Nigeria

Baseline Assessment of the Contraceptive Logistics System

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DELIVER

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Abstract

The Nigerian Federal Ministry of Health (FMOH) is attempting to revitalize its contraceptive logistics system to improve product availability to clients and move toward reproductive health commodity security. As an initial step, a baseline logistics system assessment was conducted in June 2002 to identify strengths and weaknesses of the system. Consequently, two data collection instruments, the Logistics System Assessment Tool (LSAT) and the Logistics Indicators Assessment Tool (LIAT), were used to gather qualitative and quantitative information.

A number of strengths, including the existence of a workable logistics system design and well-trained staff, especially at the central level, were identified. However, many important weaknesses were also found, including information and communication issues (especially at lower levels of the system), lack of funds and vehicles for supervision and delivery of supplies, and lack of trained people at lower levels of the system. In general, the system was not being implemented as designed. As a result, stockouts of many products were widespread at all levels of the system, particularly at service delivery points where they are most needed.

Over the past several years, the reproductive health logistics system in Nigeria has deteriorated to the point where many sites assume that chronic product shortages will continue indefinitely. Under such conditions, reproductive health will suffer if clients cannot obtain needed products.



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Acronyms

CDC	Centers for Disease Control and Prevention
CLMS	contraceptive logistics management system
COC	combined oral contraceptive
DCDPA	Department of Community Development and Population Activities
DFID	British Department for International Development
DHS	Demographic and Health Survey
ECP	emergency contraceptive pill
FMOH	Federal Ministry of Health
FP	family planning
FP/RH	family planning/reproductive health
FPLM	Family Planning Logistics Management (project)
FPMIS	Family Planning Management Information System
HIV/AIDS	human immunodefiency virus/acquired immune deficiency syndrome
IUD	intrauterine device
LGA	local government area
LIAT	Logistics Indicators Assessment Tool
LMIS	logistics management information system
LSAT	Logistics System Assessment Tool
MCH	maternal and child health
NAFDAC	National Food and Drug Administration Control
NASCAP	National AIDS/STD Control Program
NDHS	Nigeria Demographic and Health Survey
NGO	nongovernmental organization
NISER	Nigerian Institute of Social and Economic Research
NPHCDA	National Primary Health Care Development Agency
PMS	patent medical store
PPFN	Planned Parenthood Federation of Nigeria
PSI	Population Services International
RH	reproductive health
RHCS	reproductive health commodity security
SDP	service delivery point
SFH	Society for Family Health/Population Services International
SMOH	State Ministry of Health
SPARHCS	Strategic Pathway for Reproductive Health Commodity Security
SPSS	Statistical Package for the Social Sciences
STI	sexually transmitted infections
ТВ	tuberculosis
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development

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Executive Summary

Attaining reproductive health commodity security—the guarantee that all people have continuous access to the quality products they need for family planning and reproductive health—is a growing challenge for developing nations. Countries not only need to secure financing for the expected increases in the cost of supplies for rapidly growing populations, but must also maximize available resources by becoming more efficient at forecasting needs, conducting timely procurement, and delivering goods to consumers.

To build capacity for future contraceptive security in Nigeria, the Federal Ministry of Health has developed a Joint Action Plan for coordinating logistics and related activities among all national and international partners. In additon, Nigeria has recently launched the Strategic Pathway for Reproductive Health Commodity Security (SPARCHS), a country-driven, coordinated approach to reproductive health commodity security (RHCS) though improved policy, logistics, finance, human and organizational capacity, demand creation, and service delivery. The goal of both initiatives is to increase availability, quality, and utilization of family planning/reproductive health (FP/RH) services throughout the country.

The baseline logistics assessment conducted by DELIVER in June–July 2002 supports these initiatives by providing a comprehensive analysis of the Nigerian public sector family planning commodity logistics system. Two data collection tools were used to conduct the assessment: the qualitative Logistics System Assessment Tool (LSAT) and the facility-based survey, Logistics Indicators Assessment Tool (LIAT). The LSAT exercise helped participants understand the characteristics of the Federal Ministry of Health (FMOH) contraceptive logistics system, and results from the exercise are presented mainly in terms of strengths and weaknesses of the system. The LIAT, on the other hand, provided quantitative information on key logistics system performance indicators.

The LIAT was conducted in 25 warehouse facilities, 123 service delivery points (SDPs), and 142 private pharmacies/patent medical stores in seven states. The states were purposefully selected to include all six geopolitical zones and a variety of cultural and socioeconomic conditions, as well as different levels of donor assistance.

Selected products included all contraceptives supplied through the FMOH system (including those that enter the supply chain via the social marketing program, which is managed by the Society for Family Health), four STI drugs, and six tuberculosis drugs.

This report presents the results from the assessment. The findings should encourage stakeholders' efforts to improve logistics performance and to develop a system that meets the needs of clients seeking FP/RH products from the public sector. These results should also be the baseline against which future progress is measured. In particular, the assessment was designed to serve as the logistics baseline for the VISION project and to contribute to the SPARHCS process.

Summary of Findings and Recommendations

Nigeria's public sector contraceptive supply chain has a solid foundation of structure, human resources, and tools upon which to build and improve. The main logistics strengths identified in the assessment include—

- Existence of trained personnel, especially at higher levels.
- Guidelines for logistics practices and responsibilities at all levels.
- Existence of stockkeeping tally sheets and LMIS forms.
- Established max/min levels that are printed on the LMIS forms.
- Adequate storage practices at most sites.
- Top-level FMOH commitment to improving the system.
- Increasing donor commitment and coordination.

To the extent possible, future design exercises and interventions should build on these existing strengths. Unfortunately, the system was not being fully implemented as designed, and product availability to clients has suffered. Findings and recommendations (in italics) are summarized below. (See section 5 for more detail.)

Product Availability and Accessibility

1. Most contraceptive brands were unavailable at public sector SDPs. Of the 123 SDPs that provided FP services, no method was available in more than 50 percent of the SDPs, and only Depo-Provera[®] was available in more than one-third of the sites visited. Besides Depo-Provera, the most available method was Gold Circle condoms. Exluton (a progestin-only oral contraceptive for lactating mothers) and no-logo condoms were unavailable. Postinor II emergency contraceptive pills and IUDs were in two-thirds of the facilities that manage these products. In general, warehouses were more likely than SDPs to have contraceptives available, despite the perception that most products are in short supply. Therefore, warehouses distribute them as soon as they arrive. The central and state warehouses were more likely to have products than the zones.

To meet the full range of client needs, Exluton and Postinor II fill important niches in the overall method mix, and efforts should be made to make them or equivalent products more available.

The results illustrate DELIVER's slogan, "No Product, No Program," so Nigeria should make improving product availability the cornerstone of a viable FP/RH program.

2. *The private sector does not always fill the gap if public sector sites are stocked out.* Private sites were more likely to have pills and condoms available, while public sites were more likely to have injectables and IUDs. Yet, availability was not notably better in the private sector, except for two brands: Gold Circle condoms (80 percent of private sites and 33 percent of public sites) and Duofem (46 percent of private sites and 22 percent of public sites).

The FMOH should ensure that all methods are made available in public SDPs, and focus on areas and clients with limited means to pay for private sector services.

3. *Contraceptive availability was lower in areas with the high unmet family planning need—the northwest and North-East regions.* There may be many reasons, for this: difficulties in delivering

products to more remote areas, a perception that family planning is less in demand, provider bias against family planning, lack of trained personnel, lack of supervision, etc.

The FMOH, should make a special effort to reach these areas, especially where it is more difficult for the private sector to provide contraceptives (e.g., rural areas).

4. *Public sector prices for clients were not always cheaper*. Three of the most popular methods were cheaper to buy in private outlets than in public SDPs.

The wide range of prices for contraceptives in SDPs—with prices highest in the poorest areas indicates a need to reassess the pricing strategies to ensure that products are affordable for everyone.

5. *Clinical methods often reached clients through inefficient channels.* Consumption data revealed that clients often bought contraceptives from the private sector and took them to a public SDP for application (i.e., a client may bring in Depo-Provera, Noristerat, or an IUD to be administered at a public SDP). In other cases, the service providers purchased products for their clients from the open market.

Public sector sites are better equipped than pharmacies to provide clinical methods such as injectables and IUDs, so within the broader context of a market segmentation strategy, the FMOH should focus on clinical methods, where it has a comparative advantage.

Logistics System Performance

1. *The LMIS system, though well designed, only functioned in a small number of sites.* Few SDPs kept stock records (24 percent), and only 22 percent of SDPs reported submitting LMIS reports for the most recent reporting period. Printed forms were often unavailable and not all personnel were trained to use them. Without good data on stock status, consumption, and losses/ adjustments it was difficult to forecast and procure the right products or to make sound decisions on product distribution.

As such, the FMOH and partners should make a working LMIS system one of the first tasks they undertake.

- 2. *Limited LMIS data on consumption weakens forecasting and procurement.* Without accurate consumption data passed up through the system, it is difficult to make accurate forecasts. Likewise, without meaningful forecasts, it is unlikely that the right amount of goods would be ordered, so procurement was also affected.
- 3. *Expiration was not a major problem, at least at the time of the assessment.* Following government action after the DELIVER assessment in February 2001, large quantities of expired contraceptives no longer existed at most warehouses and service delivery points. However, other problems such as transport, forecasting, procurement, and distribution decisions not based on data and the lack of a redistribution policy could cause the problem to reoccur.
- 4. *Most sites maintained satisfactory storage conditions but improvements are still needed.* General storeroom conditions, failure to practice FEFO, and lack of space were the most common weaknesses. Only 1 percent of all facilities met all 18 recommended storage conditions.

These problem areas should be addressed to prevent future wastage of commodities.

5. *The lack of vehicles to distribute and/or pick up commodities was a major obstacle at all levels of the system.* Few staff understood the way the system *should* work, especially whether products should be picked up by lower levels or delivered from higher levels. Lack of transportation also hinderd effective supervision and monitoring.

Cost-efficient transportation options should be explored and guidelines disseminated to all levels. The FMOH should decide whether it wants to manage a transport fleet or outsource and, if the former, at what level to keep the vehicles.

6. *Personnel issues need to be addressed, including, but not limited to, training.* The existence of trained logistics staff at the central and zonal levels is a key strength. On the other hand, many staff had not received training in many years (especially at lower levels). Furthermore, many staff had not been paid regular salaries, sometimes for several months. This can have many adverse affects, including low morale, lack of interest in filling out stockcards and LMIS forms, lack of motivation for serving clients, and attrition. At a number of sites visited, staff were on strike because they had not been paid.

Factors That Influence Logistics System Performance

The issues described above are interrelated in complex ways, and determining how they interact to influence logistics performance (and, subsequently, product availability) is challenging. Among the inputs to logistics systems, three main categories stand out as essential inputs to any system: money, people, and policies. Certainly, in the case of Nigeria, these are areas that deserve priority attention, and improvements in these areas will improve technical assistance in logistics.

1. *Lack of finances.* This was cited as an obstacle to many aspects of logistics management, including training of staff, payment of salaries, printing and distribution of forms, supervision, monitoring, transport and distribution, and contraceptive procurement.

The solution includes not only increased donor support but also effective advocacy for increased budget allocations within the FMOH (and/or Ministry of Finance). A strong case should be made for the need for funds and the impact funding would have. A consistently applied strategy for cost recovery could also relieve the strain on government and donor budgets, but prices need to be appropriate and the policy needs to be consistently applied.

2. *Role of the private and NGO sectors.* Nigeria is fortunate to have a strong private sector that serves more than half of all users of modern contraceptives.

A strategy of market segmentation with the private and NGO sectors could help the FMOH focus services on those clients most in need, relieve some of the burden on its constrained budget, and use their limited resources in a more cost effective way.

3. *Attrition of trained personnel since the mid-1990s.* This has led to fewer sites with adequate record keeping, fewer sites sending accurate LMIS reports and, ultimately, fewer sites receiving the right quantity of RH products and able to provide effective RH services.

Training should be undertaken where appropriate, but it will not solve all the logistics problems discussed in this report; it is only one of many issues and needs to be coordinated with other interventions.

4. Communication issues. At the central level, the CLMS structure and relationships between the multiple partners are complex, posing challenges to logistics management. In particular, while the DCDPA was found to be managing most of the supply chain, the NPHCDA managed the zonal warehouses. This created inefficient communication flow that has hampered the flow of products from central level to the states. Decentralization down to the LGA level presents additional coordination and communications challenges.

The DCDPA needs to work closely with the NPCDHA, using the agency as a link to the lowest levels.

Additional Recommendations

- *Build on existing strengths.* If possible, new interventions should build on existing strengths. However, given the tremendous opportunity for high-impact improvements, the FMOH should undertake whatever course is most appropriate for long term RHCS, even if it requires substantial changes in the existing system.
- Consider a root cause analysis and prioritization exercise before or as part of the logistics design workshop. A logistics design workshop is an excellent next step for improving systems, but an analysis of the main causes of existing system weaknesses could determine what to focus on and in what order. With a root cause analysis, to help the FMOH focus on what is most important, an exercise could be added to prioritize problems: urgency, cost, and feasibility. If possible, both exercises should occur before or as part of the logistics system redesign workshop.
- *Re-establish a strategy for systematic supervision and monitoring*. This was frequently mentioned as an activity that had *broken down* in recent years, especially at lower levels. Supervision and monitoring are key to service quality and effective logistics practices, such as record keeping and reporting. To ensure a workable strategy, resources should be sought or allocated.
- *Fix "easy" problems first, and fix related problems together.* Before investing significant resources in challenging logistics problems, correct small but important problems. A good example is the logistics management information system (LMIS). While staff may need training, the LMIS reporting may not improve if other simpler tasks, such as printing and disseminating forms, aren't corrected first. Of course, it is true that making forms more available without training staff to use them is also ineffectual. Relations between problems need to be clearly understood, and related issues need to be addressed together.
- Use data to support the planning of activities and to advocate for resources. Data from the SPARHCS assessment and other studies provide useful information on areas for improvement, and should be reviewed before the upcoming design workshop. Data can also be effectively used for resource mobilization. Donors and other decision makers are more likely to allocate funds if data clearly defines the scope of problems and shows how the problem would improve with the effective use of additional resources.
- *Coordinate logistics interventions with service delivery activities.* Facilities in some states reportedly discontinued FP services due to community resistance. Addressing this requires a coordinated effort to build community awareness on FP during or before logistics interventions are implemented. Other factors, such as non-payment of salaries and lack of clinical and office equipment, are also obstacles to quality services. While not strictly logistics issues, they have an

impact on logistics and, to make all interventions more effective, they should be addressed together.

- *Review procedures and guidelines for redistribution of overstocked supplies.* When reviewing procedures for the inventory control system, the FMOH should consider guidelines on redistribution of overstocked supplies at the SDP level rather than the existing policy of redistribution at the state level.
- Use alternative data sources to make logistics decisions at the central level. Until consumption data is collected through the LMIS, the FMOH could attempt to obtain service utilization data from the NHMIS, if available.
- *Reinforce communication and information exchange at the central and lower levels.* DCDPA works with various departments at the central, zonal, state, and local levels to ensure contraceptive availability. The department should strengthen communication with the NPHCDA office that administers the zonal warehouses and with logistics officers and technical staff working with state health officers. Communication and information systems should be revised so both parties can benefit from the information sent up the system. DCDPA needs to work closely with the Department of Finance and Supplies and other funding agencies to mobilize resources for facilitating distribution and for funding activities, such as training, supervision, and monitoring.
- *DCDPA and NPHCDA should agree on a coordinated information system.* Both agencies use information systems with substantial overlap, which may discourage service providers from filling them out them regularly. Stakeholders from DCDPA, NPHCDA, USAID, UNFPA, and VISION felt there should be a single unified system with as little duplication as possible.
- *Monitor progress at regular intervals and consider expanded logistics support if improvement is evident.* If the LMIS system becomes operational, it could be used for ongoing monitoring of product availability. If improvements are seen in areas with donor support, it would argue for increased support in the near term to improve the ability of the FP/RH program to meet clients needs. Such support could be linked to SPARCHS efforts to ensure that Nigeria would be able to obtain funds to maintain the logistics interventions in the future.

These recommendations are ambitious, but they are realistic if the FMOH and other stakeholders continue their high level of commitment to RH commodity logistics The findings and recommendations from this assessment can help Nigeria move rapidly and successfully down the pathway to RH commodity security.

1. Background

Nigeria, the most populous country in Africa, has a population of 129.9 million (PRB 2002). Contraceptive prevalence is low, relative to other countries in sub-Saharan Africa, with 9 percent of married women and 14 percent of men reporting using modern methods. There is a wide variation in modern contraceptive use by region, with the lowest 2 percent in the North-West region and the highest in the South-West at 16 percent (National Population Council 2000).

Family planning users obtain their methods from private and government sources in almost equal numbers. Overall, 43 percent of users reported getting supplies from the public sector, 43 percent from the private (medical) sector, and 8 percent from other private sources, including shops, friends, relatives, etc. Most users of intrauterine device (IUDs) (74 percent) and injectables (69 percent) get supplies from the public sector, while most users of condoms (63 percent) and pills (52 percent) get supplies from private sources. Those four methods account for 97 percent of modern contraceptive use (NPC 2000).

Nigeria's 1988 policy on Population for Development, Unity, Progress and Self-Reliance emphasized the importance of reproductive health as a priority in the country's efforts to achieve a sustainable balance between population growth and available resources. In 2001, the Federal Ministry of Health of Nigeria developed a National Reproductive Health Policy and Strategy as a commitment to implementing quality family planning programs and as part of an integrated reproductive health approach consistent with the goals of the 1994 Cairo International Conference on Population and Development. This policy guides the current implementation of family planning/reproductive health (FP/RH) programs in Nigeria.

The Federal Ministry of Health (FMOH) and other key stakeholders fully recognize the importance of effective logistics systems to successful FP/RH programs. Consequently, increased emphasis has been placed on building national capacity to ensure future reproductive health commodity security, including improved forecasting, procurement, and delivery of essential products to service delivery sites where clients need them. Recent efforts by the FMOH to move forward in these areas include the development of a Joint Action Plan and the initiation of the Strategic Pathway to Reproductive Health Commodity Security (SPARHCS). The Joint Action Plan was developed during the planning meeting held in October 2001. This document lays the groundwork for all stakeholders to coordinate efforts in working towards reproductive health comodity security (RHCS). The second initiative, SPARHCS, is a country-driven strategic process for countries to work toward RHCS by focusing on a coordinated approach to improving policy, logistics, finance, human and organizational capacity, demand creation, and service delivery.

A key international stakeholder, the U.S. Agency for International Development (USAID) supports FP/RH activities as part of their Mission Strategic Objective 1: "To increase voluntary use of family planning, maternal and child health, child survival/sexually transmitted disease/HIV services and preventive measures with a supportive policy environment." As part of these activities, USAID requested DELIVER and the Centers for Disease Control and Prevention (CDC) to conduct an initial assessment of the contraceptive commodity supply and the logistics management systems at the central level. The assessment, conducted in February/March 2001, identified important weaknesses, including—

• Frequent stockouts of all contraceptives, especially at service delivery point (SDPs).

- Warehouses crowded with expired contraceptives.
- Inefficient ditribution of small quantities of contraceptives due to low demand and usage.
- Lack of transportation for supervision and other activities.
- Lack of trained personnel and equipment for IUD insertion.
- Wide ranging contraceptive prices, often highest in the poorest areas.

The assessment also identified strengths:

- Some personnel at the central and state level had been trained in logistics before 1994 (many by Family Planning Logistics Management, the precursor project to DELIVER). Some staff at the lower levels also made efforts to maintain recording and reporting even though printed there were no forms.
- Security was very good at warehouses, and adequate storage conditions were maintained in many places.
- Some service providers had also found ways to overcome contraceptive shortages by using locally generated funds to buy products on the open market when they were unavailable through the government system.
- On their own initiative, some service providers were motivated enough to find transport to deliver LMIS forms and obtain contraceptives.

Based on these findings, DELIVER recommended a number of potential short- and long-term interventions. The overall conclusion was that the design of the logistics system needed to be reassessed and revised, as required, and that the nationwide logistics management information system (LMIS) needed to be reimplemented through a broad training program. The assessment also highlighted the issue of decentralization in Nigeria and its effect on the logistics system and the potential threat to contraceptive security.

Further discussions with USAID and national counterparts led DELIVER to develop a four-year plan of technical assistance activities to improve the performance of the logistics systems and to improve local personnel capacity in logistics management. The planned objectives and activities are intended to support the Joint Action Plan and the SPARHCS initiative.

2. Statement of Work

The baseline logistics system assessment supplemented the initial DELIVER assessment, and provided a more comprehensive picture of the contraceptive supply chain at all levels of the system. The assessment also looked at the availability of select drugs for treatment of sexually transmitted infections and tuberculosis.

The specific objectives of the assessment were to-

- Assess the system performance of the public sector supply chain for contraceptives, select sexually transmitted infection (STI) drugs, and tuberculosis (TB) drugs.
- Assess the availability of contraceptives in public and private service delivery points.

The information is intended to provide program planners with information to design/redesign interventions to improve the functioning of the overall system to ensure that every person is able to choose, obtain, and use quality contraceptives whenever he or she needs them. The data serves as a baseline for the logistics components of the VISION project and satisfies the data requirements of the logistics management component of the SPARHCS. Other stakeholders, such as UNFPA and DFID, may also be interested in additional analysis of the data from states where they have provided or will provide technical assistance in logistics. The data serve as a baseline for DELIVER and other stakeholders against which future assessments can measure progress.

3. Assessment Methodology

3.1. Data Collection

Two data collection instruments were used for the assessment:

- 1. The Logistics System Assessment Tool (LSAT) was used to gather qualitative information from key stakeholders, primarily at the central level.
- 2. The Logistics Indicator Assessment Tool (LIAT) was used to gather quantitative information from warehouses and SDPs (see appendix A for the public sector tool and appendix B for the private sector tool).

The LSAT was conducted as a one-day workshop with 17 participants, including FMOH central and zonal-level personnel and key stakeholders from several other organizations involved in reproductive health (RH) logistics (see appendix C for list of participants). Additional qualitative information was collected through follow-up individual interviews.

The following topics were discussed to identify strengths and weaknesses in the system:

- Existence of a logistics system (unit and personnel).
- Flow of commodities in the supply chain.
- Existence of an LMIS, description of the information flow, and the extent to which logistics information is used for decision making.
- Description of the forecasting and the procurement process and the extent to which logistics data is used to forecast order quantities.
- Inventory control and warehousing, and storage procedures and policies, and whether they are generally followed at all levels of the system.
- Capacity of transport and distribution systems.
- Capacity of logistics personnel, including training and supervision.
- Policies and communication.
- Finances for logistics.

The LIAT, on the other hand, assessed system performance and indicators of contraceptive availability at the facility level. A shortened version of this tool was used to assess contraceptive availability at pharmacies and patent medical stores (PMSs) (see appendix B). The source of information/data, including position of person interviewed, was standardized, as much as possible, across all facility types. Interviews were held with logistics officers at warehouses, state family

planning (FP) coordinators in state stores, and nurses and midwives at clinics/maternity homes, dispensaries, and health posts.

The LIAT provided information on the following indicators, among others:

- Availability of contraceptives and other products of interest on day of visit.
- Stockout frequency and average duration of stockouts in last six months.
- Percentage of facilities with adequate stock levels (between established min and max levels)...
- Percentage of facilities with personnel trained in logistics.
- Percentage of facilities with stock cards available.
- Accuracy of stockkeeping records.
- Percentage of facilities adhering to good storage practices.
- Average price paid for contraceptive products (by facilities and clients).

The above indicators were measured as follows: (1) product availability by conducting a physical inventory, (2) duration of stockouts by collecting information from either stock cards or interviewees, (3) percentage of facilities with adequate stock levels by calculating months of stock on hand and comparing to min and max levels, (4) stock data quality by comparing stock cards to physical inventory and monthly/quarterly reports to stock cards, (5) storage conditions by visually inspecting facilities, and (6) other indicators through personal interviews.

3.2. Sampling

The original sample for the LIAT was 364 facilities, including 49 public sector warehouses at various levels, 175 public sector SDPs of various types, and 175 private sector pharmacies and patent medical stores (PMS)—small stores selling simple medical products. The sample included seven states—selected purposefully—out of the 36 in Nigeria, with at least one state from each of the six main geopolitical zones in the country. Bauchi, Enugu, and Oyo were selected because the VISION Project will soon begin work there, and this assessment can be a logistics baseline for VISION in those states. The other four states were chosen to include a geographic and social/cultural cross-section of the country, as well as to ensure varying levels of donor assistance (see table 1). Bauchi and Edo both receive support from UNFPA, while Benue receives support from DFID. Kwara and Sokoto were selected as *controls*, as it was believed that they had received little or no donor assistance, at least not in recent years.

Zonos	State	Donor Support			
Zones	State	DFID	UNFPA	USAID	
South-East	Enugu			Х	
South-South	Edo		X		
South-West	Оуо			Х	
North Control	Kwara*				
North-Central	Benue	Х			
North-East	Bauchi		Х	Х	
North-West	Sokoto*				

* No known donor support

Caution should be exercised in attempting to correlate results with donor assistance. In states where UNFPA and DFID work, for example, their assistance may not have reached the specific local government areas (LGAs) selected for this assessment. Those states may also have been selected because they needed greater assistance. In the case of the VISION states, USAID technical assistance has yet to begin, so the assessment can be considered a baseline for those states.

In a few instances when presenting the results, the states are reorganized according to the 1999 DHS statistical regions: Edo and Oyo in the South-West, Enugu in the South-East, Bauchi in North-East, Sokoto in the North-West, and Kwara and Benue in the central region. This allows certain variables to be compared with variables from the Nigeria Demographic and Health Survey, such as contraceptive prevalence and unmet need.

In each state, five LGAs were selected: the LGA with the state capital was selected, and the four other LGAs were randomly selected from within the geographic strata. These included one urban LGA, one semi-urban, and two rural LGAs (see appendix D). To select individual facilities, five public SDPs were randomly selected in each LGA from a list of facilities providing FP services obtained from the State Ministry of Health (SMOH). The facilities included hospitals, clinics/maternity centers, and dispensaries. From the private sector, 175 private pharmacies and patent medical stores (PMSs) were selected during the field work on the basis of their proximity to public SDP: two sites closest to the last public SDP visited that day. All warehouses and stores were selected (one central warehouse, six zonal warehouses, seven state stores, and 35 LGA stores (see table 2).

Table 2 shows the total number of facilities in the original sample design, the number of facilities visited in the assessment, and the number ultimately included in the analysis.

Type of Facilities	Number of Facilities in Original Sample	Number of Facilities Visited in the Assessment	Number of Facilities Included in the Analysis	% of Facilities Included in the Analysis
Central warehouse	1	1	1	100
Zonal warehouses	6	6	6	100
State stores	7	7	7	100
LGA stores	35	35	11	32
Public SDPs: hospitals, clinics/ maternity homes, dispensary, health posts	175	144	123	70
Private pharmacies and patent medical stores	175	142	142	81
Total	399	335	290	73

 Table 2. Number of Facilities in Original Sample and the Assessment

The expected sample size was not reached for several reasons. Because many of the sites were remote and transport was difficult, it took longer to visit sites than expected. In some cases, gaining permission from state and LGA authorities also took more time than expected. Some of the private sites refused to participate (number unknown) due to the ongoing investigation by the National Food and Drug Agency for sites carrying non-registered products. For these reasons, it was only possible to physically reach 144 public SDPs and 142 private sites of the original 399 during the three weeks available.

Among sites that were reached, most LGAs did not have functional stores, so only 11 were assessed. Likewise, 21 public SDPs that were visited could not be assessed, because 19 were not offering family planning and 2 did not have personnel available to interview and to provide access to the storeroom and files. As such, the final sample included 25 public sector warehouses, 123 public sector SDPs, and 142 private SDPs (pharmacies and PMS).

Table 3 shows the facilities visited in each state, divided by sector and type of facility.

		Public Sector Sites						Drivete Oceter Oitee			
	Warehouses/Stores					or	c	Private Sector Sites			Total
State	Central	Zonal	State	LGA	Total WH/ stores	Public sect SDPs	Total publ sites	Pharmacy	SMG	Total private sites	All Sites
Enugu		1	1		2	7	9	9	8	17	26
Edo		1	1	4	6	19	25	4	11	15	40
Оуо		1	1	3	5	20	25	6	20	26	51
Kwara			1		1	20	21	5	20	25	46
Benue			1	4	5	14	19	3	16	20*	39
Bauchi		1	1		2	25	27	2	12	14	41
Sokoto			1		1	18	19	2	23	25	44
Kaduna		1			1		1				1
Plateau		1			1		1				1
Lagos	1				1		1				1
Totals	1	6	7	11	25	123	148	31	110	142*	290

 Table 3.
 Number of Facilities Assessed in Public and Private Sectors by State and Type of Facility

* An NGO clinic visited in Benue state is added to the total of private facilities.

Data collection was completed by seven two-person teams (one for each state) over a three-week period. Among the team members were six logistics officers from the FMOH, one official from NASCAP, a monitoring and evaluation officer from each state in the three VISION states, two zonal logistics officers from Edo and Plateau, and two researchers from the Nigeria Institute of Social Research (see appendix E for list of team members).

Table 4 lists the 24 products covered in the assessment, including 11 contraceptive methods, four STI drugs, and six TB drugs. The products were selected because they are the main public sector contraceptives, although Gold Circle condoms enter the supply chain through the Society for Family Health, a social marketing program. The drugs were selected in discussions with DCDPA, based on the relation of STIs and TB to HIV/AIDs and the interest of the Ministry of Health in making treatment drugs more widely available.

Contraceptives	STI Drugs	TB Drugs
Oral contraceptives:	Ciproflaxin	Rifampacin
Lo-Femenal (COCs)	Erythromycin	Isoniazid
Duofem	Benzathine Penicillin	Streptomycin
Microgynon	Doxycycline	Thiazine
Exluton (POP)		Pyrazinamide
Injectables:		Ethambutol
Depo-Provera [®]		
Noristerat		
Condoms:		
Gold Circle and no logo		
Copper T 380A		
Postinor		
Vaginal foaming tablets		

Table 4.	Products 0	Covered in	the Lo	oaistics	Svstem	Assessment
10010 11				9.0.00		

Data were entered and analyzed by DELIVER staff using the Statistical Package for the Social Sciences (SPSS). The full data set will be available for secondary analysis by interested stakeholders, subject to permission from the FMOH.

4. Results

The following should be considered when interpretating the findings of the assessment:

- As mentioned earlier, the assessment teams were not able to visit all facilities in the original sample. Although all LGAs were visited, including remote rural ones, it is still possible that remote SDPs were less likely to be visited than more accessible ones. As a result, data on product availability may overstate stock status.
- Also, as mentioned earlier, 19 SDPs visited did not provide FP services despite the fact that SMOH sources believed they did when approving the teams' schedules of visits. Reasons reported by staff for not providing FP services included lack of supply of contraceptives, lack of training (no personnel trained or service provider being transfered to another facility), lack of political commitment and support at the local government level, and community resistance to FP. Because some sites cited chronic lack of contraceptives supplies as the reason for not providing FP services, it could be said that they should have been included in the analysis, which would yield a sample size of 142. But, the main objective of this assessment was to determine logistics system performance in making products available to clients, so the sites not providing FP were eliminated from the analysis. This means that from the clients' perspective, the percentage of sites with products available is actually lower than shown in the results.
- The chronic stockouts of contraceptives at many of the public SDPs meant that many sites considered that they *did not manage* the selected products even though they *should have*. To standardize the analysis, and because the public facilities providing FP services should manage most contraceptives (except for IUDs and possibly Postinor II emergency contraceptive pill [ECPs]), the denominator used for product availability in SDPs is the 123 facilities that reported they provide FP services. Because not all public facilities have the trained staff and/or equipment to provide IUD services, only the subset of facilities that reported they manage IUDs or Postinor II are used as the denominator in those cases. If 123 facilities were used as the denominator for those two methods, their availability would be considerably reduced.
- The team also found that the great majority of selected SDPs do not provide STI and TB services, as all facilities were not comprehensive in their service provision. The amount of data collected on these products was, therefore, much less than anticipated. To present data showing the effectiveness of logistics systems in making products available, results are based only on sites that offer those products. If product availability were calculated based on all sites, the indicator would be much lower.
- Public SDPs are fairly well represented in the LIAT assessment. The private sector is only partially represented, however, by pharmacies and patent medical stores. There are many private/nongovernmental (NGO) clinics providing FP services throughout the country. Given time and resource constraints, it was not possible to include a representative number of private sector clinics in the sample, so the decision was made to limit analysis of the private sector to a simple assessment of product availability in pharmacies and PMSs. These sites are major suppliers of contraceptives, particularly condoms and pills; some findings are useful when compared with public sector findings. An assessment of private clinics, including NGOs, may be

an interesting topic for future research. For the purpose of this report, *private sector* refers to just pharmacies and PMSs.

• Despite the large sample, even the data on public sector SDPs may not be representative of Nigeria as a whole due to the size and variability of the country.

The reader should be aware of these considerations when interpreting results in the report. If anything, most of the comments above suggest that results presented may overstate the extent to which products are currently available to clients in Nigeria.

4.1 FMOH: Organizational Structure and Supply Chain Description

Created in 1994, the National Contraceptives Logistics Management System (CLMS) guides logistics practices at all levels of the system. The CLMS is primarily a vertical system, managed at the central level by the Department of Community Development and Population Activities (DCDPA). The DCDPA works in conjunction with the National Primary Health Care Development Agency (NPHCDA) for distribution of contraceptives from the zonal warehouses. The latter is a parastatal agency under the Department of Health. The DCDPA also communicates and coordinates with other departments in the FMOH in dealing with different aspects of the logistics system, including the following, among others:

- Staffing of logistics personnel with the Department of Personnel Management.
- Budgeting for the logistics system with the Department of Finance and Supplies.
- Monitoring up to the State level, the coordinating unit under the Department of Hospital Services.
- Product quality assurance with National Agency for Food, Drugs Administration and Control under the Department of Food and Drug Services.

The top part of figure 1 shows these communication linkages. Figure 1 also illustrates the flow of commodities and information. From the port of entry, contraceptives are moved to the central warehouse in Oshodi, Lagos. The central warehouse distributes contraceptives to the six zonal warehouses. At the zonal level, the commodities are stored in warehouses, and zonal officers under the NPHCDA are responsible for daily logistics tasks.

The zonal warehouses, in turn, issue the contraceptives to the state stores (in the 36 states and the Federal Capital Territory), that are managed under the State Ministry of Health/ Department Primary Health Care and Control, in each state. The zonal warehouses also distribute products to teaching hospitals and federal medical centers. State stores distribute contraceptives to LGA stores that are under the mandate of the Local Government Administration under the State Department of Primary Health Care (MCH/FP Unit), and those, in turn, distribute to state general hospitals, specialist hospitals, and other SDPs. In states without LGA stores, SDPs get supplies directly from the state stores. After contraceptives reach SDPs (clinics, maternity homes, dispensaries, and health posts), in some cases, they are distributed to village health workers and traditional birth attendants.





Figure 1. FMOH FP Communication, Commodity, and Information Flow While contraceptives flow down the system to warehouses/stores, SDPs, and clients, information is collected and sent up from the SDPs to LGA stores, to states stores, and to NPHCDA zonal offices. Most reports are supposed to be submitted every month; a few are submitted quarterly. From the zonal offices, information is sent to the NPHCDA headquarters, with a copy to DCDPA. NPHCDA also sends a copy to DCDPA. DCDPA, in turn, sends the information back down to the central warehouse.

On occasion, the central warehouse and state stores purchase contraceptives (mainly Duofem and Gold Circle condoms) from the Society for Family Health/Population Services International (PSI), while LGA stores and SDPs receive contraceptives from Planned Parenthood Federation of Nigeria (PPFN). Both SFH and PPFN have separate supply chains that intersect with the FMOH supply chain in the ways mentioned, and they should be considered for a complete picture of RH supply in Nigeria.

As described earlier, logistics management is divided within many levels and departments, which makes coordination and information flow challenging. Coordination of logistics responsibilities between the many parties currently takes place through departmental meetings, joint workplans, and stakeholders' meetings. This creates several challenges to effective communication and decision-making. At higher levels of the system, the separate management of the zonal warehouses by NPHCDA and the irregular information flow that occurs as a result, creates potential communication and technical challenges to effective supply chain management. At lower levels, a lack of funds for regular supervision and monitoring has led to a widespread feeling that communication has broken down at those levels, as well. To optimize the impact of other logistics interventions, the FMOH should address these issues.

4.2 Contraceptive Availability and Accessibility

The ultimate goal of implementing a logistics system is to ensure commodity availability at the SDPs. Of the 142 public sector SDPs visited that had staff available, only 123 (87 percent) stated that they currently provide family planning services. All 21 hospitals surveyed provide family planning services, 93 of the 102 (87 percent) clinics/maternity homes, 8 of the 15 (53 percent) dispensaries and the one health post surveyed also provided services. This pattern suggests that smaller facilities closer to their communities are the least likely to offer FP services.

Table 5 shows the availability of individual contraceptive products in stock on the day of the visit in warehouses, public SDPs that provide FP services, and private sector outlets. The most frequently stocked methods in public sector warehouses were Gold Circle condoms, followed by IUDs and Depo-Provera[®].

In the total 123 sites that provide FP services, Depo-Provera (42 percent) and Gold Circle condoms (33 percent) were the most widely available methods. Postinor II and IUDs were in stock in twothirds of the smaller percentage of SDPs that reported they manage the products (55 sites managed IUDs and 23 sites managed Postinor II).¹ Two products (Exluton and condoms with no logo) were unavailable at this time.

In general, product availability is inadequate. No products were available in half of all sites, and only Depo-Provera was available in more than one-third. If all 123 SDPs are included, only 28 percent had

¹ Not all facilities in the public sector have the capacity to manage IUDs and maybe Postinor (due to lack of training), so limiting the analysis to only those sites managing the products tells how well the supply chain gets them to those sites. But, from the clients' perspective, IUDs and Postinor II are only available in a very small percentage of sites.

IUDs available and only 13 percent had Postinor II. Further, if product availability were calculated for all 142 sites visited (i.e., those that should be providing FP services), it would be about 13 percent less than shown here. It should also be noted that these data present an incomplete picture, as they do not describe how much stock is available on average (presented in detail in the inventory control section).

	Percentage of Facilities with Product in Stock						
Contraceptives	Warehouses (n=25)	Pharmacies/PMSs (n=142 except where shown**)					
Lo-Femenal	20	17	23				
Duofem	48	22	46				
Microgynon	44	15	18				
Exluton	0	1	0				
Depo-Provera [®]	56	41	30				
Noristerat	4	19	25				
No-logo condoms /Other brands*	4	2	3				
Gold Circle condoms	60	33	80				
VFT/Neo-Sampoon	4	4	5				
CuT380 **	60	53	57				
Postinor II **	36	54	78				

Table 5. Availability of Contraceptive Methods on Day of Visit (Based on physical inventory)

* Other brands only found in private sites.

** The denominator used for IUDs and Postinor II in public SDPs is the number of SDPs that reported managing those products, with n=62 for CuT380 and n=28 for Postinor. For private sites, the number of sites carrying the products was 18 for Cu T380 and 40 for Postinor.

In tables 6 and 7, contraceptive availability is further divided by type of facility in each state. Table 6 shows product availability at warehouses and stores, by method and by state. Because the number of sites is small, absolute numbers are shown instead of percentages. The three combined oral contraceptives (COCs) are in a single column, as are all condom brands. In general, state stores were most likely to have contraceptives available, followed by zonal warehouses. The zonal warehouses in Bauchi and Kaduna were completely stocked out of all methods, while those in Enugu, Edo, and Oyo were fairly well stocked. LGA stores, where they existed, were not well stocked, except in Oyo.

COCs, condoms, injectables, and IUDs were all available in just over half of all warehouses. The condoms were almost exclusively Gold Circle brand from the SFH social marketing program; however, injectables were almost exclusively Depo-Provera. Exluton and no-logo condoms were not found in any warehouses, and Noristerat was only found in one LGA store (Edo).

The far right column of table 6 shows the average number of methods available for each type of warehouse. Overall, six of the total 25 warehouse/storage sites had all five method types in stock on the day of the visit. Most LGA stores had only one or two methods available.

Table 7 shows the same type of breakdown for SDPs, both public and private. Availability at the SDP level also varied by method and by state. For example, the majority of SDPs (50 percent or more) in Enugu, Edo, Oyo, and Benue had injectables available, while in the remaining states the figure was 30–40 percent. As with warehouses, no-logo condoms were not found at any sites, and Exluton was only found in one site in Enugu. Nineteen percent of sites had Noristerat, although many more (42 percent) had Depo-Provera[®].

In private sector outlets, COCs (especially Duofem) were found in a majority of sites in all states except Benue (45 percent of sites). Gold Circle condoms were found in more than 87 percent of private sites in all states except Benue (70 percent) and Sokoto (56 percent). Fewer private sector sites had injectables in stock. Only in Enugu (53 percent) and Bauchi (50 percent) did a majority of sites have the product. Interestingly, the percentage of sites with Depo-Provera (23 percent) was similar to the percentage with Noristerat (20 percent) in private sites. The percentage of private sector sites with Postinor II (70 percent) and IUDs (44 percent) appears fairly high but, as with public SDPs, the number of facilities *managing* those products is small, so the percentage of all private sites with these methods available is smaller than shown in the tables.

Comparing tables 6 and 7, Duofem, Microgynon, and Gold Circle condoms were much more available in the warehouses than they were in service delivery sites. Noristerat was only found in one of the 25 warehouses visited, although some SDPs and private outlets did have some in stock. These methods are understocked or stocked out in the majority of public SDPs. Lack of availability of these important methods surely contributes to unmet need among potential clients of those methods.

Table 6.	Availability of Cont	traceptive P	roducts	in Warehou	ises and Stores	by State on	the Day of Vi	sit (Bas	ed on phys	ical inventory)
		97 - N		z	umber of Facili	ties With Pro	duct in Stocl	~		Average No. of Method
State	Type of Site	No. of Facilities	cocs	Exluton	Depo- Provera [®]	Noristerat	Condoms	IUDs	Postinor	Types in Stock of Total 5 Method Types*
	Zonal warehouse	-	~	0	0	0	Ţ	-	.	4
Enugu	State store	-	~	0	~	0	~	-	-	ъ
	Zonal warehouse	-	-	0	0	0	-	-	0	ę
Edo	State store	-	-	0	0	0	~	-	0	ę
	LGA stores	4	-	0	~	~	0	0	2	-
	Zonal warehouse	-	~	0	-	0	.	-	0	4
Oyo	State store	-	-	0	-	0		-	.	Ð
	LGA stores	с	-	0	N	0	2	2	-	2.7
Kwara	State store	-	-	0	0	0	÷	-	~	4
	State store	-	-	0	-	0		-	0	4
pellue	LGA stores	4	7	0	N	0	2	0	0	1.5
	Zonal warehouse	-	0	0	0	0	0	0	0	0
Daucill	State store	-	-	0	-	0		-	.	Ð
Sokoto	State store	-	-	0	-	0	~	-	Ţ	Ð
Plateau	Zonal warehouse	~	-	0	Ţ	0	Ţ	-	÷	Ð
Kaduna	Zonal warehouse	-	0	0	0	0	0	0	0	0
Lagos	Central warehouse	-	-	0	-	0	~	-	-	5
	Total	25	16	0	13	F	16	14	11	З
*Out of 5 m	sthod types: pills (Lo-Femen	al, Mycrogynon,	Duofem, and	l Exluton), inject	tables (Depo-Provera®	and Noristerat), co	ndoms (Gold Circl	e and no-lo	go), IUDs (CuT3	380A), and ECPs (Postinor II).

Results

Nigeria: Baseline Assessment of the Contraceptive Logistics System

Managing IUDs % of Facilities Stock, among with IUDs in Those Facilities Facilities Number Numbei IUDs ဖ С ശ С ဖ ო ო \sim ~ ę % of Facilities among Those with Postinor Managing Postinor in Stock, Managing Facilities Postinor Number ę S ი ~ S ო ~ S Condoms % of Facilities With Contraceptive in Stock, among All Facilities Providing Family Planning Services Noristerat S \sim Provera[®] Depo-Exluton ~ cocs \sim Facilities by State Numbei ð \sim Pharmacies/ PMS Pharmacies/ PMS Pharmacies/ PMS Pharmacies/ PMS Pharmacies/ Pharmacies/ Phamacies/ Type of Site Pharmacies/PMS SDPs SDP PMS SDP SDP PMS SDP SDP PMS SDP Total SDP Enugu Sokoto Benue Kwara Bauchi State Total Едо о О

Availability of Contraceptive Products in Public SDPs and Private Pharmacies/PMSs by State on Day of Visit (Based on physical inventory) Table 7.

When the logistics system fails to deliver products to SDPs in the supply chain, some facilities have taken the initiative to obtain contraceptives from sources other than the FMOH (see table 8). In particular, methods such as injectables (Noristerat and Depo-Provera) and Lo-Femenal were purchased either from the open market, wholesalers, or pharmacies, with more than 45 percent of sites reporting. While this practice shows initiative on the part of the SDPs, it is an inefficient way to obtain products and likely diverts resources that could be better used serving customers.

Contraceptives	Facilites That Reported Source of Contraceptives	% of Facilities That Obtain Contraceptives from Open Market/ Wholesalers/Pharmacy
Lo-Femenal	72	47
Duofem	39	36
Microgynon	38	26
Exluton	21	19
Depo-Provera [®]	67	45
Gold Circle condom	50	36
VFT/Neosampoon	32	22
CuT380	43	26
Noristerat	64	50
Postinor II	17	6

Table 8. Facilities Getting Contraceptive Methods from the Open Market/Wholesalers/Pharmacy

Table 9 shows the duration of stockouts for each contraceptive method, among sites reporting stockouts in the last six months. Relative to other products, a smaller number of warehouses reported stockout in the last six months for Duofem, Depo-Provera, Gold Circle condoms, and IUDs. The remaining products were stocked out in the majority of the warehouses for approximately six months. In SDPs, except for IUDs, all other products were stocked out in the majority of the facilities, on average, during most of the six months prior to the assessment.

The severity of stockouts may be underestimated as information was only collected for the most recent six months, but many stockouts had lasted over a year. Some facilities that have been stocked out of a method for a long period of time reported that they don't manage that product.

	Among Facilities Reporting Stockouts in the Last 6 Months					
Contraceptives	Percentage of warehouses/ stores	Average number of days of stockouts	Percentage of SDPs	Average number of days of stockouts		
Lo-Femenal	56	145	88	166		
Duofem	48	180	82	167		
Microgynon	52	120	89	180		
Exluton	100	180	100	180		
Depo-Provera®	48	144	60	162		
Noristerat	96	150	86	166		
Gold Circle condom	36	180	72	80		
No-logo condom	96	150	100	169		
CuT380*	44	120	44	180		
Postinor II*	64	132	70	177		

Table 9. Percentage of Facilities Stocked Out and the Average Duration of Stockouts (In days) during the Last Six Months

* CuT380 and Postinor stockout analysis was done out of the SDPs that reported managing these products.

The majority of SDPs gave a shortage of supply from the higher level as the reason for stockout in the last six months (see figure 2). Approximately 10 percent said they did not go to pick up supplies, 2 percent said they requested the wrong amount, and 19 percent gave other reasons.




Figure 3.

Contraceptive Use/Demand and Method Availability—Percentage of Surveyed Public Facilities with Products in Stock on Day of Visit



Figure 3 presents the LIAT data on contraceptive availability with contraceptive prevalence rates and percentage of FP demand satisfied from the 1999 Nigeria DHS. Overall, the lowest method availability is seen in the two northern regions, where current use is lowest. The central region, with Kwara and Benue states, also had low product availability for all methods except ECPs (Postinor). CPR is highest and contraceptives are most readily available in the South-West, followed by the South-East. While this is only a partial picture of total contraceptive availability (there are private and NGO clinics throughout the country), it is of concern in regions and for methods where the public sector is the primary source of service.

Figure 4 summarizes and compares the product availability of the four main types of contraceptives by sector. On the day of the assessment visit, more public SDPs had injectables and IUDs in stock than private sector outlets, while condoms and oral contraceptives were more likely to be found in private outlets. This pattern is not surprising given that injectables and IUDs are *clinic-based* methods and public sector facilities are the main source of supply for these two methods (NDHS 1999). It is essential, however, to ensure that public sector facilities are well stocked with all methods, even if it means carrying smaller quantities of pills and condoms.

These data do not answer the question of *why* some products are more available than others, in different states and different regions. Lack of availability may be due to many factors, some beyond the control of the logistics system. Some facilities may not request products because they don't think clients demand them, while others may have given up requesting because requests haven't resulted in products being delivered for extended periods. Determining the causes may be helpful in identifying the most appropriate solutions, and some analysis of factors affecting product availability should be done before new large-scale interventions.



Contraceptive Availability in Public and Private Sector Outlets on Day of Visit

* Out of 55 SPDs and 18 PMSs/pharmacies that manage IUDs.

Figure 4.

4.3 STI and TB Drug Availability

The results for STI and TB drug availability are presented separately due to the small number of facilities that could be assessed. Sexually transmitted infections (STI) and tuberculosis (TB) drugs were usually found in hospital pharmacies; few primary level SDPs carry them. This, in itself, is an important finding. While it is not surprising that TB drugs are found mainly in hospitals, one might expect more sites to offer STI drugs, because of Nigeria's efforts to move toward an integrated RH approach. Table 9 (earlier in section) shows that the majority (about 80–90 percent) of private outlets had all four STI drugs in stock, among those sites that normally manage the products. Ciproflaxin was the most widely available, and Benzathine penicillin was the least available. Thus, most private facilities seem to be able to obtain STI drugs when they need them. Although availability is high at facilities that manage these products, few facilities manage these products.

The number of public sites managing STI drugs was smaller than in the private sector, as were the percentages of those sites with products available. Ciproflaxin was available in the highest percentage of sites, while Benzathine penicillin was found in only 38 percent of SDPs managing it (2 percent of all SDPs). See table 10.

	Р	ublic Sector	Private Sector		
STI Drugs	# of facilities managing the product	% of SDPs with product in stock (for those that manage)	# of facilities managing the product	% of sites with product in stock (for those that manage)	
Ciproflaxin	15	67	56	89	
Erythromycin	12	58	72	81	
Benzathine Penicillin	8	38	47	79	
Doxycycline	10	50	61	85	

Table 10.	STI Drug Availability on the Day of the Visit at Public SDPs and Private
	PMS/Pharmacies

Fewer of the facilities visited carried TB drugs because the drugs are mostly found in specialist hospitals and clinics (see table 11). Only public SDPs are included, as private outlets do not manage these drugs. The percentage of sites with products available ranges from 33 to 80 percent, indicating good availability among sites that manage the product, but only 3–5 sites out of 123 sampled offer these products. It is also important that the consequences of stockouts in the case of TB drugs can be extremely serious, so even small levels of stockouts in sites carrying these products are a cause for concern.

TB Drugs	Number of Facilities That Manage the Drug	% of Facilities with Drug in Stock (for Those That Manage It)	
Rifampacin	4	50	
Isoniazid	5	60	
Streptomycin	5	80	
Thiazine	3	33	
Pyrazinamide	4	50	
Ethambutol	4	80	

 Table 11.
 Tuberculosis Drug Availability on the Day of the Visit at Public Service Delivery Points

4.4 Logistics System Performance

Lack of product availability may be due to many factors, including changes in demand and other issues beyond the control of logistics. The logistics system itself, however, plays a major role in whether products reach the service sites where clients can access them. In this assessment we analyzed the characteristics of the supply chain to see which components were working well or not working well, thereby capturing as much as possible of the logistics impact on product availability. These components included LMIS, forecasting, procurement, inventory control, transport, storage, personnel and organizational support, and finances, among others. Key findings are described in the following sections.

4.4.1 Logistics Management Information System

Information lies at the heart of any logistics system, and a good LMIS system is essential for many other components to function well. Hence, the effectiveness of the LMIS system in the FMOH contraceptive supply chain deserves special attention.

Guidelines for the LMIS exist for recording and reporting consumption, for recording transactions, calculating months of stock on hand, and requesting and sending contraceptive supplies. LMIS forms were revised recently with donor support and participation, mainly UNFPA. The forms were intended to be distributed and used throughout the system, but this assessment indicated that different versions of the forms are being used in different states, with the new forms mainly used in UNFPA-assisted LGAs.

Forms and reports that should be in use are-

- Form 3 or Form 3A: State/LGA Summary Report of Family Planning Activities
- Form 4 or Form 4A: Health Facility/LGA Contraceptive Request/Receipt Form (used within the state by health facilities and LGAs)
- Form 5A: State Contraceptive Commodity Request/Receipt Form
- Form 6A: Zonal Contraceptive Commodity Request/Receipt Form
- 4 HF-1: Daily Register of Family Planning in the Health Facility

- 4 LG-1: Monthly Report of Family Planning in the LGA
- 4 ST-1: Monthly Report of Family Planning in the state
- 4 HF-2: Monthly Report of Family Planning in the Health Facility.

The new versions of the forms are those with a suffix "A" in the previous list. Tally sheets (simplified stock cards) are also available and are used to manage contraceptives at all levels of the system.

Less than a quarter of SDPs and only two-thirds of all warehouses were currently using stock cards or tally sheets. Among those that had stock cards or tally sheets, information on stock level on the day of the visit was compared to physical inventory. It was found that most warehouses had stock cards for at least one method, but few were accurate. Only four warehouses and no SDPs had accurate information on stockcards for all products. It should be noted that the accuracy indicated is stringent because the stock on hand on the cards must match exactly the count of physical inventory for each product to be considered accurate (see table 12). Even so, LMIS data accuracy is crucial to a quality logistics system, and it begins with stock card accuracy. This is an area where the FMOH should focus; there is opportunity for improvement.

	Number of Facilities	Percentage of Facilities (%)			
Type of Facility		With stockcard for at least one product	With accurate information on stock card for at least one product, among facilities that had a stock card	With accurate information on stock card for all products, among facilities that had a stock card	
Warehouse	25	60	13	6	
SDP	122	24	21	0	

Table 12. Stock Card Availability and Information Accuracy on Stock Card

Only 12 out of 25 warehouses/stores and 62 out of 123 SDPs reported passing stock information up the system using LMIS forms, and only 36 percent of warehouses/stores and 22 percent of SDPs reported sending LMIS reports during the most recent reporting period (usually meaning the last month). Given these low reporting rates, it is difficult for higher levels to calculate stock needs and to order and deliver correct amounts to SDPs.

During the LSAT discussion, lack of resources was identified as a major reason for inadequate monitoring and supervision on reporting (see table 13), which, in turn, contributed to low and inaccurate reporting. Insufficient staff development and training were also cited as contributing factors to unsatisfactory reporting practices.

Strengths	Weaknesses
System should work, in theory.	• The system has broken down.
• Guidelines exist.	• Inadequate funds for monitoring, supervision, and
• Forms could work with some revisions.	
 Increasing government commitment to LMIS 	 Poor record keeping, especially at lower levels.
information, in general.	 Poor feedback mechanism.
 Donor participation and collaboration. 	 LMIS forms need some revision.

 Table 13.
 LSAT Workshop Analysis: Logistics Management Information System

4.4.2 Forecasting and Procurement

Forecasting has been hampered by a lack of a systematic approach. The main obstacle at present is poor information on consumption (see comments on LMIS below). Forecasts are developed using demographic data. Without consumption data sent up through the system, it is difficult to make accurate forecasts.

Although the budget has been insufficient in the past years, forecasting is reviewed every year with reference to the budget.

There is no focal person at the central level for both forecasting and procurement. Procurement, as well as forecasting, is the responsibility of a committee. UNFPA is the procurement agent for DCDPA. As for forecasting, procurement has not been systematic due to funding shortfalls. In procuring contraceptives, quality assurance is done by the National Food and Drug Administration Control (NAVDAC).

4.4.3 Inventory Control for Contraceptives

The inventory control system enables staff at warehouses and stores to know when to order, how much to order, and how to maintain an appropriate stock level (between established min and max levels) to avoid shortages and oversupply. Policies on inventory control procedures existed at the time of the survey. Both the minimum and maximum levels of stock on hand and the ordering system for each level in the system have been established (see figure 5). These levels were printed on the LMIS forms in use at the time.

Figure 5 also shows where the pull (ordering from below) and push mechanism was supposed to operate and the maximum/minimum stock levels to be maintained at each level. The maximum for the central warehouse was not established, it is unlikely that maximum levels of stock were ever reached in recent years. This leads to a point made during the LSAT discussion that the system has never operated under full supply, and it is unknown how all components of the logistics system would work if the supply chain was ever filled to capacity.

Figure 5.

Min/Max Levels and Ordering System for Each Level of the Logistic System at the Time of the Survey



Figure 6 shows that only 0–15 percent of lower level warehouses and stores maintained stock between the established minimum and maximum levels. One-third of the facilities had overstocks of Duofem and Gold Circle condoms. Only those facilities that had adequate records with consumption data were included in the following analyses, so it is likely that among all facilities, the percentage that are adequately stocked is even lower. The central warehouse was stocked with all methods except Noristerat and Exluton. Because of a lack of issues data, however, it was not possible to calculate whether central warehouse stock levels were within the established max-min levels.





Figure 7 shows a similar pattern of stock status at the SDP levels, with about 30 percent of SDPs overstocked with Duofem and Gold Circle condoms, and 20 percent overstocked with IUDs and Postinor II. Only a very small percentage (3–5 percent) of SDPs kept their stock between the min/max levels for most methods, with the exception of Gold Circle condoms and Postinor II, which were within min/max levels at about 20 percent of sites. The most important results are that even among those sites with methods available, very few had appropriate amounts of stock to prevent stockouts in the near future or expirations in the distant future.

Also, for most products, some sites were overstocked even while most were stocked out. This suggests that not only were most contraceptives in short supply; the few sites receiving supplies often got excess quantitites. This could be due to many factors, but, in any case, the findings suggest that a certain amount of redistribution could improve product availability at both oversupplied and stocked out sites.



Figure 7. Stock Levels of Selected Contraceptives at Service Delivery Points

A summary of the strengths and weaknesses of the inventory control management system identified in the LSAT workshop are shown in table 14. Note that participants believed that one of the *strengths* was that inventory is generally managed by first-to-expire, first-out (FEFO). In practice, however, less than 50 percent of the facilities were following this procedure (discussed later, under storage conditions).

Table 14.	LSAT Workshop	Analysis:	Inventory	Control
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St	Strengths		Weaknesses	
•	Existing system should work with modest adjustments if actually implemented—not start from scratch.	•	Lack of implementation due to lack of funds for products, lack of transport, lack of capacity to complete forms and manage stock, and lack of supervision.	
•	FEFO is generally followed (believed by the LSAT participants but found not to be true in practice).	•	Uncertain how system would respond if operating under full supply.	

4.4.4 Transport and Distribution

The government allocates funds for vehicles, fuel, and vehicle maintenance in a common pool for the entire Ministry of Health. DCDPA, at the central level, has no official vehicles with the capacity to transport commodities. In the recent past, central to zonal distribution has been handled through contracts supported by donors. In recent years (2000–2001), the lack of a steady source of funding for transporting commodities from the central warehouse has resulted in the delivery of commodities close to their expiry date. The same problem was found at zonal warehouses. (See table 15.) Solving the funding problem for transport was mentioned by the LSAT group as a high priority to reduce stockouts at the lower levels and expirations.

Strengths	Weaknesses
None mentioned	 Lack of funds (central level—lack of vehicles; lower levels cost recovery not uniform, no guidelines).
	• Lack of vehicles at the central and other levels.
	 Lack of clarity about where vehicles should be based (what levels).
	 Lack of guidelines for distribution/redistribution of stock

 Table 15.
 LSAT Workshop Analysis: Transportation and Distribution

At the state level, stores pay for transportation to pick up contraceptives using the funds they retain from selling contraceptives to the lower levels, and, in turn, SDPs use revenue generated by selling contraceptives to clients for replenishing their stocks and transportation, and for other purposes. However, as the cost recovery system is inconsistently applied (details later), states and SDPs often have no funds for transport to pick up contraceptives. The majority of staff at SDPs (92 percent) currently use public transportation, a rented vehicle, a personal vehicle, or go on foot to pick up contraceptives from the higher level facilities. Facility-managed vehicles are rare.

4.4.5 Storage Conditions

The storage conditions listed in table 16 are proxies to determine if the facility is adhering to storage guidelines that prevent common contraceptive quality problems. The teams assessed the facilities' storage areas by visually inspecting all products to check on expiry dates on outer and inner packages, and to check water, pressure, or radiation damage to cartons and products.

Overall, many conditions were met by a large proportion of SDPs, such as security, proper stacking, temperature control, and protection from environmental damage. However, only 50 percent of warehouses and 46 percent of SDPs stored their products in a manner accessible for FEFO counting and general management. An even smaller number of facilities store their products so expiration dates and manufacturer's labels are visible (59 percent for warehouses and 32 percent for SDPs). The general condition of storage areas and the availability of sufficient space were the two other areas needing improvement in both warehouses and SDPs. In assessing both mechanical damage, such as crushing or tearing and damage from sunlight, it was found that the majority of both warehouses and SDPs have kept their products away from direct sunlight. See table 16.

	Storage Condition Description	Warehouse	SDP
1.	Products arranged with identification labels and expiry dates and/or manufacturing dates visible.	59	32
2.	Products organized for first-to expire, first-out (FEFO) counting and general management.	50	46
3.	Cartons and products in good condition, not crushed due to mishandling nor wet or cracked due to heat/radiation.	88	74
4.	Damaged and/or expired products separated from good products and removed.	60	56
5.	Products protected from direct sunlight.	90	93
6.	Cartons and products protected from water and humidity.	63	88
7.	Storage free from harmful insects and rodents.	71	82
8.	Storage area secured with a lock and key.	86	81
9.	Products stored at the appropriate temperature.	65	81
10.	All hazardous waste properly disposed.	81	81
11.	Roof in good condition.	71	85
12.	Storeroom maintained in good condition.	39	49
13.	Space sufficient for existing products and expansion.	50	NA
14.	Products stored separately from insecticides and chemicals.	83	NA
15.	Products stacked at least 10 cm (4 inches) off the floor.	69	NA
16.	Products stacked at least 30 cm (1 foot) away from the walls and other stacks.	53	NA
17.	Products are stacked no more than 2.5 meters (8 feet) high.	100	NA
18.	Fire safety equipment available and accessible.	23	NA

 Table 16.
 Percentage of Warehouses and Service Delivery Points That Adhere to Storage Guidelines

4.4.6 Expired Products and Wastage

Managing by expiration date ensures that the oldest products leave the warehouse first and get to SDPs before they expire on the shelves. The team checked for expired products at SDPs, but these were rarely found because of a major recall of expired products by DCDPA in September 2001. Since that time, product shortages and stockouts have been the most serious problem. It is important to note, however, that unless some of the other problems identified in this assessment are addressed, supply imbalances and expirations could easily recur in the future.

4.4.7 Logistics Personnel

Elements of organizational support include ensuring that adequate human resources exist to carry out logistics responsibilities, personnel are adequately trained and supervised, and a system exists for the continual updating of competencies as new personnel enter the system and take on logistics

responsibilities. The responsibility of the organization to provide an environment and the resources necessary to implement an effective logistics system cannot be underestimated.

The existence of a contraceptive logistics management system with logistics staff was identified as a key strength. Table 17 shows that overall, 71 percent of the facilities surveyed reported having a least one person trained in logistics, which includes ordering, receiving supplies, inventory management, and supervision. (A facility may have more than one trained person.) The percentages by type of facility show that the majority (85 percent) of warehouses/stores had at least one trained personnel, while SDPs represented a smaller percentage (68 percent). Four of the six zonal warehouses, all seven state stores, and seven of eleven LGA stores had one staff trained. These figures reflect, in part, the fairly extensive training that took place during 1990–1994, and more recently in states where UNFPA is operating. It is important to note, however, that some of the staff who reported being trained may have received training many years ago and may not be familiar with the new LMIS forms.

Regions	Level	Number of Facilities	Percentage With at Least One Person Trained
Faugu	State store	1	100
Ellugu	SDP	6	100
Edo	LGA stores	4	100
Edd	SDP	26	58
	Zonal warehouse	1	100
	State stores	1	100
Cyc	LGA stores	2	0
	SDP	18	89
Kwara	State stores	1	100
rwara	SDP	20	85
	State store	1	100
Benue	LGA stores	3	67
	SDP	12	33
	Zonal warehouse	1	0
Bauchi	State store	1	100
	SDP	21	67
Sakata	State stores	1	100
Sokolo	SDP	15	27
Kaduna	Zonal warehouse	1	100
Plateau	Zonal warehouse	1	100
Lagos Central warehouse		1	100
All warehouses/stores		20	85
All SDPs		110	68
All facilities		129	71

Table 17. Availability of Personnel Trained in Logistics

Further statistical analysis showed that there is little or no correlation between having a trained person and keeping accurate stockcards. All of this shows that training alone will not improve record keeping and reporting: issues such as transportation, supervision, existence of forms, and receipt of requested products after forms are submitted also influence reporting and data quality.

At the central level, although many of the key logistics positions are staffed, there is no dedicated officer that works solely on logistics. A summary of the organizational and personnel strengths and weaknesses identified by the LSAT are shown in table 18.

Strengths	Weaknesses		
Central Management	Central Level		
 CLMS exists with logistics staff. 	 No dedicated officer-in-charge. 		
 Regular communication between some departments 	 No supervisory tools. 		
	 No job descriptions. 		
 Stakeholders' meetings occur, at least at national level. 			
Human Resource Capacity	Central- and Lower-Level Communications		
• Fairly extensive training in 1990–1994, many trained	Issues		
staff in place.	 Lack of funds for training. 		
• UNFPA states-had more recent training, supervision,	 Many sites do not have trained logistics staff. 		
and monitoring.	 Lack of tools, job aids, equipment, and training manuals. 		
	 Lack of funds and transport for monitoring and supervision, especially at lower levels. 		
	 "Supervision has collapsed at lower levels of the system." 		

Table 18.	LSAT Workshop	Analysis: Org	ganizational	Support
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4.4.8 Product Pricing and Finance

Figure 8 compares the average cost to clients of three popular methods. Two methods—Depo-Provera and IUDs—are cheaper on average to purchase from private pharmacies and PMSs than from the public health service. However, one should be cautioned in referring to the figure because the prices in the public sector include the cost of services (especially for Depo-Provera and IUDs).

Figure 8.



What Family Planning Clients Pay for Contraceptives: Public vs. Private Outlets Delivery Points

Figure 9 shows a comparison of prices that clients must pay for three popular contraceptives in public facilities. For each method, the mean price is shown, followed by the range in that state in parentheses (where no range is shown, prices at all sites were the same). An IUD, for example, costs an average of 158 naira (range 150 to 180) in Edo State and only 71 naira (range 70–150) in Kwara State. In the northern states of Sokoto and Bauchi, the average cost of Duofem oral contraceptives is three to five times higher than in the South-Western states. Depo-Provera[®] was most expensive in Edo and lowest in Benue, but it was also high in Sokoto and Bauchi. Overall, the highest average prices for the three methods are in Sokoto, a primarily rural region with the lowest CPR and the lowest met need in the country (see figure 3). Prices were lowest in Benue State. They were most consistent in Enugu where all sites charged the same amount for all three methods.

The reasons for the price differences are not immediately clear. They may be due in part to where facilities themselves procure these contraceptives: state stores, open market, or PPFN. In Sokoto, half or more of the surveyed facilities obtained their pills, IUDs, and injectables from the open market: their higher charges to clients, therefore, may reflect the higher costs of the open market in a remote area. In Benue state, where half the facilities also procured the methods on the open market, their lower prices may be lower market prices because it is closer to major distribution centers or the port. Another reason may be because in private facilities clients pay for commodities only, while in public facilities the fee for services is added to the price of the commodities.

Are potential consumers aware of the price differences and shop around or must they rely on the facilities, public or private, that are closest to them, irrespective of price? The cost and pricing policy needs to be better understood at all levels. Further study could assist in setting price levels that are appropriate to clients' income levels and, therefore, are unlikely to have a major effect on demand.

Figure 9.

What Family Planning Clients Pay for Contraceptives at Public Service Delivery Points: Average Price in Naira Per Method (Range)



5. Conclusions and Recommendations

The contraceptive supply chain in Nigeria is a vertical system managed principally by the DCDPA of the FMOH. The DCDPA collaborates with many other departments and agencies in the management of the system, particularly the NPHCDA, which manages the zonal warehouses where FP/RH products are stored between the central and state levels.

5.1 Strengths of the System

Due to past technical assistance from USAID, other donors, and commitment to contraceptive logistics on the part of the FMOH, Nigeria's public sector supply chain has a solid foundation upon which to build and improve. The main logistics strengths identified through the assessment include—

- existence of trained personnel, especially at higher levels
- guidelines for logistics practices and responsibilities at all levels
- existence of stock keeping tally sheets and LMIS forms
- established max/min levels, which are printed on the LMIS forms
- adequate storage practices at most sites
- top-level FMOH commitment to improving the system
- increasing donor commitment and coordination.

To the greatest extent possible, future design exercises and interventions should build on these existing strengths. A number of serious issues have led to inadequate logistics system performance and widespread lack of RH product availability, however; these need to be addressed before the system will adequately meet clients' needs. These fall in three main categories: product availability and accessibility (outcomes), logistics system performance (outputs), and factors influencing logistics system performance (inputs and processes). Each will be discussed. Recommendations related directly to findings are highlighted in italics.

5.2 Product Availability and Accessibility

Unfortunately, the assessment showed that the contraceptive logistics system was not being implemented according to plan, and product availability to clients suffered as a result. Key findings and recommendations in this area included the following:

1. *Most contraceptive brands were unavailable at public sector SDPs*. Among the 123 SDPs that provided FP services, no method was available in more than 50 percent of SDPs, and

only Depo-Provera was available in more than one-third of sites visited.* Besides Depo-Provera, the most available method was Gold Circle condoms. Exluton (a progestin-only oral contraceptive for lactating mothers) and no-logo condoms were unavailable anywhere. Postinor II emergency contraceptive pills and IUDs were available in two-thirds of the facilities that manage these products. Exluton and Postinor II fill important niches in the overall method mix, and to meet the full range of client needs, efforts should be made to make them or equivalent products more available. The widespread shortage of Exluton needs to be resolved because this can be used as an introduction to modern FP methods for new mothers, and many facilities offering family planning are maternity homes.

Even sites that had methods available were often understocked. For example, only 3–5 percent of SDPs visited had stock levels between the established minimum and maximum levels for most contraceptive methods on the day of the visit. Almost all SDPs experienced stockouts of at least one contraceptive method during the past six months, and the average duration was more than two months in all cases (for every method). In many cases, SDPs had been without some or all contraceptives for so long (over two years in many cases), that when asked if they managed the product, they replied that they did not. In those cases, service providers had *given up* and no longer saw the value of making requests for products.

In short, the results illustrate the slogan, No product? No program, so *Nigeria should focus on improving product availability as the cornerstone of a viable FP/RH program.*

- 2. In general, warehouses were more likely than SDPs to have contraceptives available, despite the perception that most products are in short supply and warehouses distribute them as soon as they get them. Duofem and IUDs, in particular, were more available in warehouses than in SDPs. The main exception to the rule was Noristerat, which was found in one LGA store but was available in 20 percent of public SDPs and 25 percent of private sites. The central and state warehouses were more likely to have products than the zones. The central warehouse, in particular, had a large supply of no-logo condoms but these were not found in any other warehouses and only in two SDPs. Why products remain at certain warehouse levels when there are stockouts at SDPs is unclear but deserves further study. Possible reasons include lack of transportation and lack of clarity about how products should move down the supply chain.
- 3. *The private sector does not always fill the gap if public sector sites are stocked out.* Not surprisingly, private sites were more likely to have pills and condoms available, while public sites were more likely to have injectables and IUDs. Yet, availability was not notably better in the private sector except for two brands: Gold Circle condoms (80 percent of private sites and 33 percent of public) and Duofem (46 percent private sites and 22 percent public). Even those methods were not present in close to 100 percent of sites. Eighteen percent of private sites had no condoms of any brand, and 35 percent had no pill brands, potentially contributing to unmet need for users.

The private sector will supply whatever brands it can sell profitably, and sites are under no pressure to meet social objectives such as offering a complete range of methods. It is apparent from the findings of this study that the private sector cannot be expected to fill the void if products are unavailable in the public sector. The FMOH should endeavor to ensure that all

^{*} Among sites that *normally offer* IUDs and Postinor II (two methods that require special or recent training), 61% of public SDPs had IUDs available, and 65% had Postinor II. That was out of a small subset of sites, however, because few sites have the personnel to offer those methods. From the clients' perspective, it may be more meaningful to note that the percentage of total sites with these methods available to clients was very small.

methods are made available in public SDPs, focusing on areas and clients with limited means to pay for private sector services.

- 4. Contraceptive availability was lower in areas with high unmet family planning need: the North-West and North-East regions. This may be due to many reasons, including difficulties in delivering products to the more remote areas, perceptions that family planning is less in demand there, provider bias against family planning, lack of trained personnel, lack of supervision, etc. In any case, the FMOH, should make a special effort to reach these areas, and the private sector may be less able to offer methods there given low income levels among potential users.
- 5. Prices to clients were not always cheaper in the public sector. Three of the most popular methods were cheaper to buy in private outlets than public SDPs. The wide range of prices for contraceptives were in SDPs, with prices highest in the poorest areas, indicating *a need to reassess the pricing strategies to ensure that products are affordable*. Gains in contraceptive availability may be compromised if those in greatest need cannot afford the products.
- 6. *Clinical methods often reached clients through inefficient channels.* Consumption data revealed that clients often bought contraceptives from the private sector and brought them to a public SDP for application (i.e., a client may bring in Depo-Provera, Noristerat, or an IUD to be administered at a public SDP). In other cases, the service providers purchased productsfor their clients from the open market. Frequent stockouts of contraceptives have driven both clients and service providers to alternative—and inefficient—routes to obtain contraceptives. Public sector sites are better equipped than pharmacies to provide clinical methods such as injectables and IUDs, so *within the broader context of a market segmentation strategy, the FMOH should logically focus on clinical methods where it has an obvious comparative advantage.*
- 7. Technical assistance and donor support in logistics appears to make a difference. It is also worth noting that two states with low availability of most methods were Sokoto and Kwara, the two control states that are presumed to have received the least technical assistance in logistics. There is insufficient data to say this for certain, but it is at least interesting to see that areas having received assistance appear to be doing better. Donors may wish to consider a plan for nationwide support in logistics if product availability shows notable improvement in areas receiving assistance.

5.3 Logistics System Performance

Lack of product availability can be due to many factors, including changes in demand and other issues beyond the control of logisticians. In this assessment, we analyzed the characteristics of the supply chain to see which components of the *logistics system* were working well or not, thereby capturing as much as possible of the logistics impact on product availability. Logisticians hypothesize that when all components function well, products should be available to clients, and conversely, stockouts will occur more often when any component does not function. Key findings in logistics performance included—

• *The LMIS system, though well designed, was only functioning in a minority of sites.* Few SDPs keep stock records (24 percent), and only about half (51 percent) reported using LMIS forms to report up the system. Further, only 22 percent of SDPs reported submitting LMIS

reports for the most recent reporting period. Most sites that kept stock cards and submitted LMIS forms had accurate data for at least one product, but very few sites had completely accurate stock data. Printed forms were often unavailable and not all personnel are trained to use them. UNFPA states were more likely to have LMIS forms available. Warehouses were more likely to keep stock records and submit LMIS reports, but such reports have limited usefulness if consumption data from SDPs is incomplete.

In many ways, LMIS information is the key component of a logistics system. Without good data on stock status, consumption, and losses/adjustments, it is difficult to forecast and procure appropriate amounts of the right products or to make sound decisions on product distribution. In the case of Nigeria, the lack of reliable consumption data has caused the system to devolve from a theoretical *pull system* (at least at the lower levels) into one of inconsistent rationing based on criteria other than need. As such, *putting in place a working LMIS system is one of the first tasks that the FMOH and partners should undertake*.

- *Limited LMIS data on consumption weakens forecasting and procurement.* The main obstacle at present is poor information on consumption (see comments on LMIS above). Without accurate consumption data passed up through the system, it is difficult to make accurate forecasts. Naturally, without meaningful forecasts, it is unlikely that the right amount of product will be ordered, so procurement has also been affected. There is no focal person for both forecasting and procurement. Procurement is the responsibility of a committee. At present, UNFPA is the procurement agent, and the capacity of forecasting and procurement in the department is uncertain.
- *Expiration was a major problem, at least at the time of the assessment.* Large quantities of expired contraceptives no longer exist at most warehouses and service delivery points. The government took action after the problem was identified in an initial assessment in February, 2001. Nevertheless, other problems, such as lack of transport; forecasting, procurement and distribution decisions not based on consumption data; and lack of a redistribution policy, could potentially lead to future supply imbalances. Unless these other issues are addressed, the FMOH should be aware of the possibility that high levels of expirations could recur in the future.
- *Most sites maintained satisfactory storage conditions, but improvements are still needed.* Fewer than 50 percent of all sites were judged to have storerooms *maintained in good condition*, and only 50 percent of warehouses and 46 percent of SDPs practiced the system of FEFO for managing contraceptives. Another area noted as a weakness in many sites was lack of adequate space—potentially an important issue if the FP/RH program expands in the future. Only 1 percent of all facilities met all 18 recommended storage conditions.

To prevent future wastage of commodities and potential program expansion, improvements in at least the areas above discussed earlier to be made.

• The lack of vehicles to distribute and/or pick-up commodities was a major obstacle at all levels of the system. There was little understanding of how the system should work in terms of whether products should be picked up by lower levels or delivered from higher levels. Lack of transportation was also cited as an obstacle to effective supervision and monitoring.

Cost-efficient transportation options should be explored and guidelines disseminated to all levels.

• *Personnel issues need to be addressed including, but not limited, to training.* The existence of the CLMS with trained logistics staff at the central and zonal levels is a key strength. Seventy-one percent of all surveyed facilities, including SDPs, had at least one trained staff. On the other hand, many staff had not received training in many years and may not have had training in use of the current versions of the LMIS forms. Also, many staff had not been paid regular salaries, in some cases for several months. This has many adverse affects, including deteriorating morale, lack of interest in filling out stock records and LMIS forms, lack of motivation for serving clients, and attrition. At a number of sites visited during the assessment, staff were on strike due to chronic non-payment of salaries.

As one member of the staff at the Edo State Store explained, the need is definitely greater than training:

What support do staff need?

- Regular supply of commodities.
- Training of providers supply of FPMIS forms.
- Regular supervision from higher level.

State storekeeper, Edo

5.4 Factors That Influence Logistics System Performance

The issues mentioned earlier are interrelated in complex ways, and determining how they interact to influence logistics performance (and subsequently product availability) is challenging. It is a useful exercise to undertake, however, in order to prioritize areas to address and make appropriate decisions and interventions. As stated earlier, logisticians believe that a well-functioning logistics system should result in greater product availability to clients, but when many components need improvement, as in Nigeria, decisions may need to be made about which ones to undertake first. There may be no point in training staff to use tally sheets and LMIS forms, for example, if there are no funds to print and distribute the forms. In general, fixing the inputs and processes first should lead to improved performance of logistics components, and after the logistics cycle is functioning effectively, improved product availability to clients should follow. Ultimately, improved product availability should contribute to more clients achieving their reproductive health outcomes.

Among all the inputs to logistics systems, three main categories stand out as vital to any system: money, people, and policies. Certainly in the case of Nigeria, these are areas deserving priority attention, and making improvements in these areas will make technical assistance in specific logistics components more effective.

• *Lack of finances*. This was cited as a cause for many system weaknesses. Lack of finances hindered many aspects of logistics management, including training of staff; payment of salaries; printing and distribution of forms; supervision, monitoring, transport, and distribution; and contraceptive procurement. The solution to this lies not only with increased

donor support, but also with effective advocacy for RH commodity security (and logistics in particular) within the FMOH.

A *consistently applied strategy for cost recovery* could also relieve the strain on government and donor budgets, but prices need to be appropriate, and the policy needs to be consistently applied.

• *Role of the private and NGO sectors.* Nigeria is fortunate to have a strong private sector, serving more than half of all users of modern contraceptives.

A strategy of market segmentation with the private and NGO sectors could also help the FMOH focus services on those clients most in need, relieve some of the burden on its constrained budget, and use its limited resources more cost effectively. Every effort should be made to develop interventions with the FMOH that make sense within that context and that allow each sector to operate in the most effective and appropriate manner.

• *Attrition of trained personnel since the mid-1990s.* This has led to fewer sites with adequate record keeping, fewer sites sending accurate LMIS reports, and ultimately, fewer sites receiving the right amounts of RH products. Lack of trained personnel certainly seems to be one of the reasons that accurate consumption data is not passed up the system, as discussed in the previous section. As such, lack of trained personnel at lower levels of the system contributes to more serious problems higher up, from forecasting and procurement to the delivery of products to service sites.

Training should certainly be undertaken where appropriate, but it will not solve all the logistics problems discussed in this report; it is one of many issues and needs that must be coordinated with other focused interventions.

• *Communication issues.* At the central level, the CLMS structure and relationships between the multiple partners are complex and pose challenges to effective logistics management. In particular, the management of most of the supply chain by the DCDPA, while the NPHCA manages the zonal warehouses, creates inefficient communication flow that has hampered the flow of products from central level to the states. Transactions between the central warehouse and the six zonal warehouses are more ad hoc than systematic. Allocation of commodities from the central warehouse to the zonal warehouses is not based on consumption data, as it should be to prevent shortages and oversupply. At the zonal level, contraceptives are rationed when issued to state stores, due to an insufficient supply. Decentralization down to the LGA level presents additional coordination and communication challenges.

DCDPA needs to work closely with the NPCHA and use the agency as a link to the lowest levels.

5.4.1 Additional Recommendations

- *Build on existing strengths.* The logistics system is not starting from scratch and, wherever possible, new interventions should build on existing strengths. On the other hand, given the tremendous opportunity to bring about high-impact improvements, the FMOH should undertake whatever course is most appropriate for long-term RH commodity security, even if it means substantial changes in the existing system.
- Consider undertaking a "root cause analysis" exercise before or as part of the logistics design workshop. All of the earlier issues need to be addressed, preferably before moving too far along with logistics design. A logistics design workshop is still an excellent next step on the path to improved systems, but an analysis of the main causes of existing system weaknesses could help determine what to focus on and in what order.
- *Prioritize areas of need and plan interventions to address the highest priority issues.* Along with a root cause analysis, an exercise to prioritize problems in order of importance, urgency, cost, and feasibility, would help the FMOH focus on what is most important. If possible, both such a prioritization and causal analysis should either occur before the design workshop or simultaneously.
- Develop a resource mobilization strategy. Clearly, a lack of funds is a major obstacle to effective logistics performance, and the FMOH needs to address this before the system will function effectively. This includes advocating for increased national budget allocations from within the FMOH (or with the Ministry of Finance), as well as funding from donors. In either case, a strong case needs to be made for increased funding, how it would be used, and the impact it would be expected to have.
- Develop a financing strategy and implement it consistently. The variation in cost and the higher price of contraceptives in the poorest areas could be creating a barrier for women to get contraceptives. To ensure availability at an affordable price, a financing strategy for contraceptives needs to be determined and adapted by the State Ministry of Health and local governments. This may entail a study of costs and prices to set price levels to clients that do not adversely affect service utilization. It should also include an analysis of private sector services and develop a strategy for effective market segmentation.
- *Maximize resources for more efficient transportation*. Transportation was another area that was often mentioned as a very high priority and that clearly needs to be addressed. The FMOH needs to determine an overall strategy, including whether it wants to manage a fleet of vehicles or outsource them. If the former, it needs to decide at which level to house the vehicles, and whether products should be delivered to lower levels from above or picked up by lower levels. At the time of this assessment, the most pressing problem was the issue of transporting contraceptives from the central warehouse to the zones. To prevent situations such as the 2000–2001 late distribution that led to contraceptive expiry, the problem needs to be addressed immediately. Prior recommendations were made by DELIVER for FMOH to consider a public-private partnership with SFH or to contract out transporting contraceptives to a private distributor.
- *Re-establish a strategy for systematic supervision and monitoring.* This was also frequently mentioned as an activity that had *broken down* in recent years, especially at lower levels of

the system. It could be one of the reasons for poor reporting rates and poor reporting quality at many sites. Supervision and monitoring are key to service quality and effective logistics practices, and resources should be sought or allocated to ensure that a workable strategy is implemented.

- *Fix "easy" problems first and fix related problems together.* Before investing substantial resources in the truly challenging logistics problems, make sure small but important problems are addressed. A good example is the LMIS. Clearly, implementing a workable system is essential, and it may be tempting to think that training the clinic staff in filling out stock cards and LMIS forms is the solution. While it may indeed be necessary to train staff, LMIS reporting may not improve at all if certain other simpler things aren't corrected first. For example, lack of LMIS forms was frequently cited as a weakness during the assessment, and without forms, even trained and motivated staff would be unlikely to submit them. Though it is an oversimplification to call this an *easy* problem, it is a relatively straightforward one to fix, the cost is not overwhelming, and the potential impact is very high. Of course, making forms more available *without* training staff to use them is also ineffectual. Relations between problems need to be clearly understood, and related issues should be addressed together.
- Use data to support the planning of activities and to advocate for resources. Data from this assessment, SPARHCS, and other studies provide useful information for areas most in need of improvement. Existing data should be reviewed as part of the upcoming logistics design workshop. Data can also be effectively used as a tool for resource mobilization. Donors and other decision makers are more likely to allocate funds if data clearly defines the scope of problems and shows how the problem would improve with the effective use of additional resources.
- *Coordinate logistics interventions with service delivery activities.* Facilities in some states reportedly have discontinued FP services due to community resistance. Addressing this requires a coordinated effort to build community awareness on the benefits of FP during the time or before logistics interventions are implemented. Other factors, such as non-payment of salaries, lack of clinical equipment (for IUD insertion), and lack of goods such as office furniture, are other obstacles to quality service provision. While these are not strictly logistics issues, they have an important impact on the logistics system, and they should be addressed together in order to make all interventions more effective.
- *Review procedures and guidelines for redistribution of overstocked supplies.* When reviewing procedures for the inventory control system, the FMOH should consider guidelines on redistribution of overstocked supplies at the service delivery point level rather than the existing policy of redistribution at the state level.
- Use alternative data sources to make logistics decisions at the central level. At present, consumption data is not collected by the existing logistics system. An immediate step that can be taken to have the right quantities and goods in the right place would be, if available, to obtain FP service utilization data from the NHMIS.
- *Reinforce communication and information exchange at the central and lower levels of the system.* DCDPA works with various departments at the central level and given decentralization, with the zonal, state, and local government administrations to ensure contraceptive availability at the SDP level. The department should reinforce its ties with the

NPHCDA office that administers the zonal warehouses and with logistics officers and technical staff working with state health officers. Communication and information systems need to be revised so that both parties can benefit from the information that is sent up the system, after state and local government facilities are trained to do so.

DCDPA needs to work closely with the Department of Finance and Supplies and other funding agencies to mobilize resources for facilitating distribution and for funding activities such as training, supervising, and monitoring.

- Come to an agreement between DCDPA and NPHCDA on a coordinated information system. Both agencies use information systems with substantial overlap and duplication that may discourage service providers from filling them out and submitting them regularly. In discussions with stakeholders from DCDPA, NPHCDA, USAID, UNFPA, and VISION, it was felt that whether or not there was a single unified form, there should be a single unified *system* with as little duplication as possible. This is a potential topic for the upcoming logistics design workshop.
- *Monitor progress at regular intervals and consider expanded logistics support if improvement is evident.* If the LMIS system becomes operational, it could be used for ongoing monitoring of product availability. If improvements are seen in areas with donor support, it would argue for increased support in the near term to improve the ability of the FP/RH program to meet clients needs. Such support could be linked to SPARCHS efforts to ensure that Nigeria would be able to obtain funds to maintain the logistics interventions in the future.

This set of recommendations is ambitious but should be feasible if the FMOH and other stakeholders continue their high level of effort and commitment to RH commodity logistics. It is hoped that the findings and recommendations from this assessment will help Nigeria move rapidly and successfully down the pathway to RH commodity security.

Appendix A Logistics Indicators Assessment Tool (LIAT)—Public Sector

Logistics Indicators Assessment Tool (LIAT)—Public Sector

Questionnaire for Service Delivery Points, LGA Facilities, States Stores, Zonal And Central Warehouses

Introduce yourself and all members of the team, including titles/positions. Present the objectives of this assessment and how this interview will help the team to achieve the objective.

The objective of this assessment is to describe and identify the strengths and weaknesses of the logistics system at all levels of the system and the extent to which contraceptives and condoms are available to clients at the service delivery point.

Explain how the team will conduct the interview, invite relevant interviewees to join the group and begin.

Beginning time of Interview ____

1. Date	. Date 2. Interviewer(s)						
3. State 4.	State 4. LGA						
5. Type of facility: (Circle all that a	apply)						
Urban	Rural						
Warehouse or Store	Service Delivery Point						
(if warehouse go to question 6, if SDP go to question 7)							
6. If warehouse/store:							
a) Central							
b) Zonal							
c) State							
d) LGA							
7. If SDP:							
a) Hospital							
b) Clinic/Maternity Home							
c) Dispensary							
d) Health post							
8. Name of the facility:							
9. Total number of staff in family p	planning/contraceptives:						

10. Respondents interviewed at this	s site:						
Title	Length in current po	osition	Received training in logistics				
	years/mo	nths	a. Ordering				
			b. Receiving supplies				
			c. Inventory management				
			d. Supervision				
	years/mo	nths	a. Ordering				
			b. Receiving supplies				
			c. Inventory management				
			d. Supervision				
	years/mo	nths	a. Ordering				
			b. Receiving supplies				
			c. Inventory management				
			d. Supervision				
	nths	a. Ordering					
			b. Receiving supplies				
			c. Inventory management				
			d. Supervision				
11. How many others in this facility	are trained in:						
Ordering							
Receiving supplies							
Inventory management							
Supervision							
12. Do you keep records/reports to	manage a) Yes					
contraceptives?	b) No go to	question 20				
13. What types of records/reports of	lo you use? (circle a	ll that apply)					
a) Tally sheets	-						
b) Stock cards/stock records							
c) Exercise books/ledger							
d) FPMIS/HMIS reports (indicate w	hich ones from the lis	st below)					
Form 3 or Form 3A Form	4 or Form 4A	Form §	5A Form 6A				
4 HF-1 4 LG-1	4	4 ST-1	4 HF-2				
Other (specify)							
Please circle answer(s)			Comments				

14. How is the information on these records/reports used? (Circle all that apply)
a) Calculating consumption
b) Calculating needs
c) Reporting use to the higher level
d) Requesting supplies from the higher level
e) Other, please explain in comments section
15. If FPMIS/NHMIS reports are used, are they sent to the next higher level?
a) Yes
b) No (go to question 18)
c) Don't know (go to question18)
d) Not applicable (go to question18)
16. How often are these reports supposed to be sent to the higher level?
a) Monthly
b) Quarterly
c) Semi-annually
d) Annually
e) Other (please specify in the comments section)
f) Not Applicable
17. When was the last time you sent the report to the higher level?
(if more than one report is sent, the answer should refer to the monthly report)
18. How many facilities/CBDs/Birth attendants should send reports to this facility?
(if zero, go to question 20)
Provide an approximate number of facilities/CBDs/Birth attendants that send these reports according to schedule.
19. How are the facility's re-supply quantities calculated?
a) The facility itself decides (pull)
 b) The facility at the higher level decides (push/topping up) (go to question 24)
c) Both push and pull (explain in the comments section)
Other (explain in the comments section)

Please circle answer(s)	Comments
20. How often are you supposed to place orders each year?	
a) Monthly	
b) Quarterly	
c) Semi-annually	
d) Annually	
e) Other (specify in the comments section)	
Not Applicable	
21. How many times have you placed an order in the last year?	
22. Which information is used to calculate the facility's re-supply quantities? (Circle all that apply)	
a) Beginning balance	
b) Ending balance	
c) Quantity received	
d) Quantity issued	
e) Quantity dispensed-to-user	
f) Losses and adjustments	
Other (specify in the comments section)	
23. How often does the higher level send you supplies or tells you that supplies are available to be picked up?	
24. How did you learn how to complete the forms used at this facility? (Circle all that apply)	
a) During a family planning or logistics training	
b) On the job training	
c) On the job	
Other (specify in the comments section)	
25. Who is responsible for transporting commodities to your facility?	
a) This facility collects	
b) The higher level facility delivers	
Other (explain in the comments section)	
26. What mode of transportation is most often used? (Circle all that apply)	
a) Public transportation	
b) Facility-managed vehicle	
c) Hired vehicle	
d) Own vehicle	
e) On foot	
Other (specify in comments section)	

IF THE FACILITY IS A STATE STORE (If not skip to question 28)	
27. How long is the period between the last time you ordered or told to pick up supplies and the time you picked up your order?	
28. If it has been more than a month specify the reason	
20. When did you conduct your last superviser visit?	
29. When did you conduct your last supervisory visit?	
a) within the last month	
b) Within the last 3 months	
d) Other (explain in comments section)	
e) Never	
f) Not Applicable	
30. When did you receive your last supervisory visit?	
a) Within the last month	
b) Within the last 3 months	
c) Within the last 6 months	
d) Other (explain in comments section)	
e) Never (go to question 34)	
f) Not Applicable (go to question 34)	
31. Who conducted the supervisory visit that you received? (specify position of the person)	
32. What was done during the supervisory visit you received? (Circle all that apply)	
a) Supplies checked	
b) Stock cards checked	
c) Expired stock removed	
d) LMIS reports checked	
e) OJT/coaching	
f) Other (explain in the comments section)	
Are there any commodities you usually run out of before re-	1
supply? List the three most frequent.	2
	3
Are there any commodities you usually have a surplus of before	1.
re-supply? List the three most frequent.	2.
	3

33. If you run out of contraceptives, what do you do?	
a) Go to the the next higher level for resupply (go to question 40)	
b) Buy from an NGOs (e.g. SFH, PPFN, ARFH)	
c) Buy from the open market	
d) Refer clients to pharmacies/Patent Medical Stores (go to question 40)	
Other (specify) (go to question 40)	
34. If you buy from NGOs or the open market, how often do you do so?	
35. If from NGOs or the open market, do you buy at a discounted price?	
a) Yes	
No (go to question 40)	
36. If at a discounted price, how much of a discount do you get on average?	
27. What actual he done to answer the regular cumply of producto?	
37. what could be done to ensure the regular supply of products?	
38. Aside from "more staff" and "salary issues", what kind of support could be provided to help you do your job more effectively?	

	Logistics Indicator Assessment Tool (LIAT)—Nigeria
39. 8	STOCK STATUS TABLE
Note orde	e the established minimum months of stock and maximum months of stock for fully supplied products in this facility and the time between prs.
Con	nplete the following table for authorized products only using the following guidelines:
1.	All products that will be studied are listed.
6.	The units of count for each product (e.g. cycles, vials, tablets, pieces, etc) are listed.
3.	Ask the interviewee which products are managed by this facility (normally carried/managed in the last 3 or 4 years/facility has the capability to manage) and note yes or no for each product.
4	Enter the total consumption or issues for the last 6 months. If less than 6 months of data available, enter data from as many months as possible.
5.	Record the number of months the total consumption was based on (should be 6 in most cases)
6.	Record usable stock on hand based on a physical inventory of each product.
7.	Record usable stock on hand based on stock ledgers or stock cards for each product. If there are no stock cards write "no stock cards."
<u>%</u>	If there is a difference between columns 6 and 7, write in short the reason for discrepancy. If there is no discrepancy, write "=".
9.	Indicate whether or not an order has been placed in the last 3 months with a yes or no.
10.	Enter the total amount of expired quantities of products that are on the shelf or anywhere inside the storeroom for each product.
11.	Note the source for each product.
12.	Note the price the facility paid for the product (cost to the facility)
13.	Note the price that the facility is charging clients for each product

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STOCK STATUS TABLE

j.				r					
	Quantity Source Cost Price of of to to expired contra-facility clients		13						
			12						
			11						
months			10						
	Has order been placed in the last 6 monhts Y/N		6						
Order interva	Reason for discrepancy betw. Col. 6&7, if any		80						
	k on hand	From stock ledger or stock cards	7						
months	Usable sto	From physical inventory	9						
imum:		Number of months	5						
Max	Total consumption or issues last 6 months		4						
months	Product managed by this facility? Y/N		£						
	Units of Count		2						
Minimum: _	Product		-						
	Logistics Indicator Assessment Tool (LIAT)—Nigeria								
-------------------	--								
40. ST	OCKOUT ASSESSMENT TABLE								
Reviev	<i>w</i> the stock cards from January 1, 2002 to identify if any products stocked out. Alternatively, ask knowledgeable staff to identify if any sts have stocked out over the past 6 months.								
Note: Provei	It may be necessary to use more than one line per product in the table as, for example, there may have been 3 different stockouts of Depo- a^{\otimes} since January 1, 2002.								
1. Fi co in	rst enter any products managed by this facility from the Stock Status Table that had a stock out in 2002 (any product in table 40 that had 0 in lumn 6-physical inventory). Then enter products from tally cards/exercise book that were stocked out in 2002. Lastly, ask the key formants' if there have been stockouts in 2002 that are not recorded in the tally cards/exercise book.								
2. Re	cord if there is a tally card/exercise book available that has been updated within the last 6 months by answering yes or no.								
3. Er	iter whether there was a stock out at the time of the visit for each product.								
4. Er	iter the date (or estimated date) the stock out began.								
5. Er	iter the date the stock out ended. If the stockout is on-going on the day of the visit, enter "on-going."								
6. CI	neck column 7 if the date of the stockout has been taken from the stock cards or other logistics records.								
7. CI	neck column 8 if an informant has estimated the date of the stockout.								
8. Er	ter the reason for the stockout. Please use the codes listed below the table.								
0. D									

Nigeria: Baseline Assessment of the Contraceptive Logistics System

Reason for	stockout	(see list below)	8								
ıformation	مئمومسوكما	knowledge	7								
Source of ir	Stock condo on	other records	9								
	Stockout end date		5								
	Stockout start date		4								
Stockout at	time of visit	(N/A)	3								
ercise book		Updated (Y/N)									
Tally card/Ex		Available (Y/N)	2	-	 	 	 	-			
Authorized	Products (with a stockout in	2002)	1								

STOCKOUT (IN 2002) ASSESSMENT TABLE

*Please continue on a blank paper if more space is necessary.

Reason for stockout: 1=Could not go to pick up the products 2=Higher level facility did not send enough products 3=Higher level facility did not send products in time 4=Increase in consumption 5=Did not request the right amount 6=Did not request products at the right time 7=Other reasons and state the reason

	Usable St	ock on Hand (at time of most recent Ll	MIS report)	
Method/Brand/Product	According to Most Recent Monthly Report Date of report	From Tally Cards/Exercise book from time of the Monthly Report	(If columns 2&3 are different) Reasons for Discrepancy	
~	2	°	4	1
Lo-Femenal				
Duofem				
Microgynon				
Exluton				
Depo-Provera [®]				
Condom-Gold Circle				
Condom-No logo				
Neosampoon				
CuT380				
Noristerat				
Postinor II				

EEN QUANTITY ORDERED AND QUANTITY RECEIVED (IF PULL)
ENT WRITTEN ORDER PLACED AND RECEIVED IN 2002
cd.
used in this facility (push or pull). Once you have circled either "PULL" or "PUSH", cross out the row that
o" whether there was written order was placed in 2002 for each product. IF PUSH, note with a "yes" if you in 2002 with a "yes" or "no."
o" whether the written order was received for each product. IF PUSH, note with a "yes" or "no" if you picked
ite order was placed. IFPUSH, enter the most recent date the facility was asked to pickup.
te order was received. IF PUSH, enter the most recent date the facility picked up.

Nigeria: Baseline Assessment of the Contraceptive Logistics System

Method/Brand/	IF PUSH	Were you asked to pick up products in 2002 (Y/N)	Did you pick up products in 2002 (Y/N)	Most recent date you were asked to pick up	Most recent date you picked up	Quantity you were told to pick up	Quantity you picked up
Product		Was a written orde	r for this product	Most recent	Most recent	Quantity ordered	Quantity
	IF PULL	Placed in 2002 (Y/N)	Received (Y/N)	date order placed	date order received	for last order period in year 2002	received in last order
~	2	m	4	5	9	7	œ
Lo-Femenal							
Duofem							
Microgynon							
Exluton							
Depo-Provera®							
Condom-Gold Circle							
Condom-No logo							
Neosampoon							
CuT380							
Noristerat							
Postinor II							
Ciproflaxin							
Erythromycin							
Benzathine Pencillin							
Doxycycline							
Rifampacin							
Isoniazid							
Streptomycin							
Thiazine							
Pyrazinamide							
Ethambutol							

43. TABLE STORAGE/WAREHOUSE CONDITIONS TABLE

Items 1–14 should be assessed for all facilities for contraceptive and condoms.

Place a check mark in the appropriate column based on visual inspection of the storage facility, noting any relevant observations in the Comments column.

No	Description	Yes 1	No No	N/A	Comments
<u>ر</u>	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-Expiry / First-Out (FEFO) counting and general management.				
3.	Cartons and products are in good condition, not crushed due to mishandling. If opened cartons, products are not wet or cracked due to heat/radiation (fluorescent lights in the case of condoms; for Depo-Provera®, cartons are right side up)				
4.	The 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 at all times of the day and during all seasons.				
6.	Cartons and products are protected from water and humidity during all seasons.				
7.	Storage area is visually free from harmful insects and rodents. (Check the storage area for traces of rodents (droppings) or insects).				
8.	Storage area is secured with a lock and key, but accessible during normal working hours, with access limited to authorized personnel.				
9.	Products are stored at the appropriate temperature during all seasons according to product temperature specifications.				
10.	All hazardous waste (e.g., needles, toxic materials) is properly disposed of and non-accessible to non- medical personnel.				
11.	Roof is maintained in good condition to avoid sunlight and water penetration at all times.				
12.	Storeroom is maintained in good condition (e.g. clean, all trash removed, shelves are sturdy, boxes are organized).				
13.	The current space and organization is sufficient for existing products and reasonable expansion (i.e., receipt of expected product deliveries for the foreseeable future).				
14.	Products are stored separately from insecticides and chemicals.				

To qualify as "yes," all products and cartons must meet the criteria for each item.

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sment of
e Assess
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Nigeria:

I he a	dditional standards below can be applied to any facility large enough to require stacking of multiple	boxes.			
No.	Description	Yes	No	N/A	Comments
15.	Products are stacked at least 10 cm (4 inches) off the floor.				
16.	Products are stacked at least 30 cm (1 foot) away from the walls and other stacks.				
17.	Products are stacked no more than 2.5 meters (8 feet) high (for Neosampoon no more than 6 cartons).				
18.	Fire safety equipment is available and accessible (any item identified as being used to promote fire safety should be considered).				
Additio Item 2: Item 3:	nal guidelines for specific questions: In noting proper product arrangement, the shelf life of the different products should be considered. Cartons should be checked to determine whether they are smashed due to mishandling. The conditions of the products inside opened or da	ımaged car	tons shor	uld also be e	examined to see if they

ltinlo b ¢ , -1:4:1 4 -. -4 --. 1.4:0 Ē are wet, cracked open due to heat/radiation (e.g. because of fluorescent lights in the case of condoms) or crushed. Item 4: The discarding of damaged or expired products should be conducted according to the facility's procedures (which may differ from one facility to another). Please 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 with a key in a clinic. Item 17: Fire safety equipment does not have to meet international standards. Any item identified as being used to promote fire safety (e.g. water bucket, sand) should be considered.

Thank the person/people who talked with you. Reiterate how they have helped the program achieve it's objectives and assure them that the results will be used to develop improvements in logistics system performance

44. End time of interview:

45. Total time of interview:

Appendix B Logistics Indicator Assessment Tool (LIAT)—Private Sector

Questionnaire for Patent Medicine Stores and Pharmacies

Logistics Indicator Assessment Tool (LIAT)—Private Sector

1.Date			2. Interview	er(s)					
3. State			4. LGA						
5. Type of facility: a) Patent Medicine stor	es	b) Pharmacy	~						
6. Stock Status Table									
Product	Units of Count	Do you normally carry this product? (Y/N) If NO, Strike out remainder of row	If YES in Col 3, is the product in stock today? (Y/N)	If Col 4 is NO, why is the product not in stock?	Source of supply	Price to client (include unit if different from Col 2 e.g. N100/Sachet)	How much do you sell on the average in a month?	Have you had a stockout of this product in last 6 months?	If yes to Col 9 How long did the stockout last?
F	2	3	4	5	9	7	8	6	10
Lo-Femenal	Cycle								
Duofem	Cycle								
Microgynon	Cycle								
Depo-Provera [®]	Vial								
Condom-Gold Circle	Piece								
Condom-No logo	Piece								
Condom-other brands	Piece								
VFTs	Tablet								
CuT380	IUD								
Noristerat	Vial								
Postinor II	Dose								
Ciproflaxin	Tablet								
Erythromycin	Tablet								
Benzathine Penicillin	Tablet								
Doxycycline	Tablet								
List all the different brands	of condom in t	the facility:							

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ogistics System	
Contraceptive L	
ment of the	
eline Assess	
Nigeria: Base	

Questions	Comments
 How do you order or procure contraceptives, condoms, STI drugs (Circle all that apply) a) Purchase from company reps when they visit 	
b) Go to pick up from supplier	
c) Others (specify in the comments section)	
6. How often do you restock most contraceptives, condoms, & STI drugs? a) Weekly	
b) Monthly	
c) When I run out of stock	
d) Yearly	
7. How do you determine the pricing of contraceptive products?	
 B. Do you ever sell to the public sector (e.g. government clinic or health post) a) Yes 	
b) No	
9. If yes, do you sell at a reduced price? a) Yes go to question 12	
b) No	
10. If yes, what percent of a reduction?	
Thank the person/people who talked with you. Reiterate how they have helped the program achieve it's object develop improvements in logistics system performance	tives and assure them that the results will be used to

Appendix C LSAT Discussion Participants' List

LSAT Discussion Participants' List

Name

Organization

A. C. Oyeyipo	UNFPA
Bose Adeniran	FMOH
Pauline Aribisala	FMOH
T.I. Koleoso Adelekan	National Primary Health Care Development Agency
Christian Enenche	Society for Family Health/PSI
Musa Odiniya	FMOH/DCDPA
Y.Y. Abdullahi	FMOH/DCDPA
L.C.C. Anyanwu	FMOH
Liz Tayler	DFID
Dr. M.S. Amaeshi	Department of Community Development and Population Activities
Dr. Peju Adenusi	DCDPA
I. Derex-Briggs	NASCP/FMOH
Adebayo Ajala	The Nigerian Institute of Social and Economic Research
Charity Ibeawuchi	Policy Project
I. M. Ibrahim	Planned Parenthood of Nigeria
Dr. Ernest Nwokolo	FMOH/Roll-out Malaria
Toyin Akpan	Vision Project

Appendix D States with Corresponding LGAs Selected in the Six Geopolitical Zones

States with Corresponding LGAs Selected in the Six Geopolitical Zones

Zones	State	Local Government Areas	
		1. Enugu North	
		2. Udenu	
South-East	Enugu	3. Igbo-Etti	
		4. Enugu East	
		5. Nkanu East	
		1. Esan West	
	Edo	2. Oredo	
South-South		3. Orhionmwon	
		4. Owan East	
		5. Uhunmode	
		1. Afijio	
	Оуо	2. Ibarapa East	
South-West		3. Ogbomoso South	
		4. Orire	
		5. Ibadan South West	
	Kwara	1. Kaima	
		2. Edu	
North-Central		3. Ekiti	
		4. Ilorin South	
		5. Offa	
		1. Ado	
	Benue	2. Katsina-Ala	
		3. Konshisha-Tse	
		4. Obi	
		5. Otkupo	
North-East		1. Alkaleri	
		2. Bauchi	
	Bauchi	3. Giade	
		4. Kirfi	
		5. T/Balewa	
North-West		1. Shagari	
	Sokoto	2. Wurno	
		3. Sokoto North	
		4. Wamakko	
		5. Gwadabawa	

Appendix E Assessment Teams by State

Assessment Teams by State

State	Name	Organization
Edo	Dr. Adeniran Bose	FMOH/DCDPA
	I. Ukenye	NPHCDA/Benin, Edo State
Оуо	Pauline Aribisala	FMOH/DCDPA
	Aderemi Adesina	Vision Project/Ibadan, Oyo
Faugu	Dr. Peju Adenusi	FMOH/DCDPA
Lingu	Eneje Emeka	Vision Project/Enugu, Enugu
Populo	Dr. Derex-Briggs I.	FMOH/NASCAP
Dende	Nancy Twakor	NISER
Kwara	Ohanu Ifeniye	NPHCDA/Jos, Plateau State
	Lawrence Anyawu	FMOH/DCDPA
Rauchi	Rufai Ibrahim	Vision Project/Bauchi
Daucin	Y.Y Abdullahi	FMOH/DCDPA
Sokoto	Musa Odiniya	FMOH/DCDPA
	Adebayo Ajala	NISER

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