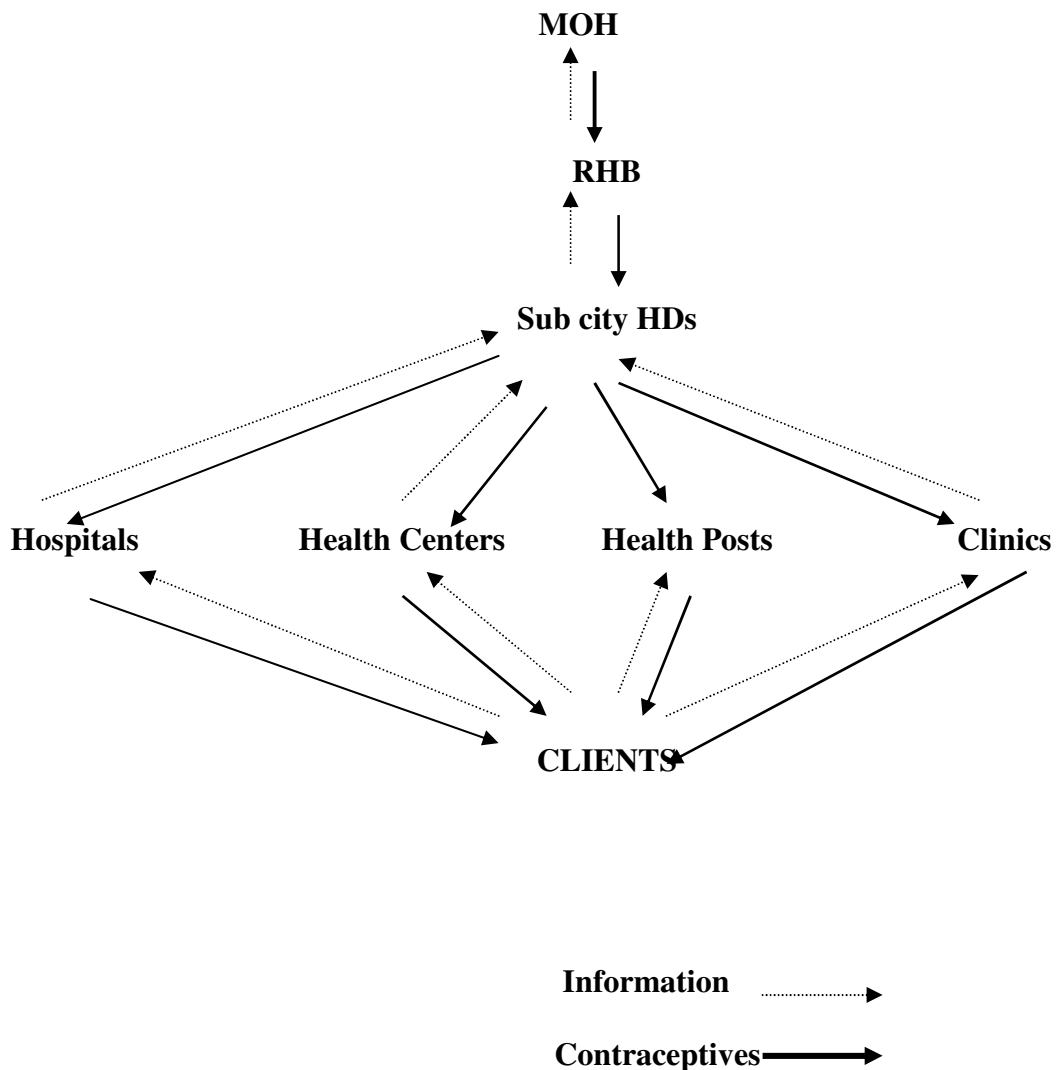
implementation was started in selected five pilot regions (South Wollo Zone in Amhara, Arsi Zone in Oromia, Gedio Zone in SNNPR, Shire Zone in Tigray and the whole of Addis Ababa city administration). Competency-Based Training was provided to all persons responsible in managing contraceptives throughout the supply chain in the public sector in the selected pilot areas of the country. In Addis Ababa City Administration the cascade of training was completed since two years back and implementation of the ECLS is underway in the public health sector for the last two years. But assessment of the contraceptive LMIS was not done until to date in order to identify strengths and weaknesses of the system performance. This assessment will help to identify the strengths and weaknesses of the newly designed logistics system which will further provide recommendations to redesign interventions.

The flow of contraceptives from the central level in the Ministry of Health (MOH) to the end users who seek services at service delivery points (SDPs) across the region is shown in Figure 1. At the central level is the Pharmaceutical Administration and Supply Services (PASS). Below this level are the Regional Health Bureau (RHB) Stores. They use their transport to go to the PASS warehouse to collect their contraceptive supplies. In the same way, the sub-city Health Department (HD) Stores go to the RHBs to collect their contraceptives. Below the sub-city level are a number of health facilities such as Hospitals, Health Centers, clinics, and health posts. They collect their contraceptives from the sub-city HD Stores. Most of these facilities also have storage areas of their own and dispensaries through which they issue supplies to other smaller facilities or dispense contraceptive supplies directly to clients (8).

Contraceptives flow down the system to warehouses/stores, SDPs and clients while information is collected and sent up from the SDPs to sub city HDs, to RHB and finally to MOH.

Reports from SDPs are supposed to be submitted every month to sub city HDs which will send aggregate reports to RHBs on monthly basis. The RHB compiles reports and submits quarterly to MOH. Figure 1 below illustrates the original design of the CLS for the flow of contraceptives and information in the public sector of the region.

**Figure 2: Contraceptives and information flow map in Addis Ababa**



Family planning (FP) coordinators/experts at each level of the ECLS work with their pharmacist/Druggist counterparts to coordinate the management and distribution of contraceptives. The FP Coordinators/experts are the initial points of contact at each level for reporting and ordering contraceptives. They review reports, looking for essential data, and also review and approve orders. In turn, they communicate approved reports and ordering information to the pharmacy sections at their level and ensure that the orders are filled. The FP and pharmacy personnel work as a team to ensure the six rights for clients (8).

This consists of who makes the ordering decision and the amount of information needed to make decisions. These two informations are the basis to decide when and how much to order. The type of inventory control system employed in the ECLS is the min-max inventory control system. The RHB needs to have a maximum stock level of five months of stock and a minimum stock of two months for all types of contraceptives with an order interval of three months. Similarly the maximum stock level for the sub city health departments and the SDPs is four and two months of stock respectively for all types of contraceptives managed in the respective facilities. These facilities need to have a minimum stock level of two months and one month respectively with an order interval of two months and one month. But if their stock levels are below minimum an emergency order should be placed. The emergency order (EOP) set for the RHB and sub city HDs is one month while for the SDPs is two weeks of stock.

It was described in the manual that the SDPs are expected to send reports and orders to the sub city HDs on monthly basis while sub city HDs are expected to send logistics reports and orders to the RHB on two monthly bases. Aggregated reports of the sub city HDs by the RHB will finally be submitted to the MOH on quarterly basis.

According to the baseline assessment of drug logistics systems in 2000 in Uganda, contraceptives had the most frequent stock-outs. Most facilities had inadequate inventory control and management, available stock cards were not kept up-to-date, and a lack of basic ordering skills; most facilities had no stock card/records for contraceptives. Many units had poor records, which were not up-to-date, not filed in an orderly manner and large stocks of expired drugs were found in most district-level facilities (9).

In an assessment in Nigeria in 2003, the LMIS system was only functional in a small number of sites. Few SDPs kept stock records (24 percent), and only 22 percent of SDPs reported submitting LMIS reports for the most recent reporting period. Printed forms were often unavailable and not all personnel were trained to use them. Without good data on stock status, consumption, and losses/Adjustments it was difficult to forecast and procure the right products or to make sound decisions on product distribution (10). It was found; in general, not being implemented as it was designed resulting in stock outs of many products widespread at all levels of the system particularly at SDPs where they are most needed. However, the contraceptive logistics system had strengths including the existence of a workable logistics system design and well-trained staff, especially at central level.

The assessment in Nepal showed that the LMIS was functional with sound reporting and record systems countrywide. However, within the record systems, inaccuracies and errors were common and the reports were not being used for decision making (11).

This assessment tries to describe how well the LMIS is functioning in the public health facilities of Addis Ababa City Administration and identify the strengths and weaknesses of the LMIS in order to improve the design and operation of the contraceptive logistics data collection, analysis and utilization of data for decision of key logistics functions.

## **Objectives**

### ***General objective:***

- To assess the status of the contraceptive Logistics Management Information System (LMIS) & identify strengths and weaknesses of the LMIS in the public health sector of Addis Ababa City Administration.

### ***Specific objectives:***

1. To assess the design and operation of the LMIS.
2. To assess the availability of contraceptives at all levels.
3. To assess the utilization of logistics data for decision making.
4. To identify the strengths and weaknesses of the LMIS.

## Methodology

**Study Area:** Ethiopia is administratively divided into 9 regional states and 2 administrative councils. The study area is Addis Ababa City Administration which is one of the two councils and the capital city of the country. It is administratively sub-divided into 10 sub-cities and 100 Kebeles. According to the 1994 census it had a population of 2,112,737(12). The city has 27 hospitals, 29 health centers, 43 health posts and 390 clinics (13). The Contraceptive Prevalence Rate (CPR) for modern methods was 34% according to DHS Ethiopia 2000. The study area was chosen because it is the most accessible area for better implementation of the contraceptive logistics system compared to other parts of the country and poor functioning of the system in such center will enable us to see how severe the problem will be in the rural areas of the country.

**Study Design:** The study utilized mainly the quantitative research methods through the facility based **cross-sectional descriptive study design** supplemented with qualitative research method. Interviews with persons responsible for managing contraceptives at all levels of the supply chain using structured questionnaire and physical inventory of the contraceptives available at the time of visit were made in the quantitative part. Focus group discussions with the supply chain managers were the technique used in the qualitative method.

**Source population:** The source population is all the facilities involved in the supply chain of contraceptives from the Regional Health Bureau (RHB) to the SDPs. This includes the RHB, 10 sub-cities Health Departments (HD) and all the public health facilities providing family planning services in Addis Ababa City Administration. The facility at each level was the unit of analysis. The principal person responsible for managing contraceptives was interviewed at each facility.

**Table 1: Facilities available in Addis Ababa by type, 2006**

Name of sub-city	Type of facilities available in each sub city				
	Warehouses	Hospitals	Health Centers	Clinics	Health Posts
Addis Ketema	1	0	3	0	5
Akaki-Kaliti	1	0	2	0	5
Arada	1	1	3	1	4
Kirkos	1	2	3	0	1
Kolfe-Keranio	1	0	1	2	2
Lideta	1	0	4	0	3
Nifas-Silk	1	0	2	2	2
Yeka	1	0	3	1	7
Bole	1	0	1	1	1
Gulele	1	0	2	1	6
Total	10	3	24	8	36

**Study population:** The RHB itself, 8 sub city HDs (Warehouses), 3 hospitals, 21 health centers, 6 clinics and 28 health posts were randomly selected from the source population to be included in this study.

**Sampling procedures:** First the list of 81 public facilities which are run by the RHB either storing or dispensing contraceptives to clients was made. This includes different strata of one RHB, 10 sub-cities HDs, 3 hospitals, 24 health centers, 8 clinics and 36 health posts. Sample size was calculated using the formula for cross-sectional study for single proportion, assuming 50% prevalence of poorly functioning LMIS (to get maximum sample size), 5% margin of error and 95% confidence interval (14). Using the correction factor for finite population, a total of 67 facilities were investigated. The number of facilities investigated from each stratum was calculated proportionate

to their size. Thus, the RHB itself and randomly selected 8 sub-cities, three hospitals, 21 health centers, 6 clinics and 28 health posts were the sample population.

$$P=0.5 \quad d=0.05 \quad n = \frac{(Z_{\alpha/2})^2 * P(1-P)}{d^2} = \frac{(1.96)^2 * (0.5) * (0.5)}{(0.05)^2} = 384$$

$$N= 81$$

$$\text{Final sample size} = \frac{N * n}{N + n} = \frac{(81)*(384)}{(81) + (384)} = 67$$

**Data collection techniques:** Two data collection methods were used for the assessment:

**Quantitative method:** A structured questionnaire which is originally developed by DELIVER (15) and locally adapted was used to collect quantitative information from the warehouses and SDPs. Since logistics records are made only available in English the data was collected in the same language it was recorded but interviewers were all health professionals who had experience on family planning services & interview was done in Amharic. On top of the information collected through interview using the structured questionnaire, physical counts of contraceptives was done in order to assess data quality by comparing the actual counts with the available records.

The instrument was then pretested on four facilities which were not selected by the sampling procedure applied. These were one sub- city warehouse (Gulele sub- city), one health center (Bole health center) , one clinic (Bole W-17 K-20 clinic) and one health post (Yeka K-6 HP ).

It was used to assess utilization of LMIS formats and contraceptive availability at SDPs and stores. Ten data collectors with BSc. in public health who have experience in family planning programs were provided intensive training for three days. Data collection was completed over a two-week period, well supervised. The contraceptives covered in the assessment were combined oral contraceptives, minipills, condoms, implants, IUCDs and injectables. The sources of data for the assessment were physical counts of contraceptives, stock cards, and LMIS reports. The source of

information, including position of person interviewed, was standardized across all facility types. Interviews were held with drug store keepers at warehouses, family planning coordinators in RHB and sub-city HDs, and family planning service providers at hospitals, health centers, clinics, and health posts.

The instrument was used to provide information on the indicators like the availability of contraceptives on day of visit, stock out frequency and average duration of stock outs, percentage of facilities with personnel trained in logistics, percentage of facilities with stock cards available, and accuracy of stock keeping records.

The above indicators were measured as follows: (1) product availability by conducting a physical inventory, (2) duration of stock outs by collecting information from both stock cards and interviewees, (3) stock data quality by comparing stock cards to physical inventory and reports to stock cards. The indicators that were measured are quantities of expired stock, percent of facilities stocked out of one or more contraceptive methods on day of visit, percent of facilities where contraceptive physical inventory count matches balance on at least one stock card, percent of facilities with staff trained in FP logistics, percent of facilities recording essential logistics data properly, percent of facilities sending logistics data to the next higher level of the system

**2. Qualitative method:** The quantitative method has provided what information was available regarding the design and operation of the logistics management information system but does not provide how the logistics system functions (16). The Focus group guide originally developed by DELIVER (17) was locally adapted to be used for this study. Two Focus Group Discussions (FGD) with participants responsible for logistics activities in all the facilities were conducted. The FGDs were conducted one with participants from the sub-city level and the other at the lower level with the participation of service providers from the service delivery points. The principal investigator

facilitated the discussion and a note taker on top of the tape cassette recorder was used. The topics that were discussed to identify strengths and weaknesses in the system were flow of contraceptives in the supply chain, existence and functioning of an LMIS, description of the information flow and how logistics information is used for decision making, and capacity of logistics personnel, including training and supervision.

**Data quality:**

Before embarking upon data collection, pretest of the prepared questionnaires was performed in four non-sampled facilities in Addis Ababa to ensure the validity of the survey tool & to standardize the questionnaire. Supervisor & the principal investigator made frequent checks on the data collection process to ensure the completeness & consistency of the gathered information; errors found during the process were corrected; data was double entered to enable cross-checking during analysis as well.

**Data analysis procedures:** The quantitative data was entered and analyzed using the Statistical Package for the Social Sciences (SPSS). The qualitative portion of the study (FGD) was analyzed using qualitative analysis technique (relistening to the tape recorders several times, transcribing data, categorizing, reducing and finally writing the report by narrating the finding).

**Operational definitions:**

1. **Contraceptives:** products used to prevent the occurrence of pregnancy. Included in this study are pills, condoms, injectables, IUCDs and implants.

2. **Logistics:** the set of activities that control how materials and products move from the initial source to the end user. It is the branch of management that ensures that resources needed (or products required) by clients reach their destination in the required amount in the least possible time.
3. **Logistics management information system (LMIS):** a manual or computerized system that collects, processes, and reports logistics data.
4. **End user:** term used interchangeably with the family planning client.
5. **Facility:** any institution involved in the storage or dispensing of contraceptives to users.
6. **Records:** forms on which data are collected.
7. **Reports:** forms on which all essential data items for a specific facility and for a specific time are moved from one level in a logistics system to another.
8. **Service delivery point (SDP):** any facility that serves clients directly and where clients (users) receive their supplies.
9. **Stock card:** a generic name for an inventory control card.
10. **Stock out of contraceptives:** the absence of any contraceptive methods in a facility at a given time; a zero stock balance.
11. **Under stock:** any stock levels of contraceptives reserve stock below the established minimum.

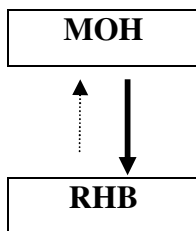
## **Results**

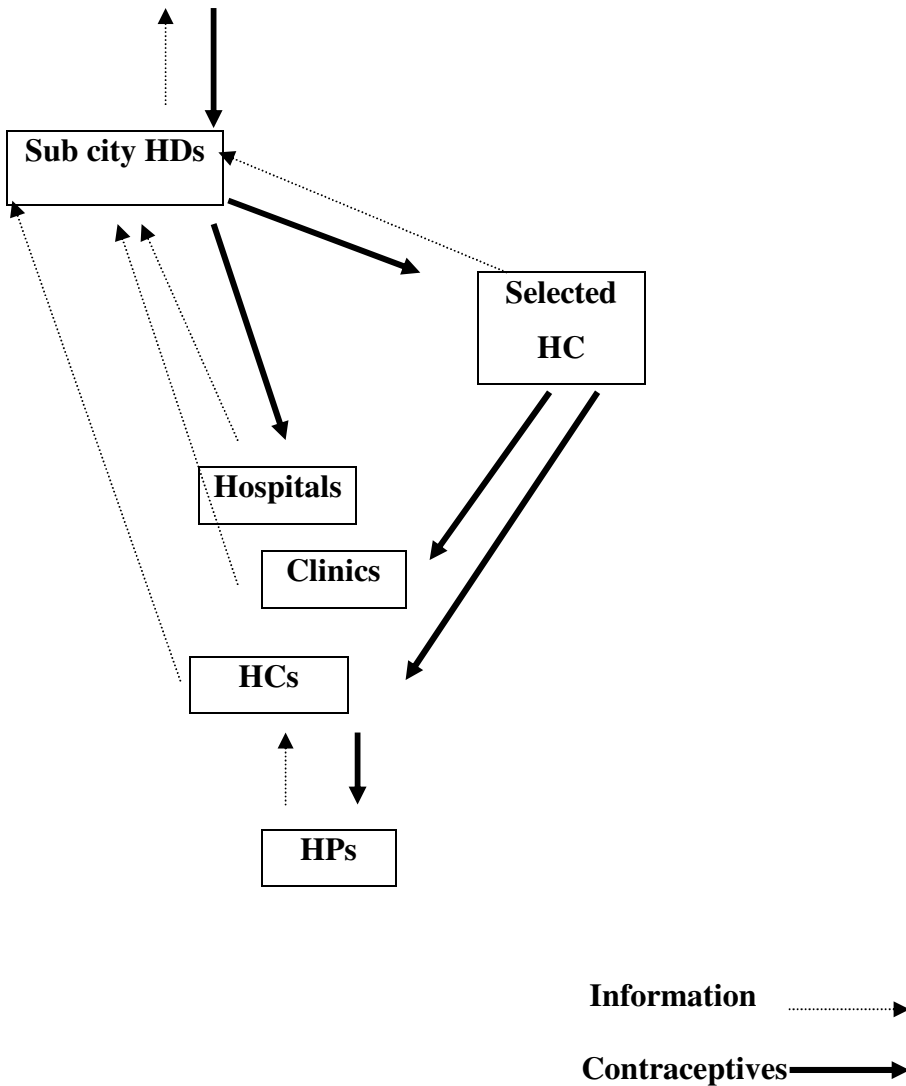
### ***1.Organizational Structure and Supply Chain Description***

The contraceptive logistics management system is a vertical system managed at the RHB level by the FHD and PASS. These two units in the RHB work in coordination for collection of contraceptives from the MOH and distribution to the sub city HDs. Figure 3 illustrates the actual flow of contraceptives and information in the system. The RHB collects its quota allocation from the MOH and distributes to sub cities. Since the sub city HDs do not have their own stores they keep them in one of the selected health center drug stores in the same room. They keep records differently from that of the health center stock by the same person doing for the health center. The sub cities in turn distribute contraceptives to SDPs.

Only one fourth of the facilities use their own vehicle to transport contraceptives. Twenty four facilities (35.8%) use public transportation, 7(10.4%) travel on foot and the rest 15(22.4 %) use higher facility vehicle.

**Figure 3: Flow of Contraceptives and Information in Addis Ababa, 2006**





The principal persons responsible for managing contraceptives were found to be different from facility to facility. From the total facilities visited 37(55.2%) are nurses, 7(10.4%) are health assistants, 10(15%) are CHAs or TTBA's, 7(10.4%) are primary health workers and only in the rest 5(7.5%) of facilities are either druggists or pharmacy technicians.

## **2. Training**

Majority of persons responsible for managing contraceptives in the facilities reported to have taken training in the ECLS (53.7%).

**Table 2: Training in the ECLS and utilization of LMIS forms & inventory control system by type of facility in Addis Ababa, 2006**

Type of facility	% trained	% using stock cards	% using LR forms	% using max stock	% using min stock	% using EOP	% determining quantity received
Hospital	100	67	67	33	33	33	33
Health Center	67	52	76	62	48	14	24
Health Post	25	7	29	11	11	4	39
Warehouse	100	67	100	67	67	44	22
Clinic	50	0	83	67	67	33	33
<b>Total</b>	54	31	60	40	36	10	31

It was discussed in the FGD that health posts were not included in the training of the ECLS and since there were high turn over of the trained staff at the higher facilities, those that replaced them were neither trained nor obtained proper orientation in running the designed logistics system. The FGD revealed that the major problem encountered in the implementation of the LMIS was high turn over of trained staff. When a trained staff leaves the facility looking for a better job, facilities

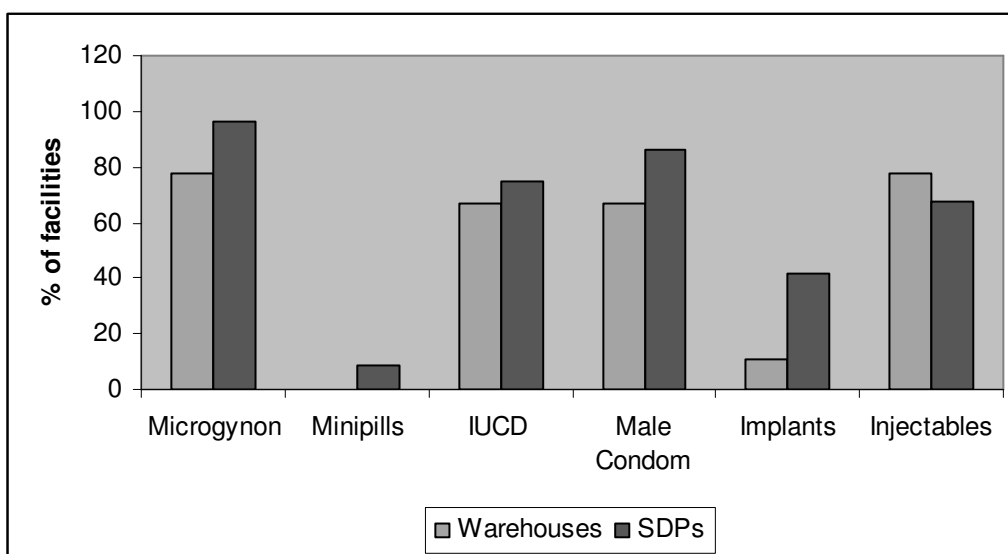
immediately replace any person who does not have adequate knowledge on the program and even without proper orientation of the program.

### 3. Availability of contraceptives

As shown in Figure 4 below almost all SDPs had combined oral contraceptives (microgynon) but only few had minipills which is the preferred pill for lactating mothers.

**Figure 4: Availability of contraceptive methods on day of visit in Addis Ababa in 2006**

(Based on physical inventory)



\*The denominator used for IUCD, Norplant and Jadelle in the SDPs is the number of SDPs that are supposed to be managing these contraceptives (n=24). These are 21 health centers and 3 hospitals.

### 3.1 Order fill rate

Table 3 below illustrates the percentage of facilities that received the quantity of the different contraceptives ordered (in their last order that was received).

**Table 3: Percentage of facilities that received the quantity ordered by type of contraceptive (in the last order they received), Addis Ababa, 2006**

Contraceptives	# of facilities that ordered the contraceptive	% of Facilities that received lesser quantity of product ordered	% of Facilities that received quantity of products ordered	% of Facilities that received more quantity of products ordered
Microgynon	59	32	51	17
Minipills	10	90	10	0
IUCD	7	57	43	10
Male Condom	40	17	73	14
Norplant	4	50	50	0
Jadelle	3	33	67	0
Depo-Provera	31	32	68	0
Megestron	21	33	53	0

On average it takes only one day for 34(51%) of the facilities between ordering and receiving contraceptives from higher level facilities. 25(37%) reported the period to be in a week's time and the rest 8(12%) took two weeks to one month. Only 21(31.3%) of the facilities reported that they determine themselves the quantity of contraceptives they receive.

They use formula to determine the quantity of contraceptive they receive based on their average monthly consumption and stock on hand. The rest 46(69.7 %) do not know how much to order and receive and it is determined by the higher level facility depending on their stock.

## **3.2 Stock outs**

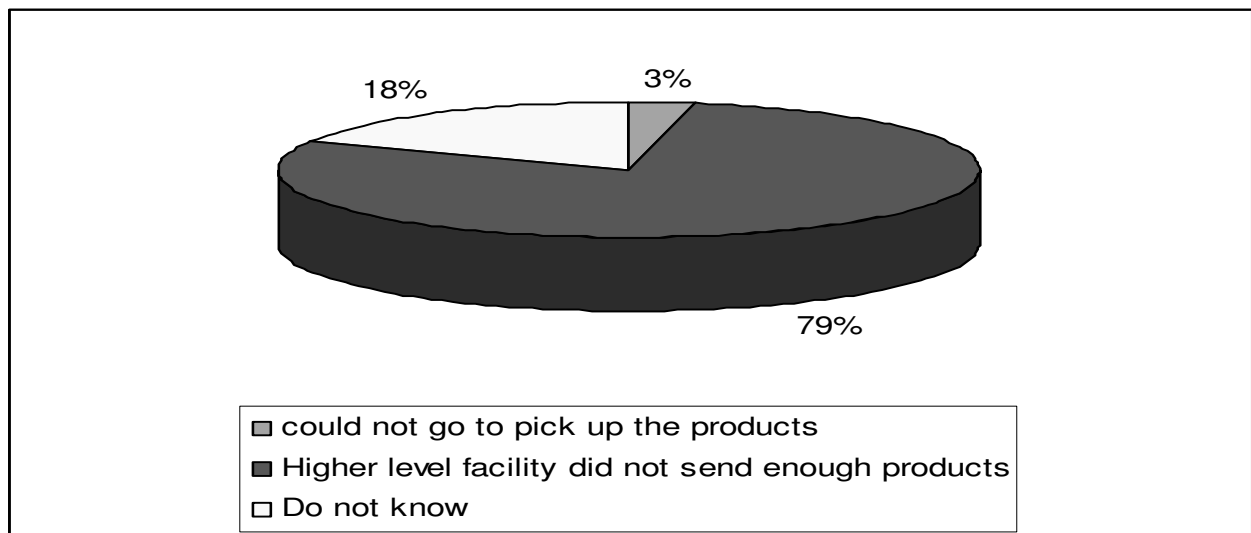
Stock outs are analyzed in two ways. One is the reported stock outs for those products the facilities were managing in the last 6 months before the time of visit and the second is the actual stock outs assessed by the physical counts at the time of visit.

### **3.2.1. Reported Stock outs**

Forty nine (73.1%) of the facilities reported that they usually run out of at least one contraceptive method they manage before re supply. The most common types of contraceptives they usually run out are injectables and minipills. The mechanisms they usually employ at times of shortage are going to the next higher facility for re supply in 39 facilities (58.2%), refer clients to other private or public facilities for those who insist to take their previous method of choice in 21 facilities (31.3%), 7(7.5%) facilities borrow from neighboring similar facilities or rarely provide clients the existing possible options for those who agree to take the available options.

18(26.9%) of the facilities reported to have a surplus of some contraceptives before re supply and the most common types they usually had surplus were male condom and microgynon.

**Figure 5: Percent of facilities that reported reasons for stock outs**



**3.2.2. Stock outs at the time of visit**

Thirty eight facilities (56.72%) had stock outs at the time of visit for at least one product they manage in their facilities. The highest stock out rate was for minipills (92.54%) followed by injectables (53.85%) and implants (51.51%).

**Table 4: Percentage of facilities stocked out of a specific type of contraceptive on the day of visit, Addis Ababa, 2006**

Contraceptives	# of Facilities assessed that experienced stock out	% of facilities stocked out from total that need to manage
Microgynon	3	4.48
Minipills	62	92.54
IUCD	10	30.30
Male Condom	11	16.41
Implant	17	51.51
Injectables	21*	53.85

\* The denominator for injectables excludes the health posts since they are not allowed to provide injectables (n=39).

The FGD on stock outs revealed that the minipills shortage was due to shortage at higher levels while for implants and injectables was due to the increased demand and consumption.

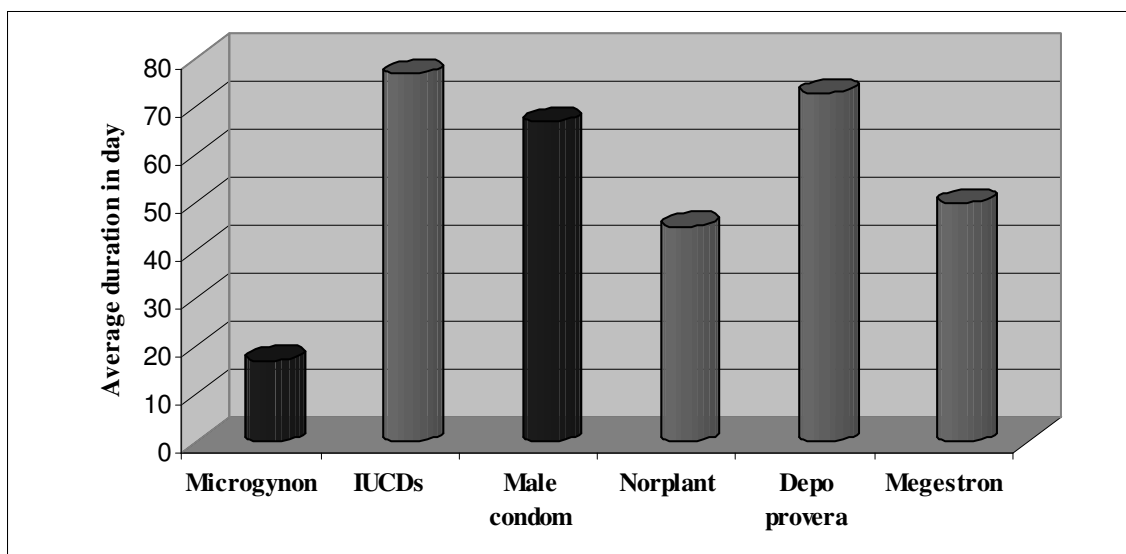
The reason for the high discrepancy of duration of stock outs for the different products was revealed in the FGD to be due to the availability of products at the central MOH level. It was discussed that microgynon was continuously available in adequate amounts at the central level for the last one year while the minipills ,IUCDs and implants were not available. The reason for injectables was due to shortage of supply for two months (October and November) in 2005.

None of the warehouses had minipills in their stocks which was due to stock out at the central level as discussed in the FGD.

### 3.2.3. Average duration of stock outs

As illustrated in Figure 6 below, from the facilities that had stock cards/bin cards the average duration of stock outs in days was found to be lowest for microgynon (17) and highest for IUCDs (77) and injectables (73).

**Figure 6: Average duration of stock out (in days) in the last 6 months, June – December/2005, Addis Ababa**



### 3.3 Expired contraceptives

Expired contraceptives were found in the RHB and twelve service delivery points in different sub cities most being in Arada and Yeka sub cities making the percentage of facilities with expired products on the day of visit to be 13(19.4%). The quantities of expired contraceptives were highest for minipills, microgynon, and male condoms as shown in Table 5. The reason for expiry was reported to be receiving the products near expiry due to push from higher facility.

**Table 5: Quantity of expired products on the day of visit by sub city and number of SDPs with the expired product in Addis Ababa, 2006**

Sub-city/RHB	# of SDPs	Quantity of expired products					
		Lofeminal (Cycles)	Microgynon (Cycles)	Minipills (Cycles)	Male condom (Pieces)	IUCD (Set)	Norplant (Set)
Arada	3		4500	691			30
Addis Ketema	1			22			
Gulelle	1			180			
Nifas Silk	1				1440		
Kolfe Keranio	2			169			
RHB			30				
Yeka	4	152	60	5270	608	33	
Total	12	152	4590	6332	2048	33	30

From the 4590 cycles of microgynon expired 4500 cycles were from one clinic (Bata) and the expiry date was 03/2001. Though these contraceptives have expired years back they are still kept in

the stores without being disposed. Similarly majority of the contraceptives have expired before the year 2004 but kept in the stores. Almost all of the expired products are found expired before the implementation of the newly designed CLS. It was discussed in the FGD that these were due to push from higher levels when they were near expiry. But after the implementation of the new CLS, the quantity of contraceptives expiring has dramatically decreased.

#### **4. Logistics Management Information System**

Only one-third of the warehouses and 8(13.79%) of SDPs were currently using stock cards/bin cards for all types of contraceptives they managed in the last six months. Table 6 below shows the availability of stock card/bin card for the types of contraceptives commonly found to be available in most facilities in the last six months.

**Table 6: Percentage of facilities with stock card/ bin card available for selected contraceptives in Addis Ababa, 2006**

Type of facility	Microgynon		Male condom		Minipills	
	#	%	#	%	#	%
<b>Hospital</b>	2	66.67	2	66.67	1	33.33
<b>Health Center</b>	13	61.90	13	61.90	2	9.52
<b>Health Post</b>	2	7.14	1	3.57	0	0
<b>Warehouse</b>	7	77.78	7	77.78	1	11.11
<b>Clinic</b>	0	0	0	0	0	0
Total	24	35.82	23	34.33	4	5.97

Only 24 facilities (35.82%) were found to have stock card/bin card for at least one product managed in their facilities. None of the clinics and health posts except two was using stock cards/bin cards. From this small number of facilities using stock cards or bin cards only 14(58.33%) were updated with accurate information matching with the physical count done at the time of visit. LMIS data accuracy is crucial to a quality logistics system, and this begins with the stock card accuracy.

**Table 7: Stock card availability and information accuracy on stock cards for contraceptives by type of facility in Addis Ababa, 2006**

Type of Facility		# of Facility	with stock card for at least one product		with accurate information on stock card for all products among facilities that had stock card	
			#	%	#	%
Ware houses		9	7	77.78	5	71.43
SDPs	Hospitals	3	2	66.67	0	0
	Health centers	21	13	61.90	7	53.83
	Health posts	28	2	7.14	0	0
	Clinics	6	0	0	0	0
Total SDPs		58	17	29.31	9	52.94

As was clearly indicated in the FGD sessions guidelines for recording and reporting consumption, for recording transactions, calculating months of stock on hand and requesting contraceptive

supplies were provided to all individuals responsible for managing contraceptives at all levels during the training. Forms and reports that should be in use to the minimum are the daily registers (at SDPs), LR forms, and the stock records. Revised LMIS forms were distributed throughout the system, but it was found that different version of LR forms (which they called old MOH form) are being used by lower level facilities particularly health posts and clinics. The new LR forms are used at sub city HDs, hospitals and health centers.

From the FGDs it was discussed that the new LR forms are limited to be used by the sub city HDs, hospitals and health centers while the old MOH form is used by the health posts and clinics since they have not been trained in the ECLS. The old MOH form lacks the columns for reporting average monthly consumption, quantity requested and quantity received. It does not also have the inventory control procedures of minimum and maximum stock levels.

All sub city warehouses and SDPs reported passing stock information to their next higher levels using LMIS forms during the most recent reporting period (last month). Though there was high reporting rate, the quality of the data on the reports is still questionable in the majority of cases since most did not have accurate information on stock cards which will create further difficulty for higher levels to calculate stock needs and to order and deliver correct amounts for SDPs.

During the focus group discussion, high turnover of trained staff, lack of supervision from higher levels and work overload were identified as major reasons for the low utilization of stock records and their inaccuracies.

From a total of 58 SDPs visited all reported to use daily registers while only 15(25.86%) used either stock cards or bin cards for all types of contraceptives they manage. Regarding utilization of the ECLS LR forms, while all warehouses used them only 35(60%) of the SDPs reported using the ECLS – LR forms, the rest 23(40%) used the old MOH reporting form.

In all sub city HDs and SDPs visited logistics reports are sent to the next higher facility monthly and it consisted of essential logistics data. 56(96.55%) of the SDPs reported to have sent their logistics reports within the last month to the next higher facility.

## ***5. Inventory control for contraceptives***

This procedure was established at all levels and actually existed in the trainings they had taken and was also available on the printed LR forms in use but in actual practice 40(60%) of facilities did not have (or did not know) the maximum and minimum stock levels. Furthermore, 60(90%) of the facilities did not know the emergency order point which was well elaborated and established as two weeks for SDPs and one month for sub city HDs.

This point was raised in the FGD and participants discussed that in the situation where continuous availability of the contraceptives is not ensured at the higher levels, lack of vehicles for the transport of contraceptives, high work overload, lack of manpower and high turn over of trained staff implementation of the established inventory control procedures was said be unlikely. The FGD also revealed that most of the lower level facilities do not use the min-max system and orders are usually made when they stock out and the higher level facilities have always threats of stock outs from the central level and try to provide them less quantities of products they have threats of shortage and more quantities of excess products they have in order to prevent congestion of their stores as has been seen for microgynon, male condom and megestron.

## ***6. Supervision***

27(40.3%) of the facilities did not receive supervision from higher facility while 30(45%) received supervision in the last 6 months that included contraceptive management where stock cards, reports

and supplies were checked. In the rest 10(15%) of facilities supervision was reported to be more than 6 months ago. It was discussed in the FGD that supervision checklists are not available in order to perform effective supervision to enhance the proper functioning of the contraceptive logistics system.

## **Discussion**

The ultimate goal of the logistics system is to ensure contraceptive availability at the service delivery points so that clients will be provided the method of their contraceptive choice at the time

of their visit. Individuals responsible for managing contraceptives need to be trained in the timely keeping of records on essential logistics data, analyzing the collected information to make the right decisions and submission of reports to the next higher level. They need to make sure that standard formats for record keeping and reporting are always available in their facilities. The availability of the formats with logistics records is of no value unless it has complete and accurate information to make logistics decisions. In this study it was observed that standard formats were not widely available the and available records and reports had incomplete and inaccurate informations which were not used for decision making resulting in widespread stock outs and expiry of contraceptives. In a similar study in Nigeria standard formats were often unavailable, only few SDPs kept stock records and not all personnel were trained to use them and stock outs were frequent. These findings are in line with the results of similar studies conducted in Uganda (9) and Nepal (11).

In a well designed contraceptive logistics system lower facilities request contraceptives based on the established inventory control procedure and supposed to receive the quantity requested (18) and facilities use an inventory control system with established maximum-minimum stock levels to determine quantity of contraceptives they order & receive and need to receive the quantity they order. The inventory control system enables staffs at all levels of the supply chain to determine when and how much to order so as to maintain adequate stock levels for the contraceptives they manage between established minimum and maximum levels which in turn will help them to avoid shortages and excess supplies.

But in this study it was found that the established inventory control procedures are not known and utilized by most facilities. While some facilities were under stocked for some contraceptives others were observed with excess stocks of similar contraceptives. There are a number of facilities that are receiving either less or more than the quantity of products ordered.

All types of facilities visited are supposed to manage at least three types of products namely combined oral contraceptives, minipills, and male condoms. The staffing pattern of health posts does not allow them to provide injectables (19). The minipills which are the preferred pills for lactating mothers were the most unavailable at all levels of the supply chain that would have created the highest dissatisfaction to the family planning users.

For all contraceptives the family planning program is committed to supplying, the order fill rate shows if orders are being completely filled in a timely manner. It measures the percentage difference between the amount ordered in the last order period and the amount received for that period (14).

In general, an appropriate range of contraceptive methods are not available to meet the needs of all clients at all levels of the system. Stock outs are frequent and severe for minipills at all levels but it was minimal for microgynon and condom.

## **Conclusions**

There is a well-designed contraceptive logistics system in the region and persons responsible in managing contraceptives are all trained at higher levels with tremendous assistance from JSI/DELIVER but most lower level facilities particularly health posts and clinics did not get the training. Utilization of the logistics recording and reporting forms were limited to the higher level facilities and none of the clinics and health posts (except two) used the stock records and the LR forms. In general, managers do not follow the established supply chain procedures of min-max, EOP, stock records, and order forms because of frequent stock outs at the higher levels and/or because of the inability of the higher levels to supply 100% of their needs.

## **Recommendations**

1. The lower facilities that have not obtained training on the new logistics system and those whose trained staff have left the facilities have to be identified and provided the training. Since other government facilities (which are not under the RHB) and some NGOs collect their contraceptives from the RHB and sub cities, training on the ECLS needs to include these facilities.
2. In general, it was found that there is lack of supervision on the management of commodities themselves and keeping of records and reports. There has to be also regular supervision and follow up on the proper implementation of the logistics system. Supervision checklist should also be available at all levels for follow up.
3. Stock cards are not available in most of the facilities visited and even in those who had they were not kept up-to-date and therefore, data on stock cards are not reliable for proper stock

management and for establishing order quantities. Similar logistics report and record forms have to be available and need to be utilized at all levels.

4. The lack of inventory control in the majority of the facilities visited increases the risks of overstocks and expirations and under stocks and stock outs. It is better to review minimum and maximum levels.
5. There has to be mechanisms designed by the regional health bureau for redistributions of surplus contraceptives from some facilities to other facilities who are under stocked or out of stock. There were some facilities observed to have IUCDs of more than one year consumption while the RHB and some sub cities are out of stock for some months.
6. Since the sub cities do not have their own stores and lack man power , it is better to delegate one of the health centers to take the over all responsibility to receive the supplies from the RHB and distribute the contraceptives to the rest of the facilities in the sub city which will reduce the paper work and inconvenience. This also reduces the workload and lack of manpower in the sub cities which will provide them ample time for the supervision and follow up activities on the logistics system performance.
7. Focal persons need to be assigned in all the facilities that will be responsible for keeping the necessary records and reports so that they will be accountable for the contraceptive logistics system performance.
8. Contraceptive forecasting is limited only to be done at the central MOH level but short time forecasts need to be done at regional levels .

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# Annexes

## ***Annex 1: Questionnaire***

### CONTRACEPTIVE LOGISTICS

#### MANAGEMENT INFORMATION SYSTEM ASSESSMENT

#### Questionnaire for Service Delivery Points, Sub-city and Regional Warehouses

January 2005

Federal Democratic Republic of Ethiopia

Addis Ababa City Administration

#### **Interviewer's Guide**

**Facility Identification** Ask to speak to the person in-charge of the facility.

Record the name of the facility. 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 interviewee.

**Questions 01 to 06** Record information regarding the interviewee.

**Questions 101 to 127** 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: Ordered/Received.** Record the quantity ordered and received from the Logistics Recording Form.

**Table 2: 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 3: Stock data quality tables.** Record each contraceptive available and compare the records with the actual counts.

**End Interview** Ask the interviewee/s if they want to ask you any questions. Thank them for their time and cooperation.

## **Acronyms**

DK Don't Know

ECLS Ethiopian Contraceptive Logistics System

HD Health Department

HC Health Center

HP Health Post

IUCD Intra-Uterine Contraceptive Device

LIAT Logistics Indicators Assessment Tool

LSAT Logistics system Assessment Tool

LMIS Logistics Management Information System

MOH Ministry of Health

NA Not Applicable/Not Available

NGO Non-Governmental Organization

PC Public Clinic

RHB Regional Health Bureau

SDP Service Delivery Point

**Facility Services**

**Facility Identification**

Region: \_\_\_\_\_

Sub-city: \_\_\_\_\_

Name of the facility \_\_\_\_\_

Type of facility:      1 = Hospital ; 2=Health Center;      3=Health Post;  
                                  4=Regional Health Bureau and Warehouse;  
                                  5=Sub-city Warehouse;      6=Other (specify).....

Interviewer/s: \_\_\_\_\_

Date of Interview \_\_\_\_\_

*“Good day. My name is \_\_\_\_\_. My colleague and I are representatives of this research team. We are conducting a survey of the RHB warehouses and service delivery points to determine the availability of contraceptives and general characteristics of the contraceptive logistics management information system. Your facility was selected by chance to be included. The assessment will provide information enabling the RHB to implement appropriate interventions to improve logistics system performance.*

*All of the information collected is strictly confidential. We will not refer to individual facilities in the report, but rather will describe the overall picture of all facilities. Do you have any questions? May we proceed?*

Introduction			
01.	Can we continue?	Yes .....1 No.....0	→If NO, then STOP
02.	Position of person interviewed for this section		
03.	Number of years and months you have worked at this facility?	Years:      Months:	
04	Number of years and months you have worked at this facility in this unit?	Years:      Months:	
05	Received training in logistics?	Yes .....1 No.....0	
06	Who is the principal person responsible for managing contraceptives at this facility?	Nurse .....1 Health Officer..... 2 Pharmacist .....3 Pharmacy technician.....4 Druggist .....5 Other (Specify)_____	

**Ask the following questions of someone in charge of managing/overseeing contraceptives. After asking the questions in this section, visit the warehouse, storeroom, or storage area where the contraceptive products listed are managed.**

No.	Questions	Code Classification	Go To/ Comments
<b>Contraceptives</b>			
101	Do you use and fill out the following logistics forms to manage contraceptive products?		

	A. stock cards	Yes .....1 No.....0	
	B. daily register	Yes .....1 No.....0	
	C. bin cards	Yes .....1 No.....0	
	D. Other _____	Yes .....1 No.....0	
102	What forms do you use for reporting/ordering contraceptives?		
	A. Stock ledger/registration book/notebook	Yes .....1 No.....0	
	B. Government receiving note (Model 19)	Yes .....1 No.....0	
	C. Government requesting note (Model 20)	Yes .....1 No.....0	
	D. Government approval note (Model 21)	Yes .....1 No.....0	
	E. Government distributed note (Model 22)	Yes .....1 No.....0	
	F. ECLS Logistics Recording forms	Yes .....1 No.....0	
	G. Facility requisition paper(20,21....)	Yes .....1 No.....0	
	F. Other _____		
103	Do reports for contraceptives include the following?		
	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 reports or orders for contraceptives sent to the higher level?  <b>CIRCLE ALL THAT APPLY</b>	Monthly.....A Quarterly .....B Semi-annually.....C Annually .....D Other (specify)_____	
105	When was the last time you sent an order/report for contraceptives 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 for contraceptives to the higher level?  <b>CIRCLE ALL THAT APPLY</b>	Monthly .....A Quarterly .....B Semi-annually .....C Annually .....D Other (specify)_____	
107	How did you learn to complete the forms/records for contraceptives used at this facility?  <b>CIRCLE ALL THAT APPLY</b>	Never learned .....A During a logistics workshop .....B On-the-job training .....C On-the-job (self-learning) .....D Other (specify)_____	

108	Have you ever received training in calculating the contraceptive needs for your facility?	Yes .....1 No.....0	
109	Have you ever received training in the proper storage of contraceptives?	Yes .....1 No.....0	
110	Have you ever received training in Ethiopian Contraceptive Logistics System (ECLS)?	Yes .....1 No.....0	
111	Does this facility use a maximum stock level for contraceptives?	Yes .....1 No.....0	
112	Does this facility use a minimum stock level for contraceptives?	Yes .....1 No.....0	
113	What (in months) is the minimum stock level for contraceptives?	1 month.....0 2 months.....1 3 months .....2 4 months .....3 More than 4 months .....4 NA/DK .....9	
114	What (in months) is the maximum stock level for contraceptives?	1 months .....0 2 months .....1 3 months .....2 4 months .....3 More than 4 months .....4 NA/DK .....9	
115	Does this facility use an emergency order point for contraceptives?	Yes .....1 No.....0	→ If NO, skip to Q117
116	What (in months) is the emergency order point for contraceptives?	1 .....0 2 .....1 3 .....2 4 .....3 More than 4 .....4 NA/DK .....9	
117	Who determines how much of a contraceptive this facility should order?	The staff here at the facility itself .....A Higher-level facility .....B Other (specify) _____	
118	Who determines how much of a contraceptive this facility should receive?	The staff here at the facility itself .....A Higher-level facility .....B Other (specify) _____	
119	How does your facility determine how much of a contraceptive to order?	Formula .....1 Don't know .....2 Other means (specify) _____	

120	Who is responsible for transporting contraceptives to your facility?	Higher level delivers .....A This facility collects .....B Local supplier delivers .....C Other (specify)_____	
121	What type of transportation for contraceptives is most often used?	Facility vehicle .....1 Public transportation .....2 Private vehicle .....3 Animal .....4 Motorcycle .....5 Bicycle .....6 On foot .....7 Other (specify)_____	
122	Does your facility have functioning vehicles for the transport of contraceptives?	Yes .....1 No.....0	→ If NO, skip to Q124
123	Does your facility typically have any problems with the use of facility vehicles?	Yes .....1 No.....0	→ If NO, skip to Q124
124	What types of problems do you typically encounter with the use of facility vehicles?  <b>CIRCLE ALL THAT APPLY</b>	Lack of vehicle maintenance ...A Not often available for the transport of contraceptives .....B Lack of availability of drivers due to lack of per diems or salaries .....C Other (specify)_____	
125	On average, approximately how long does it take between ordering and receiving contraceptives?	One day.....1 Less than 1 week .....2 2 weeks to 1 month .....3 Between 1 and 2 months .....4 More than 2 months .....5	
126	When did you receive your most recent supervision visit?	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)_____	
127	When did you receive your last supervision visit that included contraceptive 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)_____	

*Thank you for your time and information. You have been very helpful. Our remaining question will require looking at products in the storeroom and speaking with the person who oversees the store.*

When in the Store Room (if with a different person):

*Introduce all team members and ask facility representatives to introduce themselves.*

*Explain the objectives of this survey:*

No.	Question	Code Classification				Go To
05.	Position of person interviewed for this section					
06.	Number of years and months you have worked at this facility?	Years		Months		
07.	Who is the principal person responsible for managing contraceptives at this facility?	Nurse .....1 Health Officer .....2 Pharmacy Technician .....3 Druggist .....4 Pharmacist .....5 Other (Specify) _____				
08.	Are stock cards recorded using the smallest unit of count (for example, cycles for pills, vials for Depo Provera and pieces for condoms, Norplant and IUCD)?	Yes (always).....1 No (not always) .....0				
09	Are there any contraceptives you usually run out of before resupply?	Yes .....1 No.....0				If No , go to Q12
10	If yes, list the three most frequent.	_____ _____ _____				
11	If you run out of contraceptives, what do you do?	Go to the next higher level for resupply .....A Buy from the open market / NGO ..B Refer clients to pharmacies .....C Other(specify)_____				
12	Are there any contraceptives you usually have a surplus of before resupply?	Yes .....1 No.....0				
13	If yes, list the three most frequent.	_____ _____ _____				

TABLE 2: Stock Status (July – December 2005 and the day of visit)

Column:

1. Number of row
2. Name of all authorized contraceptives that will be counted
3. Unit of count for the contraceptive
4. Whether or not the contraceptive is managed at this facility, answer Y for yes or N if no. Note that for some contraceptives, at certain levels all facilities should manage the contraceptive. In such cases, this column should be marked Y.
5. Check if the stock card is available, answer Y for yes or N for no. If column 5 is No, then column 6 and column 7 will be N/A.
6. 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 re-supply, consider the stock card up-to-date.
7. Record the balance on the stock card.
8. Record if the facility has had any stock-out of the contraceptive during the most recent 6 full months before the survey, answer Y for yes or N for no.
9. Record how many times the contraceptive 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.
10. Record the total number of days the contraceptive was stocked out during the most recent full 6 months before the survey.
11. Record the quantity of contraceptive dispensed to users (from register/reports) or issued from the storeroom (from stock card or bin card) during the most recent 6 months before the survey. Note: If the answer to column 5 is N, record NA in this column.
12. 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 5 is N, record NA in this column.
13. Record the quantity of contraceptive in the storeroom.
14. Record if the facility is experiencing a stock-out of the contraceptive on the day of the visit, *according to the physical inventory*, answer Y for yes or N for no.
15. Record the quantity of expired products. Count all expired contraceptives on the day of the visit. If there are contraceptives that are near expiry (within one week), note in the comments section.

**TABLE 1: Quantity Ordered and Quantity Received**

EOP (Months) \_\_\_\_\_ Maximum stock(Months) \_\_\_\_\_ Order interval(Months) \_\_\_\_\_

CONTRACEPTIVE	Quantity Ordered for the Last Order that has been delivered	Date Order Placed	Quantity Received in Last Order	Date Order Received
1	2	3	4	5
Microgynon (cycle)		__/__/____ D D M M Y Y Y Y		__/__/____ D D M M Y Y Y Y
Lo-Femenal (cycle)		__/__/____ D D M M Y Y Y Y		__/__/____ D D M M Y Y Y Y
Other pills(specify)_____		__/__/____ D D M M Y Y Y Y		__/__/____ D D M M Y Y Y Y
Depo Provera (vial)		__/__/____ D D M M Y Y Y Y		__/__/____ D D M M Y Y Y Y
Megestron (vial)		__/__/____ D D M M Y Y Y Y		__/__/____ D D M M Y Y Y Y
Male Condom (piece)		__/__/____ D D M M Y Y Y Y		__/__/____ D D M M Y Y Y Y
IUCD				
Norplant				
Jadelle				

**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:

**TABLE 2: Stock Status and stock out assessment table**

No	Contraceptive	Units of count	Managed at this facility? (Y/N)	Stock card/ bin card available? (Y/N)	Stock card/ bin card updated? (Y/N)	Balance on stock card/ bin card (#)	Stock-out most recent 6 months? (Y/N)	Number of stock-outs (most recent 6 months) (#)	Total number of days of stock-out(s) (#)	Total units dispensed/issued (most recent 6 months) (#)	Number of months of data available (#)	Physical inventory (in store room) (#)	Stock-out today? (Y/N)	Quantity of expired products (#)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Lo-Femenal	Cycle												
2	Microgynon	Cycle												
3	Exulton	Cycle												
4	Other Pill	Cycle												
5	IUCD (Copper T 380A)	Piece												
6	Condom (M)	Piece												
7	Condom(F)	Piece												
8	Norplant	Set												
9	Jadelle	Set												
10	Depo-Provera	Vial												
11	Megestron	Vial												

**Reasons for stock outs:** 1= could not go to pick up the products    2= Higher level facility did not send enough products  
 3= Increase in consumption    4= did not request the right amount at the right time    5= other reason    6= Do not know





## **Annex 2: Focus group discussion guide**

Q1. What is your opinion on the contraceptive LMIS in your region?

- Groups understanding on the meaning of contraceptive LMIS
- Discuss the contraceptive supply chain in the region
- Existence of more than one or more than one LMIS design in the region
- Existence of guidelines and system manuals
- An assessment showed that 60% of facilities do not use stock cards/bin cards
  - How are they tracking logistics information?
  - How do you feel the importance of tracking logistics information?

Table 1: Strengths and weaknesses on LMIS

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Strengths	weaknesses

Q2. How are the inventory control procedures in your region?

- Established policies for Max – Min stocks at all levels
- Existence of established procedures for placing emergency orders
  - 60% of facilities do not have ( or don't know ) the Max stock levels
  - 90% of facilities do not have ( or don't know ) the EOP
    - How do they determine when and how much to order?
- Existence of procedures for redistribution of over stocked supplies
- Existence of FEFO systems at all levels
- How are they preventing stock outs and wastages of contraceptives?
- The assessment showed ----- % facilities reported stock outs in the last 6 months. Discuss how and why?
  - Transport problems?
  - Closeness of social marketing outlets?
  - Etc....

Table 2: Strengths and weaknesses on inventory control procedures

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Strengths	weaknesses

Q3. What is your opinion regarding the organizational support for the logistics system?

- Discuss how often different levels communicate. How often do store keeper and FP person meet in the facility?
- Existence of procedures and guidelines to help staff carry out logistics responsibilities
- Discuss the importance of supervision for improving the logistics system
- The assessment showed that most people are trained in logistics but not applying their knowledge? Why? How can it be improved?

Table 3: Strengths and weaknesses on organizational support for the logistics system

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Strengths	weaknesses

Q4. Is there anything you would like to add?