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NIGERIA: FINAL COUNTRY REPORT



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DELIVER
No Product? No Program. Logistics for Health

NIGERIA: FINAL COUNTRY REPORT

DELIVER

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

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

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Abstract

As DELIVER comes to an end, the liaison between commodity security and the supply chain has become more evident. There can be no security without a responsive supply chain managed by dedicated, well-trained professionals operating in a supportive management environment. DELIVER activity in Nigeria focused on development of improved logistics systems for reproductive health (RH) and HIV/AIDS program commodities. Consistent with DELIVER and Federal Ministry of Health (FMOH) objectives, DELIVER worked with the FMOH/Department of Community Development Population Activities (RH) and FMOH/National AIDS/STD Control Program (HIV/AIDS) to implement programs of national scale by collaborating with larger partners.

Improving human capacity in logistics among key stakeholders was a DELIVER core activity. Since 2002, DELIVER, working with the FMOH and other partners, has trained approximately 2,000 government and nongovernmental organization logistics managers on the FMOH contraceptive logistics management system (CLMS) and 363 logistics managers and service providers on a streamlined CLMS in 2006. In addition, 142 FMOH personnel were trained in quantification, procurement planning, and the newly designed logistics system for antiretroviral drugs and HIV test kits.

DELIVER

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CONTENTS

- Acronyms..... v**
- Acknowledgments..... vii**
- Executive Summary ix**
- Program Background..... 1**
 - Country Context.....1
 - Key Players and Roles7
 - Key Challenges.....9
- Goals and Objectives 13**
 - DELIVER Objectives for Reproductive Health13
 - Relationship to USAID and Client Objectives14
 - DELIVER’s Role in Relation to Other Organizations.....15
 - Description of Strategies.....17
 - Summary of DELIVER Funding and Staffing.....18
- Program Results..... 21**
 - Element I: Improved Logistics System.....21
 - Element II: Improved Human Capacity in Logistics23
 - Element III: Improved Resource Mobilization for Contraceptive Security.....24
- Lessons Learned and Future Directions..... 27**
- References 29**
- Appendices 31**
 - 1. CS Brief31
 - 2. Program Results Matrix37

ACRONYMS

AIDS	acquired immunodeficiency syndrome
ART	antiretroviral therapy
ARV	antiretroviral
CDC	Centers for Disease Control and Prevention
CIDA	Canadian International Development Agency
CLMS	contraceptive logistics management system
CMS	Central Medical Store
COMPASS	Community Participation for Action in the Social Sector (project)
CPR	contraceptive prevalence rate
CPT	contraceptive procurement table
CS	contraceptive security
CSEP	Country Strategic and Evaluation Plan
DCDPA	Department of Community Development Population Activities
DFID	British Department of International Development
DHS	Demographic Health Survey
ENHANSE	Enabling HIV & AIDS, TB and Social Sector Environment (project)
FCMS	Federal Central Medical Stores
FCT	Federal Capital Territory
FDS	Food and Drug Services
FHI	Family Health International
FMOH	Federal Ministry of Health
FP	family planning
FY	fiscal year
GFATM	Global Fund to Fight AIDS, TB and Malaria
GHAIN	Global HIV/AIDS Initiative Nigeria
GON	Government of Nigeria
HIV	human immunodeficiency virus
IDA	International Dispensary Association
IP	implementing partner
IUCD	intrauterine contraceptive device
JSI	John Snow, Inc.

LGA	local government area
LIAT	Logistics Indicators Assessment Tool
LMIS	logistics management information system
LSAT	Logistics System Assessment Tool
MOH	Ministry of Health
M&E	monitoring and evaluation
NACA	National Action Committee on AIDS
NASCP	National AIDS/STD Control Program
NGO	nongovernmental organization
PEPFAR	President’s Emergency Plan for HIV/AIDS Relief
PHR <i>plus</i>	Partners for Health Reform <i>plus</i> (USAID)
PMTCT	preventing mother-to-child transmission
PRB	Population Reference Bureau
PSI	Population Services International
RH	reproductive health
RHCS	reproductive health commodity security
SCM	supply chain management
SCMS	Supply Chain Management System (project)
SDP	service delivery point
SFH	Society for Family Health
SO	strategic objective
SPARHCS	Strategic Pathway for Reproductive Health Commodity Security
STD	sexually transmitted disease
STG	standard treatment guideline
STI	sexually transmitted infection
TB	tuberculosis
TOT	training of trainers
WHO	World Health Organization
UN	United Nations
UNFPA	United Nations Population Fund
UNICEF	United Nations Children’s Fund
USAID	U.S. Agency for International Development

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DELIVER was also graced with a strong and supportive working relationship with the Nigerian Federal Ministry of Health. We extend our heartfelt thanks to the director of the Department of Community Development Population Activities (DCDPA) and his staff, the National AIDS/STD Control Program (NASCP) director and her staff, and our colleagues at the National Action Committee on AIDS (NACA) and the Food and Drug Services (FDS). The purpose of DELIVER in Nigeria has always been to empower our partners to realize their public health vision by increasing access to key program commodities. There is no success that belongs solely to DELIVER. Any real achievement in Nigeria is a reflection of the continued, dedicated effort of ministry personnel who worked with us to realize a common vision. The list of ministry partners is long, but we would be remiss not to mention our friends at DCDPA who have worked with us since 2002, particularly Bose Adeniran, Lawrence Anyanwu, Pauline Aribisala, Musa Odiniya, and Y.Y Abdullahi.

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The Nigeria Country Team also thanks our local staff for their dedication and significant contributions, especially our technical officers Sule Abah and Gbenga Ishola, and takes this opportunity to applaud them for their dedication to public health in Nigeria and to wish them continuing success.

EXECUTIVE SUMMARY

Since its initial assessment in 2001, the overall vision of DELIVER in Nigeria is to establish well-managed supply chains that ensure the availability of select commodities essential to the reproductive health and sexually transmitted infections/HIV/AIDS control programs. Assessments, conducted by the Federal Ministry of Health (FMOH), United Nations Population Fund, and DELIVER between 2001 and 2003, clarified the national supply status for public-sector contraceptives and identified areas of weakness in forecasting, pipeline monitoring, procurement planning, distribution, and data management. Training in 36 states, plus the Federal Capital Territory, on a redesigned contraceptive logistics management system (CLMS) was completed in the fourth quarter of 2003. With this redesign and the distribution of seed stocks, availability of contraceptives increased at service delivery points (SDPs). By August 2004, contraceptives had been distributed to more than 2,000 public-sector SDPs throughout Nigeria.

In December 2003, to plan for the expansion of antiretroviral therapy (ART) availability, the U.S. Agency for International Development (USAID)/Nigeria requested DELIVER's technical assistance to support a study of ART in Nigeria. This research was conducted as a joint effort by the POLICY Project, Partners for Health Reform*plus*, and DELIVER. This assessment was completed by March 2004. The resulting report documents HIV/AIDS program needs in policy, financing, and drug supply management. It has become an important and widely disseminated reference document for the FMOH, the President's Emergency Plan for AIDS Relief, and other nongovernmental and faith-based organizations planning ART programs.

DELIVER has worked closely with the USAID/Nigeria bilateral programs, the FMOH, and other development partners to strengthen supply management. Over the past five years, DELIVER has taken a lead role and assisted with forecasting, quantification, procurement planning, data collection, processing and analysis, system design, performance improvement and monitoring, and evaluation activities to support commodity security for the national reproductive health and HIV/AIDS programs.

As concluded in the *Monitoring and Evaluation Summary Report* (DELIVER 2005): "Findings from the [2005] Logistics Indicators Assessment Tool (LIAT) assessment show that contraceptive availability increased between 2002 and 2005 and storage practices and the availability of stockcards also improved during this time. An HIV/AIDS assessment (stages of readiness) revealed that these products were also well stocked; however, reporting rates for both sets of commodities (RH & HIV/AIDS) were very low. While there remains much work to be done, the FMOH (Department of Community Development Population Activities [DCDPA], and the National AIDS/STD Control Program [NASCP]) has made significant progress in increasing product availability, building logistics systems for contraceptives and HIV/AIDS commodities, and building a strong contraceptive security strategy."

PROGRAM BACKGROUND

COUNTRY CONTEXT

The 2006 World Population Data Sheet from the Population Reference Bureau (PRB) estimates the population of Nigeria at about 134.5 million, with a rate of natural increase of 2.4 percent per annum. Nigeria has the largest population in Africa. Table 1 lists additional demographic indicators.

Table 1. Demographic Indicators, Nigeria, 2001 and 2006

Indicator	2001 (used for the 2002 Country Strategic and Evaluation Plan)	2006	Source
Birth rate (annual number of births per 1,000 total population)	41	46	PRB 2001 and 2006 World Population Data Sheets
Death rate (annual number of deaths per 1,000 total population)	14	15	PRB 2001 and 2006 World Population Data Sheets
Lifetime births per woman (total fertility rate)	5.8	5.9	PRB 2001 and 2006 World Population Data Sheets
Modern contraceptive prevalence rate (women ages 14–49)	7% in 1995 (USAID) 8.8 (DHS)	8%	USAID Nigeria Transition Strategy 1999–2001 Nigeria Demographic and Health Survey 1999 PRB 2006 World Population Data Sheet
Infant mortality rate (infant deaths per 1,000 live births)	75	84	PRB 2001 and 2006 World Population Data Sheets
Life expectancy at birth, both sexes (years)	52	44	PRB 2001 and 2006 World Population Data Sheets
Gross national income per capita in US\$	\$770	\$1,040 (2005)	PRB 2001 and 2006 World Population Data Sheets
National prevalence of HIV/AIDS (adults ages 15–49)	5.06% (2000)	3.7% (2003) 3.9% (2005) 3.9% (2005)	PRB 2006 World Population Data Sheet Joint United Nations Programme on HIV/AIDS 2000 and 2006 Reports on the Global AIDS Epidemic

The apparent worsening of these health indicators over the past five years is part of a complicated picture. While the Government of Nigeria (GON) has made very public efforts to improve accountability and reduce corruption, government employee salaries and benefits still go unpaid or are paid late. While per capita gross national income as measured in dollars has increased, the buying power of those dollars has decreased. While a mix of contraceptives is now available in most public health facilities through the government's efforts and in pharmacies through social marketing, and numbers of contraceptives used (throughput) has grown with the population, contraceptive prevalence has not increased. Desired family size remains high—six children desired for women and nine for men—indicating that the current fertility of 5.9 births per woman is actually lower than the desired fertility. Unmet need is estimated at 17 percent.

Low demand is also linked to poverty, the low status of women, and to social and religious norms that are barriers to contraceptive use that are outside of the mandate of DELIVER.

Of the eight percent of women of reproductive age who use modern contraception, hormonal methods (pills and injectables) continue to dominate the method mix, followed by condoms. In 1999, an assessment might have concluded that this dominance was due to product availability. However, efforts by international donors, such as the U.S. Agency for International Development (USAID) and the United Nations Population Fund (UNFPA), and the GON to promote long-term methods (intrauterine contraceptive device (IUCD) and sterilization) through the public sector between 2000 and 2005 seem to have had little impact. This may in part be due to the source mix: only about one in four women obtain their modern methods from a public-sector health care provider or facility (NPC and ORC Macro 2004). The high use of hormonal methods, however, also likely reflects continuing issues related to Nigerian couples' knowledge, attitudes, and practices related to family planning.

REPRODUCTIVE HEALTH

DELIVER began its work in Nigeria focused on reproductive health commodity and logistics programs and contraceptive security initiatives. A team of DELIVER and U.S. Centers for Disease Control and Prevention (CDC) consultants undertook a contraceptive logistics assessment in February–March 2001. Although this was a qualitative assessment of the status of the contraceptive logistics system at the time, and did not involve a statistically significant facility-based survey, the consultants, along with teams comprised of Federal Ministry of Health (FMOH) counterparts, visited a number of facilities in different regions of Nigeria. The assessment team discovered positive aspects regarding the status of contraceptive security in its findings:

- some staff at all levels trained in logistics
- a basic understanding of logistics at the local level
- an attempt to maintain recording and reporting at least at the service delivery point (SDP) level
- estimation of contraceptive requirement often based on consumption and stock on hand
- physical security of warehouses maintained
- conditions of storage rooms/cabinets satisfactory.

The same assessment revealed certain weaknesses of the logistics system that may threaten contraceptive security in Nigeria:

- expired stocks crowding existing warehouses
- poor storekeeping practices (poor record keeping and weak storage procedures)
- frequent stockouts of condoms, progestin-only pills, and injectables at SDP level
- no logistics manuals
- supervision rarely carried out because of transportation problems
- very few condom users in most clinics
- a variety of commodity prices, often highest in the poorest areas.

Among other issues, the assessment highlighted the need to re-implement a nationwide logistics management information system (LMIS) through a broad training program for staff at all levels. Contraceptive logistics was the point of departure for the program. It was not until December of 2003 that

DELIVER was invited to participate in a joint facility-based assessment with the POLICY Project and Partners for Health Reform*plus* (PHR*plus*) that DELIVER began working in HIV/AIDS programming. This will be discussed in additional detail later in this section.

CONTRACEPTIVE SECURITY SITUATION

The 2001 assessment found social marketing contraceptives widely available, but the public sector was in need of significant assistance. Between 2002 and 2003, John Snow, Inc. (JSI), (already under contract to USAID for the DELIVER project), working with grant money from the Packard Foundation and in close collaboration with UNFPA, assisted the FMOH to implement a national training on contraceptive logistics that trained more than 2,000 service providers and supervisors in all 36 states, plus the Federal Capital Territory (FCT). DELIVER continued to work with the FMOH to prepare annual forecasts and procurement plans while UNFPA secured financing to procure the contraceptive requirements for the national family planning/reproductive health (FP/RH) program (principally from the Canadian International Development Agency [CIDA]).

Since 2002, the public-sector contraceptive logistics management system (CLMS) has supported significant improvement in contraceptive availability in primary health care centers. The FMOH manages the CLMS and has worked with partners such as UNFPA and DELIVER to strengthen forecasting, procurement planning, distribution management, and monitoring and supervision for contraceptives. The percentage of facilities maintaining up-to-date stockcards has increased significantly and storage conditions have improved, signifying that the quality of products is being maintained. Availability of injectables, male condoms, and Exluton in the public sector increased significantly between 2002 and 2005.

Statistically significant increases occurred in the availability of the following four products: Noristerat, Exluton, Depo-Provera, and male condoms. Though falling short of statistical significance, there was a 15 percent increase in Microgynon availability and a six percent increase in the availability of Lo-Femenal from 2002 to 2005. Table 2 shows a comparison of availability of methods between 2002 and 2005. In 2002, the FMOH, DELIVER, and UNFPA hosted a series of workshops and meetings designed to introduce the Strategic Pathway for Reproductive Health Commodity Security (SPARHCS).

Table 2. Comparison of Availability of Contraceptives on the Day of Visit between 2002 and 2005

Method	Percentage of Facilities with Product in Stock on Day of Visit		n (number)	Significance
	2002	2005		
Lo-Femenal	27	33	55	.690
Microgynon	35	50	34	.359
Noristerat	25	56	55	.003
Exluton	6	63	16	.004
Depo-Provera	56	75	61	.036
Male condoms	5	73	22	.000
IUCDs	77	71	31	.754

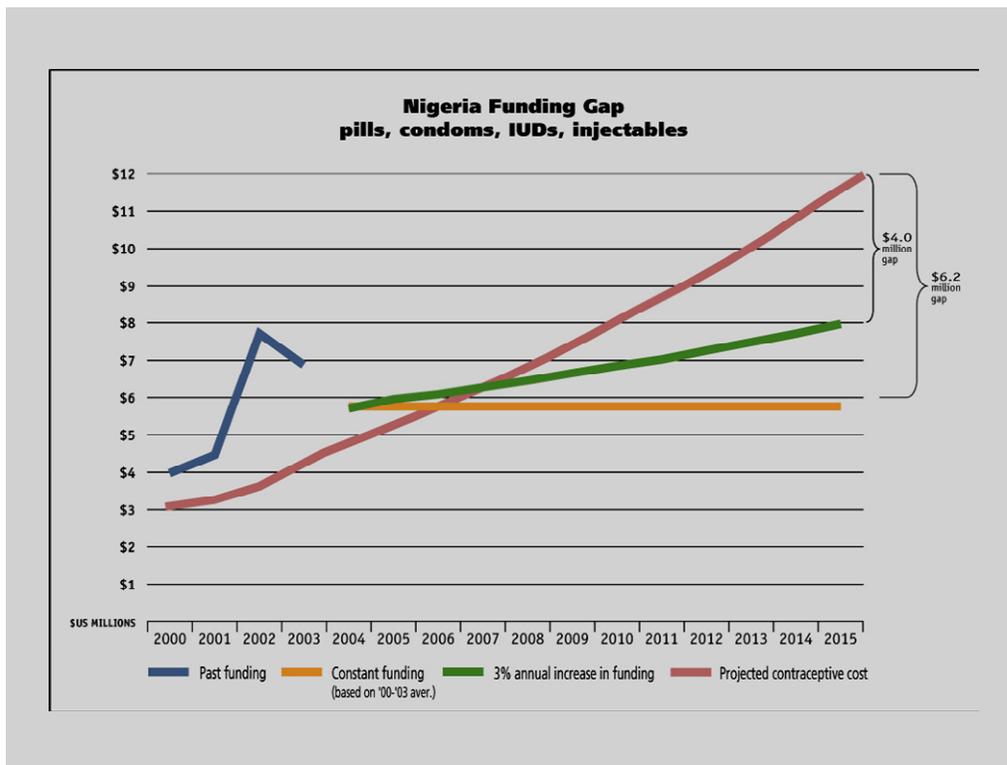
CONTRACEPTIVE SECURITY FUNDING ISSUES

Donors contributed significantly to improved contraceptive availability over the project life. Nigeria was, and continues to be, dependent on three main donors for contraceptive financing:

- CIDA provides funding to UNFPA, which in turn buys the bulk of all contraceptives used in the public sector.
- USAID buys Depo-Provera, Duoferm, and IUCDs for the social marketing program managed by the Society for Family Health (SFH).
- The United Kingdom's Department for International Development (DFID) buys condoms and Noristerat for the social marketing program. DFID's commitments alone included 7,000,000 condoms in 2005, which were provided to the SFH.

Assuming that DFID and USAID commitments to the social marketing program remain firm, with UNFPA and CIDA guaranteeing contraceptives to the public sector through 2008 and the FMOH working to address its management issues, the short-term picture for contraceptive security is good. However, the FMOH and its partners need to begin thinking strategically about how to maintain the gains made over the past four years. GON funding for contraceptives will need to be reintroduced, and the private sector needs to be engaged as a partner for providing quality RH goods and services. Figure 1 illustrates funding patterns from 2000 with projected costs up to 2015.

Figure 1. Projected Funding Gap for Contraceptives through 2015.



CONTRACEPTIVE SECURITY POLICY ISSUES

Nigeria has had a national health policy since 1998. In 2002, Nigeria was the first country to undertake the multi-stakeholder process called SPARHCS, which resulted in a national reproductive health commodity security (RHCS) strategy. However, RHCS in Nigeria at that time was framed mainly in terms of ensuring equipment and drugs supply and strengthening logistics systems. Demand and service delivery issues were not adequately addressed in the policy or in the subsequent joint action plan that

became a laundry list of implementing partner activities rather than the broad strategic planning document it was meant to be.

CONTRACEPTIVE DISTRIBUTION INFRASTRUCTURE

Nigeria is a federal state structured as follows: six zones, 36 states and the FCT, 774 local government areas (LGAs), and several thousand SDPs. The FMOH is responsible for developing policies, setting standards, issuing guidelines, and monitoring and evaluating health programs. State Ministries of Health are responsible for providing secondary-level care and furnishing technical advice and supervision to the LGAs. The LGAs are charged with delivering primary health care at the operational level (FMOH 2004).

Prior to 1983, the main provider of organized family planning services was the International Planned Parenthood Federation (IPPF) affiliate, the Planned Parenthood Federation of Nigeria (PPFN), which operated a limited number of clinics in mainly urban areas. By 1983, with the assistance principally of USAID, its implementing partners (IPs), and UNFPA, the FMOH began to take an active role, with a rapid expansion from only a few states to countrywide services, albeit with limited coverage in many areas. During this period, a fairly rudimentary—yet national—LMIS was established.

From 1983 until 1994, USAID provided logistics assistance, initially by CDC and subsequently by JSI and CDC jointly. In addition to assistance with method-specific national and state-level forecasting and establishment of an LMIS for the public sector, this assistance included staff training. As clinical coverage expanded, modern-method contraceptive prevalence began to grow as did popular knowledge of contraceptive methods. Social marketing was introduced in Nigeria as another effective means, especially for the provision of nonclinical contraceptive methods, with more limited distribution of clinical methods through private-sector outlets.

In 2002, the FMOH undertook a systems design workshop for LMIS and distribution, with technical support from UNFPA and DELIVER. Some of the significant changes under this first design included—

- elimination of the zonal tier from the distribution chain
- addition of the LGA tier to the distribution chain
- standardization of cost recovery practices
- development of a CLMS national handbook for logistics officers (FMOH 2003)
- distribution of seed stock kits
- support for transportation from the Central Medical Store (CMS) to the state stores using cost recovery funds or GON funds to hire a local transportation contractor.

By 2003, the redesigned LMIS had been rolled out in all 36 states and the FCT. In addition to federal, state, and zonal-level personnel, more than 4,000 service providers were trained in the use of the stock keeping, consumption, and transaction records.

In 2004 and 2005, the FMOH undertook a series of monitoring and supervision activities intended to support and strengthen the CLMS. However, in 2005, the system was reevaluated, and while availability had increased significantly, probably due to the distribution of seed stock kits, reporting rates were low and reports were often incomplete. Only one-half of the states had actually placed any orders with the CMS, making it difficult to make rational distribution decisions. In 2006, the FMOH/DCDPA agreed to undertake a redesign activity to address some of the issues identified during the assessment. With DELIVER and Community Participation for Action in the Social Sector (COMPASS) assistance, personnel in two states (Nasarawa and Kano) received training. Additional training is planned for Bauchi State.

HIV/AIDS PROGRAM

The GON launched its own antiretroviral therapy (ART) program in 2001, working through 25 federal hospitals in 17 states to serve approximately 14,000 AIDS patients. Initially, the 25 ART sites were to serve as pilot centers for the FMOH. In December 2003, DELIVER was invited by USAID to assist the FMOH, Constella Futures/POLICY, and Abt Associates/PHR*plus* to conduct an assessment of both private and public SDPs (66 in total), some already offering ART. DELIVER adapted its stages of readiness tool for this assessment. The purpose of the assessment was to identify the steps required, on a site-by-site basis, to provide recommendations to prepare that site to provide ART. The assessment took place in February 2004.

The site readiness assessment was a comprehensive study. This abbreviated list highlights some of the general issues related to the supply of antiretroviral (ARV) drugs and HIV test kits identified in 2004:

1. No standard treatment guidelines (STGs) or testing algorithms existed at the facility level. Draft STGs for ART were available at the central level, but these were not disseminated to the service delivery points. There was no standard testing algorithm.
2. Stockouts were common, and patients would often be given whatever drugs were available, even if that meant providing only one or two drugs.
3. There was no information in the private sector about standard treatment guidelines. Patients received monotherapy (one ARV instead of a three-drug cocktail) or even more inappropriate therapy (hormone therapy). There was no oversight or quality control in the private sector.
4. The government was not procuring test kits, and testing was not widely available except through programs sponsored by donors.
5. Laboratory services were weak. Where laboratory services were available, some ART facilities had established revolving funds for reagents and even these costs were considered prohibitive.
6. No LMIS or routine reporting existed. Needs were communicated from the facilities to the program manager ad hoc by text message. Ordering in this context was always an emergency.
7. The national government allocated ARV drugs on the basis of an allocation formula based on facility treatment slots irrespective of the drugs required by the sites for the patients they were treating.
8. With no data, forecasting and procurement were irrational.
9. ART centers were responsible for picking up their drugs from the central medical store in Lagos; this was neither effective nor efficient for those centers outside of Lagos. No allocation was made for distribution management or transportation. Where funding was not available, ARV drugs were not collected and facilities without transportation resources were found to be out of stock of at least one ARV.

With the introduction of ART under the President's Emergency Plan for HIV/AIDS Relief (PEPFAR) program and increasing commitments from many partners, the situation has grown more complex. In 2006, players who are directly or indirectly involved with supply chain management for ARV drugs and HIV test kits include the Federal Ministry of Health, specifically, the National AIDS/STD Control Program (NASCP), the Department of Research, Planning and Statistics, Food and Drug Services, and the National Action Committee on AIDS (NACA); USAID; CDC; USAID's implementing partners (particularly Family Health International/Global HIV/AIDS Initiative Nigeria [FHI/GHAIN] but also Harvard University, University of Maryland, Catholic Relief Services, and others); United Nations Children's Fund (UNICEF); World Health Organization (WHO); UNFPA; Crown Agents; and the International Dispensary Association (IDA). The situation has become even more complicated now that

the World Bank has begun granting money to the state governments for procurement and other state HIV/AIDS activities.

While the government and the donors all purport to support one national program, different donors have different monitoring and evaluation requirements relating to program operations and goals. This has led to the creation of parallel information systems (and a recent call from concerned stakeholders for harmonizing systems).

HIV/AIDS PROGRAM SUPPLY CHAIN INFRASTRUCTURE

The federal ART program has a two-tiered structure for ordering and distributing ARV drugs. In principle, logistics data flow up from the ART centers to the Federal Central Medical Stores (FCMS) and ARV drugs flow from the FCMS to the ART centers. In practice, data have gone from the centers to NASCP and communication has not proceeded as designed. There are two significant challenges. First, and most important, the resupply reporting rate has been low. Without the reports, timely resupply is impossible. Second, while some reports are sent directly to the FCMS, others pass first through the NASCP. This results in a fragmentation in the flow of information. The LMIS is being evaluated and structured to meet the goals of the ART program.

Transportation remains a critical issue. The FMOH has never allocated a budget for transportation of the drugs it procures with its own funding, originally relying on the ART centers to pick up their consignments. In 2006, the Global Fund has agreed to assume the cost of distribution for the national HIV/AIDS program. Transport of HIV/AIDS commodities to the ART centers is now provided through a private contractor originally contracted for distribution of the Global Fund to Fight AIDS, TB and Malaria (GFATM)–procured ARV drugs funded under Global Fund Round 1. Combining GON and GFATM transportation eliminates the need for the ART centers to pick up routine consignments, which should reduce stockouts as long as the Global Fund continues to assume these costs.

In late 2005, DELIVER worked with NASCP, NACA, and other partners to design a logistics management information system for ARV drugs and HIV test kits for the 25 federal ART centers. Training was completed for the 25 sites in April 2006. While reporting has been late and incomplete, as of September 2006, logistics data have begun to reach NASCP and the FCMS from 22 of the original 25 sites. Plans have been made to expand the LMIS to 30 new GFATM-supported sites. Training for these new sites was planned for October 2006. In addition, the FMOH, NACA, and USAID are leading a push to harmonize the LMIS across all ART programs.

DELIVER also supported two rounds of quantification exercises for ARV drugs and HIV tests (2005 and 2006). The 2006 round led directly to a procurement plan for the FMOH and GFATM-funded commodities. In July/August 2006, a total of 55 facilities were visited where an ARV physical inventory was completed as well as collection of information on the number of patients on ARV drugs (a physical inventory was also completed by the FCMS). Essentially, this exercise provided the GON with an accurate baseline of ARV drugs and the ART program. Building forecasting and procurement planning capacity within the key GON departments is a priority for NACA, the FMOH, and USAID.

KEY PLAYERS AND ROLES

REPRODUCTIVE HEALTH

As the DELIVER project concludes, many of the key institutions that existed six years ago remain important in supporting family planning today although the project names may have changed.

Two key departments within the GON's Federal Ministry of Health are FMOH/DCDPA, supporting technical supervision, training, and logistics support and strategic direction, and FMOH/Department of Hospital Services (DHS), overseeing thousands of service providers and facilities throughout Nigeria. To

a limited extent, FMOH/Food and Drug Services (FDS) supports the program by providing central contraceptive warehouse space in Lagos, but the personnel who manage this store are DCDPA staff.

Several donors and international organizations also support family planning:

- UNFPA provides considerable material, technical, and policy support to FMOH/DCDPA and has field offices in 15 states.
- CIDA provides funding through UNFPA for contraceptive procurement and RH technical assistance.
- SFH, a Nigerian nonprofit, nongovernmental organization, is the largest distributor of contraceptives in Nigeria. It is partnered with Population Services International (PSI) and is often referred to interchangeably.
- DFID provides commodity support to the social marketing program managed by the SFH. It uses Crown Agents services to manage procurement.
- USAID provides commodity support to the social marketing program managed by SFH. It manages its own procurement and also provides logistics support through JSI/DELIVER and technical assistance through projects such as COMPASS for service delivery and Enabling HIV & AIDS, TB and Social Sector Environment (ENHANSE) for policy development.
- The COMPASS Project is USAID's principal health service delivery project working both in child survival and reproductive health. It operates in five states.
- The ENHANSE Project is USAID's flagship policy development project dealing with a variety of health issues.
- The JSI/DELIVER project has provided short-term technical assistance in monitoring and supervision, evaluation, system design, and training to the FMOH and has provided assistance to other partners such as SFH and UNFPA on forecasting and procurement planning.

HIV/AIDS

It is impossible at this time to prepare a comprehensive list of all of the partners working in HIV/AIDS that are in some way involved with the supply chain. A partial list of the key partners follows:

- FMOH/NASCP is the ministry department charged with technical oversight on service delivery.
- FMOH/Department of Hospital Services oversees the government service providers.
- FMOH/Department of Health Planning and Research conducts GON-funded procurements.
- FMOH/FDS manages the Central Medical Stores and has overall responsibility for logistics for all FMOH programs.
- NACA is responsible for policy, resource mobilization, and donor coordination (one of three GFATM principal recipients).
- USAID, the U.S. Government's lead agency for PEPFAR programming, funds the GHAIN, ENHANSE, and DELIVER projects, among other activities.
- CDC is the U.S. Government agency that implements PEPFAR program activities.
- Department of Defense works with the Nigerian military to provide HIV/AIDS services to military personnel and their families.

- FHI/GHAIN is the USAID flagship HIV/AIDS service delivery project. The subcontractor, Axios International, procures ARV drugs, HIV tests, and other essential commodities to support service delivery in project sites
- Harvard University performs service delivery and medical research.
- Columbia University performs service delivery and medical research.
- University of Maryland performs service delivery and medical research.
- Catholic Relief Services performs service delivery and community mobilization.
- Supply Chain Management System (SCMS), USAID flagship supply chain management project based in Washington, is implemented by Crown Agents in Nigeria.
- Constella Futures/ENHANSE works with NACA and many other partners to develop national HIV/AIDS policies.
- JSI/DELIVER project has provided short-term technical assistance in quantification, monitoring and supervision, evaluation, system design, and training to the FMOH.
- UNICEF, United Nations (UN) agency, supports prevention of mother-to-child transmission (PMTCT) among other child survival and maternal health interventions.
- WHO is the UN agency taking the global lead on treatment and testing standards and quality control among other interventions; works closely with FDS and others on policy issues.
- UNFPA is the UN agency taking the global lead on reproductive health. HIV infection prevention is critical to its strategy.
- Crown Agents, implementing partner on SCMS and procurement agent for GFATM, manages the distribution subcontract.
- IDA Foundation is a procurement agent.
- Ranbaxy, Indian drug company with offices in Nigeria, is an important GON supplier.
- CIPLA, Indian drug company with offices in Nigeria, is an important GON supplier.

One of the very first activities that should be carried out under the USAID | DELIVER PROJECT should be to map out these different players by function and their interconnections.

KEY CHALLENGES

REPRODUCTIVE HEALTH

In 2001, many logistics challenges were identified, including poor storekeeping and inconsistent supervision as well as transportation and cost recovery practices. DELIVER and its partners attempted to address these issues through development of logistics guidelines and procedures, training, monitoring and supervision, policy development, and pipeline monitoring and procurement planning. These efforts have had some limited success, particularly in increasing product availability in the public sector. As a result, the challenges in 2006 were somewhat different. These included—

- total dependence on donors for contraceptive financing and procurement (although limited financing is committed by the GON for training and supervision)

- limited translation of the national RH priorities into decentralized planning, budgeting, and implementation at the state and LGA levels and, therefore, weak ownership of the contraceptive logistics management system (especially at the state level)
- weak local capacity and limited finance and technical support available for on-the-job training
- poor reporting rates from the LMIS with only 50 percent of states reporting partial data to the Central Medical Store
- weak forecasting due to weak consumption data
- poor communication and coordination at all levels
- little or no accountability or reward for delivering on national priorities
- low demand by consumers, service providers, and politicians
- no budget line for RHCS
- contraceptive funding only secured until 2008
- no coordination with national AIDS program
- little coordination with social marketing
- no strategy incorporating private-sector initiatives for contraceptive distribution.

HIV/AIDS

Although DELIVER has worked for a relatively short time on HIV/AIDS issues, a number of challenges are apparent:

- Multiple players (far more than were ever involved in reproductive health) are directly or indirectly involved with supply chain management for ARV drugs and HIV test kits. Coordination therefore becomes a paramount consideration.
- Because there are multiple partners with multiple mandates, procurement and logistics management can become extremely fragmented. Supply volumes have been predicated on allocation targets and available budgets and not on the needs of clients. Lack of coordination in order placements and shipments easily results in supply imbalances.
- Donors are accountable to their governments, and the IPs are accountable to their donors. The national program must therefore deal with a variety of reporting requirements and schedules. The desire of donors and IPs to control *their* commodities has led to the creation of parallel logistics systems even though, theoretically, there is one national service delivery program.
- One health facility can receive ARV drugs from multiple sources, e.g., the government, the Global Fund, PEPFAR, and the commercial sector—each with its own management requirements. This leads to complications in inventory management and control.
- Decentralization further complicates procurement planning and requires better information and communication than currently practiced.
- Private-sector service delivery is, in effect, unregulated and of highly variable quality
- The Government of Nigeria is not procuring test kits but depends instead on GFATM and other sources of funding.

- The Government of Nigeria is not currently procuring second-line drugs but depends instead on GFATM and other sources of funding.
- The costs of laboratory support for patients being treated for AIDS under the GON program are borne entirely by the patients, creating a cost barrier for some patients. Under the PEPFAR program, lab costs are borne by the project. This creates an unfavorable condition for expanding numbers of GON-funded patients in ART sites that have both GON and PEPFAR activities because many potential patients are simply referred to the PEPFAR program.
- The standard treatment guidelines for ARV drugs are complicated, with many first line alternate and second line drug regimens.

GOALS AND OBJECTIVES

DELIVER OBJECTIVES FOR REPRODUCTIVE HEALTH

In 2002, DELIVER specified three project objectives in its Nigeria Country Strategic and Evaluation Plan (CSEP) related to reproductive health commodities:

1. Improve logistics system performance at central level and in pilot states. (In 2002, these were Enugu, Oyo, and Bauchi States, corresponding to the VISION Project states.)
2. Improve human capacity in logistics management at central level and in pilot states.
3. Improve resource mobilization to ensure long-term reproductive health commodity security at central level and in pilot states.

Specific activities to undertake under each objective were detailed as follows.

OBJECTIVE I

Improve logistics system performance at central level and in pilot states.

No logistics system can function without commodities. Therefore, a significant level of effort was dedicated to assuring a continuous flow of contraceptives into the public-sector RH program. DELIVER supported the collection and analysis of information on consumption and stock on hand from all distribution levels in order to plan procurement and advocate for resources for contraceptives. DELIVER activities included routine forecasting exercises, needs estimations, and procurement planning reviews.

DELIVER worked with the FMOH to create an enabling environment, including developing policies and systems, defining an inventory control and distribution system, and specifying frequency of resupply, LMIS data collection instruments, and maximum and minimum inventory levels.

DELIVER also worked with the FMOH to improve storage and distribution procedures, helping to assure that personnel were applying principles of good storage and assuring that facilities were cleared of extraneous material and expired commodities.

OBJECTIVE II

Improve human capacity in logistics management at central level and in pilot states.

DELIVER worked to strengthen the capacity of personnel from the FMOH, nongovernmental organizations (NGOs), private distributors, and donor representatives by providing training in forecasting and procurement planning and the use of PipeLine software. DELIVER also worked with the FMOH to support supervision to strengthen routine reporting and assure feedback on system performance.

Activities included—

- performance and training needs assessments at all levels of the system
- routine supervision to ensure ongoing feedback on performance
- development of performance improvement plans
- development of training curricula, manuals, supervision guidelines, and on-the-job training materials

- competency-based training of trainers/supervisors.

OBJECTIVE III

Improve resource mobilization to ensure long-term reproductive health commodity security at central level and in pilot states.

In addition to monitoring the contraceptive pipeline and supporting capacity building in forecasting, procurement planning and inventory control, DELIVER worked with the FMOH, UNFPA, and the POLICY Project and contributed to the following outputs:

- development and dissemination of a joint action plan for commodity security
- implementation of strategic plan activities
- technical recommendations for the national policy guidelines on cost sharing
- performance indicators for contraceptive logistics
- data collection and information-based decision making
- preparation and dissemination of evaluation reports
- definition of scopes of work for senior logistics management and advisory positions
- provision of key data for decision making for coordination meetings
- routine feedback provided to lower levels.

RELATIONSHIP TO USAID AND CLIENT OBJECTIVES

REPRODUCTIVE HEALTH

In 2002, when DELIVER developed its CSEP, it referred to the USAID/Nigeria FY 2002 Congressional Budget Justification document, which stated that the USAID Mission’s health program was concentrated on the following:

1. improving HIV/AIDS and sexually transmitted disease prevention
2. increasing the use of voluntary family planning by providing information, education, and communication
3. improving maternal and child health practices.

In FY 2002, DELIVER’s strategy and work plan was geared toward the Mission’s Strategic Objective (SO) #620-009, “to increase use of family planning, maternal and child health, HIV/AIDS services and preventive measures within a supportive policy environment.” While this strategic objective would be redefined under SO 13 in 2003, DELIVER was committed to, and remained committed to, contributing to the following two indicators:

1. improved availability of condoms
2. increased contraceptive prevalence rate (CPR).

At the outset, DELIVER pointed out that these selected performance indicators were influenced by variables independent of DELIVER's logistics interventions. Nevertheless, by ensuring commodity availability, DELIVER hoped to participate in achieving these objectives. Currently, DELIVER RH activity falls under USAID/Nigeria SO 13.

In 2002, DELIVER closely aligned its objectives to that of the GON's national development strategy, which emphasizes maternal health and advocacy for RH as part of the overarching maternal health objective. In this context, DELIVER became a key contributor to the development of the RHCS policy and the joint action plan on RHCS in 2002.

HIV/AIDS

DELIVER activities in Nigeria are funded under USAID/Nigeria's HIV/AIDS SO 14, articulated in 2004. DELIVER's activities also address Priority Response 4 of the National Health Sector Strategic Plan, 2005–2009, by “establishing an efficient and sustainable logistics system for improved access to health commodities for HIV and AIDS.” It also supports the four strategies in the plan: (1) establish a comprehensive LMIS, (2) ensure long-term procurement, (3) establish a functional technical working group, and (4) provide training and support for logistics personnel. The project works to strengthen the government's logistics management system in all the federal ART centers.

DELIVER'S ROLE IN RELATION TO OTHER ORGANIZATIONS

Until recently, DELIVER has been a relatively small player in Nigeria in terms of overall funding but has attempted to leverage its global technical expertise to influence policymaking and program planning; support capacity-building through systems design, training, and monitoring and supervision activities; and support pipeline management and procurement planning in the public-sector and social marketing programs. In this technical assistance role, DELIVER has supported key institutions, particularly the FMOH, in improving contraceptive availability in the public sector. Key partners have included—

- UNFPA
 - cosponsoring SPARHCS workshops and planning meetings
 - assisting with LMIS and curriculum design and rollout training
 - sharing data and forecasts.
- FMOH/DCDPA
 - cosponsoring SPARHCS workshops and planning meetings
 - supporting contraceptive forecasting and procurement planning
 - assisting with system design and standard operating procedures
 - assisting with training curriculum design and system rollout training
 - supporting monitoring and supervision
 - facilitating the distribution of contraceptive seed stock kits
 - providing basic training in logistics management.
- SFH
 - providing training in forecasting and procurement planning

- monitoring USAID procurements.
- VISION and COMPASS Projects
 - assisting with monitoring and evaluation activities
 - cooperating on training exercises
 - building internal capacity for logistics management.
- Constella Futures/POLICY and ENHANSE Projects
 - Cooperating on assessments and policy development activities focusing on strengthening commodity security and logistics system strengthening.

On the HIV/AIDS program side, DELIVER has attempted to leverage its experience in reproductive health but has also developed new tools and directions to meet this program's very different requirements.

- FMOH/NASCP and NACA
 - assisting with logistics system design and standard operating procedures
 - assisting with curriculum design and system rollout training
 - supporting monitoring and supervision
 - providing basic training in logistics management
 - engaging NACA monitoring and evaluation (M&E) field representatives in all aspects of design and rollout
 - facilitating quantification and procurement planning
 - building capacity for logistics management.
- FMOH/Department of Public Health
 - assessed the potential for logistics integration
 - trained DHS personnel to manage their roles in the logistics management systems for ARV drugs and HIV test kits.
- FMOH/FDS
 - trained FCMS staff on standard operating procedures and tools.
- FHI/GHAIN/Axios
 - collaborating on harmonization of LMIS and other critical issues that directly impact HIV/AIDS care and treatment.
- SCMS
 - training all partners in the new quantification tool (Quantimed), which was applied to the 2006 quantification exercise.

DESCRIPTION OF STRATEGIES

DELIVER worked closely with the USAID/Nigeria bilateral programs, the FMOH, and other development partners to strengthen supply management between 2001 and 2006. DELIVER assisted with forecasting, quantification (contraceptives, ARV drugs, and HIV test kits), procurement planning, data collection, processing and analysis, system design, testing, performance improvement and monitoring, and evaluation activities to support health commodity security over the life of the project. In spite of the fact that the reproductive health program and the HIV/AIDS programs are different activities, there is broad concurrence on the general strategies of the programs. In discussions with government and other stakeholders, the identified priorities were—

- strengthening procurement planning
- establishing a commodities LMIS for priority commodities
- monitoring and supervision
- human resource development.

Consistent with these logistics priorities in Nigeria, DELIVER undertook the following activities in collaboration with the appropriate government departments, international agencies, and USAID implementing partners:

STRENGTHENING PROCUREMENT PLANNING

- Determine health commodity requirement projections (contraceptives, ARV drugs, and HIV test kits).
- Assist the FMOH to secure resources for contraceptives (through the SPARHCS process) and drugs through the HIV/AIDS control program (through quantification exercises and stakeholder meetings).
- Strengthen the capacity of the FMOH to ensure quality forecasting and procurement and other logistics functions at all levels and to promote good interdepartmental collaboration (through training and joint quantification exercises).
- Establish procurement tracking and reporting mechanisms to improve transparency (introduction of PipeLine software for shipment tracking).

ESTABLISHING AN LMIS FOR PRIORITY COMMODITIES

- Design a distribution strategy that responds to program needs and constraints (CLMS standard operating procedures, 2003, and redesign in 2006; ARV and HIV test logistics management standard operating procedures, 2006).
- Establish a functional LMIS to track logistics data for program decision making (national CLMS training, 2003, streamlined CLMS training in three states, 2006; ongoing monitoring and supervision, ARV and HIV test logistics management training for all 25 federal ART centers (as well as the new ART sites being identified by the FMOH for 2006 and beyond).

MONITORING AND SUPERVISION

- Define logistics performance criteria for select programs (SPARHCS monitoring indicators and joint action plan, 2002, revised 2006; country operational plan workplan indicators for SO 13 and SO 14 for PEPFAR program (2005 and 2006).

- Define and document personnel logistics-related roles and responsibilities (contraceptive logistics management system standard operating procedures, 2003, and redesign in 2006; ARV and HIV test logistics management standard operating procedures, 2006).
- Develop or modify supervision tools to capture logistics indicators and to facilitate performance improvement (Logistics Indicators Assessment Tool [LIAT] and Logistics System Assessment Tool [LSAT], 2002 and 2005; supervision checklist, 2003; updated 2006).
- Establish a periodic review of logistics performance that ensures feedback to responsible parties and improves accountability between levels (quarterly reports and stakeholder meetings).

HUMAN RESOURCE DEVELOPMENT

- Develop job aids, curricula, and other specific performance improvement tools (CLMS standard operating procedures and training curricula, 2003, and redesign in 2006; ARV and HIV test logistics management standard operating procedures and training curricula, 2006).
- Strengthen program managers' use of logistics information for program decision making (logistics, monitoring and evaluation, and pipeline management and procurement planning training for senior FMOH/DCDPA and FMOH/NASCP personnel; training of trainers (TOT) on logistics systems for FMOH/DCDPA, state and zonal officers, and FMOH/NASCP trainers; World Bank Procurement of Health Sector Goods courses, 2004–2006; continuous support for monitoring and supervision).
- Develop a concept for a Center of Excellence established to conduct training and other activities designed to increase the number of logistics professionals supporting public health in Nigeria (concept dropped in 2004 because of insufficient funding).
- Conduct streamlined CLMS and HIV/AIDS program logistics training.

SUMMARY OF DELIVER FUNDING AND STAFFING

From February 2001 through October 2004, DELIVER personnel, consistent with available funding, included only a part-time country team leader and program coordinator plus roughly one dozen U.S.-based technical personnel, each contributing between one and six months of level of effort per year. DELIVER experienced rapid program expansion in years five and six of the project when the Mission expanded DELIVER's mandate and funding. In November 2004, DELIVER placed its first resident logistics advisor and, in January 2005, a chief of party. DELIVER hired three local personnel with skills in logistics management, HIV/AIDS program planning, and monitoring and evaluation as well as one person in office administration. DELIVER also contracted two local support staff.

Table 3 summarizes funding over the life of the project.

Table 3. Funding and Spending over Life of DELIVER Project

Nigeria Funding and Spending LOP Deliver

			FY1	FY2	FY3	FY4	FY5	FY 06-07	TOTAL
DELIVER / Nigeria General Field Support	15203.1002.0641	Funding Obligated	249,000	150,000	385,000	350,000	600,000	1,500,000	3,234,000
		Expenditures	136,362	164,156	481,340	645,865	584,130	1,222,148	3,234,000
		Running Balance	112,638	98,482	2,143	(293,722)	(277,852)	0	-
			FY1	FY2	FY3	FY4	FY5	FY 06-07	TOTAL
DELIVER / Nigeria PEPFAR	15203.1005.0641	Funding Obligated	0	0	0	0	1,415,000	954,000	2,369,000
		Expenditures	0	0	0	0	912,825	1,456,175	2,369,000
		Running Balance	0	0	0	0	502,175	0	-
			FY1	FY2	FY3	FY4	FY5	FY 06-07	TOTAL
DELIVER / Nigeria TOTAL		Funding Obligated	249,000	150,000	385,000	350,000	2,015,000	2,454,000	5,603,000
		Expenditures	136,362	164,156	481,340	645,865	1,496,955	2,678,323	5,603,000
		Running Balance	112,638	98,482	2,143	(293,722)	224,323	0	-

In effect, DELIVER tried to match its program spending to the available funding over the course of the project. In FY 2004, the project ran a deficit due to the sudden urgent demand for technical assistance to the HIV/AIDS program and the requirement to establish a field presence. USAID/Nigeria covered the funding gap in FY 2005, and there were no funding problems in FY 2006. Expenditures are currently about 58 percent population field support and 42 percent PEPFAR over the life of the project.

PROGRAM RESULTS

ELEMENT I: IMPROVED LOGISTICS SYSTEM

DELIVER activity in Nigeria was heavily focused on Element I, development of improved logistics systems for selected commodities. Consistent with DELIVER and FMOH objectives, DELIVER worked with the FMOH/DCDPA (RH) and FMOH/NASCP (HIV/AIDS) to implement programs of national scale by collaborating with larger partners. For reproductive health activities, key partners included UNFPA and USAID IPs, particularly EngenderHealth (VISION Project), Pathfinder Fund (COMPASS Project), PSI/SFH (social marketing project), and Constella Futures/(POLICY and ENHANSE Projects. DELIVER made every effort to inform and include these partners of assessment activities, design workshops, and planning meetings related to design activities and had good support from USAID/Nigeria in encouraging these linkages. On the HIV/AIDS activities, DELIVER still worked closely with the FMOH, particularly with NASCP, FDS, and NACA. DELIVER has been the secretariat of the Strategic Information Subcommittee on Logistics Management, which has played a key role in exchanging logistics information and starting the process of logistics management harmonization between the FMOH and the IPs. This subcommittee met four times in FY 2006.

From 2002 to 2005, the performance of the logistics system improved in some—but not all—areas. One important improvement was the increase, between 2002 and 2005, in the percentage of facilities adhering to guidelines for proper storage. These improved storage practices suggest that stored products were lasting longer, were better organized, and there was a reduced risk of storing or dispensing expired products.

Another indicator that demonstrates improved logistics system performance is the increase in the percentage of facilities where stockcards are available and updated over the three-year period. The percentage of facilities that had stockcards available increased for every product except IUCDs, while the percentage of facilities updating their stockcards increased for every method (see table 4). This finding suggests that facilities are adhering better to the CLMS stockkeeping guidelines.

Table 4. Improvements in the Logistics System (2002 and 2005)

Method	Percentage of Facilities with Stockcards Updated	
	2002	2005
Lo-Femenal	31	69
Microgynon	33	56
Noristerat	28	72
Exluton	13	63

Depo-Provera	14	71
Male condoms	20	70
IUCDs	0	50

DELIVER undertook a number of activities to improve logistics management, including the following:

- 2002
 - rapid assessment, family planning logistics management
 - 2002 LIAT and LSAT
 - contraceptive logistics management system design, standard operating procedures.
- 2003
 - CLMS design, curricula for SDP, state/LGA, and federal levels
 - printing of LMIS forms, standard operating procedures (including cost recovery), curricula, and other training materials for national distribution
 - distribution of contraceptive seed stocks
 - contraceptive procurement tables (CPTs).
- 2004
 - ART stages of readiness assessment in 65 sites (14 public/51 private)
 - CPTs
 - posting of first resident logistics advisor, opening of field office
 - monitoring and supervision support for the CLMS.
- 2005
 - posting of chief of party, hiring of field office personnel
 - CPTs
 - rapid assessment and design workshop on logistics management for ARV drugs and HIV test kits
 - integration feasibility assessment reviewing five vertical programs
 - draft system design and training curricula for logistics management of ARV drugs and HIV test kits
 - monitoring and supervision support for the CLMS
 - mid-term evaluation (LIAT and LSAT) of the CLMS

- national quantification of ARV drugs and HIV test kits.
- 2006
 - printing of streamlined CLMS forms, standard operating procedures, curricula, and other training materials for distribution in Nassarawa, Kano, and Bauchi States
 - distribution of contraceptive seed stocks to states piloting the streamlined CLMS
 - DELIVER, as secretariat for the Strategic Information Subcommittee on Logistics Management, working to harmonize logistics management practices across PEPFAR partners and the GON
 - monitoring and supervision support for the CLMS (began during the extension period, October 2006)
 - monitoring and supervision support for the ARV and HIV test logistics management system
 - stock status survey
 - quantification, pipeline monitoring, and procurement planning.

In spite of the emphasis on LMIS and use of logistics indicators and data for decision making for managing contraceptives, record keeping and reporting remain significant weaknesses of the logistics system. Less than 50 percent of facilities maintained most of the required CLMS records. For HIV/AIDS products, the situation is considerably simplified because their system has only two levels (FCMS and SDP) and, at the time of this report, was operating only 25 service delivery points. Nevertheless, on the first round of reporting, only 19 reports were submitted on time. Clearly, much improvement is needed.

ELEMENT II: IMPROVED HUMAN CAPACITY IN LOGISTICS

While DELIVER activity in Nigeria may have been heavily focused on Element I, none of the logistics systems improvement activities could have taken place without capacity building exercises. Consistent with DELIVER and FMOH objectives, DELIVER worked with the FMOH/DCDPA (RH) and FMOH/NASCP and NACA (HIV/AIDS) to develop cadres of logistics trainers and implement national-scale training activities. For reproductive health activities, key partners included UNFPA and USAID IPs, particularly EngenderHealth (VISION Project) and Pathfinder Fund (COMPASS Project). Other IPs provided logistical support for the massive trainings undertaken, including PSI/SFH (social marketing project) and Constella Futures/POLICY and ENHANSE Projects. In most cases, IP staff was trained as well. On the HIV/AIDS activities, DELIVER worked closely with the FMOH, particularly with NASCP, FDS, and NACA. DELIVER supported participation of key FMOH personnel at its three-week logistics courses in Washington and Accra and its Monitoring and Evaluation course in South Africa. Demand was so high for logistics training that, in 2005, a general course was developed and implemented for Nigeria, training staff from several government health programs. DELIVER also provided technical assistance to the World Bank over the past three years for its Procurement of Health Sector Goods course.

Improving human capacity in logistics among key stakeholders is a DELIVER core activity. In response to the MOH's aim to implement a CLMS in the entire country, DELIVER, UNFPA, and Packard have worked together with the MOH since 2002 to train approximately 2,000 government and NGO logistics managers on the CLMS and about 20 in DELIVER's international Supply Chain Management course. In addition, 363 logistics managers and service providers were trained on a streamlined CLMS and about 142 were trained in quantification, procurement planning, and the newly designed logistics system for ARV drugs and HIV test kits.

An expected outcome of these training activities was an increase in the percentage of trained staff in contraceptive logistics management. However, the percentage of trained government staff members remained unchanged between the 2002 and 2005 logistics assessments. Although this finding may be partly because of the wording of questions in the two assessments, other reasons include (1) staff members who are trained in CLMS and then reassigned to other tasks or facilities, (2) staff members who are trained in CLMS and who then retired from their jobs, and (3) individuals who have nonlogistics responsibilities but who are trained in CLMS.

Performance improvement activities included—

- 2003
 - TOT for master trainers
 - training of more than 2,000 service providers, plus supervisors (The training was national: DELIVER financed 12 states, UNFPA financed additional training in 18 states, and training was extended to the final six states in 2004.).
- 2004
 - completion of CLMS training with funding from the Packard Foundation for four states (Adamawa, Kogi, Sokoto, and Yobe) and funding from the Government of Nigeria for the final two states)
 - World Bank Procurement of Health Sector Goods course.
- 2005
 - training of FMOH and SFH personnel on forecasting and PipeLine software
 - Health Commodity Supply Chain Management course
 - refresher CLMS training for state family planning coordinators
 - World Bank Supply/Procurement Chain training for HIV/AIDS commodities.
- 2006
 - training of national HIV/AIDS program staff, as follows: 32 participants on logistics system design, six staff trained as logistics system master trainers, 90 logistics system operators from 25 treatment centers trained on standard operating procedures, and 20 officers oriented on quantification and procurement planning software
 - training for central-level staff in Quantimed and PipeLine
 - training on a streamlined CLMS in Nasarawa, Kano, and Bauchi States in collaboration with the FMOH and the COMPASS Project. Training included 22 central-level officers, 99 state/LGA family planning coordinators, and 242 service providers.

ELEMENT III: IMPROVED RESOURCE MOBILIZATION FOR CONTRACEPTIVE SECURITY

From 2002, DELIVER realized that commodity security had to be the underlying theme of all of its interventions. DELIVER worked with UNFPA and the Futures Project to implement the SPARHCS process, which involved many stakeholders. However, this process was heavily dominated by the public sector, while NGOs, private-sector providers (as represented by their national associations), and the social

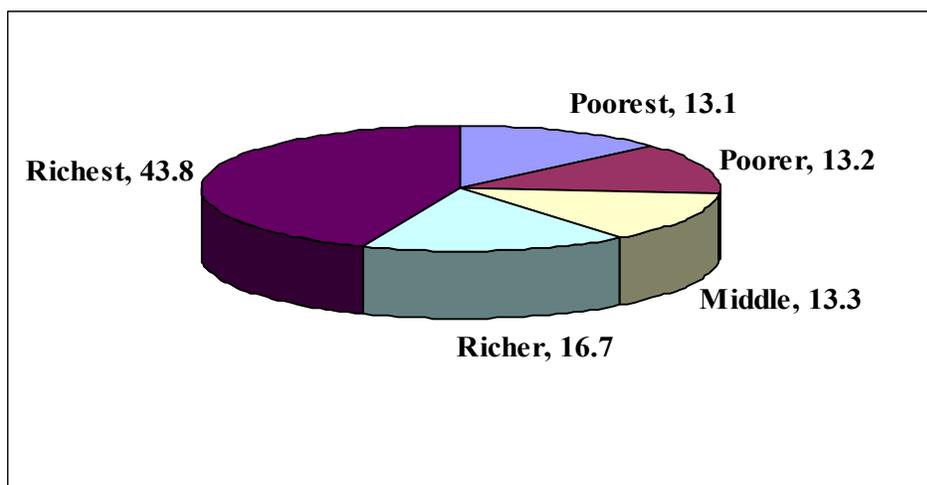
marketing program were largely disconnected. Although the FMOH understands its role in coordinating these efforts and providing leadership, there were so many real issues to address within its own service delivery program that FMOH was not able to lead on some of the wider issues related to market segmentation and demand generation. DELIVER also provided technical support for quantification and shipment planning for contraceptives, ARV drugs, and HIV tests to help ensure that the pipelines supported by the various systems got filled. Up until 2006, DELIVER often found itself alone waving a red flag whenever stock imbalances or real or imminent stockouts or expiries occurred. As an outsider, DELIVER was at some advantage in being able to point out issues.

Nigeria was the first country in Africa to undertake RHCS strategic planning, and it continues to be a regional leader in the promotion of contraceptive security (CS). In July 2002, a basic diagnosis of Nigeria’s contraceptive security situation was accomplished using the SPARHCS assessment exercise. The many findings from this activity included inadequate political support and commitment to RHCS, a poorly functioning logistics system (including deficiencies in availability and utilization of RH/FP services and commodities), weak advocacy for population and RH issues, and a lack of coordination among the MOH and stakeholders.

Demonstrating the importance of supply chain management and helping establish a forum for the issues, the SPARHCS assessment was instrumental in advancing CS in Nigeria. Furthermore, recognizing the need for better coordination among the MOH and stakeholders resulted in the establishment of a national committee and working group for reproductive health CS. The current strategic plan concludes in 2007, and UNFPA and the ENHANSE Project will work with the MOH to develop a plan for the subsequent five years

A 2003 DELIVER contraceptive market segmentation analysis provides additional information about the contraceptive security situation in Nigeria. Figure 2 shows that the poorest 40 percent of women of reproductive age are using only one-quarter of the public sector–supplied contraceptives. Because funding for public-sector family planning programs is often very limited in resource-constrained settings such as that found in Nigeria, these programs are designed to meet the needs of the poorer segments of the population who cannot afford these services in the private sector. Ensuring that Nigeria’s poorest population has improved utilization of these services and better access to commodities will be an important component of the country’s strategy for achieving contraceptive security.

Figure 2. Distribution of Public-Sector Contraceptive Utilization by Wealth Quintile (2003)



Further supporting the findings from the SPARHCS assessment and the market segmentation analysis is the CS Index, a tool for policymakers, program managers, and other stakeholders that measures and

monitors a country's progress toward achieving contraceptive security. The CS Index gave Nigeria an overall score of 42/100—the 10th-lowest aggregated score among the 57 countries assessed. Nigeria's scores for the different components assessed were quite low. For example, the supply chain component received a score of 7.4/20 due to particularly low scores in LMIS, and the contraceptive policy and access component received a score of 8.3/20. Although the raw data for the CS Index were collected several years ago, these scores point to important opportunities for strengthening CS in Nigeria. Some activities undertaken over the course of the project include—

- 2002
 - initial SPARHCS workshop (cosponsored with UNFPA), joint action plan
 - CPTs.
- 2003
 - technical input for national RHCS policy (POLICY Project was lead and published final document)
 - finalization of CLMS cost recovery strategy with FMOH/DCDPA
 - CPTs
 - draft FMOH contraceptive funding proposal prepared for circulation to potential donors.
- 2004
 - CPTs.
- 2005
 - CPTs
 - national quantification exercise for ARV drugs and HIV test kits
 - *informed buying* assessment.
- 2006
 - quantification exercise for ARV drugs and HIV tests for the Federal Ministry of Health (GON and GFATM) program.

LESSONS LEARNED AND FUTURE DIRECTIONS

LESSONS LEARNED

Investing in logistics works. The FMOH, with UNFPA and USAID assistance, has increased contraceptive availability through forced distribution, reduced stockouts at the facility level in the short term, and improved forecasting activities by providing tools and exposing program managers to different forecasting methods. However, getting SDPs, LGAs, and states to commit to routine reporting procedures is difficult and will require additional attention through organizational development, training, and supervision interventions.

Coordination mechanisms are essential to build into the design of a program. Coordination needs to take place within and between government agencies, the federal MOH and state MOHs, the government and the donors, the government and NGOs, the government and the private sector, and between donors.

National governments need to own their public health programs. For example, as the owners of their HIV/AIDS programs, the FMOH should continue to insist on one national program that entails sharing of information and plans to harmonize standard operating procedures, training curricula, and M&E indicators. Implementation of this policy will remain an ongoing challenge into the foreseeable future. A critical aspect of implementing this policy is building institutional capacity within government agencies.

Decentralization for HIV/AIDS programs can lead to higher prices and poor quality control. These problems have resulted where states and even lower levels of government procure and manage ARV drugs and HIV test kits.

Private-sector HIV/AIDS treatment requires government regulation to control quality. Currently, there is no capacity for private-sector quality control or capacity building within the FMOH.

Governments need to institute best public health practices when formulating STGs. Standard protocols and procedures should be clearly written and strive toward reducing or simplifying treatment regimens and respect an essential drugs list so as to minimize the number of products carried by the public-sector program.

Collection systems are inefficient for transporting health commodities. This type of system leads to chronic stock shortages in locations that do not have adequate transportation resources.

If you build it, they won't necessarily come. DELIVER has worked for four years successfully to expand access to contraceptives and condoms for sexually transmitted infection (STI) and HIV infection control, and UNFPA, EngenderHealth, Johns Hopkins University, Pathfinder Fund, and PSI/SFH have all worked to improve services and increase demand—and yet, CPR has not increased. The future of RHCS requires a new strategic approach that addresses both demand and supply issues.

FUTURE DIRECTIONS

As DELIVER comes to an end, the liaison between commodity security and the supply chain has become clearer. There can be no security without a responsive supply chain managed by dedicated, well-trained professionals operating in a supportive management environment. However, the best logistics management does not exist as an end in itself; it must be harnessed to serve a program's technical, policy,

and operational requirements. Clearly, some directions, such as the program emphasis in monitoring and use of logistics data for decision making, must and will continue. However, there are a number of potential future directions worth considering, including–

- The Government of Nigeria already buys ARV drugs. USAID logistics support activities must work closely with ENHANSE to push for GON commitment to RHCS. To that end, logistics managers must also advocate for a budget line for RHCS and propose commodities or other forms of support from the GON in anticipation of a phaseout of CIDA support after 2009.
- UNFPA and the FMOH have secured contraceptive commodity funding only through 2008. USAID logistics support activities should be geared toward helping UNFPA and the government partners advocate for contraceptive funding.
- UNFPA and USAID should work with the FMOH to ensure accountable and effective use of cost recovery funds through routine monitoring of cost recovery as well as work to strengthen communication between the FMOH in Lagos and Abuja. More frequent, timely, and effective communication on logistics issues between the FMOH and the state family planning coordinators also should be reflected among the objectives.
- RHCS is broader than contraception and should have a wider political appeal at the state and local levels. USAID should consider expanding logistics support to safe motherhood and STI commodities, although this support will likely need to be at the state level because funding for essential drugs is decentralized. State MOHs may be able to learn from the experience of the FMOH.
- USAID should support the FMOH in efforts to improve communication and accountability between the federal and state levels for both RH and HIV/AIDS programs.
- The RHCS Working Group must develop strategic linkages with national AIDS control program. Since USAID is working with both programs, it is in a position to support this technically and operationally. Identifying some joint monitoring indicators would be a good start in this direction.
- In partnering with DELIVER, NACA and the HIV/AIDS program have already taken advantage of lessons learned from the RH program in terms of logistics management. To date, there is no formal commodity security strategy for HIV/AIDS commodities. Developing such a strategy may be a logical step for the GON as it pursues system harmonization for various supply chain functions including quantification and procurement.
- The RHCS strategy must be expanded and provide more emphasis on coordination with social marketing and developing demand in both the public and private sectors, including commercial marketing.
- While strengthening the private sector, attention must be given to care and services to ensure that Nigeria's poorest population has improved utilization of these services and better access to commodities.
- DELIVER should work to strengthen its relationship with COMPASS and continue to work with UNFPA and the FMOH to promote family planning in the context of safe motherhood, child survival, and economic development. Results of interventions designed to increase demand for contraception should be tracked through the LMIS and other monitoring and evaluation activities.

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APPENDIX 1

CS BRIEF

Since 2000, DELIVER has been working in Nigeria strengthening supply chain management of family planning commodities and helping the country move toward contraceptive security. DELIVER/Nigeria expanded its scope in 2004 by applying its expertise to the field of HIV/AIDS logistics management. By improving logistics system performance and human capacity in logistics management at the central level and in pilot states, the project is having a positive impact in the areas of family planning, HIV/AIDS, contraceptive security, and donor coordination. Throughout, the project worked to improve resource mobilization as a means of ensuring long-term RHCS.

Since the beginning of DELIVER's work in Nigeria, the project has conducted assessments and activities that have provided critical data to guide implementation activities. DELIVER/Nigeria aided the MOH in redesigning the CLMS and in drafting the national strategic plan for RHCS. As part of a 2003 to 2004 nationwide rollout of the redesigned CLMS, logistics staff were trained on the new system, new forms and handbooks were circulated, and seed stock was distributed to state and local government area stores and SDPs. In addition, DELIVER—in collaboration with POLICY and PHR*plus*—conducted an assessment of HIV/AIDS services in the public and private sectors in February 2004.

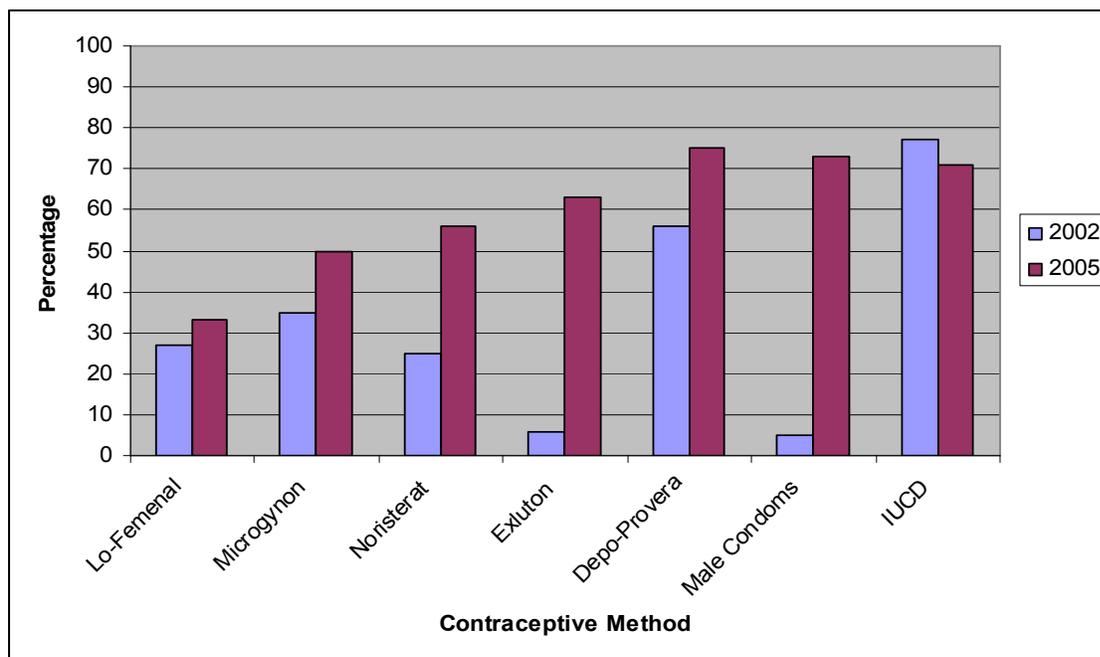
Findings from DELIVER/Nigeria's assessments provide the basis for this report while other assessments supplied important data regarding fertility trends and family planning use. The 2003 Nigeria DHS shows that the total fertility rate decreased over the last 20 years from 6.3 in 1981–1982 to 5.7 in 2003. However, the contraceptive prevalence rate (CPR) for modern methods held steady at 8.9 percent between the 1999 and 2003 surveys. The 2003 DHS reports that the total demand for family planning in Nigeria is 29.5 percent while the unmet need is 16.9 percent (NPC and ORC Macro 2004).

Overall, DELIVER has made substantial progress in moving toward CS and in improving supply chain management (SCM) for family planning, HIV/AIDS, and other programs. Indeed, over the brief period since DELIVER began working in Nigeria, both product availability and logistics system performance have been improved. Nonetheless, in such a large and complicated nation, there remains a considerable agenda of activities to be accomplished to consolidate these gains and strengthen Nigeria's health system for the future.

CONTRACEPTIVE AVAILABILITY ON THE RISE

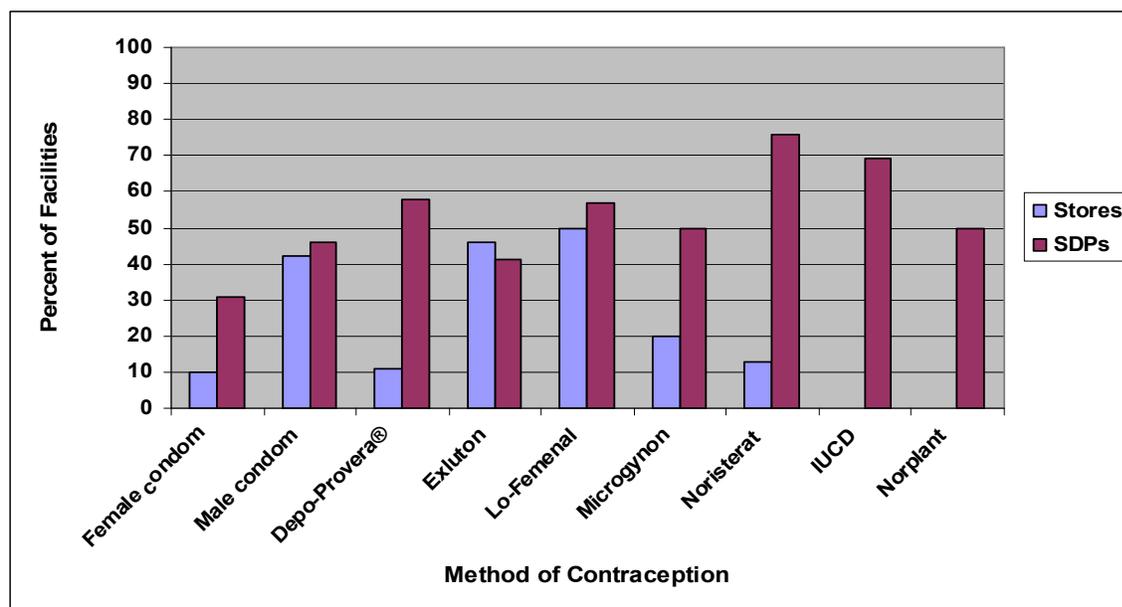
The DELIVER project's main strategic objective in Nigeria is to increase the availability of contraceptives and other essential health commodities at SDPs. Over the past three years there has been an increase in availability—in both stores and SDPs—of nearly all contraceptive methods, which shows that considerable steps have been made toward achieving this objective (see figure 3). Compared to the 2002 baseline assessment, availability was significantly increased for the following four products: Noristerat, Exluton, Depo-Provera, and male condoms. Well over one-half of all facilities in 2005 had most methods in stock, with Depo-Provera the most widely available and Norplant and Lo-Femenal the least widely available in the facilities (Bieze et al 2005).

Figure 3. Increase in Stock Availability on Day of Visit, Comparison (2002 and 2005)



Despite this significant increase in product availability, there remains considerable room for improvement in SCM and CS. A long duration of stockouts and a high percentage of facilities that were stocked below the established stock level signals important weaknesses in the system. Products stocked out at stores were out of stock for an average of at least two months over a six-month period. Although SDPs were generally not stocked out for as long a time as stores, more than one-half of SDPs were stocked below the established stock levels for most products. Figure 4 illustrates the percentage of facilities with low stock, by method, on the day of visit.

Figure 4. Percentage of Stores and SDPs with Stock below the Established Stock Level



Stocks below established stock levels and stockouts of a long duration indicate a serious problem with the CLMS—namely, the inability of facilities to reorder additional stock and to order at the right time. This issue, if not adequately addressed, could lead to further stockouts.

Table 5 lists the current use of contraception among married women according to the 2003 Nigeria DHS, as well as the percentage of facilities with a mix of contraceptive methods (condoms, pills, and injectables) available on the day of visit as found in the 2005 LIAT assessment. These data are organized according to region and state.

Table 5. Current Use of Contraception and Method Mix Availability by Region

Region	Current Use of Contraception (%)	State	Availability of Method Mix (%)
South West	33	Lagos	60
		Oyo	63
South South	25	Edo	69
South East	23	Enugu	89
North Central	13	FCT	85
		Nassarawa	95
North West	5	Kano	23
		Sokoto	58
North East	4	Bauchi	10

SIGNS OF IMPROVEMENT IN LOGISTICS SYSTEM PERFORMANCE

From 2002 to 2005, the performance of the logistics system improved in some—but not all—areas. One important improvement was the increase, between 2002 and 2005, in the percentage of facilities adhering to guidelines for proper storage. These improved storage practices suggest that stored products were lasting longer and that there was a reduced risk of storing or dispensing expired products.

Another indicator that demonstrates improved logistics system performance is the increase in the percentage of facilities where stockcards are available and updated over the three-year period (see table 6). The percentage of facilities that had stockcards available increased for every product except IUCDs, while the percentage of facilities updating their stockcards increased for every method. This finding suggests that facilities are adhering better to the CLMS stockkeeping guidelines.

Table 6. Improvements in the Logistics System (2002 and 2005)

Method	Percentage of Facilities with Stockcards Updated	
	2002	2005
Lo-Femenal	31	69
Microgynon	33	56
Noristerat	28	72
Exluton	13	63
Depo-Provera	14	71
Male condoms	20	70
IUCDs	0	50

Record keeping and reporting, however, remain significant weaknesses of the logistics system. Less than 50 percent of facilities maintained most of the required CLMS records, and even fewer sent the reports to the higher levels.

Included in the DELIVER project's efforts at enhancing logistics systems performance is the core objective of improving human capacity in logistics among key stakeholders. In response to the FMOH aim to implement a CLMS in the entire country, DELIVER, UNFPA, and the Packard Foundation have worked together with the MOH since 2002 to train approximately 2,000 government and NGO logistics managers on the CLMS and about 20 in DELIVER's international Supply Chain Management course. In addition, 125 logistics managers and service providers will be trained on the recently streamlined CLMS and about 90 will be trained on the newly designed logistics system for ARV drugs and HIV test kits in 2006.

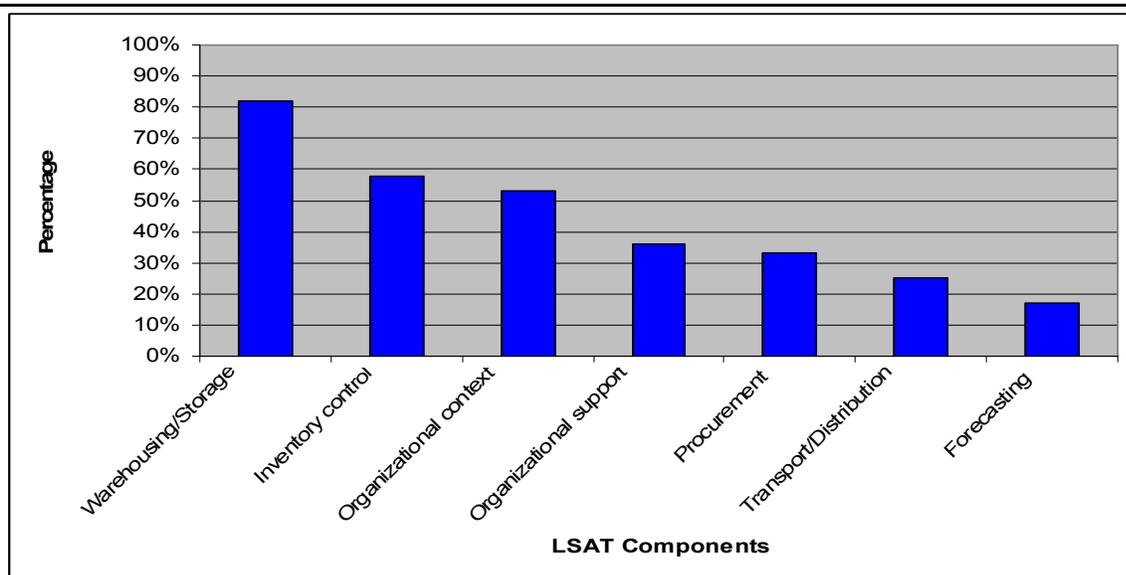
An expected outcome of these training activities was an increase in the percentage of trained staff in logistics management. However, the percentage of trained government staff members remained

unchanged between 2002 and 2005. Although this finding may be partly because of the wording of questions in the two assessments, other reasons include (1) staff members who are trained in CLMS and then reassigned to other tasks or facilities, (2) staff members who are trained in CLMS and who then retired from their jobs, and (3) individuals who have no logistics responsibilities but who are trained in CLMS.

Another critical aspect of improving human capacity is ensuring that supervision policies are in place and implemented. The 2005 assessment found that there was no change in the percentage of supervisors conducting supervisory visits from 2002 to 2005. Supervisors lacked knowledge, supervision forms, and funding to conduct such visits effectively. However, on a more positive note, most stores that had conducted any supervision visits did so during the previous three months, which indicates that the visits that did occur were made on a timely basis.

When it was first used in 2002, DELIVER’s LSAT provided stakeholders with a comprehensive picture of the contraceptive logistics system for diagnostic and work planning purposes. Results of the 2002 assessment demonstrated a strength in the warehousing and storage component of the system but weaknesses in most other components, such as transport/distribution and forecasting (see figure 5). These data provide further evidence as to where efforts should be focused to further improve the contraceptive logistics system. A follow-up LSAT is currently planned for June 2006.

Figure 5. LSAT Component Scores (2002)



In April 2005, DELIVER conducted a feasibility assessment for an integrated logistics system that would support one or more of the following groups of centrally procured commodities: anti-retroviral drugs, tuberculosis drugs, HIV test kits, antimalarial drugs, narcotic drugs, and contraceptives. The LSAT tool was used to assess the strengths and weaknesses of the six vertical systems. The findings indicated that every system needs different levels of effort to strengthen its components and, therefore, integration was not an immediate option. However, increasing the coordination between the different units managing the commodities is one plausible step toward achieving integration.

Finally, to address some of these weaknesses found during the various assessments, current activities regarding Nigeria’s contraceptive logistics system include a revision and strengthening of the system

design and on-the-job training for supervisors and staff members. This revised system is currently being piloted in three USAID COMPASS Project states, with plans to roll it out to the rest of the country over the coming year.

APPENDIX 2

PROGRAM RESULTS MATRIX

Objectives/Strategies	Results	Contribution to DELIVER's Elements	Remarks
<p>Percentage of facilities adhering to guidelines for proper storage</p> <ul style="list-style-type: none"> - Cartons and products in good condition, not crushed as a result of mishandling, and not wet or cracked because of heat or radiation - Damaged or expired products, or both, separated from good products and removed - Storeroom maintained in good condition 	<p>2002: 27% 2005: 34%</p> <p>2002: 21% 2005: 29%</p> <p>2002: 14% 2005: 25%</p>	ELEMENT I: Improved Logistics System	<p>DELIVER activity in Nigeria was heavily focused on Element I, development of improved logistics systems for selected commodities. Consistent with DELIVER and FMOH objectives, DELIVER worked with the FMOH/DCDPA (RH) and FMOH/NASCP (HIV/AIDS) to implement programs of national scale by collaborating with larger partners. For reproductive health activities, key partners included UNFPA and USAID IPs, particularly EngenderHealth (VISION Project), Pathfinder Fund (COMPASS Project), PSI/SFH (social marketing project), and Constella/Futures/POLICY and ENHANSE Projects.</p>
Percentage of public-sector facilities with condoms in stock on the day of visit	2002: 4% 2005: 95%		
Percentage of public-sector facilities with combined oral contraceptives, injectables, and condoms in stock on the day of visit	2005: 56%		
LMIS and Inventory Control System redesign (streamlining)	2006		
Service providers trained on CLMS	2003: 2,000 2006: 242	ELEMENT II: Improved Human Capacity in Logistics	<p>Consistent with DELIVER and FMOH objectives, DELIVER worked with the FMOH/DCDPA (RH) and FMOH/NASCP and NACA (HIV/AIDS) to develop cadres of logistics trainers and implement national-scale training activities. For</p>

TOT for master trainers	2003: 40 2006: 40		reproductive health activities, key partners included UNFPA and USAID IPs, particularly EngenderHealth (VISION Project) and Pathfinder Fund (COMPASS Project). Other IPs provided logistical support for the massive training undertakings, including PSI/SFH (social marketing project) and Constella/Futures/POLICY and ENHANSE Projects. In most cases, IP staff was trained as well.
Training on forecasting and PipeLine software	2005: 12, FMOH and Society for Family Health staff		
Training on health commodity supply chain management	2005: 20, including FMOH and USAID staff		
Supervisor training for state and LGA FP coordinators	2005: 36 2006: 99		
SPARHCS assessment	2002	ELEMENT III: Improved Resource Mobilization for Contraceptive Security	From 2002, DELIVER realized that commodity security had to be the underlying theme of all of its interventions. DELIVER worked with UNFPA and the Futures Project to implement the SPARHCS process, which involved many stakeholders. However, this process was heavily dominated by the public sector. NGOs, private-sector providers (as represented by their national associations), and the social marketing program were largely disconnected. While the FMOH understands its role in coordinating these efforts and providing leadership, there were so many real issues to address within its own service delivery program that it was not able to lead on some of the wider issues related to market segmentation and demand generation. There is a continuing need for advocacy on this issue with the FMOH and UNFPA
Joint action plans	2002 2003 2004		
CLMS cost recovery strategy	2003		
National RHCS policy	2004		
CPTs	2002 2003 2004 2005		
“Informed buying” assessment	<u>2005</u>		

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