Contraceptive Logistics Management System

Assessment Report

Jamaica

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Prepared by Leah A. Ghoston, MPH

NATIONAL FAMILY PLANNING BOARD
5 SYLVAN AVENUE KINGSTON 5

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Acronyms

CLMS	Contraceptive Logistics Management System
CPR	Contraceptive Prevalence Rate
HIV/STI	Human Immunodeficiency Virus/Sexually Transmitted Infection
IUCD	Intrauterine Contraceptive Device
LIAT	Logistics Indicators Assessment Tool
LMIS	Logistics Management Information Systems
MCSR	Monthly Clinic Summary Report
NERHA	North Eastern Regional Health Authority
NFPB	National Family Planning Board
OCP	Oral Contraceptive Pills
PHN	Public Health Nurse
PIOJ	Planning Institute of Jamaica
RH	Reproductive Health
RHA	Regional Health Authority
RHS	Reproductive Health Survey
RNM	Regional Nurse Midwife
SDP	Service Delivery Point
SERHA	South Eastern Regional Health Authority
SRHA	Southern Regional Health Authority
STATIN	Statistical Institute of Jamaica
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development

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We hope that this report will contribute to a continuing body of research and future improvements in the contraceptive logistics management system in Jamaica.

Executive Summary

According to the most recent population data from the Statistical Institute of Jamaica (STATIN), the population of Jamaica in 2012 was 2,711,476. However, the population growth rate has not moved above 1% since 1998 and over the past eleven years, the crude birth rate has been trending downwards. The number of live births decreased steadily since 2006 with 46,277 live births to 39,348 live births, the lowest figure on record, in 2012. The stability in the birth rate can been attributed to family planning education and the promotion of family planning methods, especially by the National Family Planning Board (NFPB), who states that the average number of children per woman is 2.4 (RHS, 2008). Jamaica has achieved a relatively high contraceptive prevalence rate of 72% and a low unmet need for family planning at 7.2% of women 15-44 (NFPB, 2008). Since 2007 there has been a yearly increase both in attendance at family planning clinics and in new acceptors (persons who start taking a certain contraceptive method for the first time), for both women who just had children and all clinic visitors. The trend of increasing numbers of new acceptors suggests a need for increased attention to contraceptive security to accommodate increased demand and continue reducing the fertility rate.

The Government of Jamaica's efforts to improve the sexual and reproductive health of the population are led by two main programmes, the NFPB and the National HIV/STI Programme. The mandate of the NFPB is to create family and population planning programmes, manage family planning services through the regional health authorities and provide policy guidance on sexual and reproductive health of males, females and adolescents. Recognizing the changing population trends, the NFPB, along with the United Nations Population Fund (UNFPA), the Planning Institute of Jamaica (PIOJ) and family planning clinics island-wide sought to provide a comprehensive response to young people who have an unmet need for family planning services and other adults who are seeking to limit the size of their families, prevent STIs and improve their reproductive health. In 2011, the NFPB released its 2011-2015 Strategic Framework to highlight the areas of most pressing need in regards to reproductive health and family planning activities in the country. Now in its third year, the framework outlines several strategic goals to attain by 2015:

- ✓ Reduction in unplanned pregnancies by 7.5%

- ✓ Contraceptive Prevalence Rate (CPR) of 75%
- ✓ Total Fertility Rate (TFR) of 2.28
- ✓ Unmet Need (females 15-44 yrs.) of 6.5%
- ✓ Increase of approximately 20% in Dual Method Use [use of both a primary and secondary method of contraception]

Since the NFPB has had the responsibility for ensuring the delivery of contraceptive methods to public sector facilities across the country, much of its mandate includes ensuring contraceptive security, access and availability of family planning methods at the clinic level. A growing body of literature indicates that contraceptive availability at service delivery points (SDPs) is associated with higher contraceptive use (Chen and Guilkey 2003; Magnani et al. 1999; Tsui et al. 2002). To ensure the needs of customers are met, an efficient contraceptive logistics management system (CLMS) would be required nationwide to best track the cycle that ensures effective storing, procurement and distribution of contraceptive commodities within health facilities.

As there is not a national logistics management information system (LMIS) for contraceptives currently in Jamaica, this 2013 logistics indicators assessment serves to provide baseline information and a comprehensive picture of the current status of the contraceptive LMIS across all levels of health facilities in Jamaica. The specific objectives were to accomplish the following:

- To assess the accuracy of logistics data for inventory management
- To propose a feasible distribution systems design
- To strengthen the capacity of stakeholders in data collection and data management
- To assess functioning of LMIS information, ordering and reporting procedures, transport systems and supervision frequency

National Level Findings

The assessment looked at availability of eight products at 49 health facilities across the island. The selected methods included: the oral contraceptives Microgynon and Oral-Con, the male condom, the injectables Depo-Provera© and Famy Depo, the intrauterine contraceptive device (IUCD) Copper T, and the implants Zarin and Jadelle.

Most clinics managed an average of 4 of the eight products under review; every facility (100%) in the sample managed both condoms and Depo-Provera (the most popularly used method). While most clinics carried both types of oral contraceptive (OCP), Microgynon was the most commonly carried oral contraceptive, managed by 84% of facilities sampled. About a third of facilities reported actively managing IUCDs on-site and three of the facilities managed an implant method of contraception. However, on the day of the survey visit, 44.9% of facilities were experiencing stockouts of at least one of the above methods and in the last six month period, 65.3% of facilities surveyed reported experiencing a stockout of one or more methods.

Staff reported that it was a regular occurrence to have extremely low stock levels for a prolonged period of time and at least 41% of the stockouts recorded were those that lasted more than 50 days within a six month period. During stockouts, clients were switched to different methods or directed to purchase the method privately and return to the clinic for dosing. Alternately, supplies were borrowed from neighboring facilities. Data and staff interviews also indicated that there are often simultaneous stockouts of two or more methods over the same number of days, which is detrimental for clients if both their primary and secondary method is stocked out at the same time.

Recordkeeping was generally found to be poor, as evidenced by the average of 54.1% of facilities across the four regions that did not record at least one of the methods they managed in a stock book. However, 90% of those who did have stock books available also had those books updated. Almost three quarters (74%) of facilities used a hand-ruled stock book to manage contraceptive commodities but 12% of clinics interviewed stated not having any formal logistic forms or using any formalized forms for stock keeping logistics. There was no universal way to record information on dual method users, outside prescription orders, or those who switched methods due to stockouts.

Reporting and ordering formats varied widely, and while Monthly Clinic Summary Reports (MCRS) and Condom Distribution Logs were most widely used, numerous other methods were used, sometimes simultaneously, to record contraceptive commodity information. Reports were submitted monthly, however comprehensive recordkeeping assessments could not be completed because balances were not consistently kept in stock books and physical inventory counts were not undertaken regularly. Data on number of and days of stockouts and total amounts issued in the last six months were unavailable and missing from almost a quarter (22.4%) of facilities stock keeping books. A significant correlation was also found with those who kept a stock book updated and also experienced a stockout for specific methods.

Order placement was inconsistent across all regions- none of the facilities surveyed kept consistent records of the orders made and filled in the last six months for their clinic and 83.7% of facilities stated placing their most recent order for contraceptives within the last month. Orders were placed after determining usage patterns for individual clinics, doing a visual inspection, or estimating based on upcoming appointments, though some respondents did not know how the quantity was determined; in some cases, order fulfillment was found to be insufficient or untimely and 20.4% of facilities had placed an emergency order in last 6 months.

Though most facilities had received a supervisory visit in the last month, over a quarter of facilities interviewed stated having never received a supervisory visit, 64% of which were in the Southern Region.

Transportation does not seem to pose a problem in obtaining supplies and facilities are able to pick up commodities in a private or facility vehicle as well as having them delivered.

Contraceptive stock was kept in multiple places in facilities surveyed and more than three quarters of facilities met acceptable storage conditions, scoring an average of 79.8% on the storage conditions tool; most commonly cited poor storage conditions were lack of fire safety equipment and general organization.

Recommendations

1) **Standardize all books and forms used for recordkeeping.** Many facilities did not have any recordkeeping books for stock on hand and others used multiple hand-written reporting and ordering forms, or no formal forms at all. Advocacy to policymakers for support for printing

and distributing LMIS forms and other management tools including universally utilized stock books is necessary so that each facility is collecting the same information in the same manner. The data also suggests a link between stock management using updated books and likelihood of stockouts.

2) **Create national standards for minimum stock levels** of contraceptive commodities. The Ministry of Health/NFPB has not designated mandatory minimum stock levels for service delivery points or higher level facilities, and so there is no recommended standard supply level in which to hold individual clinics accountable.

3) **Increase training and staffing for nurses and availability of instruments for IUCDs and implant insertion**. These methods are slowly gaining in popularity but the majority of clinics do not carry these methods or have persons who can administer them on-site. Facilities must refer patients elsewhere and some facilities do not even know which other facilities in their region may be able to provide these services. Additionally, when trained staff is available, medical instruments necessary for insertion are often unavailable, and increasing accessibility of such instruments is key in being able to provide services to clients.

4) **Ensure facilities produce copies of all documented reports** (ordering or otherwise) so that facilities always have the most recent updated reports on hand. There were a large number of facilities who could not produce their most recent forms because they were at the health department or who were missing months of data within a six month period for the same reason.

5) **Create a registry of trained and certified public health nurses (PHNs)** and midwives to facilitate referrals and support training specifically on contraceptive commodities, namely IUCD and implant insertion. No health facility should have to turn patients away because they cannot perform a procedure or cannot refer them to a nearby facility with trained personnel.

6) Build **supportive supervision** into monthly clinic reports to standardize regular drug management and create a contraceptive supervisory checklist for those conducting visits.

7) **Documentation of all protocol and procedures.** At the facility level, there is no documentation stating how books should be completed, stock should be counted, what to do in the case of a stockout or miscalculation of supply needs. Health workers are verbally informed as to who to speak to when they need to make or inquire about an order, and who they should

send reports to. Having written documentation of all protocol provides staff at all levels with a reference point and prevents misinterpretations of commands.

8) **Documentation of all forms of ordering**. Since it was reported that orders are mainly made orally, this poses a great problem for documentation. Each time an order is placed, formally or informally, a record should be kept of who placed the order, the date and time, and quantity requested in order to reconcile outstanding orders and keep track of stock needs.

9) **Better communication from NFPB to both regions and parish health facility representatives.** It is a raised concern that there may be some protocols within the NFPB level that have not reached the facility level. In the case where a protocol is actually developed, there should be documentation of any changes in the system, when they will be enacted, and how they will affect every health provider level. Better communication will i) enable the NFPB to be aware of what is going on at the facility level, including strengths and weaknesses in the contraceptive logistic system and ii) provide facilities with a point person should they need a liaison and assistance with concerns with contraceptive stock reporting or ordering.

Background

According to the most recent population data from the Statistical Institute of Jamaica, the population of Jamaica in 2012 was just over 2.7 million (STATIN, 2013). However, the current population structure is ageing with the 1-14 year old age group declining (29.8%), the 15-64 (61%) age group increasing and the elderly population (>65 yrs) being the fastest growing segment of the population (9.2%). The population growth rate has not moved above 1% since 1998 and over the past eleven years, the crude birth rate has been trending downwards; from a recorded high of 21.7 per thousand in the year 2000 to a record low of 14.5 per thousand in 2012. As evidenced in the above figures, population growth and increasing fertility are not the primary concerns for Jamaica; while less children are being born, there are still considerable concerns about the health and ability to plan parenthood for females in the reproductive age group (15-49), whose population slightly increased by .7% in 2012 (NFPB, 2012 & UNFPA 2011).

According to UNFPA in Jamaica, one major concern is that of unplanned pregnancy, especially for adolescents. The adolescent fertility rate, while declining over the past 5 years, now stands at 72/1000. This is still fairly high, and 18% of all births in Jamaica are to teenagers (UNFPA, 2012). However, at the time of the 2008 Jamaica Reproductive Health Survey (RHS), 82% of 15-24 year old females and 84% of 15-24 year old males said they used some form of contraception at last intercourse, including condoms, the oral contraceptive pill (OCP) or Coitus Interruptus (the withdrawal method) (NFPB, 2008).

In 2007, the NFPB engaged in a Dual Methods User survey, noting that dual method protection refers to the simultaneous protection against sexually transmitted infections (STIs) and unintended pregnancy and represents an important public health intervention, especially in the event of stockouts of primary methods (NFPB, 2007). Over the last five years (from 2008-2013), dual method users stayed at around a quarter of all family planning clinic clients. These results show that back-up methods are necessary for preventing pregnancy and STIs and clinics should be adequately prepared to supply clients with multiple methods should they request them, or should they fail to provide a primary method. While these figures are promising, 7.2% of females aged 15-44 years also reported an unmet need for family planning (2008), half of which

(3.4%) were adolescents aged 15-19, identifying a small gap of females who wish to prevent pregnancy or STIs but are unable to do so.

Contraception in Jamaica

The aim to reduce the fertility rate was first stated in the National Population Policy of 1983, which was later revised in 1992. This policy introduced the concept of 'replacement-level fertility', a term meaning that just enough children are produced to replace their parents (Scott, 1996). In the National Policy's Fertility Policy Statement it was noted that the average number of children per women should ideally decline to two by the year 2000 (PIOJ, 1992). In the early 1980's three different media campaigns emerged from the NFPB with the slogan "Two is Better than Too Many." This campaign ran over a four year period between 1983 and 1987 and consisted of commercials disseminated through radio, television and newspaper to emphasize the economic and social benefits to limiting family size, including increased financial freedom and relationship and health benefits (Scott, 1996). Jamaica was the first Commonwealth Caribbean country to issue a policy along such lines, however, when the campaign formally concluded, fertility control and contraception remained on the policy table. Most recently, the Population Sector Plan for 2009-2030 of the Jamaican Government's Vision 2030 aims to increase the contraceptive prevalence rate to 75% by the year 2030 as well as reaching a population growth rate of zero by 2030 (Government of Jamaica, 2010).

The NFPB has had the responsibility for ensuring the delivery of contraceptive methods to public sector facilities across the country; its mandate includes ensuring contraceptive security, access and availability of family planning methods at the clinic level. The NFPB operates the national warehouse that stocks the contraceptive methods (via overseas supply orders) and educational materials, in some cases through collaboration with UNFPA, to supply health clinics country-wide. Clinics in each region operate family planning clinics at different times throughout the week or month, depending on clinic size, population served and geographic location. These family planning clinics offer contraceptive methods and administration, counseling, pregnancy testing and ante- and postnatal services.

Currently in Jamaica, the most widely distributed contraceptive methods are the oral contraceptive pill (OCP), injectable (Depo-Provera) intrauterine device (IUCD), implant

(Norplant) and male condom. The available family planning options can vary by parish but include the five listed, with the exception of the IUCD, which requires insertion by trained personnel, and the implant, which is rarely requested and therefore not routinely stocked in all parishes. Currently, the injectable is the most popular method nationwide, with the number of new acceptors steadily increasing since 2007 (NFPB, 2012).

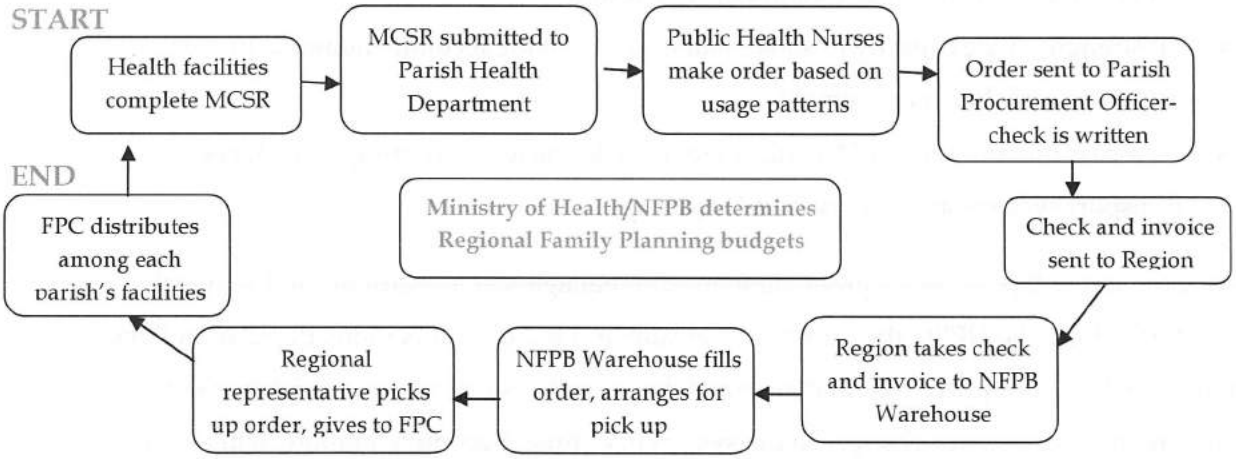
The performance of the logistics system is associated with an increase in contraceptive use and has its strongest impact on contraceptive availability for the methods listed above. All of these products are currently offered in Jamaica at different levels of facilities. For products to move through the different levels of the logistics system and reach family planning clients, in good condition and within expiration dates the system must have effective processes to select appropriate commodities, forecast needs, obtain adequate financing, complete timely procurement, and deliver them reliably to clients (Karim, 2005).

The present day LMIS involves multiple levels with supply, distribution and reporting, using the NFPB as the main hub for commodity ordering and disbursement. In 2009, due to government financial pressures, and the need to increase transportation efficiency, the regional health authorities (RHAs) took over distributing contraceptive commodities from the NFPB warehouse. Rather than the NFPB performing individual clinic stock checks, individual facilities and clinics were made responsible for their own monitoring and procurement and placed supply orders through a monetary ordering system (NFPB interview). These RHAs include the Southern (SRHA), South Eastern (SERHA), North Eastern (NERHA) and Western (WRHA) regional health authorities.

The current LMIS is not fully documented but there is a general assumption of how each level works. Ideally, the government issues specific budgets for health and family planning activities to cover each region and orders are done at the parish or regional level using budget allocated for each region for each quarter. Each facility would be responsible for tallying their monthly new family planning acceptors, the number of contraceptives and types disbursed and recording on a Monthly Clinic Summary Report (MCSR). The MCSR for each facility would help clinic staff to identify trends in usage that are necessary to determine ordering of supplies as well as providing the Ministry of Health with information on this usage. The MCSR reports

would then be forwarded to the parish health department, where Senior Public Health Nurses (SPHN) in charge of procurement identify appropriate order quantities of methods for each facility in their jurisdiction based on the reported usage trends and make the orders for all facilities. The SPHN would then send the order to the Procurement Officer responsible for each parish and who costs the order, prepares payments and then sends the order to the Regional level. The order reaches the regional level where payment and invoice are forwarded to the NFPB, where the order is filled and arrangements made for pick up with regional representatives. Each Regional representative would then take their order to the Family Planning Coordinator (FPC) in each parish, who would distribute contraceptives to their respective facilities in ways that take into consideration clinic attendance, size and usage patterns.

Figure 1. Current Perceived LMIS Cycle in Jamaica



It is important to note that while there is a protocol as described above for contraceptive logistics management systems (CLMS) in general, it is not universally followed across the country. Regions and parishes greatly differ in reporting, ordering, procurement and distribution procedures; there can be considerable differences depending on staffing, facility type or population served. Therefore, the current CLMS assessment is timely in identifying what procedures are followed within each parish and facility and how efficient and effective the LMIS cycle and system performance is in each region to ensure clients receive the contraceptives they need, when they need them.

Assessment Purpose and Objectives

The 2013 assessment serves as a baseline study to provide a comprehensive picture of the current status of the CLMS and its practices at all levels across Jamaica. Initiating a contraceptive logistics management survey across all four regions will provide the NFPB and partners with current information on logistics and stock status of key contraceptive commodities, and information to measure improvements in the logistics system, especially regarding contraceptive availability.

The specific objectives of the assessment were to accomplish the following:

- To assess the accuracy of logistics data and provide recommendations to improve inventory management
- To propose a feasible distribution systems design
- To strengthen the capacity of stakeholders and provide recommendations in data collection and data management
- To assess functioning of LMIS information, ordering and reporting procedures, transport systems and supervision frequency

The assessment will provide program planners and managers at the national and regional levels, particularly the NFPB, the Ministry of Health and the United Nations Population Fund with information to improve the functioning of the overall system, create consistency in the system and make necessary changes to the system over time. Recommendations will be made as well as the creation of a forecasting template that will aid in streamlining the procurement and distribution process with real demand. It is an intention to perform this assessment every 2-3 years country-wide.

Assessment Methodology

The assessment was carried out using the Logistics Indicators Assessment Tool (LIAT). Created under the US Agency for International Development (USAID) funded Project DELIVER, the LIAT in this context assesses contraceptive system performance and the availability of family planning methods at health facilities and provides information to stakeholders regarding the current state of affairs for contraceptive management across the country. The study collected both quantitative and qualitative data on the CLMS, including one-on-one interviews with staff and physical facility inspection, and assessed (a) the functioning of the logistics system that manages contraceptive commodities (b) the responsibility of staff at each level and the chain of command for reporting and ordering supplies (c) the availability of eight contraceptive methods: the oral contraceptives Microgynon and Oral-Con, the male condom, the injectables Depo-Provera© and Famy Depo, the intrauterine contraceptive device (IUCD/IUCD) Copper T, and the implants Zarin and Jadelle.

The study examined specific CLMS activities, such as recordkeeping, supply storage, reporting, ordering and distribution as well as supervision and general management. The survey tool was revised and modified to more appropriately address the Jamaican CLMS and individual data collectors provided additional feedback on revisions during a three-day training and pilot testing of the survey instrument. The final survey tool is included in Appendix F and the full training report is included in Appendix G.

Data was collected through a 37 question survey and interview with the point person managing contraceptives at each facility, along with direct observations and a physical inventory count. To help ensure entrance into the facilities, a letter from the NFPB was sent to the Regional Technical Directors of each Regional Health Authority (RHA), with follow up directed to both Directors and Regional Nursing Supervisors. Due to time constraints, there was not as much flexibility in scheduling facility survey visits, but facilities were given at least 3-5 days advance notice, along with consideration of the availability of appropriate personnel on-site.

Sampling Framework

There are four regional health authorities (RHAs) across 14 parishes in Jamaica- Southern, South Eastern, North Eastern and Western. The initial sampling strategy used a recommended ratio of

15% of total applicable service delivery point facilities within these RHAs; only facilities directly providing family planning services were counted and warehouses and highest level suppliers were omitted. Out of 311 appropriate facilities, 45 were selected as initial survey sites with input from public health nurses, regional nursing supervisors and other regional representatives. There are seven types of health facilities across the country, but not every region has every type. Based on the proportion of each facility type in each region, a sample size was calculated for each type; using stratified random sampling, facilities of each type identified were selected for survey in each region. As SERHA was the most populous parish, additional sites were selected to represent that region, bringing the total number of sites selected to 49. For a complete sampling list, please refer to Appendix A.

Table 1. Sample of Health Facilities Selected

Region	Parish	No. of Health Facilities selected	Types of Facilities
Southern (SRHA)	Clarendon	4	Type 1- 1
	Manchester	4	Type 2- 2
	St. Elizabeth	3	Type 3- 7
	Total	**11**	Type 4- 1
South Eastern (SERHA)	Kingston & St. Andrew	7	Type 1- 2 Type 5- 1
	St. Thomas	4	Type 2- 2 Type 7- 1
	St. Catherine	4	Type 3- 7
	Total	**15**	Type 4- 2
North Eastern (NERHA)	Portland	3	Type 2- 2 Type 7- 1
	St. Ann	5	Type 3- 4
	St. Mary	3	Type 4- 2
	Total	**11**	Type 6- 2
Western (WRHA)	St. James	3	Type 1- 3
	Hanover	3	Type 2- 2
	Trelawny	3	Type 3- 4
	Westmoreland	3	Type 4- 2
	Total	**12**	Type 5- 1
Total Health Facilities in Study Sample			**49**

Furthermore, a sample of four Senior Public Health Nurses at the Parish Health Departments was interviewed to add another dimension the experiences of contraceptive logistic management outside of the service delivery facilities. Senior nurses from Clarendon (SRHA), Kingston and St. Andrew (SERHA), St. Ann (NERHA), and Trelawny (WRHA) completed the sample. The wider survey was aimed at the service delivery level so it was important to also

have representation from a higher level facility for further understanding of the CLMS functions. The parish health department's responses will be indicated separately throughout the report narrative.

Indicator Choice

A set of indicators was selected which highlighted the following areas covered in the survey and observations:

- Stock Status
- Logistics Management Information Systems
- Reporting
- Inventory Control
- Recordkeeping
- Supervision
- Transportation

A full list of the selected indicators used is in Appendix E.

Data Collection

Data was collected using pre-printed survey forms and surveys were administered by trained regional or parish representatives and NFPB staff. Prior to the start of the survey, 16 data collectors (two from each region and eight NFPB staff) participated in a three day training course in Kingston, Jamaica on the use of the assessment tool and the objectives of the survey. Participants received a comprehensive set of guidelines on implementing field work, tips for data collection and interviewing, instructions for the LIAT survey forms, and additional job aids to use as reference guides while in the field.

All data collectors participated in a one-day pilot test that was conducted in the NFPB warehouse (the storage site for contraceptives and family planning educational materials) in Kingston to allow data collectors to experience practical application of the tool and to identify any additional modifications to the tool that would improve data collection. The changes participants identified during the training and pilot tests were incorporated into the final version of the tool.

Field work consisted of eight (8) teams (two to three persons per team), two teams per region, comprising regional health staff (nurses or supervisors) and NFPB staff. The data collection took place across 10 days in October and November 2013 with each team spending 6-10 days in the field depending on the number and location of assigned facilities. Please see Appendix B for a complete list of data collectors and their associated teams.

Quality Assurance

Several methods were used to guarantee quality assurance during the survey administration. Skip patterns were written into each form to help ensure that applicable questions were answered and interviewers did not have to ask redundant or irrelevant questions. Data collectors also participated in a three-day training course prior to field work so that they were fully versed in the questions and sources of data for each form, aware of respondent issues that could arise, the importance of reliability and validity of data collected and could prevent interviewer bias. The tool was also reviewed prior to the training to ensure that questions were suitably adapted for the Jamaica context and modified again following the pilot test and significant input from data collectors during the training.

Field work was organized methodically, where teams pre-scheduled visits and assigned team member responsibilities beforehand. Additionally, data quality and accuracy was ensured by the creation of a checks and balance system on each team-prior to leaving the facilities, the teammates compared each other's answers for accuracy and data quality, using a checklist for completion. Following the review, one person was responsible for submitting all of the forms that were completed for that team during the time period allotted.

Limitations of the Survey

The survey had several limitations.

Inconsistent data entry- in some cases the data that was entered in the database was inconsistent. This was noted to be a combination of both human error and interviewee recall bias. While every attempt was made to contact those who provided survey information to verify results, there were some cases where data had to be discarded, less it impart a bias in any area of the study or an error in calculating statistical figures during analysis.

Potential bias- It was deemed important to have teams consisting of both NFPB staff and regional health facility level staff. However, since data collectors were involved in actual system operations at facility level, some level of subjectivity is likely, though it was addressed as best as possible in training exercises prior to field work. Other bias had the potential to exist in the survey respondents, as some facilities may have had more seasoned professionals answering questions who had a more thorough understanding of the nature of reporting and procurement of contraceptives. When scheduling appointments with facilities, data collectors explained what

types of questions the survey would be looking to answer and appropriate persons were selected by the facility to assist the data collectors based on their ability to answer such questions. In some cases, a bias arose in those facilities that had the most experienced staff on hand to answer questions, while others may not have had such knowledgeable staff at their disposal.

National-Level Findings

Findings in this study are presented as nationally aggregated and data is presented on indicators measuring stock status and logistics system performance from all sites that manage contraceptives throughout the four regions in the sample (SRHA, SERHA, NERHA and WRHA). Where necessary, the analysis is disaggregated by facility types or regions to give further clarity of data results.

Store and Facility Information

A total of 49 facilities (all service delivery points) were visited during this assessment including two hospitals and 47 health centres. From the initial sampling list of facilities, three replacement facilities were selected during the data collection process due to the unavailability of initial selected facilities. Each replacement mirrored the original facility in parish and facility type to ensure accurate representation from the initial random sample. All but one facility operated under the Ministry of Health; the lone NGO operated facility was a Type 7 clinic located in NERHA. Each clinic surveyed had electricity and water on the day of the visit and all but one had paved roads leading to the facility. Three facilities did not have an operational telephone on the day of the survey.

Forty one percent (n=21) of survey respondents had worked at their respective facilities for less than three years. Where interviewees had been at the facility for 6 months or less, efforts were made to find others on staff with more longevity who could better speak to the facility protocols. Of those interviewed, 18.4% (n=9) had worked at the facility for 4-7 years, 12.2% (n=6) for 8-12 years, 14.3% (n=7) for 13-15 years and 12.2% (n=6) for more than 15 years. It was unclear if the high number of interviewed staff having worked less than three years was due to high staff turnover, a high number of PHNs in general who are new to the workforce, or simply that younger staff were selected to assist the interviewers due to hierarchies or workload constraints of more seasoned staff.

It was noted by more than half of respondents that the person who principally managed contraceptive commodities on site was the public health nurse on duty (n=25, 51%), followed by a midwife (n=11, 22.3%) and a registered nurse midwife (RNM) (n=9, 18.4%). As these were positions with multiple other roles in each facility such as immunizations, program

coordination, surveillance, general patient care, etc, only 10.2% (n=5) of all survey respondents suggested that logistics and stock management was the primary responsibility of the person who is responsible for managing contraceptive supplies.

In all facilities, the contraceptive commodities being carried and assessed included Microgynon and/or Oral Con oral contraceptives, Zarin or Jadelle contraceptive implants, Ministry of Health issued condoms (generic), Copper-T IUCDs and Depo-Povera or Famy Depo contraceptive injectables. These eight main products were also accompanied in some cases by other brands, which are noted in the findings.

A total of 49 facilities were visited during this assessment. Of the 49 facilities visited, clinics on average managed 4 of the eight products; none of the clinics carried every single method or brand.

Table 2. Number of Products Managed at Facilities (Mean and Mode)

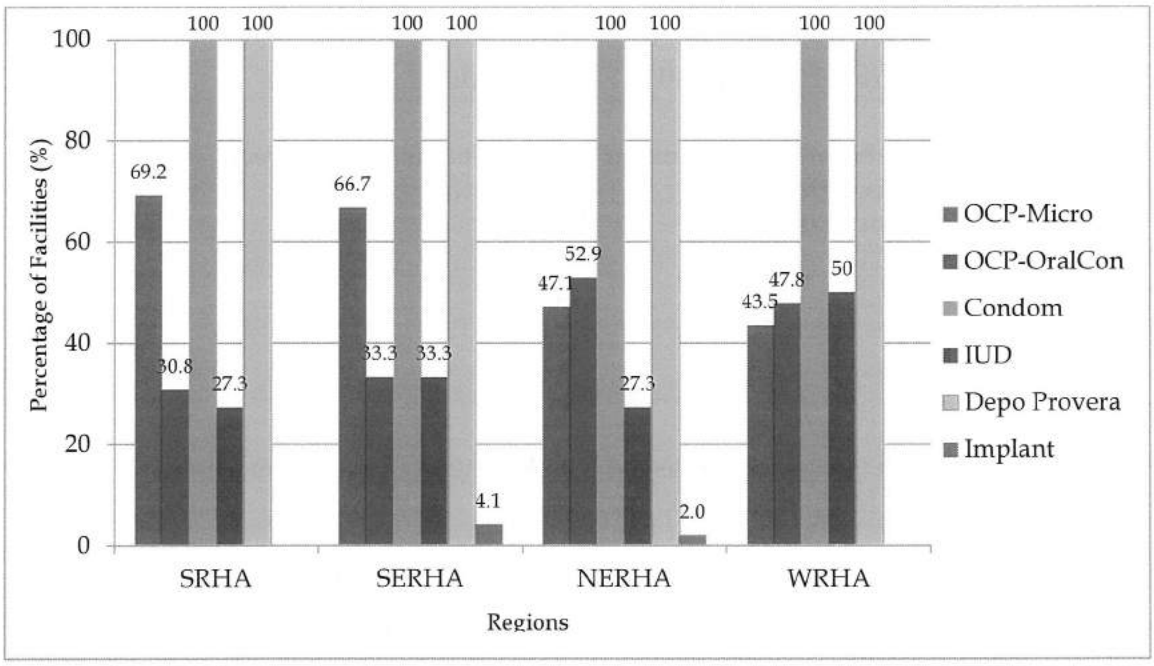
Region	Total Number of Facilities Assessed	Number of Products Managed at Each Facility	
		Mean	Mode
SRHA	11	3.5	3
SERHA	15	3.7	3
NERHA	11	4.1	4
WRHA	12	4.2	5

Every facility (100%) in the sample managed both Ministry of Health issued generic male condoms and Depo-Provera. Only two facilities surveyed carried the female condom, but in both cases the condoms were expired and only used for demonstration and educational purposes. Depo-Provera, the injectable contraceptive, is the most popularly used and carried in each region and every clinic stated it was actively managed at their facility (n=49); two clinics also carried Famy Depo, a generic version of Depo-Provera. While most clinics carried both types of oral contraceptive OCP (n= 38, 77.5%), Microgynon was the most commonly carried oral contraceptive, managed by 84% of facilities sampled (n=41). One clinic in NERHA and one clinic in WRHA also carried Minigynon as an alternate oral contraceptive option. Postinor, the emergency contraception, was also carried at these two clinics, but not reported by any other clinics. About a third of facilities (n=17, 34.7%) reported actively managing IUCDs on-site. The

implant method of contraception was least commonly managed within the sampled facilities, with only one facility reported managing Zarin and two reported managing Jadelle.

It was noted in several facilities that methods in most cases were stocked based on availability- for example, several facilities noted that they were currently carrying one type of OCP not because that was what they ordered, but because that was what was available to be distributed. These facilities thus managed both types, just at different times based on what they received after placing their order. Additionally, several facilities reported receiving donated products, some of which were not regularly carried by their clinic, such as different condom or OCP brands.

Figure 2. Percentage of Facilities Managing Various Contraceptive Commodities by Region



The regional differences noted in method management reflect regions who do not manage implants (SRHA and WRHA) as well as that SRHA and SERHA have about 20% more facilities reporting managing Microgynon than NERHA and WRHA. In the Southern region, none of the facilities surveyed carried the implant; only one hospital in the region does but this hospital was not surveyed. In the Western region, it was reported that none of the region's facilities, hospitals included, carry the implant- if the method is requested by a patient, the patient is referred to a

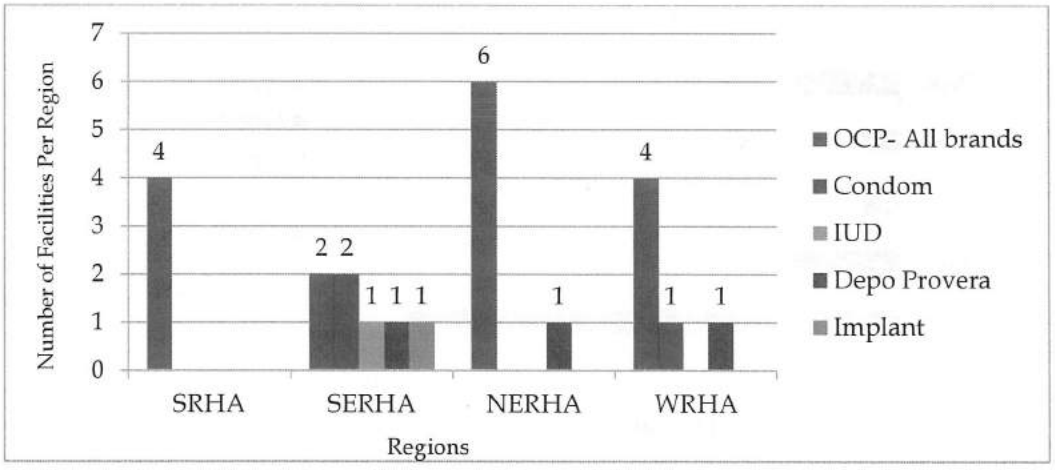
facility in NERHA. The reason cited for non-management of implants in WRHA was the lack of personnel trained in insertion.

Stock Status

Using interviews with staff and a physical count of commodities on the day of the visit, data collectors determined contraceptive availability from those facilities that reported managing the product. The survey found that some degree of variability in contraceptive availability existed in the clinics at all levels. A 'stockout' refers to an absolute absence of any commodity usually carried at that facility.

On the day of the survey visit, 44.9% (n=22) of facilities were experiencing stockouts of at least one of the above methods. The OCP (both brands) was the method most commonly reported as being out of stock on the day of the visit (n=14, 28.6%). Some respondents noted that this method was not in high demand, thus the concern to replenish stock was not as high of a priority for their clinic at times as for other methods. The other methods experiencing a stockout on the day of the survey were condoms (n=3, 6.1%) and Depo-Provera (n=3, 6.1%). The only facility (n=1) managing Zarin was also stocked out of Zarin and one facility (n=1) was out of stock of IUCD. At the parish health departments, SRHA was the only one of the health departments that carried Jadelle that was experiencing a stockout on the day of the visit - a method that had been out of stock for the previous four months (from June to October 2013).

Figure 3. Number of Facilities with Stockout of Contraceptive Products on Day of Survey Visit by Region and Method



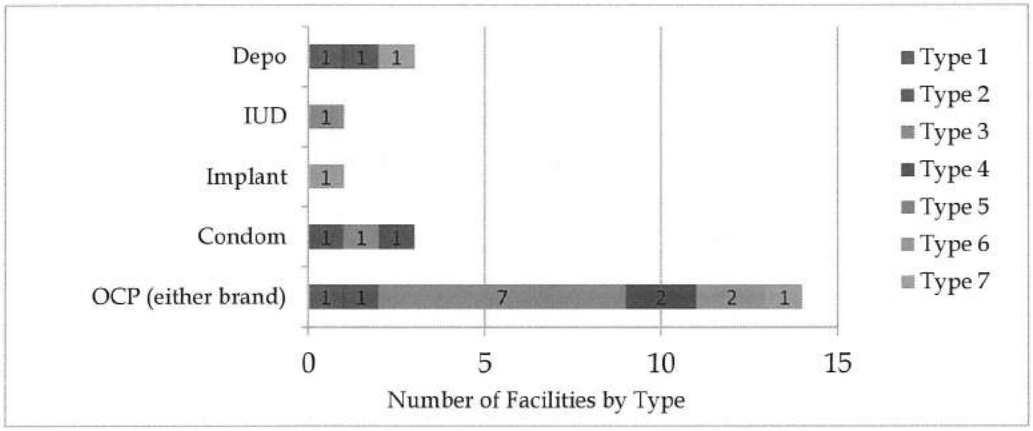
It was also important to examine the stockout data by looking at disaggregation by facility type (1-7). As Types 5, 6 and 7 only had two facilities, their numbers appear higher. Both of the Type 6 facilities reported a stockout of a method and one of each of the Type 5 and 7 clinics reported a stockout (50% of each that were sampled). Overwhelmingly, the most stockouts on the day of the visit occurred with the Type 4 clinics, where 3 out of the 7 clinics of that type (42.8%) sampled were experiencing a stockout. Next were Type 1 and 3 clinics, with a third of the sampled clinics of those types being out of stock. Type 2 had the least, with a quarter of sampled facilities (2 out of 8 facilities) experiencing a stockout on the day of the survey visit.

Types of Facilities Experiencing Stockout on the Day of Survey Visit

- Type 1 (2 out of 6 facilities)- 33.3%
- Type 2 (2 out of 8 facilities)- 25%
- Type 3 (7 out of 22 facilities)- 31.8%
- Type 4 (3 out of 7 facilities)- 42.8%
- Type 5 (1 out of 2 facilities)- 50%
- Type 6 (2 out of 2 facilities)- 100%
- Type 7 (1 out of 2 facilities)- 50

In looking at the facility types that experienced stockouts of select methods on the day of the survey visit, Fig. 4 shows that Type 1 facilities reported being out of Depo-Provera and OCPs, Type 3 facilities reported being out of IUCD, condoms and OCP, Type 4 facilities were stocked out of condoms and OCP and the two Type 5 facilities were not out of stock of any methods. Type 6 reported being out of OCP and Type 7 was out of both Depo-Provera and OCP. Type 3 and 4 were more likely to have stockouts of OCPs while Types 1, 2 and 3 were found to have more Depo-Provera stockouts.

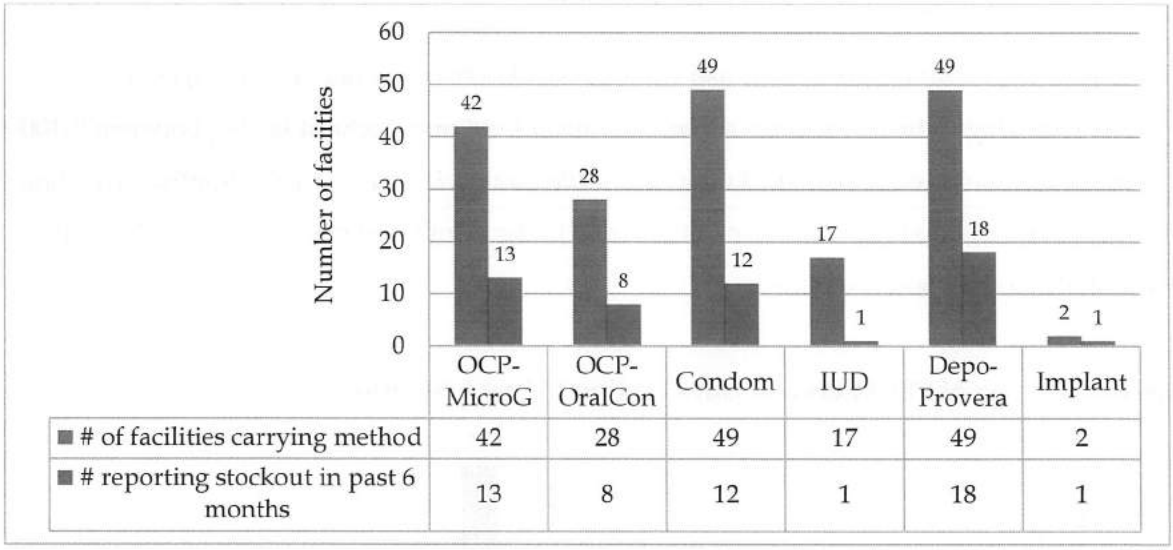
Figure 4. Methods Experiencing Stockout Within Different Facility Types



To further understand the availability of contraceptive methods at each facility, data collectors looked at stock books for data on the incidence of stockouts, the number of times each facility had a stockout of any of the commodities and the average duration of those stockouts over the six month period leading up to the survey (April to October 2013). (See Figure 7 for availability of stock books).

In the last six month period, sixy-five percent (n=32) of facilities surveyed reported experiencing a stockout. The top methods most commonly experiencing stockouts in the last six month period were Depo-Provera (n=18, 36.7%), Microgynon (n=13, 30.9%), Oral Con (n=8, 28.6%) and condoms (n=12, 24.5%). In looking at the number of facilities carrying a given method and also reporting that this method was out of stock within the last six months, Figure 5 shows that about a third of those who stated carrying OCPs or Depo-Provera were also reporting stockouts of these methods in the last six months.

Figure 5. Methods Experiencing Stockouts in Last 6 Months at All Facilities



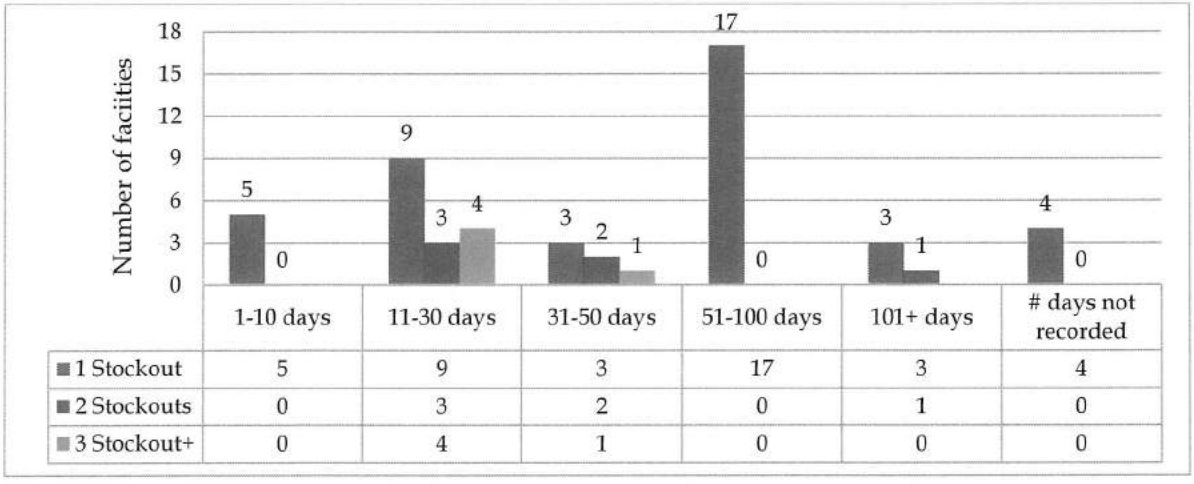
	OCP-MicroG	OCP-OralCon	Condom	IUD	Depo-Provera	Implant
# of facilities carrying method	42	28	49	17	49	2
# reporting stockout in past 6 months	13	8	12	1	18	1

About a quarter of those carrying condoms also had a condom stockout in the last six months, which is a slight improvement over both OCP and Depo-Provera. The IUCD seemed to be sufficiently stocked within the facilities that carried them but one out of the two facilities surveyed who carried implants also experienced a stockout of them.

Of the facilities reporting stockouts of different methods, 83.6% (n=41) reported having at least one stockout in the last six months, while 12.2% (n=6) experienced two stockouts and 10.2% (n=5) had three or more stockouts within the last six months. Four facilities did not keep a written record of the number of stockouts they experienced in the last six months. Note that these figures do not add up to 100%, as most facilities experienced a stockout of more than one method at any given time. At the parish health departments, the health department visited in SRHA was the only of the four health departments that reported having a stockout in the last 6 months of three methods- Microgynon, Jadelle and Depo-Provera lasting between April and July of 2013 for 88 days total. SRHA noted that an order was placed for all methods but not received due to the unavailability of Jadelle in the NFPB warehouse (associated with mounting supply ordering costs) and financial constraints at the regional level that prevented order fulfillment of Depo-Provera and Microgynon. In the interim, clients purchased Depo-Provera at outside pharmacies and asked the clinic to administer it. During this time, the clinic received a donation of supplies but it was not sufficient. In the case of Jadelle, SRHA was informed that there was no stock supply at the national warehouse.

It is evident that facilities more often had multiple stockouts (anywhere from 1-3) lasting between 11-50 days with 17 facilities stating having at least one stockout lasting between 5-100 days and 4 facilities having had stockouts over a 100 day period in the last 6 months. The data below (Fig. 6) show that the concern rests not only in the number of stockouts occurring but in how long these stockouts were for.

Figure 6. Number of Stockouts and Days Lasting in Last 6 Months



	1-10 days	11-30 days	31-50 days	51-100 days	101+ days	# days not recorded
1 Stockout	5	9	3	17	3	4
2 Stockouts	0	3	2	0	1	0
3 Stockout+	0	4	1	0	0	0

While the data captures recorded figures for stockouts, interviews with staff also revealed that while, in some cases they did not have stockouts, it was a regular occurrence to have stock reach extremely low levels for a prolonged period of time. This could be an indication of future stockouts. The health department visited in the WRHA noted that stockouts were often averted by borrowing supplies from other parishes in the region. These near-stockouts often resulted from delays caused by a lengthy and unpredictable procurement process, and stocks would be replenished when orders arrived. One hospital surveyed stated that their clinics (family planning, antenatal and STI) are often out of stock due to the influx of visiting clients from other communities, some extremely far, who come because their preferred contraceptive methods are out of stock at their home clinic; this puts more pressure on the hospital to be sufficiently stocked, not only for the clients who are expected, but for those unexpected ones as well. As one public health nurse at this hospital stated "We are supplying the island in most cases."

Data and staff interviews also indicated that there are often simultaneous stockouts of two or more methods over the same number of days, which is detrimental for clients if both their primary and secondary method is stocked out at the same time. In the case of the frequent stockouts, condoms, which usually serve as back up methods for clients on hormonal contraception can serve as a primary contraceptive, however it is shown that condoms were also stocked out at a quarter of sampled facilities (n=12, 24.5%) in the previous six months, for an average of 11-30 days.

At the parish health department level, the facility visited in SRHA was the only one of the four departments that reported having a stockout in the last six months of Microgynon, Jadelle and Depo-Provera, lasting between April and July of 2013 for 88 days total. The length of time of stockouts can be as debilitating as the frequency of stockouts, as patients may have to visit a clinic numerous times in hopes of obtaining their choice method. Lengthy stockouts can reflect a number of concerns with stock management and responsiveness to patient needs, not only for parish health departments but especially for general service delivery facilities. The figure that 41% (n=21 or possibly more since 4 clinics did not record the number of stockout days) of the general facility stockouts recorded were those that lasted more than 50 days within a six month period is extremely poor.

Logistic System Performance

The data discussed in this section provide an indication of the level of performance of the CLMS in several key areas and as such, findings are under the following headings: Logistics Management Information Systems (LMIS), Reporting, Inventory Control, Ordering, Supervision, Recordkeeping, Transportation and Storage Conditions.

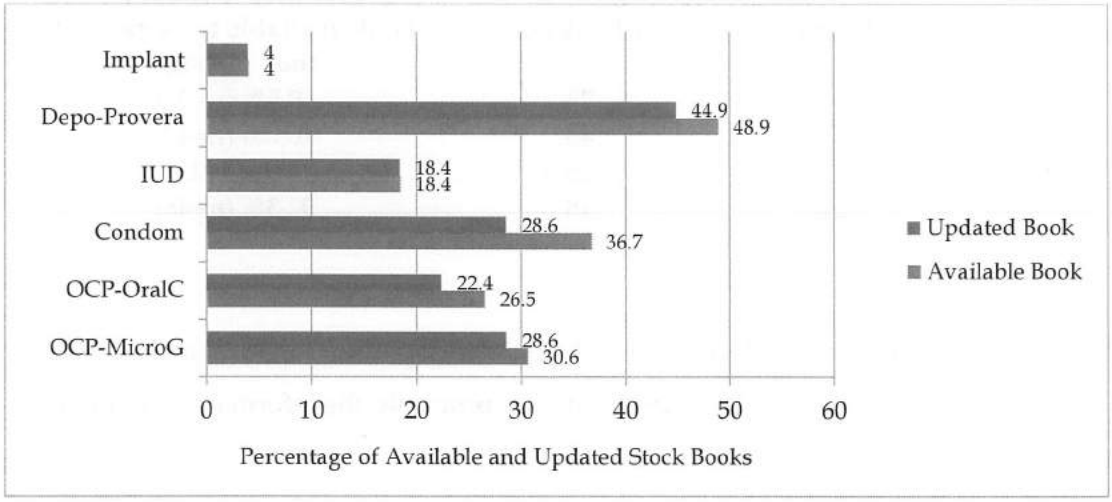
Logistics Management Information System

Training is an important element in strengthening a CLMS and ensuring smooth functioning of a cyclical system with active staff input and technical understanding. Persons responding to the survey on behalf of their facility were asked not only about the reporting and ordering procedures followed by the facility but how they learned to complete the forms required for contraceptive management. Eighty-two percent of respondents (n=41, 82%) received on-the-job training but not specialized in logistics. Such on-the-job training was provided by Regional Health Authorities operating under the Ministry of Health by senior staff at the health facility as part of an orientation process or though the Policy and Planning Unit of the Ministry of Health. Formal training on logistics systems, such as in a logistics workshop, was undertaken by a quarter (n=13, 26.5%) of survey respondents. Two respondents (n=2) learned during a midwife training or during general personnel training on manuals and clinic paperwork and three others (n=3) reported having no training at all. All parish health department interviewees (n=4) stated learning how to complete forms via on-the job training. These figures indicate that most of those who are responsible for completing forms have undergone training in some capacity but that there lacks consistency in how persons are introduced to reporting formats.

Health facility personnel require logistics management tools such as stock cards or books and daily registers to record key logistics data and indeed almost three quarters (n=31, 73.8%) used a hand-ruled stock book to manage contraceptive commodities while 16.7% (n=7) used a stock/bin/inventory control card. Additionally, 9.5% (n=5) used other types of forms including a Family Planning Register, a Patient Register book, a Case Report form, and a general clinic tally sheet. However, 12.2% (n=6) of clinics interviewed stated not having any formal logistic forms or using any of the above forms for stock keeping logistics (Note that stock keeping logistics does not imply direct reporting or ordering formats- while some of the above methods are used solely for stock keeping, they may also be used for reporting or ordering purposes; they are discussed further in the Reporting and Ordering sections, respectively).

Survey findings indicate that certain methods sometimes have their own reporting formats and as such, some clinics have multiple stock books that do not always accurately capture all the clinic statistics regarding usage or distribution.

Figure 7. Percentage of Available and Updated Stock Books by Method



As seen in Figure 7, 91.3% of those who reported having stock books available for their methods also had those books up to date. Almost half of facilities interviewed (n=24, 48.9%) had a stock book available that held information about Depo-Provera (the most commonly used contraceptive) disbursements, with 44.9% of those books being up to date. Information about condoms was recorded in 36.7% of facilities' available books but just about a quarter (26.5%) of those books were actually up to date. Oral contraceptives were noted by staff to be less popular than Depo-Provera or condoms but just 28.6% (n=14) had a book both available and updated for Microgynon and 22.4% (n=11) had a book both available and updated for Oral Con. All facilities carrying Zarin or Jadelle implants had books both available and up to date and 88% of the books available on IUCDs (n=8) were updated. At the parish health departments, every health department stated that they used a ruled stock book to manage commodities and one also stated using a diary and a 'quire' book. In every health department, stock books were both available and up to date for all methods carried and this was verified by the interviewer.

While it is promising to look at the numbers of those whose available books were updated, it is more of a concern to see the number of facilities that did not have any stock books available at

all for at least one of the methods they carried. An average of 65.6% of facilities across the four regions did not record at least one of the methods they managed in a stock book.

Table 3. Percentage of Facilities Without a Stock Book for At Least One Method They Managed

Region	# Contraceptives Managed	# Contraceptives Without Book	% of facilities without a stock book available for a method they manage
SRHA	38	23	60.5% (n=23)
SERHA	56	43	76.7% (n=43)
NERHA	45	15	33% (n=15)
WRHA	52	48	92.3% (n=48)

Reporting

In a CLMS, the cyclical sharing of information and regulated reporting is critical at all levels of the system. In addition to following information sharing protocols, the information captured on reporting formats must be valid, accurate and consistent.

The Monthly Clinic Summary Report (MCSR) is the most widely used and mandated reporting format used at the facility level to gather information on usage and distribution of contraceptive commodities, as well as attendance and gender statistics. While the use of the MCSR became regulated in 2010, every health facility surveyed (100%) across all four regions uses it as a method of reporting on contraceptive commodities (see Appendix D), followed by a Condom Distribution Log (n=30, 61.2%) in which specific information about condom disbursement is recorded; In addition, several facilities (n=6) noted that they use other formats for reporting in addition to those above, namely a tally sheet (n=1), hospital monthly summary report (n=1) or clinic based report (n=1). While only three (3) facilities actually responded that they used a Family Planning Register for reporting, it was later determined that these registers are used universally in all facilities as general management tools that capture patient family planning method information; this information can aid in reporting by informing MCSRs, but is not a formal reporting format.

MCSRs overwhelmingly only include information about quantities used, as only a very small number of facilities reported recording information about stock on hand (n=3) or losses and adjustments (n=2) on the MCSR form. Completed MCSR forms viewed by the interviewer

indeed reflected the staff claims, and 85.1% (n=46) recorded quantities used, while 7.4 % (n=4) reported information about stock on hand and 3.7% (n=2) included losses or adjustments. After reviewing the MCSR forms that are completed by each facility, it was noted that there are no pre-formatted sections to record losses and adjustments or stock on hand. Each MCSR contains a section for additional comments and in the case of those facilities who stated they reported on losses and adjustments and stock on hand, suggested that this information would most likely be recorded in this section.

Condom Distribution Logs can take two forms: 1) formal printed log sheets compiled by the Ministry of Health National HIV/STI Programme or 2) regular ruled books kept within facilities for the sole purpose of recording information about condom distribution. It is important to note that this differentiation was not made in the survey question and only specifically noted in observations by a handful of data collectors. Therefore, it is unknown how many facilities were using the pre-approved printed Log forms and how many were only using a ruled log book. While Condom Distribution Logs were used as a form of reporting for some, over one third of facilities interviewed stated that they did not use logs (n=19, 38.8%). For those who did have logs, 17% (n=5, 16.7%) of facilities stated that the log was not used for reporting purposes. Those who did use a log only captured information regarding stock on hand (n=8, 26.7%) and quantities used (n=26, 86.7%); no forms included information about losses or adjustments. Completed logs viewed by the interviewer reflected that 16.1% (n=5) showed information about stock on hand, while 77.4 % (n=24) had information about quantities used; one facility's (n=1, 3.2%) completed form actually did calculate losses and adjustments. Two clinics did not have completed MCSRs or Condom Distribution Logs available on hand to view.

At the parish level, the four health department stated that for both MCSRs and Condom Distribution Logs both quantities used and stock on hand were recorded. The parish health department in WRHA did not use a condom log and SERHA's log was not used for reporting.

All MCSR reports are sent monthly (n=49, 100%) and one clinic also submits this form on a quarterly basis (n=1). One clinic stated never having directly submitted a MCSR report and the rest of the sample all confirmed that they most recently sent a MCSR report to the higher level within the last month (n=48, 97.9%).

Condom Distribution Logs, for those clinics who use them (n=30) are submitted monthly (n=17, 56.7%), and quarterly (n=2, 6.7%). Seventy three percent (n=22, 73.3%) stated that reports were sent using the log within the last month and one clinic (n=1) said their last report was sent more than three months ago. Seventeen percent who use logs (n=5, 16.7%) do not use these logs for reporting purposes and therefore do not submit reports using them; indeed in regards to sending reports using the log information, nine clinics (n=9, 39.1%) stated that they have never sent a log report to a higher level.

Some clinics also are responsible for receiving completed reporting forms from other facilities to submit on their behalf. While 65.3% (n=32) of clinics do not require other clinics to send MCSR to them, out of the 17 who do, 58.8% expect reports from 1-3 other facilities (n=10) and 41.2% (n=7) expect reports from 4 or more other facilities. Eleven (n=11) clinics reported expecting Condom Logs to be reported to them, 63.6% (n=7) expecting them from 1-3 other facilities and 36% (n=4) expect reports from 4 or more facilities. There was a slight discrepancy in those who were expecting reports and actually received them, as out of all the clinics expecting some type of report submitted to them, one quarter (n=7, 25%) did not actually receive any reports at all. Unfortunately, most of the successfully received reports could not be verified, as only seven of the receiving facilities had the completed reports on hand for assessment.

At the parish health departments, 75% (n=6) of the received reports from NERHA were available to be verified, and 10% could be verified for both SERHA and at SRHA. WRHA stated that they did not expect reports to be submitted from any facilities in their jurisdiction.

Inventory Control

It was important to determine if recognized inventory control practices were in play within health facilities and how they dealt with major inventory concerns. When faced with a sudden stockout, a facility may have to make an emergency order for supplies. The need to place emergency orders can be an indicator of substandard inventory control practices, as it shows in some case the failure of a facility's personnel to accurately predict usage patterns and client need. Emergency orders can also be necessary due to order delivery delays. The study assessed the percentage of facilities that placed emergency orders in the previous six months and discovered that 20.4% had done so (n=10), with 12.2% (n=6) having placed 1-2 orders and 8.1% (n=4) having had to place 3 or more emergency orders. With the exception of Type 7 and 5,

every type of facility interviewed had placed at least one emergency order with an average of 2.5 orders placed in the last six months in each region. One Type 6 facility respondent in NERHA stated they made an emergency order every two weeks as a result of ongoing stockouts of OCPs and Depo-Provera, but this could not be verified by clinic reports or other staff.

As another indicator of inventory control, interviewers examined not only how staff responded when faced with a sudden stockout but also with expired products. The only products reported as being expired were condoms, as two clinics (n=2, 4.1%) were found to have small amounts of expired products (<13 single condoms). One clinic carried female condoms, but all of those in stock were expired and used for educational purposes. In examining areas where stock was kept, 95.3% (n=41) of clinics were found to make a practice of removing expired products from the rest of stock. Generally, facilities state never having problems with stock expiring or going to waste due to consistent demand that doesn't keep products on the shelf for long.

Ordering

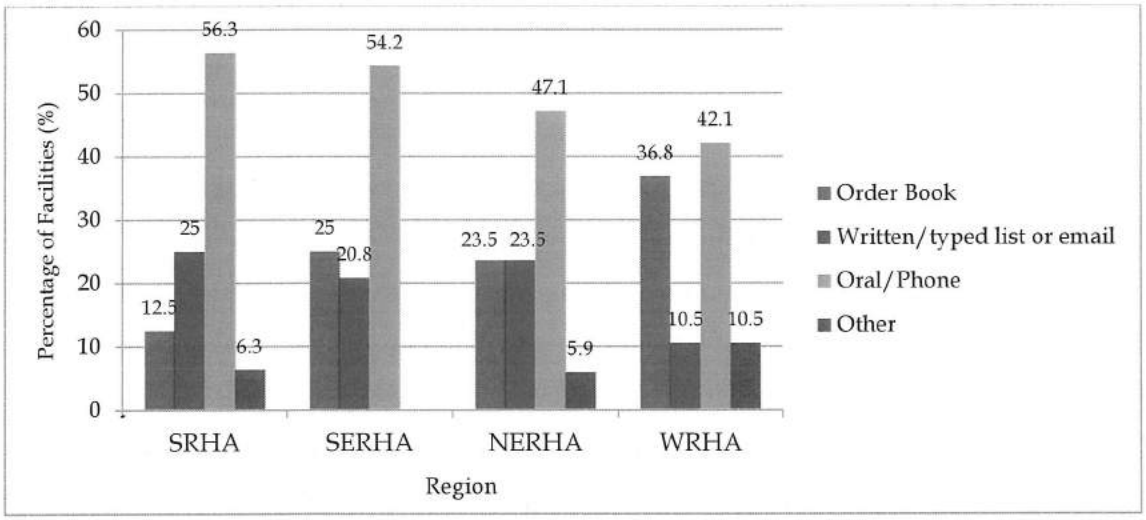
Order procedures are placed in the CLMS to ensure that protocols exist to enable ordering of the correct quantities at the correct time and to ensure that requests are fulfilled correctly and in a timely manner. The MCSRs, while not formal ordering forms, can help ordering facilities identify usage trends and patterns and inform orders to maintain stock at minimum levels. However, the absence of uniform ordering procedures could prove problematic when ensuring facilities receive correct amounts of stock resupply. Data collectors reviewed MCSRs and other appropriate ordering formats at the issuing facilities to verify whether reporting accurately reflected the usage trends to enable efficient ordering of supplies.

None of the facilities surveyed kept consistent records of the orders made and filled in the last six months for their clinic. Six facilities (n=6) surveyed said orders were not made at their facility (for instance, order books were kept at the Health Department) at all and eight (n=8) said they used no universal formal or written ordering method. Overwhelmingly, over half of the facilities interviewed, 51.4% (n=37) said they made orders orally or over the phone, without using a written form and without being able to provide any documentation that such orders existed or when they were placed.

One quarter (n=18, 25%) of facilities who did make orders used a formal order book while 18.1% (n=13) used a written or typed list or email. Some of those clinics who reported not using

formal forms also borrowed supplies from other facilities if and when needed, but did not make a record of this 'order.' Six percent (n= 4, 5.6%) stated that they used other forms of ordering including a Commodities Request or Requisition form, in person and face to face with the health department, as several facilities were located on the same compound with these departments, who often control commodity distribution. At the parish health department level, one facility (WRHA) reported using a formal order book *only* (n=1) (using a "Requisition Form", see Appendix D), another used both a book and a written list (SERHA), the third used only a written list or email (NERHA) and the fourth placed orders both orally over the phone and in writing (SRHA).

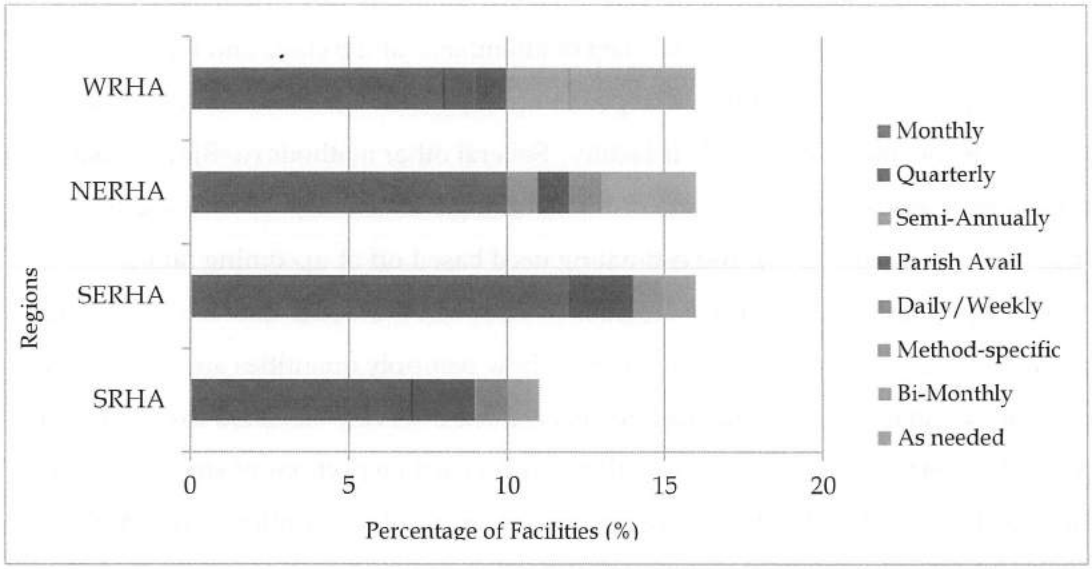
Figure 8. Ordering Formats Used by Facilities in Each Region



In questioning which formal and informal formats were used for ordering contraceptives, the formats reported included information about stock on hand (n= 19, 38.8%), quantities used (n= 20, 40.8%) and losses and adjustments (n=2, 4.1%). Most order requests were sent to a higher level for fulfillment monthly (n=37, 62.7%), though some clinics reported submitting requests more frequently at twice a month (n=6, 12.2%) or less frequently with once a quarter (n=3, 5.1%). However, 24.4% (n=12) of respondents stated that they submitted orders arbitrarily; on an as-needed basis, based on availability at the parish health departments, depending on the method, or even daily or weekly. For those who borrowed from neighboring facilities, they noted a need to place orders more frequently not only to re-stock themselves, but to also re-

stock the facility that they borrowed from. At the parish health department level, each facility stated submitting order requests to a higher level quarterly.

Figure 9. Ordering Request Frequency by Region and Number of Facilities



NERHA reported the most regularity in ordering, with 90.1% (n=10) stating that order requests were done monthly. SERHA had 80% of their facilities making monthly orders (n=12) and SRHA and WRHA came in at 64% and 67% respectively. Eighty-six percent of facilities said the time it took for orders to be filled was on average less than 2 weeks (n=42, 85.7%) but could vary from two weeks to one month (n=1, 2.0%), between 1-2 months (n=2, 4.1%) or even more than two months (n=3, 6.1%). Some respondents suggested that, based on stock availability, sometimes they even received an order within the same day as placing it. Eighty four percent (n=41) of facilities stated placing their most recent order for contraceptives within the last month, while 6.1% placed an order in the last 2-3 months (n=3) and 6.1% (n=1) stated they had last placed an order more than three months prior. Lastly, 4.1% said they had never placed a direct order from their facility (n=2).

Three quarters (n=44, 75.9%) of the facilities interviewed said that the facility itself determines resupply quantities to be ordered and the designated manager of commodities is usually responsible to make this assessment. A quarter (n=14, 24.1%) stated that a higher level facility determines its resupply quantities, namely the parish or regional health representatives. One of

the parish facility interviews stated that for their parish, a written order goes to the parish administrator, who costs it and sends it to the region.

In order to determine the quantities of each method to order, most health facility staff designated as commodity managers use formulas or calculations (n= 39, 79.6%) predicting supply needs and usage based on the MCSR data of attendance at the clinic and numbers of stock distributed to determine patterns. Four percent (n=2) stated that they did not know how orders quantities were determined for their facility. Several other methods (n=8) were used to determine the adequate amounts of stock to order including a visual inspection of the stock to see what may be running low (n=3), and estimating need based off of upcoming family planning clinic appointments (n=2); three facilities (n=3) stated that order quantities solely fall at the hands of the parish and that they do not know how resupply quantities are determined at that level. At the parish health departments, however, those interviewed stated that they used reports received to determine usage patterns, along with visual inspections of stock on hand. One health department stated that they were unsure how resupply quantities were determined for the parish's facilities, but that resupply quantities were more or less 'inherited', alluding to the idea that figures were static and have stayed the same over time.

Understanding the ordering process is crucial in any CLMS because it is the key component in aptly identifying the needs of the population and being able to meet those needs effectively. Unfortunately no comparisons can be made as to the efficiency in which orders are placed, received and distributed due to the lack of this information at each facility. As mentioned, none of the facilities had any formal ordering process and nothing in writing to show the history of orders, dates, and quantities requested and received. If clinics kept records of orders made and received, there could have been a clearer picture of discrepancies in reporting and stocking and it would have assisted in determining if facilities are receiving accurate and adequate amounts of supplies for different methods.

Supervision

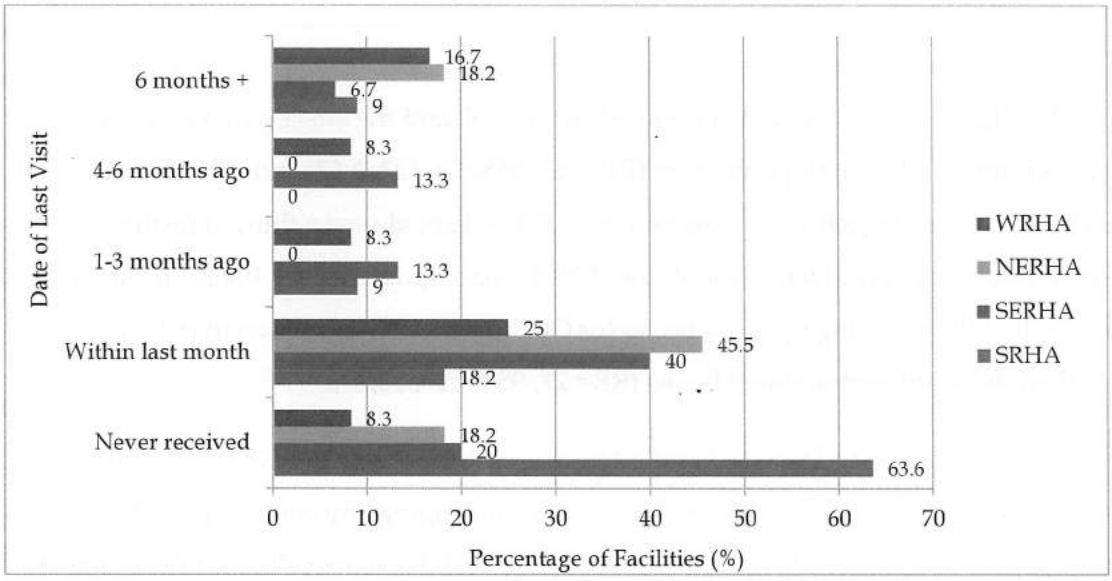
Properly conducted supervision using standardized checklists and providing timely feedback to supervised personnel is an important means of reinforcing formal training and tracking the performance of the logistics system. Thus, in looking at the performance of the CLMS and its progress over time, this study collected data on the number of supervisory visits made and the

frequency and effectiveness of the visits.

Facilities were asked when they last received a supervision visit and whether the visit included contraceptive method management (checking of stock book and MCSRs, removing expired stock and checking storage conditions). Over a quarter of facilities interviewed stated having never received a supervisory visit (n=13, 26.5%) and over half of those (n=7, 53.8%) were in SRHA. Additionally, 76.9% of those who never received a visit were Type 2 (n=5) and 3 facilities (n=5). Of those who had received a visit, 32.7% (n=16) who had had one in the last month, 8.2% (n=4) from 1-3 months ago and 6.1% (n=3) 4-6 months ago. Sixteen percent (n=8, 16.3%) had not had a visit in more than 6 months and 6.1% (n=3) said they did not know when the last visit was. One facility suggested that supervisory checks occurred onsite daily, but this information could not be validated.

Figure 10 shows that SRHA had the highest number of facilities stating that they had never received a visit (7 out of 11 facilities). Most of WRHA's visits occurred in the last month, as did SERHA and NERHA, however each region did have a number of facilities who had received a visit more than six months ago and some had never received a visit at all.

Figure 10. Percentage of Facilities Receiving Supervisory Visits



Active drug management for contraceptives includes managing and checking stock books, reports, removing expired stock and checking storage conditions. Of those (n=36) who reported

having had a supervisory visit, 41.7% of facilities (n=15) stated that the visit included drug management, 36% (n=13) said the visit did not include drug management and 22% (n=8) said they were unclear as to what occurred at the supervisory visit. At the parish health department level, WRHA and NERHA stated that they receive monthly supervisory visits, but that these visits do not include drug management. SRHA had a supervisory visit 4-6 months prior, but stated that the visit did not include drug management and SERHA stated never having had a supervisory visit at all but that supervision was done on-site, as the supervising staff is located at the health department.

Recordkeeping

Reliable record and bookkeeping is critical to an effective and efficient CLMS' functioning, and information must be shared across all levels to facilitate accurate and informed decision making. In evaluating this function, the survey assessed the availability, completeness and accuracy of the records used. Those records include MCSRs, Condom Distribution Logs and additional logistics forms. As shown earlier, an average of 54.1% of facilities across the four regions did not have a stock book available to document information about a method carried, which was problematic in gathering sufficient data needed for accurate comparisons and assessments. For those who did have stock books on hand, the assessment sought to determine how well records were kept in such formats.

Recordkeeping does in fact have an effect on the ability to manage contraceptive stock. In looking at the significance of having an updated stock book and the effect it had on having a potential stockout, results for Depo-Provera (RR= .57, 95% CI .122, 2.67) and condoms (RR= .39, 95% CI .03, 5.0) were not significant. However, for OCP, where almost a third of facilities experienced a stockout in the last six months and 58.3% had updated stock books, results were significant in that those having updated books for OCPs had a 73% reduction in risk of stockouts than those without updated books (RR=.27, 95% CI= .10, .7).

Every ordering and reporting format identified by the facilities was hand-written; there were no computerized systems or type-written formats used for managing any contraceptive logistics. On average, 71.9% (n=48) of facilities who did have any stock book available did *not* record the balance of contraceptive commodities on hand in the book. This means that critical information about stock on hand is not readily available to staff or was available to data collectors on the

day of the survey visit. Of those facilities who did provide a balance for their stock on hand, the average figures by region are listed in Table 4.

Table 4. Available Balance of Select Commodities Carried by Region at Day of Visit

	SRHA		SERHA		NERHA		WRHA	
	Average	Min/Max	Average	Min/Max	Average	Min/Max	Average	Min/Max
OCP-MicroG	95.4	12- 451	79.5	12- 235	171.1	42- 931	50.5	2- 178
OCP-OralC	22.5	14- 31	131	5- 389	114	4- 259	44	-
Condom	7743.8	52- 42664	3531.1	4- 21180	1451.1	20- 3532	5315.9	12- 39000
IUCD	4	4	83	12- 351	7.67	5-10	14.8	2- 55
Depo-Provera	95	11- 237	172.93	24- 532	142.45	12- 506	81	19- 344
Implant	-		5	5	20	20	-	-

***Unit count for each method is as follows: OCP- single cycle, Zarin/Jadelle Implant- single item, Condom- single item, IUCD- single item, Depo-Provera- single dose.

In looking at the minimum and maximum levels reported of select contraceptives, it does raise a concern that some facilities in each of the four regions had stock balance as low as four units (cycles, individual items or doses) available of a given method (IUCDs, Condoms, and OCPs), with some only having two units available. It remains to be seen how long this stock balance would be expected to last in a given facility and would need further research done within each facility over time.

Only two of the four parish health departments had stock balances available in their updated stock books. Balances ranged greatly, from single units to the tens of thousands, depending on the method and facility.

Limitations in Assessing Recordkeeping

Physical inventory counts were conducted by the data collector of each method currently managed at each facility. To use this information correctly to ascertain recordkeeping completeness, inventory counts (current stock on hand) would be compared with the balance of each method noted in the stock book over the last six months to gauge the percent matching within 10%. This would enable data collectors and facility staff to determine if they were accurately keeping records of their current in-house stock and that it matched what was being

disbursed to clients and kept in storage. For each one of the facilities surveyed, recordkeeping completeness of inventory could not be completed because balances were not consistently kept in stock books and physical inventory counts were not undertaken regularly. In fact, physical inventory count done by data collectors on the day of the visit was the most up to date information most facilities had about their stock on hand.

Recordkeeping efficiency can also be measured by matching entries of counted stock on hand from the last six months to the most recent available MSCRs for facilities from the same period. Unfortunately, MCSRs did not include information about current stock on hand and so these kinds of comparisons could also not be made.

In addition to information about stock balance, data on number of stockouts, number of days of stockouts and total amounts issued in the last six months were unavailable and missing from almost a quarter (n=11, 22.4%) of facilities' stock keeping books. Out of the 32 facilities who had experienced a stockout in the last six months, 31.3% (n=10) did not have the number of days of stockout recorded, so it was not possible to determine the average length of stockouts when they did occur.

The amount of each method issued to clients in the last six months differed greatly by region and facility type. It is important to note again that recordkeeping for this information was inconsistent, as some facilities did not have information available and several did not have their most recent forms with accurate disbursement counts on hand. The averages listed below are only for those with data available on methods issued in the last six months, which do not give an accurate picture of the regions as a whole. Therefore, conclusions (in terms of trends) cannot readily be derived from this data.

Table 5. Average Amount of Select Methods Issued Per Region in Last 6 Months

	SRHA	SERHA	NERHA	WRHA
OCP- MicroG	197.3	306.2	589.8	189.3
OCP- OralCon	141.8	204	317.4	351.2
Zarin	-	123	-	-
Jadelle	-	Data unavailable	Data unavailable	-
Condom	7,290.3	4,785.5	5,579	4,395.8
IUCD	9.7	11.6	10.67	21.8
Depo-Provera	414.9	912.6	797.4	599.8

***Unit count for each method is as follows: OCP- single cycle, Zarin/Jadelle Implant- single item, Condom- single item, IUCD- single item, Depo-Provera- single dose.

Just two facilities (n=2, 4%,) stated that their reporting and ordering formats included all information about stock on hand, quantities used and losses and adjustments, and not just one component of the three. When asked to provide the number of days of data on the above was available, every region, including the parish health departments had an average of at least six months of data available (120 days/20 working days per month). SERHA facility's data was separated into the zonal areas depending on the number of days the family planning clinic was open (differing by facility), thus making it difficult to compute without seeing the reports from all zones for the last six months. Three facilities (n=3) did not have any reports available to calculate the number of days information was available, for example a concise record of dates.

Recording of Methods Used

In addition to the ordering and reporting formats mentioned, several facilities stated they used multiple recordkeeping books and forms (See Appendix D for forms). Several facilities remarked that the number of books they were responsible for keeping made it difficult to quantify expenditures or ensure consistency with all figures entered. Often, these books are not reconciled or are managed by multiple people and in many cases these books are not used for reporting but for internal staff or clinic purposes only.

Outside methods procured- Another concern with recordkeeping was that of correct documentation of methods from both in and outside the facility. Several interviewees stated that in the case of stockouts, clients can receive their contraceptive prescription from a doctor and have it filled at an outside pharmacy. If it is a method like Depo-Provera, clients will procure the method and return to the clinic to have it administered. It has been identified that once administered, these methods can be recorded as though the stock came from the facility, which will affect the numbers of methods issued in the stock books and make it seem as if that method was available when it was not, contradicting other stockout information recorded in the book. Additionally, clients receiving prescriptions for Depo-Provera from hospitals for hormonal, not contraceptive purposes, can fill these prescriptions at family planning clinics but it is not recorded whether the issuing of Depo-Provera is for contraceptive use or other. This can also put additional strain on the supply of Depo-Provera available and kept solely for family planning.

Dual method recording- Dual method users are not disaggregated in record books by method issued. While this is not a requirement at any facility, users can be counted as one method or two, which means that often times a method could be counted as being issued twice or more (i.e. a Depo-Provera user who is also issued condoms can be recorded under Depo-Provera issue, condom issue or Dual Method). This miscalculation can cause a inconsistency in the recording of the actual numbers of methods distributed or accepted in the monthly data reports.

Switching methods- Patients may physically have to bear the burden for logistic system backlogs or bureaucracy. Interviewees report that patients whose primary methods stockout are switched to another method until their method is back in supply. While this provides the patient with contraceptive coverage in the interim period until she can continue with her primary method of choice, this is obviously not ideal for the patient and her body. For recordkeeping it can prove not ideal as well, in that when methods are switched, they are not recorded as such in a stock book or other type of book; in determining usage trends and patterns (the 'formula' most facilities claim to use for determining order quantities) it is important to be able to identify who is, for instance, using a OCP just because it is a back-up (their primary method only *temporarily*) rather than using it because it is their preferred method. Ultimately, this can affect how needs are estimated and orders are made.

Additional methods not recorded- While not a contraceptive commodity, one of the hospitals surveyed also performed tubal ligations (TL) or sterilizations as a form of contraception. While the MCSR does have space to record sterilizations, the hospital did not record its TLs on this form. Instead, TLs were reported on internal forms, compiled by the hospital's surgical suite that were submitted to the hospital CEO and then submitted to NFPB separately.

Transportation

Transportation plays a large role in ensuring the efficiency of contraceptive management in a well-functioning logistics system. It enables FP methods to be transported safely and in a timely fashion to locations where they are requested and helps to ensure the availability of these methods at each facility. Most facilities, including those at the parish health departments, personally pick up supplies (n=47, 74.6%) from the next level rather than having them delivered (n=10, 15.9%). WRHA health departments both pick up and receive deliveries of supplies.

The types of transportation varies only slightly among facilities, and most pick up supplies with a private vehicle (n=32, 65.3%) while others (n=7, 12.2%) have a facility vehicle available to them. Most clinics have public health nurses or midwives who are traveling officers, that is, they have permissions to travel as needed for work purposes. Such traveling officers can also facilitate pickups in many instances. Eighteen percent (n=9, 18.4%) of facilities can actually obtain supplies by traveling on foot; as mentioned earlier, several clinics are located on the same property with the health department or other clinics, thus enabling the movement of products from place to place more quickly.

Storage Conditions

The storage of contraceptives requires specific conditions to ensure the safety, functionality and integrity of all products. Data collectors noted that contraceptive stock was kept in multiple places, namely store rooms, clinic exam rooms, file cabinets or desk drawers, private offices in more than half of the facilities (n=27, 55.1%). Often, the multiple areas were due to limited space but it was also observed that storage was based on personnel preferences (i.e. the head nurse on duty keeps them at her desk) or individual clinics within the facility (i.e. keeping condoms in an STI clinic rather than a family planning clinic at the same site). While this was not a question on the survey, it relied on observation and notation by data collectors, and so the numbers could be much higher. In assessing sites, data collection teams scored each facility using 14 guidelines. Facilities that met more than 90 percent were considered to have excellent storage conditions; those that met between 71 and 90 percent were acceptable; and those that met less than 70 percent were unacceptable. The 14 conditions are noted in Table 6.

Table 6. Acceptable Storage Conditions for Contraceptive Commodities

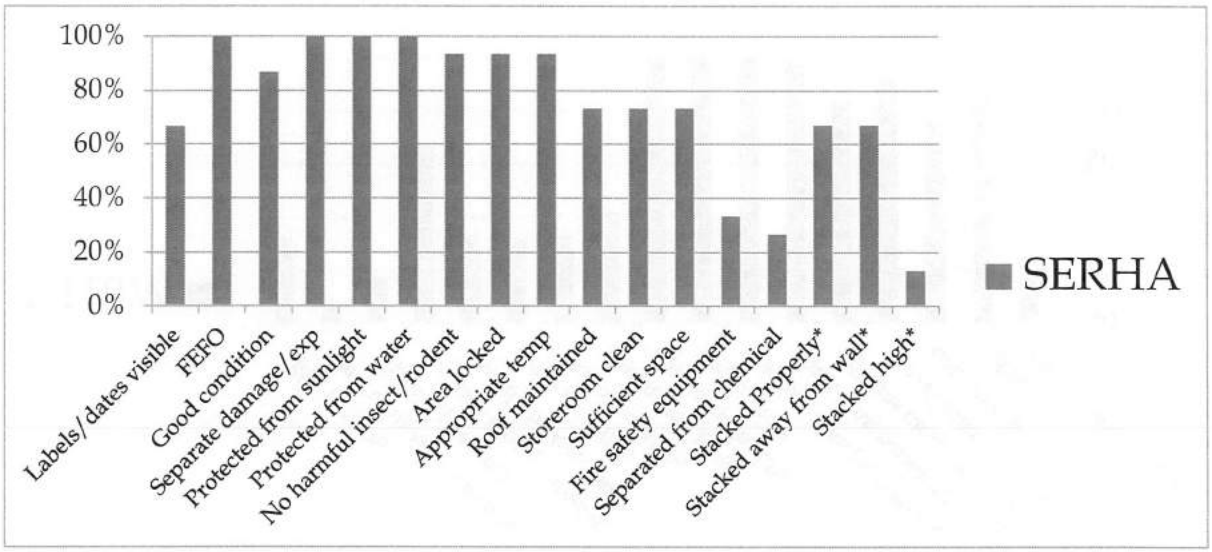
1) Products that are ready for distribution are arranged so that identification labels and expiry dates and/or manufacturing dates are visible.
2) Products are stored and organized in a manner accessible for first-to-expire, first-out (FEFO) counting and general management.
3) Cartons and products are in good condition and not crushed due to mishandling. If cartons are open, determine 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 on the day of visit.

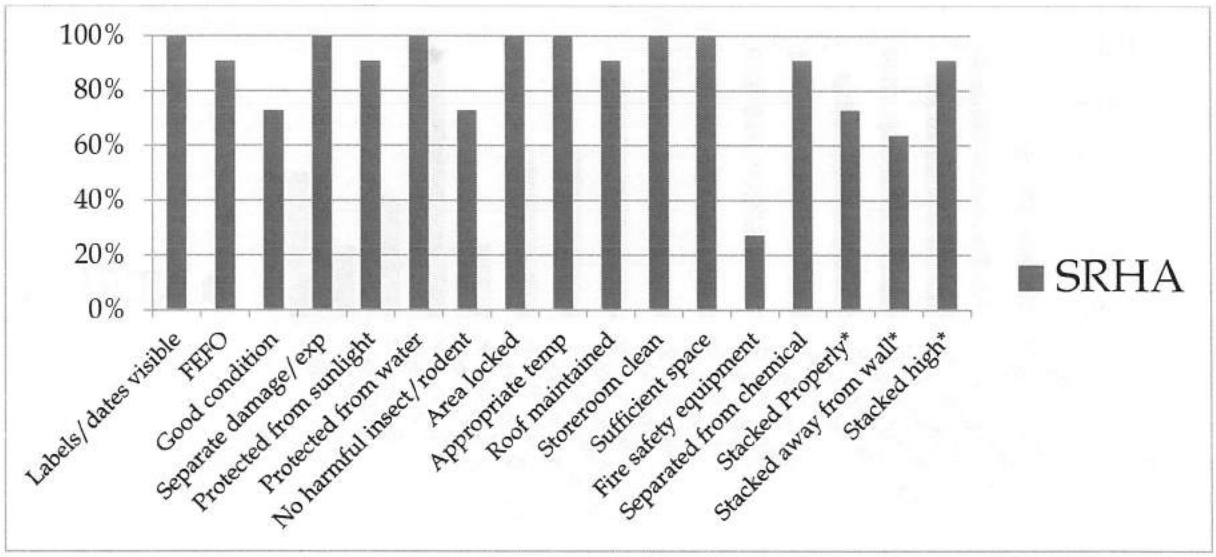
6) Cartons and products are protected from water and humidity on the day of the visit.
7) Storage area is visually free from harmful insects and rodents.
8) Storage area is secured with a lock and key but is accessible during normal working hours, with access limited to authorized personnel.
9) Products 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).
13) Appropriate fire safety equipment is available and accessible.
14) Medicine is stored separately from insecticides and chemicals

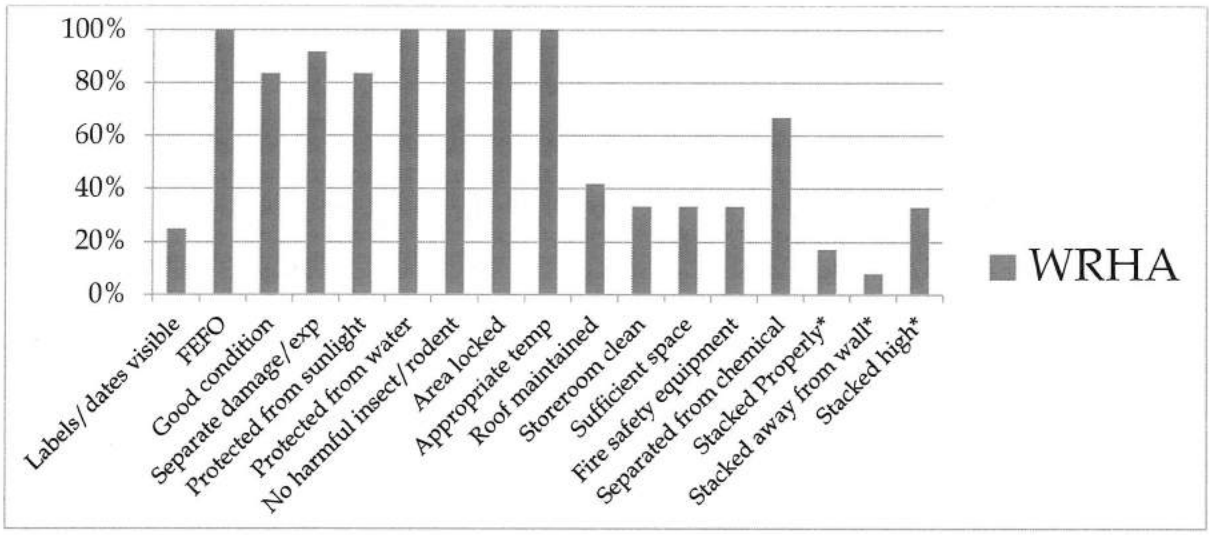
Where applicable for facilities that were large enough to store multiple large boxes and cartons, interviewers also observed the height boxes sat off the floor, the distance from walls and the height of the stacked boxes.

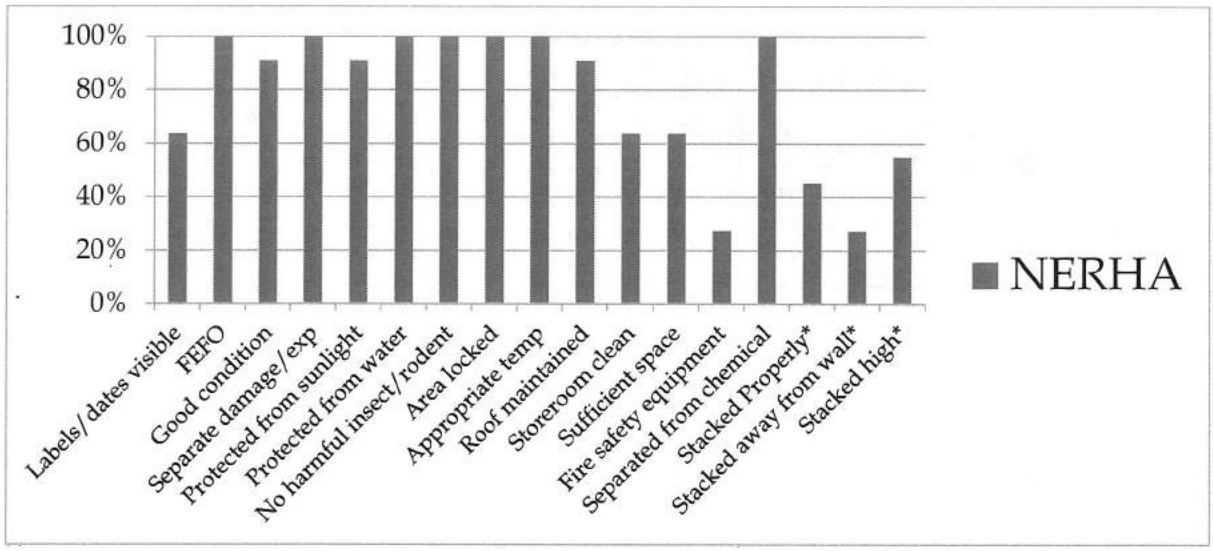
As shown in Figure 11, more than three quarters of facilities met acceptable storage conditions, with an average of 79.8%. The questions regarding fire safety and if products were stored and organized in a FEFO manner or a manner for good general management were the lowest scoring questions, with 49% (n=24) of facilities achieving organizational standards and 30.6% (n=15) meeting fire safety standards. A similar picture emerged at the parish health departments, where not all had acceptable storage conditions.

Figure 11. Percentage of Facilities Meeting Individual Storage Conditions






100%
80%
60%
40%
20%
0%
Labels/dates visible
FEFO
Good condition
Separate damage/exp
Protected from sunlight
Protected from water
No harmful insect/rodent
Area locked
Appropriate temp
Roof maintained
Storeroom clean
Sufficient space
Fire safety equipment
Separated from chemical
Stacked Properly*
Stacked away from wall*
Stacked high*
WRHA


100%
80%
60%
40%
20%
0%
Labels/dates visible
FEFO
Good condition
Separate damage/exp
Protected from sunlight
Protected from water
No harmful insect/rodent
Area locked
Appropriate temp
Roof maintained
Storeroom clean
Sufficient space
Fire safety equipment
Separated from chemical
Stacked Properly*
Stacked away from wall*
Stacked high*
NERHA

Conclusion

A logistics management information system (LMIS) assessment identifies differences between the way a program's LMIS should work and how it actually works; in this instance contraceptive management is under analysis. This baseline assessment provided significant up to date information on the state of the contraceptive logistics management systems (CLMS) in Jamaica.

The assessment looked in depth at the functioning of the CLMS to determine if the problems noted were in the design of the system (essential data and information reported), the operation of the system (consistent procedures and flow of information) or the use of the system (data actually used for decision making). Because the country lacks a universal CLMS, all of the above were noted as areas of concern and affected the output- provision of accessible and affordable contraceptive commodities- to some degree.

In looking at the **design** of the CLMS, it was determined that current reporting forms used do not capture essential information needed to accurately forecast contraceptive supply usage and need. Furthermore, the absence of regulated ordering formats can create extreme difficulties not only between staff who make the orders but also for the warehouse fulfilling the order, and ultimately for the patients expecting a consistent supply of their contraceptive method. Almost three quarters (74%) of facilities used a hand-ruled stock book to manage contraceptive commodities but 12% of clinics interviewed stated not having any formal logistic forms or using any formalized forms for stock keeping logistics.

Reporting and ordering formats varied widely, and while MCSRs and Condom Distribution Logs were most widely used, numerous other methods were used, sometimes simultaneously, to record contraceptive commodity information. There were no documented procedural manuals for managing contraceptive commodities, though 82% of respondents interviewed received on the job training. Additionally, there were no government provisions dictating minimum standards for stock keeping in terms of data collected in books used, stock balances or storage conditions.

The **operation** of the CLMS had numerous problems with consistency, accuracy and completeness of data and the following of protocols and procedures. Reports were submitted monthly, however recordkeeping completeness of inventory could not be completed because balances were not consistently kept in stock books and physical inventory counts were not undertaken regularly. Data on number of stockouts, number of days of stockouts and total amounts issued in the last six months were unavailable and missing from almost a quarter (22.4%) of facilities stock keeping books. A significant correlation was also found between those who kept a stock book updated for OCP and who experienced a stockout for this method. Over 90% of those who did have stock books available also had those books up to date, however an average of more than half (54.1%) of facilities across the four regions did not record at least one of the methods they managed in a stock book at all.

Though most facilities had received a supervisory visit in the last month, over a quarter of facilities interviewed stated having never received a supervisory visit and drug management (checking of stock book and MCSRs, removing expired stock and checking storage conditions) was not done at over a third of visits.

The **use** of the CLMS, how the data gathered is actually used to inform ordering and managing the system, appeared to be the largest concern. Order placement was inconsistent across all regions; orders were placed after determining usage patterns for individual clinics, doing a visual inspection, or estimating based on upcoming appointments, and some respondents flatly did not know how the quantity was determined. There was no universal way information was recorded about dual method users, outside prescription orders, or those who switch methods due to stockouts in any facility to assist in determining usage trends and patterns. None of the facilities surveyed kept consistent records of the orders made and filled in the last six months for their clinic though 83.7% of facilities stated placing their most recent order for contraceptives within the last month; in some cases, order fulfillment was found to be insufficient or untimely and 20.4% of facilities placed an emergency order in last 6 months.

The information gathered did not necessarily inform better supply management procedures or accurately forecast need, since on the day of the survey visit, 44.9% of facilities were experiencing stockouts of at least one of the above methods and in the last six month period, 65.3% of facilities surveyed reported experiencing a stockout of one or more methods. Staff

reported that it was a regular occurrence to have extremely low stock levels for a prolonged period of time and at least 41% of the stockouts recorded were those that lasted more than 50 days within a six month period, a figure that is extremely poor. Data and staff interviews also indicated that there are often simultaneous stockouts of two or more methods over the same number of days, which is detrimental for clients if both their primary and secondary method is stocked out at the same time. Different types of clinics also face different concerns; for example, over a third of the Type 1 facilities had experienced a stockout of both Depo-Provera and OCP (often a client's primary and secondary methods, respectively) on the day of the survey visit. Not only is this type of facility the most numerous across the country, but clinics of this type can be very rural and only offer a family planning clinic once monthly. Thus, patients have less of an opportunity to access contraceptive methods at all, especially if the clinic is stocked out. This is extremely problematic for those patients on Depo-Provera, which must be administered every three months.

There were noted differences within parishes, between regions, and among facility types but in every instance there was a conflict in the design, operation or use of the CLMS. It was determined that a problem lies in the multiple levels of approval necessary for an order to be placed, paid for, procured and distributed. Facilities longed for the previous system (prior to 2010) in which NFPB visited sites, updated records and supplied clinics. Though 86% of facilities said the time it took for orders to be filled was on average less than 2 weeks, it varied all the way to more than two months and depended on how efficiently the order was completed (payments processed and invoices sent to the warehouse) at the regional level.

While many reasons were cited as causing back-ups at the regional level including payment processing delays and miscommunication between parish health departments and clinics, the concerns varied by region and parish. Facilities across the board cited the regional level as being a hindrance to effective order fulfillment. However, there exists substantial evidence that poor recordkeeping at the facility level could contribute to poor order fulfillment, contraceptive stock monitoring or forecasting.

Recommendations

1) **Standardize all books and forms used for recordkeeping.** Many facilities did not have any recordkeeping books for stock on hand and others used multiple reporting and ordering forms, or no formal forms at all. Forms on hand are hand-written and often do not gather comprehensive information needed for best serve clients, accurate reporting or assessing the efficiency of the logistics system. Advocacy to policymakers should exist at all levels for support for printing and distributing CLMS forms and other management tools including universally utilized stock books so that each facility is collecting the same information in the same manner.

2) **Create national standards for minimum stock levels** of contraceptive commodities. The Government of Jamaica has not designated mandatory minimum stock levels for service delivery points or higher level facilities, and so there is no recommended standard supply level in which to hold individual clinics accountable.

3) **Increase training and staffing for nurses and availability of instruments for IUCD and Implant insertion**. These methods are slowly gaining in popularity but the majority of clinics do not carry these methods or have persons who can administer them on-site. Facilities must refer patients elsewhere and some facilities do not even know which other facilities in their region may be able to provide these services. Additionally, when trained staff is available, medical instruments necessary for insertion are often unavailable, and increasing accessibility of such instruments is key in being able to provide services to clients.

4) **Ensure facilities produce copies of all documented reports** (ordering or otherwise) so that facilities always have the most recent updated reports on hand. There were a large number of facilities who could not produce their most recent forms because they were at the health department or who were missing months of data within a six month period for the same reason.

5) **Create a registry of trained and certified PHN** and Midwives to facilitate referrals and support training specifically on contraceptive commodities, namely IUCD and implant insertion. No health facility should have to turn patients away because they cannot perform a procedure or cannot refer them to a nearby facility with trained personnel.

6) Build **supportive supervision** into monthly clinic reports to standardize regular drug management and create a contraceptive supervisory checklist for those conducting visits.

7) **Documentation of all protocol and procedures.** At the facility level, there is no documentation stating how books should be completed, stock should be counted, what to do in the case of a stockout of miscalculation in an order. Health workers are verbally informed as to who to speak to when they needed to make or inquire about an order, and who they should send reports to. Having written documentation of all protocol provides staff at all levels with a reference point and prevents misinterpretations of commands. In the case of communication breakdown at any of the multiple levels defined earlier, it is important for each level to understand how the system works and what the chain of command is.

8) **Documentation of all forms of ordering**. Since it as reported that orders are mainly made orally, this poses a great problem for documentation. Each time an order is placed, formally or informally, a record should be kept of who placed the order, the date and time, and quantity requested and received in order to reconcile outstanding orders and keep track of stock needs.

9) **Better communication from NFPB to both regions and parish health facility representatives.** It is a raised concern that there may be some protocols within the NFPB level that have not reached the facility level. In the case where a protocol is actually developed, a press release or a written documentation (see above) should be drafted of any changes in the system, when they will be enacted, and how they will affect every health provider level. Tension can easily mount in a setting where SDPs feel ignored by higher levels of authority, especially when decisions are being made that affect their facility and clients, but are not explicitly explained to them (in writing). For example, if clinics feel they cannot order supplies because of cost, while the NFPB is very much aware that they indeed can, this points to a miscommunication that will ultimately affect the ability of each facility to serve the needs of their clients. Better communication will i) enable the NFPB to have the best idea of what is going on at the facility level, including strengths and weaknesses in the contraceptive logistic system as well and ii) provide facilities with a point person should they need a liaison and assistance with concerns with contraceptive stock reporting or ordering.

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Appendix A. Sampling List of Facilities for Each Region

Region	Health Facility	Type
	SRHA	
Clarendon	Aenon Town	1
Clarendon	Mocho	2
Clarendon	Lionel Town	3
Clarendon	May Pen	3
Manchester	Mile Gully	3
Manchester	Bellefield	2
Manchester	Mandeville Comp.	4
Manchester	Christiana	3
St. Elizabeth	Santa Cruz	3
St. Elizabeth	Blackriver	3
St. Elizabeth	Junction	3
	SERHA	
KSA	Bull Bay	1
KSA	Comprehensive	5
KSA	Victoria Jubilee	7
KSA	Hagley Park	3
KSA	Lawrence Tavern	2
KSA	Golden Spring	1
KSA	Edna Manley	3
St. Thomas	Yallahs	3
St. Thomas	Port Morant	2
St. Thomas	Seaforth	3
St. Thomas	Morant Bay	4
St. Catherine	Waterford	3
St. Catherine	Old Harbor	3
St. Catherine	St. Jago Park	4
St. Catherine	Greater Portmore	3
	NERHA	
Portland	Buff Bay	6
Portland	Fair Prospect	2
Portland	Port Antonio	4
St. Ann	Alexandria	6
St. Ann	Claremont/Moneague	3
St. Ann	Ocho Rios	3
St. Ann	St. Anns Bay	4
St. Ann	Beth Jacobs FP	7
St. Mary	Annotto Bay	3
St. Mary	Highgate	3
St. Mary	Oracabessa	2
	WRHA	
St. James	Mobay	5
St. James	Adelphi	2
St. James	Cambridge	3
Hanover	Sandy Bay	2
Hanover	Kingsvale	1

Hanover	Green Island	3
Trelawny	Falmouth	4
Trelawny	Rio Bueno	1
Trelawny	Albert Town	3
Westmoreland	Bluefields	1
Westmoreland	Bethel Town	3
Westmoreland	Savanna-la.mar	4

Contraceptive Logistics Assessment Team Member List

WRHA TEAM

Launa Binns-Watson	Regional Nursing Supervisor
Cheryl Belcher-Peart	Regional HIV Prevention Technical Officer
Keisha Henry	Procurement Officer (NFPB)
Karlene Temple-Anderson	Director, Enabling Environment & Human Rights (NFPB)

NERHA TEAM

Norda Spencer-Dekid	Regional Nursing Supervisor
Linette Powell	Public Health Nurse
Sharlene Jarrett	Senior Director M&E (NFPB)
Sannia Sutherland	Executive Director (Acting) (NFPB)

SRHA TEAM

Nadine Griffiths	Regional Nursing Supervisor
Shereene Palmer-Reid	Targeted Intervention Officer
Sacha-Marie Hill	Research Officer (NFPB)
Joseph Reynolds	Director of Finance (NFPB)

SERHA TEAM

Charmaine Vassell Shettlewood	Senior Public Health Nurse
Angella Taylor	Public Health Nurse
Jennifer Williams	Personell and Admin Officer (NFPB)
Dianne Thomas	Director, Outreach (NFPB)
Nastassia Grant	Peer Educator (MARPS) (NFPB)

Leah Ghoston	Independent Consultant/Principal Investigator

Inventory Control Sheet

Unit count is total number of single doses/items/cycles of the product. All numbers below are listed as single unit counts (i.e. 600= 600 actual single counts of the method, not 600 boxes)

Method	Unit	Per box	Per carton
Oral Contraceptives			
Oral Con	Single cycle	100	2,000
Microgynon	Single cycle	30	720
IUCD			
Copper T	Single item	50	600
Condoms			
MOH Issued	Single item	100	6,000
UNFPA Issued	Single item	144	7,200
Female Condom	Single item	-	1,000
Injectable			
Depo-Provera	Single dose	25	1,000
Other injectable	Single dose	12	240
Implant			
Jadelle	Single item	10	-
Zarin	Single item	10	-

MINISTRY OF HEALTH
MONTHLY CLINIC SUMMARY REPORT
For
Centres offering FAMILY PLANNING SERVICES ONLY

(Please PRINT, Press Down HARD, Write LEGIBLY)

1. IDENTIFICATION

(A) Parish Code
(B) Health Centre Code
(C) Month of Report
(D) Year

(E) Region _____
(F) Parish _____
(G) H/C Name _____
(H) Type _____

PLEASE DO NOT WRITE IN THE SHADED AREAS

9. FAMILY PLANNING SERVICES

	AGE and GENDER			
	10-19	20-29	30+	TOTAL
(A) F P Visits by MALES				
(B) F.P. Visits by FEMALES				
(C) No. of new Family Planning acceptors by method (not incl. P/N)				
1. Pill				
2. Injection				
3. IUD				
4. Diaphragm				
5. Norplant				
6. ECP(Emergency Contraception Pill)				
7. Condom				
(D) Dual Method				

	TOTAL	
(E) SUPPLIES DIST. TO ALL F.P. ACCEPTORS		
1. Pill		
2. Injection		
3. IUD		
4. Diaphragm		
5. NORPLANT		
6. ECP (Emergency Contraception Pill)		
7. Koramex (Diaphragm Cream)		
8. Condom		
(F) No. of condom distributed for sexually transmitted disease		
(G) TOTAL NO. OF STERILIZATION	M	F
1. Referred to Hospital		
2. Done at Health Centre		

COMMENTS: _____

COMPLETED By: Name _____ Title _____

APPROVED By: Name: _____ Title _____

NOTICE: Complete form in Quadruplicate; send Original to MOH, Planning and Evaluation Branch; First copy to **Regional Office**; second copy to **Parish Public Health Department**; and retain fourth copy for **health centre records.**

TRELAWNY HEALTH DEPARTMENT

REQUISITION FORM

Name of Health Facility:_____

Order for Period:- ☐ Fortnight ☐ Monthly Date: _____

ITEMS	AMOUNT REQUIRED	AMOUNT IN STOCK	AMOUNT SUPPLIES	REMARKS

Request made by: _____ Date: _____

Delivered by: _____ Date: _____

Received by: _____ Date: _____

WESTERN REGIONAL HEALTH AUTHORITY
TRELAWNY HEALTH SERVICES
PURCHASE REQUEST FORM

FROM_____ REQUISTION No._____

TO: Purchasing Department

Please order the item(s) listed below to be delivered to _____

Item No.	Amount in Stock	Quantity Required	Unit	Item Description	Estimate Cost	Total

Prepared by: (1)

Name: _____

Title: _____

Date: _____

(2)

Signed: _____ (Procurement Officer)

Date: _____

Authorized for purchase (3)

Signed: _____ (Administrator)

Date: _____

(4)

Signed _____ (Parish Manager)

Date: _____

MCSR TALLY SHEET FOR FAMILY P NNING SERVICES

MONTH _____ YEAR _____

HEALTH CENTRE _____

COL 1 Days of Month	COL 2 F.P. VISITS				COL 3 No. OF NEW FAMILY PLANNING ACCEPTORS BY METHOD (not incl. P/N)																COL 4 DUAL METHOD									COL 5 SUPPLIES DISTRIBUTED TO ALL F.P. ACCEPTORS								COL 6 CONDO DIST	COL 7 TOT STERILIZATION			
	M	F			PILL			INJ			IUD			DIAPHRAGM			NORPLANT			ECP			CONDOM			DUAL METHOD			PILL	INJ	IUD	DIAP	NORP	ECP	CYA	CONDO	FOR STER	M	F	M	F
		15-19	20-29	30+	15-19	20-29	30+	15-19	20-29	30+	15-19	20-29	30+	15-19	20-29	30+	15-19	20-29	30+	15-19	20-29	30+	15-19	20-29	30+	15-19	20-29	30+											REF TO HOS	DONE AT HC		
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Appendix E. List of Indicators

Indicators	Data Source(s)
Stock Status	
Availability of contraceptive methods on the day of visit	Stock book records, respondent, and physical inventory
Percent of facilities stocked out of products in the previous six months	Stock book records, respondent, and physical inventory
Average number of days a product was stocked out in the previous six months	Stock book records, respondent, and physical inventory
Average frequency of stockouts of a product in the previous six months	Stock book records, respondent, and physical inventory
Logistics Management Information System	
Percent of facility personnel trained in CLMS	Respondent
Percent of facilities reporting they have all the forms to manage contraceptives	Respondent and presence of forms
Percent of facilities with stock books available by product	Presence of stock forms in facilities
Percent of facilities with stock books updated by product	Presence of stock cards and evidence of utilization in facilities and stores
Percent of facilities with accurate stock balances on stock books	Comparison of stock card balance and physical inventory count
Reporting	
Percent of stores reporting sending store distribution report to higher level	Respondent
Of those stores sending store distribution reports to the higher level, percent of distribution reports that are complete and accurate	Presence of distribution reports and evidence of proper utilization
MCSRs or other forms are actually submitted	Evidence of completed and submitted forms
Inventory Control	
Percent of facilities that had to place an emergency order	Respondent
Number of facilities without designated stock area	Respondent
Recordkeeping	
Percentage of facilities with complete and accurate MCSR	Evidence of proper use
Supervision	
Time period of conducting last supervision visit	Respondent
Percent of facilities that report receiving supervision visits	Respondent
FP management checked during last supervision visit	Respondent
Transportation	
Percent of stores/SDPs reporting they collected contraceptives for their facilities	Respondent
Method of transportation used	Respondent
Storage	
Percent of facilities that maintain acceptable storage conditions	Visual observation
Percent of facilities meeting individual storage conditions	Visual observation

LOGISTICS INDICATORS ASSESSMENT TOOL (LIAT)

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 05	Receive permission to conduct the interview and record information regarding the interviewee.
Questions 101 to 117	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.
Questions 118 to 122	These questions are to be asked at facilities that are part of a cold chain system.
Questions 123 to 126	The following questions in this section should be asked of the storeroom manager.
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 14 for every facility visited. For large storage areas that require stacking of multiple boxes, continue to complete storage conditions 15 to 17.
Table 3: Data Quality	Complete the table for all or for a selection of products.
Table 4: Forecast Accuracy	Complete the table for all or for a selection of products.
Table 5: Order Fill Rate	Complete the table for all or for a selection of products.
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 .....

Facility Type: (1=SDP) .....

If SDP, mark type of facility: (1=Community hospital; 2=Hospital; 3=Health centre; 7=Other _____) .....

Operating Authority 1=MOH; 2=NGO.....

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

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

Operational water in the building on the day of visit? (0=no; 1=yes) .....

Operational telephone (land line or mobile) on day of visit? (0=no; 1=yes) .....

Region ☐

District ..... ☐☐

Facility Code ..... ☐☐

SDP..... ☐

SDP Facility Type..... ☐

Operating Authority..... ☐

Paved road..... ☐

Electricity..... ☐

Water ..... ☐

External Communication ..... ☐

Date: _____

DAY/ MONTH/ YEAR

Interviewer/s:

_____

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 the National Family Planning Board. 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. This is not a supervisory visit and the performance of individual staff members is not being evaluated.

The results of this national survey will provide information to make decisions and to promote improvements. The survey will be conducted again in the future to measure changes in the logistics system. We would like to ask the person in charge of contraceptive management a series of 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. Do you have any questions?

Ask the in-charge to introduce the team to the person managing commodities. Extend the invitation to the in-charge to stay with the team but explain that we are aware that they have other responsibilities. Offer to check back with him/her before leaving the facility.

No.	Question	Code Classification	Go To
01.	Can we continue?	Yes..... 1 No 0	→STOP
02.	Name and title and contact phone number of person interviewed for this survey	Name: _____ Title: _____ Contact number: _____	
03.	Number of years and months you have worked at this facility?	Years: _____ Months: _____	
04.	Who is the principal person responsible for managing contraceptive supplies at this facility?	Nurse..... 1 Public Health Nurse..... 2 Pharmacy Technician ..... 3 RNM.....4 Pharmacist..... 5 Midwife.....6 Other (Specify) _____.....9	
05.	Is supplies/stock management the primary role of this person at this facility?	Yes..... 1 No 0	

First, ask the following questions of the person in-charge. After asking questions 101–122, 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. Hand 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.

No.	Questions	Code Classification	Go To/ Comments
101.	Do you use the following stock keeping logistics forms to manage contraceptive commodities in this facility?		
	A. stock cards/bin card/ inventory control card	Yes 1 No 0	
	B. stock ledger/stock book (ruled)	Yes 1 No 0	
	C. other	Yes 1 (specify)_____ No 0	

102.	What forms or formats do you use for reporting on contraceptives?		
	A. MCSR	Yes 1 No 0	
	B. HMSR	Yes 1 No 0	
	C. Condom Distribution Log	Yes 1 No 0	
103	What form or formats do you use for ordering contraceptives?		
	A. Order Book	Yes 1 No 0	
	B. Written/typed list or email	Yes 1 No 0	
	C. Oral/Phone order	Yes 1 No 0	
	D. Other	Yes 1 (specify)_____ No 0	
104.	Do MCSR reports include the following for reporting?		
	A. stock on hand	Yes 1 No 0 N/A 99	
	B. quantities used	Yes 1 No 0 N/A 99	
	C. losses and adjustments	Yes 1 No 0 N/A 99	
105	Do HMSR reports include the following for reporting?		
	A. stock on hand	Yes 1 No 0 N/A 99	
	B. quantities used	Yes 1 No 0 N/A 99	
	C. losses and adjustments	Yes 1 No 0 N/A 99	
106	Does Condom Distribution Log include the following for reporting?		
	A. stock on hand	Yes 1 No 0 N/A 99	

	B. quantities used	Yes 1 No 0 N/A 99	
	C. losses and adjustments	Yes 1 No 0 N/A 99	
107	Do the formats used for ordering include the following?		
	A. stock on hand	Yes 1 No 0 N/A 99	
	B. quantities used	Yes 1 No 0 N/A 99	
	C. losses and adjustments	Yes 1 No 0 N/A 99	

Ask interviewee to see most recently completed MSCR, HMRS and Condom Distribution Logs

108	Do your completed MCSR reports include the following? **(must be verified with completed report)**		
	A. stock on hand	Yes 1 No 0 Completed report not available 9	
	B. quantities used	Yes 1 No 0 Completed report not available 9	
	C. losses and adjustments	Yes 1 No 0 Completed report not available 9	
109.	Do your completed HMSR reports include the following? **(must be verified with completed report)**		
	A. stock on hand	Yes 1 No 0 N/A 99 Completed report not available 9	
	B. quantities used	Yes 1 No 0 N/A 99 Completed report not available 9	
	C. losses and adjustments	Yes 1 No 0 N/A 99 Completed report not available 9	
110	Do your completed Condom Distribution Log report include the following? **(must be verified with completed report)**		

	A. stock on hand	Yes 1 No 0 Completed report not available 9	
	B. quantities used	Yes 1 No 0 Completed report not available 9	
	C. losses and adjustments	Yes 1 No 0 Completed report not available 9	
111	How often are MCSR reports sent to the higher level? *(Circle all that apply.)*	Monthly ..... A Quarterly ..... B Semi-annually ..... C Annually ..... D Other ..... W	
112	How often are HMSR reports sent to the higher level? *(Circle all that apply.)*	Monthly ..... A Quarterly ..... B Semi-annually ..... C Annually ..... D Other ..... W Not Applicable 99	
113	How often are Condom Distribution Logs sent to the higher level? *(Circle all that apply.)*	Monthly ..... A Quarterly ..... B Semi-annually ..... C Annually ..... D Other ..... W	
114	How often are ordering requests sent to the higher level? *(Circle all that apply.)*	Monthly ..... A Quarterly ..... B Semi-annually ..... C Annually ..... D Other ..... W	
115	When was the last time you sent a MCSR 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	
116	When was the last time you sent a HMSR 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	
117	When was the last time you sent a Condom Distribution Log 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	

118	When was the last time you made an order request 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	
119	How many facilities are supposed to send MCSR reports to this facility?	_____ Not Applicable.....9	**If all are 'Not Applicable' SKIP to 125**
120	How many facilities are supposed to send HMSR reports to this facility?	_____ Not Applicable.....9	
121	How many facilities are supposed to send Condom distribution log reports to this facility?	_____ Not Applicable.....9	
122	How many facilities submitted complete MCSR for the month of _____ (two months prior to survey month)?	_____ Ask to see reports and check here if verified. _____ Not Applicable.....9	
123	How many facilities submitted complete HMSR for the month of _____ (two months prior to survey month)?	_____ Ask to see reports and check here if verified. _____ Not Applicable.....9	
124	How many facilities submitted complete Condom distribution reports for the month of _____ (two months prior to survey month)?	_____ Ask to see reports and check here if verified. _____ Not Applicable.....9	
125	How did you learn to complete the forms/records used at this facility? *(Circle all that apply.)*	During a logistics workshop .....A On-the-job training ..... B Never been trained.....C Other (specify)_____ W	
126	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 NA.....9	
127	Who determines this facility's resupply quantities? *(Circle all that apply.)*	The facility itself .....A Higher-level facility ..... B Other_____ W	
128	How are the facility's resupply quantities determined?	Formula (any calculation) _____ 1 Don't know .....2 Other means 9	

129	Who is responsible for bringing products to your facility? (Circle all that apply.)	Delivery from local (within Region) .A Delivery from higher level (National) B This facility picks up .....D Other (specify)_____W	
130	What type of transportation is *most often* used? Pick one.	Facility vehicle .....1 Public transportation .....2 Private vehicle .....3 Motorcycle .....4 Bicycle .....5 Other (specify) _____9	
131	On average, approximately how long does it take between ordering and receiving products?	Less than 2 weeks .....1 2 weeks to 1 month .....2 Between 1 and 2 months .....3 More than 2 months 4	
132	When did you receive your most recent supervisory visit? *Check visitors book, if necessary.*	Never received .....1 Within the last month .....2 1 - 3 months ago.....3 4 - 6 months ago .....4 More than 6 months ago .....5 Other (specify) _____*9*	
133	Did your last supervisory visit include drug management (e.g., stock book checked, reports checked, expired stock removed, storage conditions checked)?	Yes 1 No 0 Don't know ..... 9 (provide further clarification in comments as needed)	

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

D. Supervision

When in the Store Room (if with a different person) repeat the introduction to the survey and data collection team members.

No.	Question	Code Classification	Go To
134	Name and title and mobile phone number of person interviewed for this survey	Name: _____ Title: _____ Mobile number: _____	
135	Number of years and months you have worked at this facility.	Years: _____ Months: _____	

136	Who is the principal person responsible for managing medical supplies at this facility?	Nurse ..... 1 Clinical Officer ..... 2 Pharmacy Technician ..... 3 Pharmacy Assistant ..... 4 Pharmacist ..... 5 Medical Assistant ..... 6 Other (Specify)_____ 9	
137.	Is supplies/stock management the primary role of this person at this facility?	Yes ..... 1 No 0	

Table 1. Stock Status (Specify a full six month period prior to the survey; and the day of visit)

YOU WILL NEED THE MOST RECENT STOCK BOOK AND MCSR REPORTS DATING BACK TO THE LAST 6 MONTHS

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. Record the quantity of product in an open container. Estimate the quantity of the product to 1/4, 1/2. or 3/4 full using the smaller unit of count established in column 2.
5. 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.
6. 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.
7. Check if the stock book is available, answer Y for yes or N for no.
8. Check if the stock book had been updated within the last 30 days, answer Y for yes or N for no. Note: If the stock book was last updated with the balance of 0 and the facility has not received any resupply, consider the stock card up-to-date.
9. Record the balance on the stock book
10. Record if the facility has had any stockout of the product during the <u>most recent</u> 6 full months before the survey, answer Y for yes or N for no.
11. Record how many times the product stocked out during the most recent full 6 months before the survey according to stock cards (i.e June 1- 15)
12. Record the total number of days the product was stocked out during the most recent full 6 months before the survey.
13. Record the quantity of product dispensed to users or issued from the storeroom during the most recent 6 months before the survey.
14. Record the number of days the issued data represents (may be less than 180 if you are looking at 6 months of data); record the days for which there is any data recorded, including 0

Table 1. Stock Status (Note: For any product that experienced a stockout in the last 6 months (including the day of visit), please note reasons (by product).

Product	Units of count	Managed at this facility? (Y/N)	Physical inventory – Store room	Stockout today? (Y/N)	Quantity of expired products	Stock book available? (Y/N)	Stock book updated? (Y/N)	Balance in stock book	Stockout most recent 6 months (Y/N)	Number of stockouts	Total number of days stocked out	Total issued (most recent 6 months)	Number of days of data available
1	2	3	4	5	6	7	8	9	10	11	12	13	14
OCP-Microgynon	Single cycle												
OCP- Oral Con	Single cycle												
OCP –Other	Single cycle												
IMPL-Zarin	Single item												
IMPL-Jadelle	Single item												
CON-MOH Issued	Single item												
CON-Sensation	Single item												
CON- Other	Single item												
IUCD-Copper T	Single item												
INJECT-Depo-Provera	Single dose												
INJECT-Other	Single dose												

Comments:

Notes:

Physical Inventory- Storeroom- Conduct a physical count for each commodity being assessed:

1) Count unopened/complete cartons first. Multiply the number of cartons by the number of boxes in the each carton. This will give you total number of boxes.

2) Next take the total number of boxes and multiply it with the total number of bottles/cycles/pieces per box. This will give you total commodity available based on the smallest unit of count.

3) Any product that has expired or is damaged should NOT be counted.

Add up the total units of usable stock from the unopened cartons, unopened boxes, and in open boxes in the storeroom. That is your total physical inventory in the store room.

4) Column 14 (Number of days)

"Based on the MCSRs, in May, June and July we issued 150 total IUCDs. We had one stockout lasting 14 days. So, over a 90 day period, we had 76 days of available data on IUCDs

Table 2. Storage Conditions

Items 1–14 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.***

No	Description	No	Yes	Comments
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, 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®).			
04.	The facility makes it a practice to separate damaged and/or expired products from usable products and removes them from inventory.			
05.	Products are protected from direct sunlight.			
06.	Cartons and products are protected from water and humidity.			
07.	Storage area is visually free from harmful insects and rodents. (Check the storage area for traces of bats and/or rodents [droppings 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 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).			
13.	Fire safety equipment is available and accessible (any item identified as being used to promote fire safety should be considered).			
14.	Products are stored separately from insecticides and chemicals.			

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

No.	Description	No	Yes	Comments
15.	Products are stacked at least 10 cm off the floor.			
16.	Products are stacked at least 30 cm away from the walls and other stacks.			
17.	Products are stacked no more than 2.5 meters high.			

Additional guidelines for specific questions:

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

Item 3: Check cartons to determine if they are smashed due to mishandling. Also, examine the conditions of the products inside opened or damaged cartons to see if they are wet, cracked open due to heat/radiation (e.g., for condoms, because of fluorescent lights), or crushed.

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 7: It is important to check the storage area for traces of rodents (droppings) or insects harmful to the products.

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

Item 13: Fire safety equipment does not have to meet international standards. Consider any item identified as being used to promote fire safety (e.g., water bucket, sand). Do not consider empty and/or expired fire extinguishers as valid fire safety equipment.

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

Contraceptive Logistics Management Training

October 14-16, 2013

Training Report

Prepared by Leah Ghoston

Independent Consultant

A. Introduction

Between Monday, October 14th and Wednesday, October 16th, National Family Planning Board (NFPB) staff and representatives from each Regional Health Authority gathered at the National Family Planning Board offices in Kingston, Jamaica for a three day training on the Contraceptive Logistics Management System. The training sought to introduce all participants to an internationally recognized tool used for assessing logistics systems and instruct them how to use the tool in the field to evaluate the functionality of the current contraceptive management systems in their respective regions. These systems are responsible for the distribution of the contraceptive pill, IUDs, injectables, implants, and condoms.

The assessment would not only identify existing practices in logistics management to determine supply chain performance strengths and weaknesses, but would also inform commodity availability and forecasting demands of select contraceptives to prevent future contraceptive stock-outs. Training on proper usage of the survey tool would enable regional health representatives to obtain concrete information from clinics and warehouses on contraceptive distribution, stocking, storage, ordering, reporting and management policies. This information will assist in maintaining an uninterrupted supply of contraceptives to the population who request them and improve regular contraceptive use.

B. Training Day 1- National Family Planning Board

Introductions

A warm welcome was extended to all participants from Leah Ghoston, independent consultant working with the NFPB to conduct the training and consequent analysis of the survey results. Ms. Ghoston read the day's agenda and gave a brief introduction to what the three day training would entail. Ms. Ghoston then introduced Ms. Sannia Sutherland, acting Executive Director of the National Family Planning Board, who also explained in brief detail the goals of the assessment and the timeliness of the survey and forthcoming research dissemination. The assessment was noted as a strategic priority for the Board as they move forward with merging

with the National HIV/STI Programme and seek to streamline systems and identify any weaknesses. Participants then went around the room to introduce themselves, stating their name, title and which regional area they were representing. In attendance were the following:

Regional Health Authority Trainees	NFPB Staff Trainees
Western Regional Health Authority (WRHA)	Keisha Henry, Procurement Officer
Cheryl Belcher-Peart- Regional HIV Prevention Technical Officer	Karlene Temple-Anderson, Director, Enabling Environment & Human Rights
Launa Binns Watson - Regional Nursing Supervisor	Sharlene Jarrett, Senior Director M&E
Northeastern Regional Health Authority (NERHA)	Sannia Sutherland, Executive Director (Acting)
Norda Spencer-Dekid- Regional Nursing Supervisor	Sacha-Marie Hill, Research Officer
Linette Powell- Public Health Nurse	Joseph Reynolds, Director of Finance
Southern Regional Health Authority (SRHA)	Jennifer Williams, Personell and Admin Officer
Nadine Griffiths – Regional Nursing Supervisor	Marion Scott, Director of Prevention, NHP
Shereene Palmer- Reid- Targeted Intervention Officer	Dianne Thomas, Director, Outreach
Southeastern Regional Health Authority (SERHA)	Nastassia Grant, Peer Educator (MARPS)
Charmaine Vassell Shettlewood- Senior Public Health Nurse	
Angella Taylor - Public Health Nurse	

Overview and Goals & Objectives- Dr. Sharlene Jarrett, NFPB

The meeting started off with a presentation by Dr. Sharlene Jarrett that explored the history of the NFPB, its role in ensuring nationwide contraceptive security and how logistics management and supply chains for contraceptives work. Government efforts to improve the sexual and reproductive health of the population are led by two programmes; the NFPB and the National HIV/STI Programme. NFPB has achieved considerable gains in improving contraceptive choice and safety and promoting health to women, men and adolescents. Dr. Jarrett explained how contraceptive security, or ensuring an uninterrupted supply of a variety of contraceptives so that clients can choose and use their preferred method, is critical to continue the progress being made in increasing the contraceptive prevalence rate and reducing unwanted pregnancies.

A logistics management system (LMIS) is a system of reporting and recording that is used to analyze, aggregate, validate and display data. This data is then used to provide decision makers with accurate and timely information about contraceptive procurement and distribution needs. A functioning LMIS system for contraceptives provides service providers and policy makers

with data on contraceptive prevalence and how contraceptives are managed, ordered and distributed.

Dr. Jarrett then explained the Logistics Indicator Assessment Tool (LIAT) that would be used for the training including what the information gained will tell us. The LIAT is designed to collect quantitative data on commodity logistics management by surveying public sector health facilities throughout the country.

The objectives for the utilization and training on this tool were:

- To assess the accuracy of logistics data for inventory management
- To propose a feasible distribution systems design
- To strengthen the capacity of stakeholders in data collection and data management
- To assess functioning of LMIS information, ordering procedures, transport systems, supervision frequency, cold chain management, and others

Lastly, she discussed the core logistics indicators in the LIAT that NFPB would be seeking to track and report on based off the compilation of completed surveys for each region. These indicators are clear gauges into how well the system is performing by highlighting facilities' strengths and weaknesses in a number of areas, namely procurement, distribution, storage, accuracy in recording, transport systems and overall system management.

Overview of the Logistics Management System- Leah Ghoston, Public Health Consultant

While Dr. Jarrett shared the goals and objectives of the training, Ms. Ghoston discussed the goals and objectives of the survey administration, which were to provide the NFPB and partners with current information on logistics and stock status of key contraceptive commodities, measure improvements and protocols in the logistics system and make recommendations. Over the next two days of training, participants would review interviewing, facility selection and data collection, including how to correctly use the survey form and what each team member's responsibilities were. Ms. Ghoston explained that the survey tool would be examined question by question with the training group and then field tested to ensure trainees were comfortable with the administration.

The Logistics cycle

The logistics cycle for contraceptives focuses on the needs of customers—women, men and adolescents, who want to use family planning. A well-functioning logistics cycle includes inventory management, warehousing, and transportation of commodities and ensures that:

- The right contraceptive products are selected based on customers' needs
- Appropriate quantities of commodities are forecast and on hand through timely procurement
- Adequate resources are available to procure contraceptives

Ms. Ghoston explained that everyone in the room played a role in the LMIS cycle, whether they are administering a survey, prescribing a method to a client, in charge of ordering supplies or analyzing family planning reports. The cycle includes serving customers, selecting the right family planning methods for these customers, procuring methods, managing the inventory storing and distribution and comes full circle back to the customer. Throughout the cycle it is imperative to continue monitoring the system and its processes. As there is not a consistent LMIS across all four regions in Jamaica, understanding how an efficiently functioning cycle operates is necessary for all trainees, as the goal of the survey is to identify areas where there are cycle breakdowns.

<u>Introduction to the survey and instrument (Leah Ghoston)</u>

The LIAT is a tool for collecting baseline data in each of the selected facilities across the four regions that will inform future policy and protocol on contraceptive logistics in Jamaica. As such, it helps to determine:

- When stockouts have occurred, as well as how long they lasted
- How well LMIS reporting requirements are being met
- What logistics training and supervision facility staff have received
- Whether storage conditions are sufficient to ensure the quality of commodities
- Whether LMIS records are being maintained routinely and accurately

It was emphasized to trainees that this tool was not an individual facility assessment, nor was it a performance review for facility staff and personnel. It is solely a tool used for gathering a snapshot of information to gauge how logistics systems are working at the ground level. It should be explicitly explained to each facility visited that they survey results would not be naming names or assessing staff.

The LIAT survey would be asking questions to clarify which forms and reports are used by staff, how orders for contraceptives are placed and how incoming contraceptive supplies are transported, managed and distributed. Each surveyor would be performing a physical inventory count in the store room of their selected facilities to count the total number of given methods on hand the day of the survey and to record the conditions of the storage areas in which these methods are kept.

While the survey is mostly quantitative in nature, trainees were encouraged to gather as much qualitative data as necessary to give a fuller picture of facility level concerns or processes.

Site Selection and Team Assignments

Using USAID recommendations, a sample size of 15% of eligible facilities (those providing family planning services and carrying contraceptives) was selected. Out of the 311 eligible facilities, the sample of 45 total facilities meant that each region would be sampling 11-12 clinics. While there are seven types of facilities across the country, a strata of each type was selected proportional to the overall population size, which differed in each region. Each facility is a service delivery point and the survey would not include warehouses or highest level suppliers. Each trainee was given a list of eligible facilities and their types during this presentation and asked to begin to calculate which facilities could be selected as sample sites, and urged to have a tentative list completed by the end of the day's training activities.

During the course of data collection, trainees will be split up into eight (8) teams of two for a total of two teams in each region. Each team would consist of a team leader and survey monitor, and likely include one NFPB staff person and one RHA representative. Collectively, all 8 teams would be able to complete surveys in all 45 facilities before the completion of data collection, with an average of two facility surveys done per day. Trainees were encouraged to determine

among themselves who would serve which role on their team. The team leader's responsibilities include ensuring the coordination of site visits, data collection and communication with Ms. Ghoston. At the end of each day of data collection, the leader and the survey monitor were to provide a system of checks and balances for each other, looking over the completed surveys for errors and making any follow-up visits or phone calls before submitting the survey to NFPB.

Organizing data collection at a facility

The general procedures recommended for each survey team member during a facility visit was discussed. It was important that each team member's role is clear prior to entering the facility, as team members do not want to be scrambling for documents or unsure of who is checking on which area, which could cause delays while they are being accommodated in a facility. It was also important that each team member is introduced and that the contact person or point person for the facility is available to direct the team around the facility as needed and answer all questions succinctly. Each team should be introduced to the relevant persons who will assist in completing the survey and ensure that they have checked all relevant areas before leaving the facility.

Data quality, reliability and validity (Sacha-Marie Hill, NFPB)

Ms. Sacha-Marie Hill of NFPB presented on the importance of ensuring data quality, reliability and validity in the context of speaking with interviewees and completing surveys. It was noted that regarding data quality, each interviewer is responsible for filling out the survey form in its entirety both clearly and legibly and that if there are sections that were skipped over, that these sections are filled in prior to leaving the facility. Both team members must ensure the accuracy of the data gathered. It is also important that interviewers don't guess answers or lead respondents to what they think the 'correct' answer is or be so concerned by the process that they lose track of the purpose of the survey. Lastly, Team Leaders must review all documents for quality control (using provided checklist) and return the completed forms back to NFPB for analysis in a timely manner.

Observer variation includes differences between observations by different observers or by the same observer on different occasions. This was important to understand, as the trainees would

be working in teams and providing each other with a checks and balances system to ensure data accuracy. Reliability includes how consistent information is recorded and the ability of measurements to be calculated numerous times with the same result. While gathering any data, consistency is of the utmost importance, as is the validity, or accuracy, of the data. Being cognizant of these factors as an interviewer would ideally help the interviewers to make sure the information they gather will actually be useful and able to be analyzed properly.

Ms. Hill also provided a brief outline of the contraceptive commodities that would be discussed during the survey and counted during the physical inventory stock taking, namely the condom, oral contraceptive pill, intrauterine device (IUD), implant and injectable. All trainees were comfortable with the names and ranges of methods they would be introduced to after this brief visual presentation.

Scheduling of facilities

Just before lunch, regional teams were introduced to the NFPB staff who would accompany them on their team to administer the surveys. As a regional group, the team members looked over the facility list given (Appendix 1) and identified the names and types of facility each person could target and be responsible for. It was determined that since SERHA was the largest region, the sample size could increase in that region to try and accommodate 15 surveys if possible. Each of the other regions selected 11 or 12 facilities. The regional team representatives started making phone calls and arrangements during this break time to schedule their facility visits and submitted the list of their select facilities to Dr. Jarrett.

Instrument Review

After a lunch break, trainees were introduced to the LIAT tool in its entirety. Reviewing the entire tool ensured that feedback would be given from all trainees regarding how questions were worded, appropriate responses and omissions needed to make the tool as appropriate to the Jamaican context as possible. An interviewer's guide at the beginning of the LIAT was looked over to explain what each set of questions was seeking to achieve and how to record answers to each question, including those with multiple responses. To ensure anonymity during data analysis to prevent bias in recording or reporting, each facility visited would

receive a unique identifier code consisting of a three digit region, a three digit parish and a three digit facility (AAABBBCCC). This code would ease the data analysis process as well.

Each survey contained the following sections:

A. Introduction statement and consent to be surveyed
B. Facility identification information
C. Interviewee information
D. Contraceptive commodity management sections (ordering and issuing, recordkeeping, reporting, monitoring and supervision)
E. Stock status < 6 months (Table 1)
F. Storage conditions (Table 2)

Ms. Ghoston read each section's question aloud. The goal of this was so that each trainee could hear how the question sounded and who the question should be directed to. In each section individuals from each region were encouraged to provide specific information about the cultural context in which they worked (ex. to use words like 'paved road' rather than 'tarmac' and 'stock book' rather than 'stock ledger'). Changes were made to part A, B, C and D on the first day including renaming formats used for ordering and reporting to reflect those currently used in facilities including the Monthly Clinic Summary Report, the Hospital Monthly Sterilization Report and the Condom Distribution Log. Most of the existing questions regarding ordering and reporting were thus broken down into each of these separate three categories, as each had their own formats and timelines. It was also noted that some smaller facilities may have different methods of reporting that were unknown in the room, and so each question was given an 'Other' option.

Wrap-Up

Dr. Jarrett passed out the list of the assigned facilities to be surveyed in each region so that each team knew their responsibilities and could go about scheduling accordingly.

Feedback

At the end of day one, training attendees were given evaluation forms and asked for feedback on the day's activities. While it was a lot of information to take in within a short time, those responding to the evaluations said that they enjoyed learning about the contraceptive distribution cycle, background information about clinic level operations and getting into the details of the LIAT. Respondents enjoyed going over timelines, getting a list of facilities providing family planning services in each region and meeting with the regional representatives present for the training.

C. Training Day 2- ManPower Maintenance Services, Ltd.

***Training Day two was not held at the NFPB offices due to a conflict with a meeting of the board members. Instead, training attendees gathered at Manpower Centre down the street to use their conference room facilities.

After a brief recap, day two of the training picked up where day one left off in reviewing the survey instrument. These sections included monitoring and supervision of contraceptive stock, contraceptive order placement and submission of reporting forms. A significant number of details were discussed where the wording of an existing question was questionable to the trainees, for example what the difference would be between a 'local delivery' or a 'regional delivery' and what constituted an 'emergency order'. Also regarding delivery, the survey indicated several forms of transportation that were not applicable in Jamaica and seemed to best fit other country contexts with extremely rural conditions and opted to remove 'on foot' and 'by boat'. The survey was edited to show which responses should have a 'not applicable' option, or those that should be omitted entirely (such as questions about the cold-chain which is not used in family planning clinics) as well. The participants then moved into discussions about Tables 1 2, 3 and 4.

Inventory, Unit Counts and Packaging

Tables 1-4 then introduced trainees to the physical inventory count exercise. First, trainees were asked to share the methods they were most familiar with that were used by all facilities by name and type including condoms (multiple brands), implant (Zarin or Jadelle), oral

contraceptive pills (Microgynon or Oral Con), IUD (Copper T) and injectable (Depo-Provera or Famy Depo). This information was recorded on the physical inventory stock count sheet as the main products to be counted. Each category also included an 'other' in case the facility received donations or other stock that were not regularly included at the warehouse (Ex. Condoms-generic/Ministry of Health issued/Other).

The physical inventory count would include counting all methods by the smallest unit of count. The count would also include unopened boxes, calculating the number of units per box, and counting expired products. In order to ensure a consistent count, trainees discussed the packaging of the methods they see and how they are stored in their regions. It was discussed that often in reporting there is only a number written (ex. 20) and this can be misinterpreted to be a single count of 20 or 20 boxes. In order for every interviewee to ensure they were counting uniformly, they must know how to count units per box for each method efficiently. Mr. Joseph Reynolds, the Director of Finance at NFPB who was familiar with how order requests come in to the warehouse, placed a call to Mr. Andy Lindo, the NFPB warehouse administrator to get specific information about unit counts for each method carried by the warehouse that would be evaluated in the survey. Mr. Lindo informed the group via speakerphone how many units would be in each box or carton so they knew what they would be looking for. Trainees determined that for every physical stock inventory taken, notations on the sheet for units of count would be in 'singles'; a single cycle, single dose or single item. This way, if they counted 3 boxes they would know that each box held 120 single doses, therefore the total inventory would be 360. While this would entail making quick calculations in the field, there would be no mistakes in reporting.

Method	Unit	Per box	Per carton
Oral Contraceptives			
Oral Con	Single cycle	100	2,000
Microgynon	Single cycle	30	720
IUCD			
Copper T	Single item	50	600
Condoms			
MOH Issued	Single item	100	6,000
UNFPA Issued	Single item	144	7,200
Female Condom	Single item	-	1,000
Injectable			
Depo-Provera	Single dose	25	1,000

Other injectable	Single dose	12	240
Implant			
Jadelle	Single item	10	-
Zarin	Single item	10	-

Trainees were informed that in order to complete the physical inventory form they would need to see the completed MCSR forms and stock book kept in each facility to determine how well records were kept and what information was recorded, including a stock balance, number of stockouts and number of days the stockout lasted. The books should also be able to provide them with the information they need to determine how many units of each method were issued in the last six months. This data will be analyzed to determine how well stock is managed, stored, recorded and supplied and give a better picture of unmet needs in facilities who have had stockouts (regular or irregular). During this discussion, those who worked in the regions disclosed that they had experienced stockouts in the past because they were told by their regional representatives that orders could and would not be fulfilled if there were insufficient funds to make orders. Mr. Reynolds, NFPB Director of Finance disputed this claim, saying that all facilities that need to place orders cannot be turned away because of lack of funds. This drew attention to the fact that there is a miscommunication between regional medical directors (who received this protocol from NFPB) and facility staff that should be remedied. This information did not appear to have been disseminated to health facility staff, who were holding off on orders because they were being told that fulfillment would not be feasible, a problem that, while raised in the training conference room, was a reality in many parishes.

There was some confusion about the completion of the stock inventory form, especially regarding the number of days stock data was available in each clinic; some clinics were only open one or two days a week while others were open every day. While there are an estimated 30 days per month, the trainees decided that weekends could not be counted and the total number of working days would be 20 per month, regardless of the days the clinic was open or closed. Even if there was a stockout, each day would be counted as a day that data was collected. While the information in this section asked interviewees to provide information over the last six months, it was understood that many clinics may not have this information on hand, as it is often sent to a higher level. Therefore, trainees decided to note in the comments section

the months of the data they were provided with since it is a telling finding in itself if clinics do not have information gathered and reports on-hand.

Tables 3 and 4 were two different tables for data collection, namely 3) usable stock on hand and 4) quantity ordered and received. It was determined that facilities do not currently record stock on hand, but stock issued; no balance is kept and physical inventory checks are not done at the facility level to be able to determine the information about stock on hand. Additionally, it was discussed that a formal ordering process is not done at the facility level. Many facilities place informal orders over the telephone, in emails or in hallway conversations with other staff, who 'pass the word on' and none of these 'orders' are formally recorded. Formal orders are only placed at the parish or regional level (and often distributed from that level as well) and so facilities surveyed would not have this information. As there was substantial confusion about how best to complete these forms, their discussion was tabled for the following day.

The last table discussed was that of storage conditions, a checklist for interviewers to complete based off of visual observations of areas where contraceptives are stored. This information includes the presence of expired products, organization of boxes, exposure to humidity, warmth or water, presence of rodents or insects and staff accessibility. Interviewers would check the overall conditions of the storage area as well as noting if contraceptives are stored in multiple places, if fire safety equipment is available and if boxes and packaging are stacked according to safety and storage regulations (at least 10cm off the floor, no more than 2.5 metres high and 30cm away from walls). Mr. Reynolds assisted the trainees in determining height by measuring himself against one of the trainees so they would know what height to look for.

Interviewing Skills and Role Play (Sacha-Marie Hill and Dr. Sharlene Jarrett)

After a break for lunch, participants received a presentation from Ms. Sacha- Marie Hill on interviewing to inform them how to conduct interviews in an objective, systematic way, free from potential bias. Ms. Hill stated that the interaction between interviewer and interviewee is very important and that if the respondents feel that the information is important and that you are sympathetic to their situation, they will be more straightforward with responses and will be more likely to answer questions to the best of their ability. If they feel pressured to respond, or feel that the interview is a burden, they may not think about responses carefully. It was noted

that the presence of the interviewer could influence the response of the interviewee, namely that they could over report desirable answers to impress the interviewer. Trainees were encouraged to remind interviewees that they were not being personally assessed, nor their facility.

It was also important to make sure the questions asked were as written in the survey, and not paraphrased by the interviewer, as this could sometimes lead to incorrect interpretations. Interviewers should introduce themselves and the study and be up front about what information they are seeking to obtain and how, including a preview of the later questions to be asked, so that the interviewee does not feel they are being devious. All interviewers should be respectful of the rights of patients while in the facility, not rush the interviewee and not make any recommendations or promises to those interviewed.

Role Play

Dr. Jarrett posed a series of situations to the interviewers to portray what types of challenging interviewees they may come across while administering their surveys. For each 'type' of nurse (interviewee), trainees were asked how they could best deal with that person in order to respectfully be able to complete their survey.

Type of Nurse	How to remedy the situation
"Nurse Everything is Great!" **Q: What to do if you are interviewing a nurse who is protective of her facility, is very positive and doesn't hint or want to discuss any negatives or weaknesses of the contraceptive management system?**	- Explain again why the assessment is being done and reinforce that it is not an individual clinic assessment or evaluation - Remind her if she is not honest she will not benefit in any way- she will only hurt herself and the clinic - Say you admire how she is handling such a well-run clinic but perhaps she could give you some examples of experiences or situations where she could make some changes - Ask what her favorite and least favorite things about the family planning clinic are
"Nurse Anti-NFPB" **Q: What to do if you are interviewing a nurse who doesn't want to interact with anyone or has a personal problem with NFPB?**	- Explain the importance of understanding the system and the need for consistency at all levels - Be empathetic - Acknowledge that we have a collective vision and need to work together, otherwise NFPB wouldn't be included in the assessment- it is important for NFPB staff to see what is happening in each facility

"Nurse Anxious" **Q: What to do if you come across a nurse who is anxious to get back to work, on the phone, has lots of running around to do and tries to rush you?**	- Let her know how much her time is valued and that we appreciate her making time for us - Reassure her that the survey will not take long as soon as we have all the information we need - Explain again how important the survey assessment is and how it will inform a better contraceptive system so that health care providers and patients get what they need so she understands the importance of taking the time out
"Nurse Chatty" **Q: What to do if you come across a nurse who uses the time as an opportunity to vent about the government health care system, NFPB, tell patient anecdotes...everything except the survey?**	- Make sure you explain the tool, remembering to be objective and explanatory so she knows exactly what the steps are in the survey - Let her know you want to keep things rolling because you understand she is very busy - Acknowledge that there is a lot to be discussed and that we can discuss it after the survey- but that she is raising some very valid points- don't dismiss it!

Wrap- up

Trainees were reminded that training and pilot testing would conclude on Wednesday, October 16 and that site visits would commence as soon as possible. At this point, all trainees had their teams finalized and knew which facilities they were going to survey. Encouragingly, most had already scheduled out which days they would be doing the survey as well.

Feedback

At the end of training day 2, trainees said they enjoyed customizing the LIAT tool to match their specific region, covering the LIAT in so much detail, understanding stock and inventory counting, having a recap of the first day of training, and switching to a different venue. Most trainees enjoyed the interactive sessions, including discussing the packaging of the contraceptives and dealing with difficult persons while interviewing. A few persons did note that they could benefit from revisiting the stock tables on the last day to make them more comfortable with how the answers in that section would be recorded.

D. Training Day 3- National Family Planning Board

On the last day of training, trainees prepared for field testing of the tool. Utilizing the feedback from the previous day, the stock inventory and stock balance tables (Tables 1, 3 and 4) were

revisited. After continued conversations about how the questions could be interpreted, it was determined that tables 3 and 4 were not applicable to the survey in Jamaica, as facilities do not have the information required to complete the forms. Again, this lack of information also shows an important finding about the autonomy and record-keeping of each facility and so the absence of the table information is well noted.

The field testing was completed at the NFPB warehouse. Ideally the tool would have been field tested in a health facility but due to the short amount of time available to schedule this visit and receive proper permissions, the warehouse provided a more viable option. Trainees were given four copies of the newly edited LIAT tool (one for each of the regions) to keep while doing the field testing exercise. This enabled team members to start working together. The tool was broken up into sections so that each region was in charge of asking certain questions and each team member could have an opportunity to ask a set of questions:

WRHA- Questions 1-5 in introduction and questions 101-107 on reporting and ordering formats

SERHA- Questions 108-118 on completed forms and ordering requests

NERHA- Questions 119- 126 on emergency orders and staff training

SRHA- Questions 127- 133 on resupply quantities, supervision, transportation and time between ordering and reporting

The Stock Tables would be completed by the WRHA and SERHA representatives.

At the warehouse, the teams met with Mr. Andy Lindo, warehouse administrator, who agreed to answer questions and also introduced Ms. Samantha Smith, warehouse manager. After introductions, the field testing began.

Mr. Lindo carried copies of the forms used for ordering and reporting to show the team and to best answer the questions posed. Because the warehouse was not a health facility/service delivery point, many questions were not applicable; however the interviewers were able to get through most questions to at least get comfortable using the tool and the flow of the questions. After the initial survey questions, the team trekked to the inventory floor for a more detailed look at the inventory kept in the warehouse. Here the teams were provided with an up-front look at the inventory that gets moved from the warehouse to their regions and better gauge

how stock was counted and what methods were available, using Table 1 of the LIAT tool. After engaging in the inventory count exercise, it was noted that many boxes must be opened to count the single units inside, as stickers on the outside often did not contain accurate information on the contents. Interviewers also saw how each method was packaged and stored and how they should appear while completing the survey.

It was also important to note that many regional representatives used this time to personally ask questions to the NFPB Finance Director and Mr. Lindo about stockouts they were experiencing or orders they placed that hadn't yet come to fruition. This was a great opportunity to gather explanations on the logistics system at the warehouse level, a level which very few regional representatives have access to.

Wrap-up

After the inventory exercise, the teams returned for lunch and to collect all documents before leaving to the field. Data collections packets were provided to each interviewer which included:

- Team assignments and contact information
- Timeline for data collection and submission
- Team leader expectations
- Data quality checklist
- Inventory control sheets with methods, box/unit counts
- Finalized LIAT tool and tables for each facility

Each team received two large envelopes in which to collect finalized surveys and was instructed to return them to NFPB to be compiled for analysis. As there were NFPB staff on each team, it was determined that they would be responsible for gathering all completed surveys to bring back to NFPB.

All trainees were urged to remember that they are not assessing personnel, but assessing the system, and that they are not making assumptions, but asking questions, listening and taking notes. Lastly, interviewers should remember that they are not making recommendations, but observations. All trainees were encouraged to gather as much information as possible by writing comments and notes to give an overall better picture of their observations, since quantitative data will only provide so much information.

E. Conclusion

The three day training was considered successful by those in attendance, as evidenced by the feedback given at the end of each day of the training. Across the board, participants felt ready to embark into the field, visit their selected facilities and collect data. Additionally, many seemed enthused at the prospect at being able to create some real change in terms of consistency of the logistics management cycle and what this could mean for their parish and their day to day responsibilities and operations.

In three days, the training provided both regional health authority representatives and NFPB staff with a unique experience to work and learn from each other and each other's experiences. While each region has its own specific protocols and ways of operating in regards to family planning at the clinic level, having persons from each region in the same room to share common experiences and identify system discrepancies was incredibly important. This dynamic group of professionals spearheaded a stronger dialogue on how to best improve the contraceptive logistics system and make it more responsive to the needs of clients and the facilities who provide services. It was key to have representatives from both areas on a team working towards a common goal. Ultimately, the successful completion of the survey administration is the first step towards being able to more precisely identify the strengths and weaknesses of the contraceptive LMIS in Jamaica.

Appendix 1. Health Facilities by Region

Region Name	Parish Name	Facility Name	Type
Southern Regional Health Authority (SRHA)			
SRHA	Clarendon	Aenon Town	**1**
SRHA	Clarendon	Mocho	**2**
SRHA	Clarendon	Chapleton	**3**
SRHA	Clarendon	May Pen	**3**
SRHA	Manchester	Craighead	**1**
SRHA	Manchester	Bellefield	**2**
SRHA	Manchester	Mandeville Comp.	**4**
SRHA	Manchester	Christiana	**3**
SRHA	St. Elizabeth	Santa Cruz	**3**
SRHA	St. Elizabeth	Blackriver	**3**
SRHA	St. Elizabeth	Junction	**3**
Southeast Regional Health Authority (SERHA)			
	KSA	Bull Bay	**1**
SERHA	KSA	Comprehensive	**5**
SERHA	KSA	Victoria Jubilee	**7**
SERHA	KSA	Hagley Park	**3**
SERHA	KSA	Lawrence Tavern	**2**
SERHA	KSA	Parks Road	**1**
SERHA	KSA	Mount Charles	**1**
SERHA	KSA	Golden Spring	**1**
SERHA	KSA	Edna Manley	**3**
SERHA	St. Thomas	Port Morant	**2**
SERHA	St. Thomas	Seaforth	**3**
SERHA	St. Thomas	Morant Bay	**4**
SERHA	St. Thomas	Yallahs	**3**
SERHA	St. Catherine	Old Harbor	**3**
SERHA	St. Catherine	St. Jago Park	**4**
SERHA	St. Catherine	Greater Portmore	**3**
Northeastern Regional Health Authority (NERHA)			
NERHA	Portland	Buff Bay	**6**
NERHA	Portland	Manchioneal	**2**
NERHA	Portland	Port Antonio	**4**
NERHA	St. Ann	Alexandria	**6**
NERHA	St. Ann	Claremont/Monea gue	**3**
NERHA	St. Ann	Ocho Rios	**3**
NERHA	St. Ann	St. Anns Bay	**4**
NERHA	St. Ann	Beth Jacobs FP	**7**
NERHA	St. Mary	Annotto Bay Health Centre	**3**

NERHA	St. Mary	Highgate	**3**
NERHA	St. Mary	Oracabessa	**2**
Western Regional Health Authority (WRHA)			
WRHA	St. James	Mobay	**5**
WRHA	St. James	Catherine Hall	**2**
WRHA	St. James	Cambridge	**3**
WRHA	Hanover	Lucea	**1**
WRHA	Hanover	Hopewell	**2**
WRHA	Hanover	Green Island	**3**
WRHA	Trelawny	Falmouth	**4**
WRHA	Trelawny	Duncans	**1**
WRHA	Trelawny	Albert Town	**3**
WRHA	Westmoreland	Bluefields	**1**
WRHA	Westmoreland	Darlinston	**3**
WRHA	Westmoreland	Savanna-la.mar	**4**

Contraceptive Logistics Management Information Systems

Desk Review

October 20, 2013

Prepared by Leah A. Ghoston

Independent Consultant

Desk Review

This desk review will identify the current situation of logistics management information systems (LMIS) for contraceptives across Jamaica and as such it will:

1) Outline population statistics and trends in family planning
2) Identify current contraceptive management policies and procedures
3) Explore current population statistics and trends in family planning
4) Discuss contraceptive security and logistic management
5) Propose recommendations

This report was compiled through careful review of information gathered from published reports from 2007-2012 including National Family Planning Board (NFPB) Annual Reports, semi-annual family planning statistical reports, strategic planning reports and Regional Health Authority yearly reports. Additionally, informative interviews were undertaken with representatives from several regional health centres, and Ministry of Health and NFPB staff.

1) Background

The National Family Planning Board (NFPB) has conducted a series of surveys and assessments over the past two decades to explore issues such as fertility rates, contraceptive prevalence, reproductive health and family planning to keep policy makers, health care providers and the society at large informed about the ever changing situation in Jamaica. These periodic enquiries began with the Jamaica Fertility Survey during the period 1975-1976 and continued with the 1983, 1989, and 1993 Contraceptive Prevalence Surveys. More recently, the NFPB created the Reproductive Health Survey which covers a broader spectrum of issues. These surveys were conducted for the years 1997, 2002 and most recently, the year 2008. The information garnered from these survey reports indicates that there have been substantial improvements in the area of reproductive health, adolescent health, and HIV prevention in Jamaica, including an increase in contraceptive prevalence rates and a decrease in the proportion of unplanned births and adolescent fertility rates.

Recognizing the changing population trends, the NFPB, along with United Nations Population Fund (UNFPA), the Planning Institute of Jamaica (PIOJ) and family planning clinics island-wide

sought to provide a comprehensive response to young people who have an unmet need for family planning services and other adults who are seeking to limit the size of their families, prevent STIs and improve their reproductive health. In 2011, the NFPB released its 2011-2015 Strategic Framework to highlight the areas of most pressing need in regards to reproductive health and family planning activities in the country. Now in its third year, the strategies in the framework include expanding access to information and services and to underused family planning and reproductive health options for adolescents, women and men.

Since the NFPB has had the responsibility for ensuring the delivery of contraceptive methods to public sector facilities across the country, much of its mandate included ensuring contraceptive security, access and availability of family planning methods at the clinic level. A growing body of literature indicates that contraceptive availability at service delivery points (SDPs) is associated with higher contraceptive use (Chen and Guilkey 2003; Magnani et al. 1999; Tsui et al. 2002). To ensure the needs of customers are met, this system would require an efficient contraceptive logistics management system nationwide to best track the cycle that ensures effective storing, procurement and distribution of contraceptive commodities within health facilities. Family planning trends will then reflect the efficiency of such as system.

2) Current contraceptive management policies and procedures

While there are not many policy directives as to how to maintain reproductive health commodity security, there are several documents that speak to the need for reproductive health improvements and improved contraceptive use. Under the 2011-2015 Strategic Plan, the NFPB outlines several strategic goals for 2015:

- ✓ Reduction in unplanned pregnancies by 7.5%
- ✓ A Contraceptive Prevalence Rate (CPR) of 75%
- ✓ Total Fertility Rate (TFR) of 2.28
- ✓ Unmet Need (females 15-44 yrs.) of 6.5%
- ✓ Increase of approximately 20% in Dual Method Use [use of both a primary and secondary method of contraception]

The aim to further reduce the TFR was first stated in the National Population Policy of 1992, where it was noted in the Fertility Policy Statement that the average number of children per

women should ideally decline to 2 children per woman by the year 2000 (PIOJ,1992). Currently the average number of children per woman is 2.4 (NFPB, 2012). Along similar lines, the Population Sector Plan for 2009-2030 of the Jamaican Government's Vision 2030 aims to increase the contraceptive prevalence rate to 75% by 2030 as well as reaching a population growth rate of zero by 2030 (Government of Jamaica, 2010), closely mirroring the priorities of the NFPB.

Each of these policy documents speak to the same concerns regarding family planning and the need for a controlled fertility rate and increased contraceptive use. However, what all of these documents also have in common is that none actually outline a plan of action for or even mention ensuring contraceptive security or improving management systems for contraceptive logistics, both of which are the first steps in seeking to achieve any kind of positive outcomes for family planning indicators. If persons cannot access contraception safely, efficiently and with a guarantee that they will receive an uninterrupted supply as needed, the desired outcomes will be adversely affected.

3) Population statistics and current trends in family planning

According to the most recent population data (STATIN), the population of Jamaica in 2012 was 2,711, 476 (STATIN, 2013). However, the current population structure is ageing with the 1-14 year old age group declining(29.8%), the 15-64 (61%) age group increasing and the elderly population (>65 yrs) being the fastest growing segment of the population (9.2%). The population growth rate has not moved above 1% since 1998 and over the past eleven years, the crude birth rate has been trending downwards; from a recorded high of 21.7 per thousand in the year 2000 to a record low of 14.5 per thousand in 2012. The number of live births also decreased steadily since 2006 with 46,277 live births to 39,348 live births, the lowest figure on record, in 2012. The largest number of live births occur in the 20-24 yr old age group (NFPB, 2012).

As evidenced in the above figures, population growth and increasing fertility are not the primary concerns for Jamaica; while less children are being born, there are still considerable concerns about the health and ability to plan parenthood for females in the reproductive age group (15-49), whose population slightly increased by .7% in 2012 (NFPB, 2012 & UNFPA 2011).

Although Jamaica has achieved a relatively high contraceptive prevalence rate of 72% and a low unmet need for family planning of 7.2% (NFPB, 2008), it is still critical to decrease the number of unplanned pregnancies and ensure the availability of reproductive health care services and commodities for the reproductive aged population. There has been roughly an 18,000 increase every year since 2007 in attendance at family planning clinics until 2011 where there was a sharp decrease by 16,696. However, by the next year, 2012, there was yet again an increase by 7,112 (NFPB, 2012). Table 1 also shows that every year since 2007 there has been an increase in new acceptors (persons who start taking a certain contraceptive method for the first time), for both women who just had children and all clinic visitors. The trend of increasing numbers of new acceptors suggests a need for improved contraceptive security to accommodate increased demand.

Table 1. Attendance and new family planning method uptake 2007-2012

	2007	2008	2009	2010	2011	2012
Total attendance	258,013	275,822	292,374	313,260	296,564	303,676
Post natal Acceptors	24,273	24,862	***	24,848	25,082	25,767
All new Acceptors	38,719	41,918	39,243	39,356	40,925	41,845

***Data for this year was not recorded

Adolescent need

According to UNFPA in Jamaica, there are still several challenges for women who are seeking to limit their family size, space their pregnancies or prevent pregnancy altogether. One major concern is that of unplanned pregnancy, especially for adolescents. The adolescent fertility rate, while declining over the past 5 years, now stands at 72/1000. This is still fairly high, and UNFPA documents that 18% of all births in Jamaica are to teenagers (UNFPA, 2012). However, at the time of the 2008 Jamaica Reproductive Health Survey(RHS), 82% of 15-24 year old females and 84% of 15-24 year old males said they used some form of contraception at last intercourse, including condoms, the oral contraceptive pill (OCP) or Coitus Interruptus (the withdrawal method)(NFPB, 2008). While this figure is promising, 3.4% of females aged 15-19 years also reported an unmet need for family planning (2008), identifying a gap for adolescent females who wish to prevent pregnancy or STIs but are unable to do so.

While the above data shines a light on contraceptive prevalence among 15-24 year olds, more still needs to be done to encourage youth to access health services and obtain contraceptives to prevent unplanned pregnancy. In 2012 the number of adolescent women accessing family planning services was 30,213, or just about 10% of the total population accessing services, a figure that has remained steady since 2007 (NFPB, 2012). While it is encouraging that some adolescents are accessing family planning services, many adolescents are introduced to family planning only after having had a child and 8.2% of adolescent mothers aged 15-19 said their pregnancy was unplanned (NFPB, 2008). It remains to be seen how many of those new young mothers had an unmet need for contraception prior to becoming pregnant. If an adolescent mother has an unplanned pregnancy, she may then be more interested in selecting a family planning method after delivery to prevent another. NFPB data shows that 85% of new adolescent mothers at post natal clinics accepted a family planning method in 2012, a figure which has stayed relatively constant over the last five years (NFPB, 2012).

Contraceptive methods

Currently in Jamaica, the most widely distributed contraceptive methods are the oral contraceptive pill (OCP), injectable (Depo-Provera), intrauterine device (IUD/IUCD), implant (Norplant) and male condom. The available family planning options vary by parish but the five listed are offered almost universally, with the exception of the IUD, which requires insertion by trained personnel, and the implant, which is rarely requested and therefore not routinely stocked in all parishes. Currently, the injectable is the most popular method nationwide, with the highest number of new acceptors and acceptance steadily increasing since 2007 (NFPB, 2012). The implant is least popular, even with the number of new acceptors slowly rising. Unfortunately there is no recent data for the ECP, the 'morning after' pill as data collection for this method ceased in 2009 (NFPB, 2011).

Table 2 shows a tally of each contraceptive method distributed to health facilities compared to the actual amount of new clients accepting methods. This charting allows health providers to determine not only how many clients in their clinics are actively on a contraceptive method, but also what the trends are in usage of different methods to better estimate critical information about demand.

Other methods such as condoms have, while initially decreasing in popularity from 2007 to 2010 have been slowly increasing again in number. Condoms, which experienced a growth in new acceptors in 2011 followed by a decrease the following year, are often considered less effective than other contraceptive methods However, condoms are now being actively promoted as a primary and secondary method for those who are interested in using dual methods to combat both STIs and pregnancy.

Table 2. Contraceptive Distribution and New FP Acceptors

	2007		2008		2009		2010		2011		2012	
Method	**# Distributed**	**# NA**	**# Distributed**	**# NA**	**# Distributed**	**# NA**	**# Distributed**	**# NA**	**# Distributed**	**# NA**	**# Distributed**	**# NA**
IUD	1,066	625	1,687	774	2,242	861	4,036	1,032	2,930	1,030	2,906	1,022
Condom	1,491,761	9,305	1,973,042	9,181	2,007,117	8,337	1,147,699	7,962	1,404,901	10,854	1,166,218	8,999
OCP	127,567	8,502	132,380	9,330	141,559	9,669	132,024	8,606	100,411	7,523	100,198	7,592
Injectable	162,730	18,021	173,942	20,578	183,341	20,364	205,487	21,692	190,804	21,358	209,251	24,041
ECP	614	297	1,304	479	1,374	-	223	-	100	-	75	-
Implant	296	137	185	154	33	12	74	64	189	160	227	191

Determining usage and supply needs

Though some of these contraceptive methods have fluctuated over time in acceptance, one can determine how well facilities are meeting the needs of their clients by looking at the distribution table. The higher the percentage difference between distributed and accepted, the more likelihood that a clinic is ordering just the right amount of supply for the new demand and to meet the demand of existing or longstanding users. The lower the percentage, the higher the chances are that facilities are over-ordering, thus putting them at risk for expiration of their valuable stock before it is actually requested by a client, and also potentially not making the best of clinic resources. Though the table does not give information about total number of users currently to compare with amount of contraceptive ordered, based on the information in Table 2, one can make the following initial analysis:

- ✓ IUD acceptance steadily increased yearly but stayed constant for the past 2 years; distribution increases to match the need
- ✓ Condom acceptance declined since 2007, increased in 2011 and then subsequently

decrease again in 2012. Distribution is consistently very high, despite level of new acceptance.

- ✓ OCP acceptance took a slight dip after 2010 but has remained constant since then. Distribution has exceeded demand with less than 10% of stock actually being newly accepted.
- ✓ Injectable is the most popular method, with the highest number of new acceptors and acceptance steadily increasing since 2007. Distribution reflects this, consistent at 12% of stock being accepted.
- ✓ It is unclear about ECP as number accepting has not been recorded since 2009 Distribution is decreasing therefore it is unclear if decreased demand is really due to limited access or contraceptive choice.
- ✓ Implant is not very popular; the numbers of new acceptors fluctuates but increased slightly since 2010. Distribution may need to increase, as supply is almost meeting demand.

Some of the methods which are not regularly gaining popularity like the OCP and the IUD reflect a nationwide shift in preference for methods that aren't as time consuming (like the Pill) or invasive (like the IUD). Thus, the injectable is on the rise with new acceptors. There are other methods to determine which methods clients are using and if the provision by the facility is meeting their need, namely the discontinuation rates, or the rate at which a contraceptive user stops using the current method. This could be a discontinuation and preference to switch to a new method, an overall discontinuation of a method without selection of a new one (either as a decision to bear children or otherwise), or a discontinuation due to a stockout of the current method without a proper back-up identified. The major methods where discontinuation is tracked are for condoms, the OCP and the injectable. Since 2007, each method has fluctuated in usage and discontinuation (NFPB, 2012), as seen in Table 4.

Table 4. Discontinuation rates for Condom, OCP and Injectable

	2007	2008	2009	2010	2011	2012
Method	% Discont	% Discont	% Discont	% Discont	% Discont	% Discont
Condom	50%	31%	37%	64%	37%	53%
OCP	51%	50%	49%	43%	62%	53%
Injectable	31%	29%	28%	24%	34%	27%

Unfortunately, discontinuation statistics do not give one a full picture of why clients are opting out of certain methods, or even what they do after discontinuing a method. Some health clinics keep records to identify those clients whose primary method is out of stock and who are offered

a different method to continue, but this is not a standardized form of reporting. Likewise, other clinics report on dual method use, which can identify clients who have a back-up method identified and are using both a primary and back-up method (namely a condom). In 2007, the NFPB engaged in a Dual Methods User survey, noting that dual method protection refers to the simultaneous protection against sexually transmitted infections (STIs) and unintended pregnancy and represents an important public health intervention, especially in the event of stockouts of primary methods (NFPB, 2007). Over the last five years, dual method users stayed at around a quarter of all family planning clinic clients. These results show that more than ever, back-up methods are necessary for preventing pregnancy and STIs and clinics should be adequately prepared to supply clients with multiple methods should they request them, or should they fail to provide a primary method.

4) Contraceptive security and logistics management

The impressive gains in improving family planning throughout the country in the last five years are largely due to improved public education of family planning benefits and methods but are also contingent upon the reliable and available supply of contraceptives in centres serving both small and large populations. A functioning contraceptive logistics system that guarantees every service delivery point always has an adequate supply of the necessary contraceptives and that every family planning client always receives the contraceptives she or he wants is the backbone of a successful country program.

The performance of the logistics system is associated with an increase in contraceptive use and has its strongest impact on contraceptive availability for methods requiring resupply (i.e., pill, condom, IUD, injectable, implant, spermicides, and female condoms). All of these products are currently offered in Jamaica at different levels of facilities. For products to move through the different levels of the logistics system and reach family planning clients, in good condition and within expiration dates the system must have effective processes to select appropriate commodities, forecast needs, obtain adequate financing, complete timely procurement, and deliver them reliably to clients (Karim, 2005). A well-functioning logistics management information system (LMIS), whether paper-based or computerized, is critical to ensuring that the contraceptive supply chain has the stock available to reach those who need it. Ensuring

product availability requires attention to six rights: *the right goods, in the right quantities, in the right condition, delivered to the right place, at the right time, for the right cost* (MEASURE, 2011). The logistics system is often depicted as a cycle with components of:

- Product selection (the right goods)
- Forecasting and procurement (the right quantities and cost)
- Inventory management and distribution (right place, time, and cost)
- Provision to customers (right place, time, and cost).

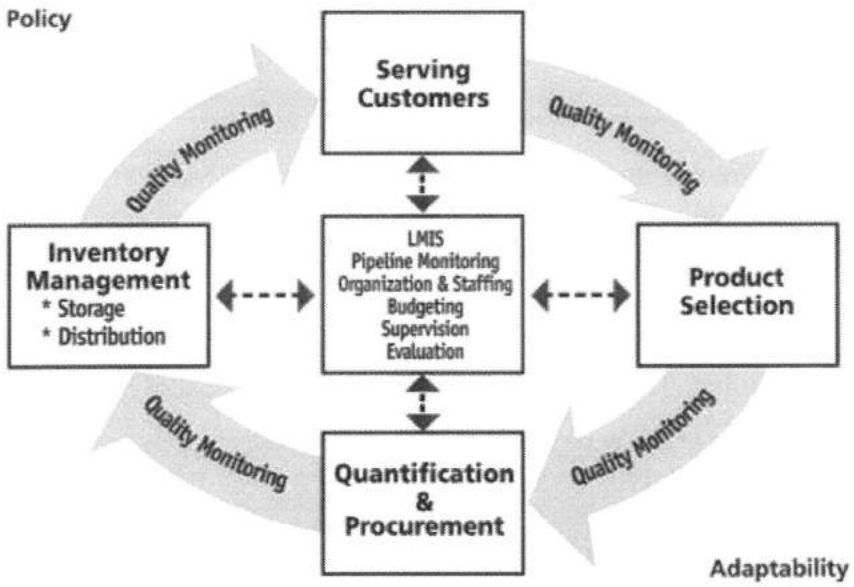
Information for decision-making is central to the cycle, and quality assurance and monitoring take place throughout. Meeting the needs of end users is the ultimate goal of contraceptive logistics systems, and attention to all six rights is essential to that effort.

Logistic Management Information Systems (LMIS)

The LMIS should collect information on client preferences, rates of consumption, stock levels, amounts on order, quantities of stock available at each distribution level, and losses and adjustments. A LMIS that has accurate, timely, and complete data allows managers to facilitate stock movements to ensure product availability, provide accountability to funders and policymakers, help minimize waste, and promote transparency.

The contraceptive logistics cycle focuses on the needs of customers—women and men, and adolescents who want to use family planning. Figure 1 shows how a well-functioning LMIS as part of the contraceptive logistics cycle ensures that the right contraceptive products are selected based on customers' needs; that appropriate quantities of commodities are forecast and on hand through timely procurement; and that adequate resources are available to procure the contraceptives (MEASURE, 2011).

Figure 1. The contraceptives logistics management cycle



The contraceptive logistics cycle also includes inventory management, warehousing, and transportation of commodities to their select service delivery points and most importantly, consistent, regulated quality monitoring throughout the entire system.

LMIS operation in Jamaica

There is no formal documentation regarding the LMIS system in Jamaica or how it works at the facility, parish or regional level. Telephone interviews were conducted between October 3 and October 11 with four public health nurses (one from SERHA, two from SRHA, and one from NERHA), two NFPB staff persons, including two warehouse personnel and one Planning and Evaluation representative at the Ministry of Health. The findings from these informal interviews shed some light on the logistics cycle as each respondent understood it to function in their jurisdiction.

In Jamaica, the LMIS is not standardized or regulated across the four health regions. The initial LMIS system, used up until 2009, included the NFPB as the main contraceptive supplier and distributor for oral contraceptives, condoms, implants, injectables and IUDs. NFPB worked with their warehouse to visit parish clinics, perform physical inventory checks in each facility,

and determine supply needs based on current stock, including how many units were previously issued, how many units were used monthly and how many units were to be received to replenish stock. These checks were performed quarterly using issue vouchers, after which warehouse staff removed the necessary supplies from the warehouse and returned to the field to distribute them to each facility. Staff then reported on the final amounts distributed and aimed to disperse a 5 month supply to each clinic to last them through the next quarter, when checks would be done again. At the next check, supplies would then be 'topped-up" with enough supplies to keep the 3-5 month supply in stock.

Figure 2. Pre- 2010 contraceptive ordering and distribution cycle

The present day LMIS system involves multiple levels with supply, distribution and reporting but still uses the NFPB as the main hub for commodity ordering and disbursement. In late 2009, due to government financial pressures, the regions took over distributing from the warehouse, making individual facilities and clinics responsible for their own monitoring and procurement and placing a monetary ordering system in place. The government issued specific budgets for health and family planning activities for each region and orders were done using budget allocated for each region for each quarter.

Procurement

With the new system, each facility is responsible for tallying their monthly new family planning acceptors, the number of contraceptives and types disbursed and recording on a Monthly Clinic

Summary Report (MCSR). The MCSR for each facility helps clinic staff to identify trends in usage that are necessary to determine ordering of supplies. The MCSR reports are then forwarded to the parish level, where Regional Public Health Nurses in charge of procurement identify appropriate order quantities of methods for each facility in their jurisdiction based on the reported usage trends. This report is submitted to the Parish Health Department in the region, who compiles the reports and makes procurement orders with the NFPB.

It is important to note that parishes may differ in the regularity in reporting, procurement and distribution; there can be considerable differences depending on staffing, facility type or population served. For example, while every parish clinic is responsible for submitting a MCSR every month, many clinics also make direct, informal order requests from their facility to the health department or to other facilities in the parish (who they may borrow supplies from) on an as-needed basis. Therefore, there is not a standard time frame in which ordering takes place or a set protocol of how orders are fulfilled at the clinic level.

Example 1. Region specific adjustments in procurement
In the South Eastern Regional Health Authority (SERHA), facilities send the MCSR to the Health Department, where it is separated into two separate reports: Family Planning and Antenatal Care. The Family Planning report contains disaggregated data from the MCSRs on contraceptive disbursement at each clinic, which informs the regional nursing supervisor or senior public health nurse about usage patterns. The appointed nurse then determines how many of each method to order for each clinic in the region. This order then goes to Accounts personnel, who prepare the check for the region and the invoice to order the necessary supplies and then contacts NFPB with the invoice and the check to complete the order.

Condoms- In many regions, procurement and distribution specifically for condoms is done via a separate estimation of usage need rather than the MCSR. Often, a condom distribution log book is kept at the facility to record condom distribution and dates of new stock arrivals. This log book is then tallied with the information being sent along with the monthly MCSRs. Additionally, condoms can be ordered directly through the HIV Programme, rather than the NFPB Warehouse. The HIV Programme uses a different funding stream than the NFPB, so in

the case of financial or other difficulties in placing condom orders with the region, facilities can utilize another channel. Condoms are also often received as donated items or are borrowed from neighboring facilities.

Example 2. Region specific condom ordering
In the Southern Regional Health Authority (SRHA) a condom distribution log sheet is completed at the Regional & Parish Health Department (including name of supplier, total received from suppliers, opening balance, total distributed per month, number remaining, name and title of staff issuing the condoms, and number received). At the Health District level, orders are made from the Health Department and then distributed to the various health centres. At the health centres, they are stored either in a store room, the midwives or the Public Health Nurses Office. Some supplies are stored in the Contact Investigators or the HIV workers offices.

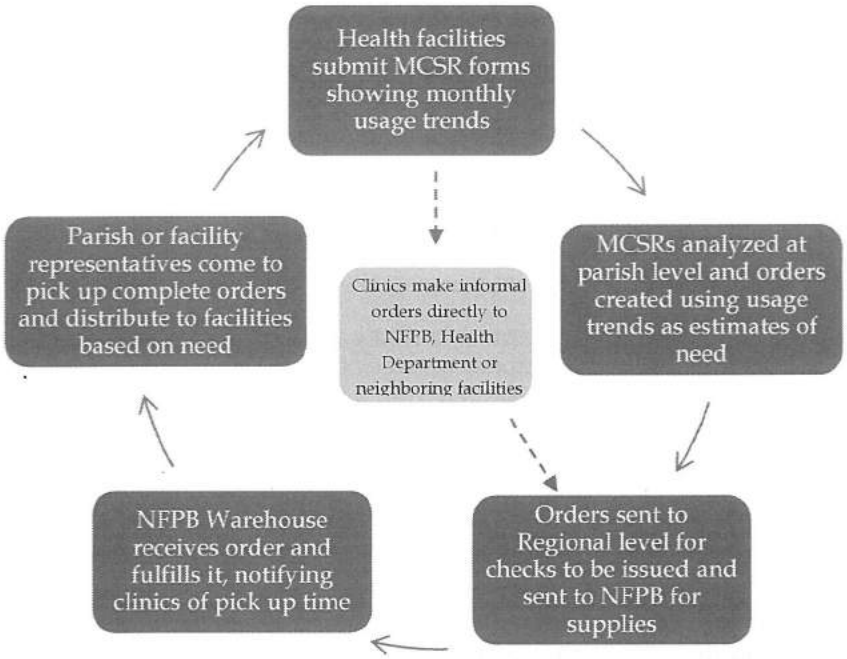
Distribution

After NFPB and the NFPB warehouse receive the order from the regional bodies, the process (depending on transportation and availability of staff to pick up order request) can take as little as one day. The warehouse fills the order and notifies the region when the supplies will be available for pickup, and the parishes usually send staff to retrieve the orders in Kingston. Once the supplies are received back in the region, they are dispensed to each clinic based on the clinic's usage and perceived need (as outlined in the MCSR).

Example 3. Region specific adjustments in distribution
In the Northeast Regional Health Authority (NERHA), supplies distributed to the health department or Parish are dispersed to facilities mostly through health districts (clusters of different types of health centres within an area), where they are kept at the largest Type 3 facility (Type 5 clinics, which are the largest type nationwide, are not found in this region). From here they are further dispersed to other Type 2 and 3 facilities based on the number of booked appointments at each family planning clinic which helps to estimate monthly supply needs. Nurses also determine need based upon other specifics, for instance, that usage patterns increase during the latter part of the year, notably September to December, and coincide with higher birthing trends. Women who deliver at this time are offered a method at the 6 week postnatal check up, therefore there are more

family planning acceptors being referred from post natal clinics at this time and more of the most popular methods for new mothers must be kept in stock at clinics providing these services.

Figure 3. Contraceptive ordering and distribution cycle



While there is a need for flexibility and personalization for each region based on their unique needs it is critical to understand that a lack of a standardized protocol for both procurement and distribution across all regions is a concern.

Strengths in the current system

Order fulfillment- All parish nurses interviewed stated that when there is no regional backlog, stockout or financial concern for the quarter, after they place their order, they received their need stock sometimes within 24 hours and had no difficulty retrieving the stock to be distributed. This short turnaround time is ideal especially for clients, who won't have to wait unnecessarily long for a method to be restocked.

Condom ordering options- Since the family planning and HIV programmes have become more integrated, it can be helpful when procuring methods such as condoms. HIV prevention barrier methods are bought more frequently with different funds and distributed more widely in the regions via outreach officers than just in clinics. This eases the pressure on clinics to provide everything and lifts the condom ordering burden slightly at the facility level.

Weaknesses in the current system

Payments and bottle necks-. It has been widely stated at the parish and regional level that the funds allocated by the government to cover contraceptive costs for each region are not adequate to cover individual clinic supply needs. At the parish level, often one person decides how to distribute to all the health facilities based on their MCSRs, but facilities are not guaranteed to receive all the supplies needing to be re-stocked every time. Indeed, in 2010, it was noted that there was a concern with the supply of contraceptive commodities requested by the Health Departments being inadequate to meet the demand from clients coming in at the clinic level (NFPB, 2010). Across the board, public health nurses report the major concern with the current system is that of the regional level payments getting backed up to the point where it is nearly impossible to receive supplies on time. This is not an issue of not ordering correctly or in enough time, but rather the wait after submitting an order and hoping the costs will be accepted by the region to place an order.

Additionally, miscommunications between NFPB and regional representatives can cause facilities to mistakenly believe that the regions can *only* purchase what they have enough money for and this can leave many facilities with open, empty hands. In reality, the NFPB cannot turn away an order request from any region due to lack of funds. This misunderstanding may lead some parishes to resist submitting orders or under-order some very much needed supplies in hopes of receiving the minimum of each type of method needed without having to pay out of pocket for additional supplies. It can also result in regional orders becoming delayed as they await for checks to be cleared.

Stockouts- Before 2010, the warehouse and NFPB representatives tried to encourage clinics to keep a three month supply of all methods, but now individual facilities are responsible for

staying on top of their current inventory, how much is ordered, received and distributed, and all clinics do not keep the same information recorded in the same manner; some do not even keep this information at all on-site. The stock balance is often not kept within each facility, but at the health department with the person who does the procurement. While individual facilities can determine how much re-supply they need, they are often not able to correctly calculate the forecasted need for the month, or even the next three months, based on what they have in the facility. Stockouts are a very real problem that stem from the demand for a method exceeding the amount of method kept in supply. When this occurs, clients must a) wait and go without a method, or b) health facility staff may make have to make some adjustments so that there is an uninterrupted flow of contraception for each client. In the case of waiting, if there is an urgent need to re-stock a certain method, clinics must wait until payment has been cleared through the region and respective channels before an order can even be placed and picked up successfully. Patients can end up at a loss because either they do not have a method to use or they must receive their prescription from the doctor and pay out of pocket to fill the prescription or purchase a method at an outside private pharmacy.

While under normal circumstances, an order can be placed and picked up on the same day, in the case of a payment miscommunication or in an excessive demand (as happens with the injectable Depo-Provera, the most requested and most popular method), the client must wait for distribution to be completed at all other parish clinics before receiving their supply, as determined by the person who calculates their usage needs. This has been noted to take up to several weeks to even months in the worst cases. In the case of adjustments made by the facilities, patients may physically have to bear the burden for logistic system backlogs or bureaucracy. For example, in SRHA nurses report that patients who are currently on Depo-Provera must switch to OCP for the remainder of the cycle when the Depo-Provera is on back order, and then back to Depo-Provera when the supply comes in. This is obviously not ideal for the patient and her body, but it at least provides her with contraceptive coverage in the interim period until she can continue with her primary method of choice.

Additionally, if there is not a back-up for an unavailable method, it may raise the risk of increasing discontinuation rates for certain methods that are continuously difficult to keep in-house and on hand.

In some regions, in the case of a stock-out, parishes have ordered either through their Parish Accountant or Procurement Officer to get around the bottle neck at the regional level. Additionally, some supplies can be procured through the NFPB in the form of gifts at the regional level and distributed to the parishes but this is not widely taken advantage of by many parishes that are unfamiliar with the process.

Distribution data- At the NFPB level, logistical management information system (LMIS) tables exist to accurately identify the amount of distribution of each method from the warehouse. The LMIS data includes the number of units dispensed per region, and the amounts reported being received and accepted at the facility level. The MCSR records the same information as the LMIS tables, but they consist of data recorded within each facility (field level), rather than the warehouse, and include all data reported at the regional level to the Ministry of Health. Ideally, if the system is working harmoniously, the numbers reported will be similar, if not exactly the same. Within Health Departments and at the clinic level there have been noted problems in 2012, 2011, 2009 and 2007 with MCSR data from the Ministry of Health consistently showing discrepancies with LMIS data from the NFPB. This does pose some cause for concern as to the true quantity of methods being distributed among clinics and the amount that is kept at the facility level prior to re-ordering. This discrepancy is due to several factors such as proper peripheral inventories not being kept, client procurement of contraceptive methods in the case of a stock-out or funding issues for various methods (NFPB Annual report 2010). For example, in the case of stockouts, where clients must procure their own contraceptives (i.e Depo-Provera) when they return to have the contraceptive administered, it is still registered and recorded as an injectable use even if the contraceptive did not come from the clinic stock. This can result in a discrepancy in the data as well.

There is also some disagreement about how dual methods users should be noted in the MCSR; namely if each method should count as one on the tally sheets or if there is to be a separate

section solely for dual methods users. This should be a mandate at the national level to create a consensus to standardize reporting, as often times a method can be counted twice because it is listed under separate categories, causing an oversight in the actual of numbers distributed or accepted in the monthly data reports.

Personnel and human error- It is also a concern that staff may rotate frequently, and new staff may not be adequately trained on the urgency and importance of accurate and timely distribution data. Often, it has been noted that unit counts and usage data are entered incorrectly and that protocol is not always followed within each facility in terms of filling out log books, order books, and patient data. Additionally, many facilities side-step a few levels of bureaucracy and merely make orders informally in phone conversations, emails or passing exchanges from one staff member to another, from neighboring clinics or private suppliers; while a regular occurrence, such orders are rarely tracked or monitored. This can make it very difficult to accurately determine usage trends and keep stock books balanced.

5) Proposed Recommendations

After initial analysis of the system as it currently operates in Jamaica, there are several areas that beg intervention.

- **Standardized reporting**- Having a directive at the national level to create a consensus to standardize reporting is a necessity in any functioning LMIS system. Reporting forms such as the MCSR can only give an accurate picture of clinic level needs if books at that level are accurately kept. Many clinics have multiple books (Log book, stock book, Visitors log, condom log, etc) in which they keep information tracked, however this is not done uniformly and is subject to human error, as the information is entirely handwritten. Furthermore, having multiple books to record similar information is time consuming for health facility staff who in most cases are already balancing an overcrowded family planning clinic. Creating a standardized reporting system will ensure that each facility is recording the exact same information, the exact same way and this information is being transmitted to higher authorities in the same manner. Only in this way can each clinic get a monthly snapshot of exactly what their needs and patterns are and prevent discrepancies in data collection.

- **Standardized ordering-** Like reporting, creating a directive to standardize ordering is essential. Prior to 2010, the orders were completed by NFPB and individual facilities simply relied on this outside body to make the necessary stock decisions. Now that individual facilities bear this responsibility, it is often done in a one-off manner where individual staff persons may informally request supplies (in a phone, email or hallway conversation, etc) without monitoring or tracking that such an order was made. This kind of informal ordering can create drastic imbalances in stock and add a layer of complication for clinics who do not keep regular weekly stock inventory; their actual stock may very much differ than that that is reported or ordered and they are at risk for miscalculating usage and needs.
- **Staff training-** It is unclear if, when the 2010 'top-up' system changed into the one we know today, if every health facility worker was properly trained and informed on how the new system would run and what role they would play in the new system. It is known that staff trainings are held periodically on how to fill out forms like the MCRS, especially for new staff, but it is critical that each health worker understands the different levels in the logistics system and the importance of keeping activities consistent within that system.
- **Documentation of all protocol and procedures.** Each person interviewed for this review stated that they never had seen anything in writing that explained how the LMIS system worked. Even at the NFPB, there was never any centralized document outlining the protocol that must be followed in the logistics cycle of getting commodities to the clinics. At the facility level, there is no documentation stating how books should be completed, stock should be counted, what to do in the case of a stockout of miscalculation in an order. Health workers are verbally informed as to who to speak to when they needed to make or inquire about an orders, and who they should send reports to. Having written documentation of all protocol provides staff at all levels with a reference point and prevents misinterpretations of commands. In the case of communication breakdown at any of the multiple levels defined earlier, it is important for each level to understand how the system works and what the chain of command is.
- **Better communication from NFPB to both regions and parish health facility representatives.** It is a raised concern that there may be some protocols within the NFPB

level that have not reached the facility level. In the case where a protocol is actually developed, a press release should be created (see above) or a written documentation of any changes in the system, when they will be enacted, and how they will affect every health provider level. Tension can easily mount in a setting where SDPs feel ignored by higher levels of authority, especially when decisions are being made that affect their facility and clients, but are not explicitly explained to them (in writing). For example, if clinics feel they cannot order supplies because of cost, while the NFPB is very much aware that they indeed can, this points to a miscommunication that will ultimately affect the ability of each facility to serve the needs of their clients. Better communication will enable the NFPB to have the best idea of what is going on at the facility level, including strengths and weaknesses in the contraceptive logistic system.

6) Conclusion

Currently, a standardized framework for inventory management, including a logistics management information system (LMIS) specifically for contraceptives is not available in Jamaica. Thus, on a facility by facility basis, staff must order, monitor, manage and distribute supplies without consistent or uniformed oversight in best practices in inventory management. To ensure that women and couples are able to choose, obtain, and use the contraceptive method that they want—the goal of contraceptive security efforts—policymakers and program managers must focus on having a well-functioning contraceptive logistics cycle (Gribble & Clifton, 2010). This includes the standardization of written documentation for procurement and distribution protocol.

To be successful in reducing fertility rates and increasing contraceptive prevalence rates, it is a certain priority to address any weaknesses in the contraceptive system that could hinder effective supply management and distribution. Contraceptive availability and accessibility directly influences the ability to achieve each of the objectives in the 2011-2015 Strategic Framework and affects the lives of the hundreds of thousands of clients who are reliant upon dependable family planning services each day.

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Qualitative interviews with Nadine Griffiths-Johnson (Regional Nurse Supervisor, SRHA), Marcella Tomlinson (Senior Public Health Nurse, SRHA), Norda Spencer (Regional Nursing Supervisor, NERHA), Charmaine Shettlewood (Public Health Nurse, SERHA), Denise Bryan (Health Record Administrator, Planning and Evaluation, Ministry of Health), Andy Lindo, (NFPB Warehouse Administrator), and Samantha Smith (NFPB Warehouse Manager)