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TANZANIA: FINAL COUNTRY REPORT



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DELIVER
No Product? No Program. Logistics for Health

TANZANIA: 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

USAID/Tanzania's program focus is on preventing the spread of HIV/AIDS and increasing the use of reproductive and child health services. In concert with USAID's health objectives, DELIVER's activities in Tanzania concentrate primarily on three main areas of intervention: the development of a health management integrated logistics system, Commodity Security (in particular contraceptives), and the quantification and procurement of antiretroviral drugs. In addition to these main areas, DELIVER provides ongoing logistics-related technical assistance to numerous USAID supported partners and programs.

This final country report explores program results for DELIVER in Tanzania and offers lessons learned and directions for future programs.

Cover photo by www.worldview.com.

DELIVER

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ACRONYMS

AED	Academy for Educational Development
AIDS	acquired immunodeficiency syndrome
AMC	average monthly consumption
ART	antiretroviral therapy
ARV	antiretroviral
CHMT	Council Health Management Team
CPT	contraceptive procurement table
CS	commodity security
CSEP	Country Strategic and Evaluation Plan
CTC	care and treatment center
DANIDA	Danish International Development Agency
DFID	Department for International Development (UK)
DHS	Directorate of Hospital Services
DPG	Development Partners Group
DPP	Directorate of Policy and Planning
DPS	Directorate of Preventive Services
EDP	Essential Drugs Program
EGPAF	Elizabeth Glaser Pediatric AIDS Foundation
EPI	Expanded Program on Immunization
FBO	faith-based organization
FP	family planning
FPLM	Family Planning Logistics Management
GFATM	Global Fund to Fight AIDS, TB and Malaria
GOT	Government of Tanzania
HIV	human immunodeficiency virus
HSPS	Health Sector Program Support
ILS	integrated logistics system
IUD	intrauterine device
JICA	Japan International Cooperation Agency
JSI	John Snow, Inc.
KfW	German funding agency for international development

LIAT	Logistics Indicators Assessment Tool
LSAT	Logistics System Assessment Tool
MCH	maternal and child health
MIS	management information system
MMIS	Making Medical Injections Safer
MOF	Ministry of Finance
MOH	Ministry of Health
MOHSW	Ministry of Health and Social Welfare
MSD	Medical Stores Department
MTEF	Medium Term Expenditure Framework
MTUHA	health management information system (Swahili name)
NACP	National AIDS Control Program
NGO	nongovernmental organization
NTLP	National Tuberculosis and Leprosy Program
OJT	on-the-job training
OPD	outpatient department
OPV	oral polio vaccine
ORS	oral rehydration solution
PEPFAR	President's Emergency Plan for HIV/AIDS Relief
PHHE	Population, HIV/AIDS, Health and Environment
PMI	President's Malaria Initiative
PMP	Pharmaceutical Master Plan
PMTCT	preventing mother-to-child transmission
PSI	Population Services International
PSU	Pharmaceuticals and Supplies Unit
PHCI-Iringa	Primary Health Care Institute Iringa
R&R	report and request (form)
RCHS	Reproductive and Child Health Services
RH	reproductive health
RHMT	Regional Health Management Team
RLA	resident logistics advisor
SDP	service delivery point
SP	sulfadoxine-pyrimethamine
STI	sexually transmitted infection
SWAp	sector wide approach

TB	tuberculosis
TBS	Tanzania Bureau of Standards
T-DHS	Tanzania Demographic and Health Survey
TFDA	Tanzania Food and Drug Authority
T-MARC	Tanzania Marketing and Communications
TOT	training of trainers
UMATI	International Planned Parenthood Federation affiliate
UNFPA	United Nations Fund for Population Activities
USAID	U.S. Agency for International Development
USG	United States Government
VCT	voluntary counseling and testing
VEN	vital, essential, necessary
ZTC	zonal training center

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EXECUTIVE SUMMARY

The scope of the DELIVER project's work has a distinct contraceptive security orientation, with significant emphasis also placed on the development and strengthening of health logistics systems. In response to the needs identified by the Ministry of Health and Social Welfare (MOHSW), DELIVER's Country Strategic and Evaluation Plan proposed the design and implementation of an integrated drug management logistics system as the primary focus of DELIVER's interventions in Tanzania.

Contraceptive security and the integrated logistics system (ILS) indeed garnered a large proportion of DELIVER's efforts and budget throughout the life of the project. A forum of monthly contraceptive security meetings was established, bringing together all of the major actors in contraceptive distribution to analyze stock levels, pipeline data, and distribution rates. This forum, coupled with the annual contraceptive procurement table exercise, improved procurement planning and monitoring of both USAID-supplied contraceptives and those procured with other sources of funding.

Implementation of the ILS has been very successful. All facilities in the two pilot test regions have had more than one year's experience using the ILS for ordering all of their supplies since April 2005. An additional five regions have subsequently been trained; two with funding from the United States Agency for International Development (USAID) and three with funding secured by the MOHSW through the Danish International Development Agency (DANIDA). This mobilization of funding from another donor attests to the MOHSW's belief in the ILS and the degree of ownership that it has fostered. In total, seven of the 21 regions in Tanzania, accounting for about 34 percent of the country, are using the ILS.

With the advent of funding from the President's Emergency Plan for HIV/AIDS Relief (PEPFAR) midway through the project, quantification of HIV/AIDS commodities assumed an increasing proportion of DELIVER's mandate. DELIVER has worked with the National AIDS Control Programme (NACP) and other partners to develop annual forecasts of antiretroviral drug (ARV) requirements to support the National Care and Treatment program. The quantifications and financial projections have informed the budgeting process of the MOHSW and its partners.

DELIVER has also acted on behalf of the United States Government (USG) to procure and deliver, door-to-door, 17 different ARV formulations to support the antiretroviral therapy (ART) program in Tanzania at a cumulative value of U.S.\$4.336 million. These have proved to be a crucial and significant source of medicines needed for the ART program. In addition, technical support has been provided for the design and implementation of an ordering and reporting system for the distribution of ARVs.

At the request of USAID/Tanzania, DELIVER was used as a mechanism to access other JSI technical assistance resources for a number of interventions deemed important for USAID's health portfolio, but for which no other source of funding was readily available. To gain entry into the pediatric health discussion, USAID commissioned a study of under-fives and neonatal mortality; and to further broaden its portfolio, it commissioned a series of interventions under Population, HIV/AIDS, Health and Environment (PHHE) to explore supporting environmental protection nongovernmental organizations (NGOs) in activities to promote better health and AIDS prevention interventions in their communities.

Malaria remains the number one cause of infant mortality in Tanzania. To become more involved in this aspect of USAID's portfolio, the Mission used the DELIVER mechanism to commission a situation analysis to define the strengths and weaknesses of the Malaria Control Program and determine what potential interventions might be programmed in the future. This initial step allowed Tanzania to take its place as one of the first three countries to receive substantial funding under the President's Malaria

Initiative (PMI). DELIVER was used to organize the first consultative planning meetings on both mainland Tanzania and Zanzibar to determine how these PMI funds would be put to best use.

DELIVER's success was founded not only in its considerable achievements in the core areas of its contract scope of work, but also in its being flexible and expanding into related areas of intervention as the environment in which it operated evolved, and by being responsive to the needs of both donor and beneficiary.

PROGRAM BACKGROUND

COUNTRY CONTEXT

Tanzania undertook political and economic transformation in the early 1990s. Its annual gross domestic product grew 5.8 percent in 2004, and it sustains annual economic growth rates, which are among the best in sub-Saharan Africa. However, the HIV/AIDS epidemic overshadows and is slowing Tanzania's once promising development. The country is ranked 162 of 175 countries in the 2004 United Nations Development Program Human Development Index, and the World Bank estimates 2004 per capita income at U.S. \$280, a mere 1.7 percent increase over the past five years. Tanzania continues to confront serious health challenges, most notably in HIV/AIDS, child survival, and maternal health.

The 7 percent national HIV/AIDS infection rate is the leading cause of adult mortality; life expectancy, once 65 years, has plummeted to 44 and continues to fall. Tanzania's orphan population is currently estimated at over 1.1 million, over 50,000 children becoming orphans each year. The 2004 Tanzania Demographic and Health Survey (DHS) did reveal some promising statistics, including the 31 percent drop in infant mortality to 68 deaths per 1,000 live births—one of the lowest rates in East Africa. Deaths of children under-five have declined by 24 percent, from 147 deaths per 1,000 live births in 1999 to 112 in 2004.

The Tanzania DHS also revealed that the fertility rate in Tanzania has not changed in 10 years—Tanzanian women have an average of 5.7 children. This is one of the higher fertility rates in East Africa. More than 25 percent of young women age 15–19 have begun childbearing, while one in four married women uses a method of family planning. These rates have not changed since the 1999 survey; however, the use of modern methods of family planning has increased slightly, from 17 to 20 percent.

In response, programs of the United States Agency for International Development (USAID) focus on preventing the spread of HIV/AIDS and increasing the use of reproductive and child health services. In concert with USAID's and Ministry of Health (MOH) health objectives, DELIVER's activities in Tanzania concentrate primarily on three main areas of intervention: the development of a health management integrated logistics system (ILS), commodity security (in particular, contraceptives), and the quantification of HIV/AIDS commodities and procurement of antiretroviral drugs (ARVs). In addition to these main areas, DELIVER provides ongoing logistics-related technical assistance to numerous USAID supported partners and programs.

KEY PLAYERS AND ROLES

For DELIVER to achieve its program objectives over the past six years, it has required the intervention and cooperation of several different organizations. Among these are the Reproductive and Child Health Services (RCHS) of the Ministry of Health and Social Welfare (MOHSW), the National AIDS Control Program (NACP), the Pharmaceutical and Supplies Unit (PSU), the Medical Stores Department (MSD) and local zonal training centers (ZTCs).

Table 1 shows DELIVER's principal areas of intervention and the primary partner organization with whom DELIVER collaborates most closely.

Table 1: Partner Organizations

Partner Organization	Contraceptive Security, CPTs, monthly CS meetings	ILS design, pilot test, and roll-out training	ILS software and database	ARV logistics system design, quantification, and procurement	STI drug and HIV test kits quantification
RCHS	X				
PSU		X			
MSD			X		
NACP				X	X
*PHCI-I		X			
**JICA					X

*Primary Health Care Institute Iringa (PHCI-I)

**Japan International Cooperation Agency (JICA)

Note:

Although MSD only appears as the partner organization for development of the ILS software and database, its involvement is key in all of DELIVER's areas of intervention, as MSD is currently the central source of logistics data for all product categories.

MEDICAL STORES DEPARTMENT

As with any logistics system, the ILS relies on effective functioning of the national distribution system. The semi-autonomous MSD was established by an act of Parliament in 1993 to replace the Central Medical Stores with a parastatal entity whose responsibilities are to procure (and clear), store, and distribute drugs and related medical supplies. Because the creation of the ILS calls for packaging of facility-specific drug kits, MSD's role expanded to include the need for a packing-line/conveyor-belt system for packaging the orders.

MSD's major responsibilities are to—

- maintain and expand ongoing storage and distribution activities for all commodities
- collect, aggregate, and send logistics management information systems (LMIS) reports
- use data from logistics MIS reports for resupply to districts and health facilities
- provide financial status reports to districts, health facilities, and program managers
- obtain commodity requirements from PSU for timely procurement planning.

PHARMACEUTICALS AND SUPPLIES UNIT

The responsibilities of the PSU are largely oversight and coordination. It has the leadership mandate for all commodity-related interventions and coordination among key stakeholders, including MSD, Program Managers, donors, MOH Directorates, and Ministry of Finance. DELIVER worked closely with PSU to develop the ILS and begin the gradual integration into the country's health management system. PSU undertakes the following:

- receive and review annual forecasts, consumption, and stock balances of program-related commodities from Program Managers and provide feedback
- inform appropriate entities (MSD, Directorate of Policy and Planning, Ministry of Finance [MOF], donors, and others) of any changes in product selection and use that would affect forecasting, budgeting, financing, and procurement of commodities

- advocate, promote, and ensure inclusion of all health commodities in the annual Medium Term Expenditure Framework (MTEF) budgeting process and document.

The PSU, as manager for essential drugs and sexually transmitted infection (STI) drugs through Indent, Kit, and Capitalization Systems, and now conversion to the integrated logistics system (ILS), also has commodity-specific responsibilities including:

- receive, review, and analyze aggregated reports pertaining to essential drug distribution to primary health care facilities and district and regional hospitals; provide timely commodity supply and management decisions to MSD
- use logistics MIS reports to prepare and update forecasts on commodity requirements for their program.

PRIMARY HEALTH CARE INSTITUTE–IRINGA

DELIVER worked closely with the Primary Health Care Institute–Iringa (PHCI-I) to train health care workers in use of the new ILS. PHCI-I is recognized by the MOHSW, USAID/Tanzania, and their contractors as a leading ZTC and source of training support for the Southern Highlands zone of Tanzania. It is Ministry policy to encourage the ZTCs to leverage outside funds and develop a degree of autonomy in managing their operating costs, and USAID has supported this effort. PHCI-I was identified as the organization uniquely qualified to rapidly implement the pilot and roll-out phases of the ILS training.

KEY CHALLENGES

Lack of quality logistics data has been problematic throughout the country and is the primary reason for the development of the ILS and related LMIS database. Quality data are essential to quantify STI drug and HIV test kit needs, prepare contraceptive procurement tables, and plan ARV procurements. The main blockage has been feeding information from the service delivery sites back to the district and central levels for proper decision making.

As donors progressively shift from providing in-kind donations to making monetary contributions to the basket funding mechanism, new challenges have arisen in commodity security. All of the MOH's various departments must now compete for a finite amount of funding. Once funds are allocated, they are only made available in quarterly tranches rather than all at once, and once they are made available, the Government of Tanzania (GOT) procurement process is lengthy, making the potential for delay considerable. All of these factors contribute to the vulnerability of commodity security and make longer-term planning essential.

Decision making in the Tanzanian MOHSW is still highly centralized and shared among an extremely limited number of key persons. The number of development partners and technical assistance organizations vying for the attention of these few decision makers seriously constrains latter's availability and the time they can devote to any single intervention. This in turn delays the introduction of new interventions, and once introduced, restricts the pace of their implementation.

The MOHSW is seriously understaffed, in both sheer numbers and level of qualification. Whereas vertical programs previously provided the means for health workers to receive various incentives, with more and more integration, this type of opportunity has seriously declined. Job dissatisfaction is high, and mobility is great. The dearth of qualified people in the health field leads many development partners to recruit their staff out of the very MOH departments to whom they are providing assistance. These factors present considerable challenges to institutional capacity building.

GOALS AND OBJECTIVES

DELIVER GOALS AND OBJECTIVES

DELIVER and MOHSW counterparts developed long-term goals and objectives as well as an intermediate-term strategy and objectives that could be realistically be achieved during the life of the project. The long-term goal and objectives were as follows:

- ensure availability of essential health commodities at all levels of the public sector health care delivery system through an integrated supply chain by—
 - improving essential health commodity management at all levels of the public sector health care delivery system by designing and implementing a fully operational logistics system and logistics MIS that can manage increased categories and volumes of commodities
 - building individual and organizational capacity and capabilities for logistics system management and use of logistics MIS data at all levels of the Tanzanian public health sector.

Given that integration of all health commodities into a functioning logistics system is an ambitious goal, MOH and DELIVER elected to take an incremental approach to the implementation process, and integrate categories of commodities step by step, in the most logical and feasible manner possible. Integration began with the incorporation of selected HIV/AIDS commodities into existing systems as the first phase. The intermediate-term objectives that apply specifically to the HIV/AIDS commodity interventions were as follows:

- enhance the logistics system procedures and MIS to manage the flow of all essential drugs and integrate STI drug management into the indent and kit systems
- improve availability of HIV test kits and supplies by designing and implementing a logistics system and MIS for HIV test kits and supplies to be integrated under the Diagnostic Services & Laboratory Section of the Directorate for Hospital Services
- increase management efficiency and availability of condoms for STI/HIV prevention by streamlining distribution of condoms for STI/HIV prevention through the existing system for family planning condoms and facilitating distribution through non-clinical sites.

RELATIONSHIP TO USAID AND CLIENT OBJECTIVES

The request for DELIVER to develop a strategy for implementing a logistics system for HIV/AIDS commodities resulted from a U.S.-Japan Common Agenda¹ team visit, during which HIV/AIDS was identified as an area of joint collaboration. The government of Japan, through the Japan International Cooperation Agency (JICA)/Tanzania is providing selected HIV/AIDS commodities, while USAID/Tanzania is providing technical assistance through DELIVER to build a logistics system to manage the commodities. The MOHSW asked that the development of a logistics system for HIV/AIDS commodities be a first step toward implementing an integrated logistics system to handle all essential health commodities in Tanzania's public sector. Thus DELIVER's work directly supports USAID's role in the U.S.-Japan Global Partnership for Health as well as the GOT through MOH directives.

¹ Currently called the U.S.–Japan Global Partnership for Health.

The proposed strategy outlined in the 2002 Country Strategic and Evaluation Plan (CSEP) and implemented over the past four years is also supportive of and consistent with USAID/Tanzania's Strategic Objective 1 (SO1)—“Increased use of FP [family planning]/MCH [maternal and child health] & HIV/AIDS preventive measures.” The three Intermediate Results (IRs) under SO1 are—

IR1: Policy and Legal Environment Improved

IR2: Availability of Quality Services Increased

IR3: Demand for Specific Quality Services Increased

Since the logistics system intervention cuts across all aspects of the health sector, it has contributed to all IRs within SO1. However, much of the contribution and focus has been under IR2. The Mission aim under IR2 is to provide overall health system support by achieving the following results:

IR 2.1 Provision of Information & Services Increased

IR 2.2 Practitioners Skills & Knowledge Increased

IR 2.3 Program Management Improved

This last intermediate result, Program Management Improved, is clearly where the MOHSW has seen DELIVER's ability to make a valuable contribution. The MOHSW is quite keen on promoting improved program performance through the efficient use of limited resources and perceives DELIVER as an agent to help in this endeavor, by assisting with the establishment of systems for the improved management of drugs and by improving the availability of data for decision making. The design and implementation of the ILS directly addresses these two means of improving project management. These same principles have been the guiding factors for DELIVER's other interventions as well: the design and implementation of a reporting and ordering system for ARVs, maximizing the impact of the resources available for ARVs through refined quantification techniques, and assisting with procurement planning and careful monitoring of contraceptives to ensure efficient use of the ever-increasing proportion that is financed with GOT funds.

DELIVER'S ROLE IN RELATION TO OTHER ORGANIZATIONS

DELIVER's primary role is to support MOHSW and PSU with technical assistance, mentoring, skills transfer and capacity building, and completion of activities in the work plan on a timely basis, with involvement of all key stakeholders at central, regional, and district levels. The focus of project activities was to work with PSU throughout the period of system design and implementation of the ILS. Given the increasing attention to decentralization in Tanzania, it was crucial that the implementing level—Regional Health Management Teams (RHMTs) and Council Health Management Teams (CHMTs)—be included in the entire process, and some of DELIVER's interventions and assistance were targeted at the implementation level as well as the decision making and coordinating level. For example, all RHMT and CHMT members in the ILS regions first received a separate sensitization session before the ILS was introduced, explaining the tenets on which it is based and the benefits that it will bring to their areas. Then they were included in the five-day training, along with the health workers whom they would later be responsible for supervising.

By virtue of the DELIVER project's mandate to procure ARVs on behalf of the USG, DELIVER was asked to assist with the development of a methodology for quantifying ARVs. DELIVER's assistance was to be used not only for USG-funded drugs, but also for quantifying procurements undertaken by the GOT using their own funds, or other development partner contributions as all ARVs are pooled into the NACP's Care and Treatment program regardless of funding source. In addition, DELIVER designed a reporting and ordering system for ARVs modeled on the ILS to facilitate its eventual absorption by the ILS once the Care and Treatment Program is well established and widespread. DELIVER also designed

and printed registers for the NACP to assist with data collection on consumption and number of patients by regimen to allow for accurate monitoring of the program's evolution.

DELIVER also worked closely with RCHS staff at the MOHSW on commodity security (CS), particularly contraceptives. The annual CPT exercise was scheduled in February/March of each year, specifically to coincide with the MTEF submissions by the various MOHSW departments. The project was then instrumental in organizing a contraceptive security working group, and it coordinated with RCHS to set dates, draft agendas, and prepare stock status tables to review the status of procurement and distribution, determine if things were evolving as had been envisioned at the time of CPT preparation, and adjust procurement plans or assist in securing additional resources when and if the need arose.

SUMMARY OF INTERVENTIONS

The interventions and strategies for Tanzania consisted of designing and implementing a logistics system and LMIS that built on strengths of existing systems but reengineered processes and procedures wherever needed. Developing a functional LMIS and enhancing users' ability to apply information from the LMIS to improve other logistics functions, including quantification/forecasting, budgeting, inventory control, storage, and distribution, through interventions aimed at building human capacity formed the crux of the strategy. A key criterion of the intervention was to enable full MOHSW participation throughout the design and implementation process. The design of interventions sought to ensure that management capacity and capabilities in health commodity logistics were transferred to host-country organizations and individuals, particularly PSU and MSD. This became even more crucial as ARV procurement, preventing mother-to-child transmission (PMTCT) programs, and HIV/AIDS Care and Treatment Programs began to expand, and ARVs, HIV test kits, and drugs for opportunistic infections started flowing through the system.

Many of the interventions related to logistics policy and advocacy, as well as ongoing mentoring, communication, and transfer of skills and logistics management capacity to MOH counterparts, were facilitated through the continuous presence of a resident logistics advisor (RLA) and, later, a cadre of local staff.

SUMMARY OF DELIVER FUNDING AND STAFFING

DELIVER initially provided assistance to Tanzania via short-term technical assistance. As the country's initial needs were assessed, the Mission supported establishment of a local presence, staffed by one logistics advisor and supported by local short-term consultants. As demands increased and technical assistance needs diversified, the project's local presence was expanded, ending the project with a staff complement of two expatriate technical advisors, five Tanzanian staff, and five local consultants.

During the term of the DELIVER contract, USAID committed U.S.\$15,658,280 to Tanzania, made up of Population, Child Survival and Maternal Health, and HIV/AIDS funds. DELIVER's initial priorities were primarily family planning and reproductive health and integrated systems with primary health commodities. As U.S. government funding and priorities intensified to respond to the HIV/AIDS epidemic, however, USAID funding expanded to include HIV monies in FY 2005. The focus of DELIVER's assistance greatly expanded into this area, including U.S.\$7.8 million for ARV procurement.

PROGRAM RESULTS

ELEMENT I: IMPROVED LOGISTICS SYSTEM

In most of the public health systems in sub-Saharan Africa, logistics systems were established only for the vertical programs they supported. These have passed on an inheritance of multiple vertical logistics systems focused on a single or a narrow range of products, even as health service delivery became more and more integrated either in response to local needs or as required by the tenets of health sector reform initiatives. The health logistics system in Tanzania is no exception. At the onset of the DELIVER project assistance in Tanzania, a host of vertical logistics systems could be identified, including situations in which the same product or product category, such as antibiotics like cotrimoxazole, was managed through separate systems for delivery and use at the same health facility.

Earlier interventions to address this anomaly included introducing the indent system, an order-based system for the Essential Drugs Program (EDP) covering items previously included in the EDP kits. The kit system distributed essential drugs and related products through a push system predetermined at the central level to all health centers or dispensaries at regular intervals, irrespective of the epidemiological patterns of the areas served and hence not ideal in addressing local needs. Though it was widely acknowledged that certain products in the kits remained unused while others routinely stocked out, how often this occurred could not be quantified. One of the main reasons that catalyzed the need for an alternative distribution system was that the MOHSW's central level had no data on commodity use from the facility level to guide commodity forecasts and other planning purposes. There was no feedback mechanism that availed the central level with data on actual consumption of health commodities. Among the key interventions identified early in the relationship of DELIVER and the MOH/PSU in Tanzania was the need for a logistics system capable of handling the multiple commodities needed to support service delivery as the sector moves away from vertically managed programs to a more integrated service delivery paradigm with an elevated level of awareness of the need for resource management efficiency. Such efficiency could only be achieved through the improved availability of logistics data for decision making.

DEVELOPMENT OF THE INTEGRATED LOGISTICS SYSTEM

Beginning in February 2002, the MOHSW embarked on an ambitious plan to integrate the logistics systems of many of its vertical programs. The process of designing a new logistics system for the Tanzania Health Sector began with an analysis of the tasks currently undertaken in the supply system, and a tool called process mapping was used. This activity led to a clear understanding of the logistics-related activities in the public sector in Tanzania and highlighted areas of breakdown and potential areas for improvements in the system.

The vertical programs included—

- Essential Drugs Program (the kit or indent system, under the PSU, of the Directorate of Hospital Services [DHS])
- family planning program (including contraceptives and condoms under the Reproductive and Child Health Services [RCHS] under the Directorate of Preventive Services [DPS])
- STI program (under the National AIDS Control Program [NACP], a directorate-level program)
- National Malaria Control Program (NMCP) (under the Directorate of Preventive Services [DPS])

- laboratory and diagnostics program (including HIV and syphilis testing, and dental and radiological supplies, under the Laboratory and Diagnostics Unit of the DHS).

At the time of this initial planning, the Expanded Program on Immunization (EPI) and the National Tuberculosis and Leprosy Program (NTLP) were intentionally excluded from the ILS, under the assumption that these programs were performing well and had remained vertical systems for a number of years.

Additionally, the Chief Medical Officer estimated that there were more than a dozen vertical programs whose drugs and related medical supplies should be considered part of the integrated system.

In September/October 2002, a workshop was held in Morogoro to review the findings of the logistics system performance assessment and the process mapping activity conducted in January/February 2002, and to make recommendations regarding the critical factors necessary for the new, strengthened logistic system.

These included procedures for—

- improved ordering, receiving, and issuing of products in the indent system
- managing and disbursing funds at the central level
- implementing mechanisms for accessing and managing funds at local levels
- aligning transportation schedules from MSD to districts and districts to service delivery points (SDPs)
- collecting appropriate and sufficient data items to be sent up the system and the types of data to be included in feedback reports sent back down the system
- handling products with special characteristics within the parameters of the existing system.

These requirements were duly taken into consideration in the design of the ILS. Incorporating the strengths identified in the existing vertical logistics systems was an important consideration.

The ILS integrates the commodities in the EDP, the RCHS, the STI requirements for syndromic management, condoms for family planning and HIV prevention, and various other related items into a single ordering and reporting system. To shift from the plethora of vertical logistics systems without compromising service delivery during or after the transition, it was important to *prioritize* among the health commodities to determine those that are absolutely essential for routine ordering and reporting within the new logistics system. An innovative classification scheme was developed to classify the products into *priority* and *additional* commodities to facilitate ILS management. This classification scheme has selected about 90 products for routine reporting and ordering at the Health Center and Dispensary level, and 160 for the hospital level.

While the ILS would have wholesale applicability for all categories of commodities managed by all of the MOHSW facilities, the rate of its implementation across the country would delay availability of these benefits to programs that are new, that are limited to selected sites, and that have a greater need for a more robust logistics system, such as the ART program to management ARV medicines and related supplies. For such programs, a separate subsystem modeled exactly after the ILS was developed and implemented with the minor revisions necessary to meet immediate to medium-term requirements but retaining the *look and feel* of the ILS to facilitate eventual integration into the main logistics system when appropriate.

Pilot Testing and Assessment

The need for pilot testing of the initial design of the ILS cannot be overemphasized. Two regions, Dodoma and Iringa, were selected for the initial ILS pilot test. The selection of pilot regions was done

through a highly objective process to avoid biasing future assessment of the success, or otherwise, of the ILS. It was also necessary to move the implementation along at a pace manageable by all parties involved: MSD’s ability to transition from a *one size fits all* kit system to an ordering system requiring individually processed orders from the facilities; the ability of the PSU and other central-level management to monitor and supervise the process; and DELIVER’s capacity to provide adequate technical support and oversight of the implementation process. After the initial six-month trial period, an in-depth assessment of the system was done, with performance indicators selected from a range of both objective and subjective measures of qualitative and quantitative indicators.

Table 2 below summarizes some findings from the initial assessment after a six-month pilot of the ILS. It shows that the confidence of staff in their ability to undertake ILS-related tasks was significantly higher if they had been through the training than if they have not been trained but had just received on-the-job training (OJT), read the manual, or undertaken some other form of tutelage. However, 72 percent of all staff felt confident overall—showing the quality of the manual and some transfer of skills.

Table 2: Health Facility Staff Confidence in ILS Functions

	Trained in ILS		Totals
	Yes (n = 71) (%)	No (n = 7) (%)	(%)
Very Confident/Confident	73	57	72
Somewhat Confident/Not at All Confident	27	43	28

During the assessment of the pilot phase, health workers interviewed were asked about their preference for either the ILS or the vertical and kit systems. Responses indicated an overwhelming preference for the ILS, as illustrated in table 3.

Table 3: Staff Preference for Logistics System

Which system do you prefer?		
	ILS (%)	Vertical/Kit System (%)
Districts Coordinators (n=7)	86	14
Health Facilities (n=75)	99	1

Findings of this assessment reinforced the MOHSW’s acceptance of the ILS and the commitment to roll it out to the rest of the country with minor modifications. These modifications were driven predominantly by the desire to include closely related, but non-logistics functions, such as the need to promote rational use of medicines. This will draw synergies between logistics management and rational use of medicines in a bid to improve overall commodity availability by improving efficiency in both the supply and use of the commodities.

Roll-Out of the ILS

The success of the initial ILS implementation is demonstrated further by the fact that the MOHSW obtained funds from non-USAID support, through the Danish International Development Agency (DANIDA) Health Sector Program Support (HSPPS) program to accelerate the roll-out to three more regions using the training materials and other resources developed through DELIVER. The project

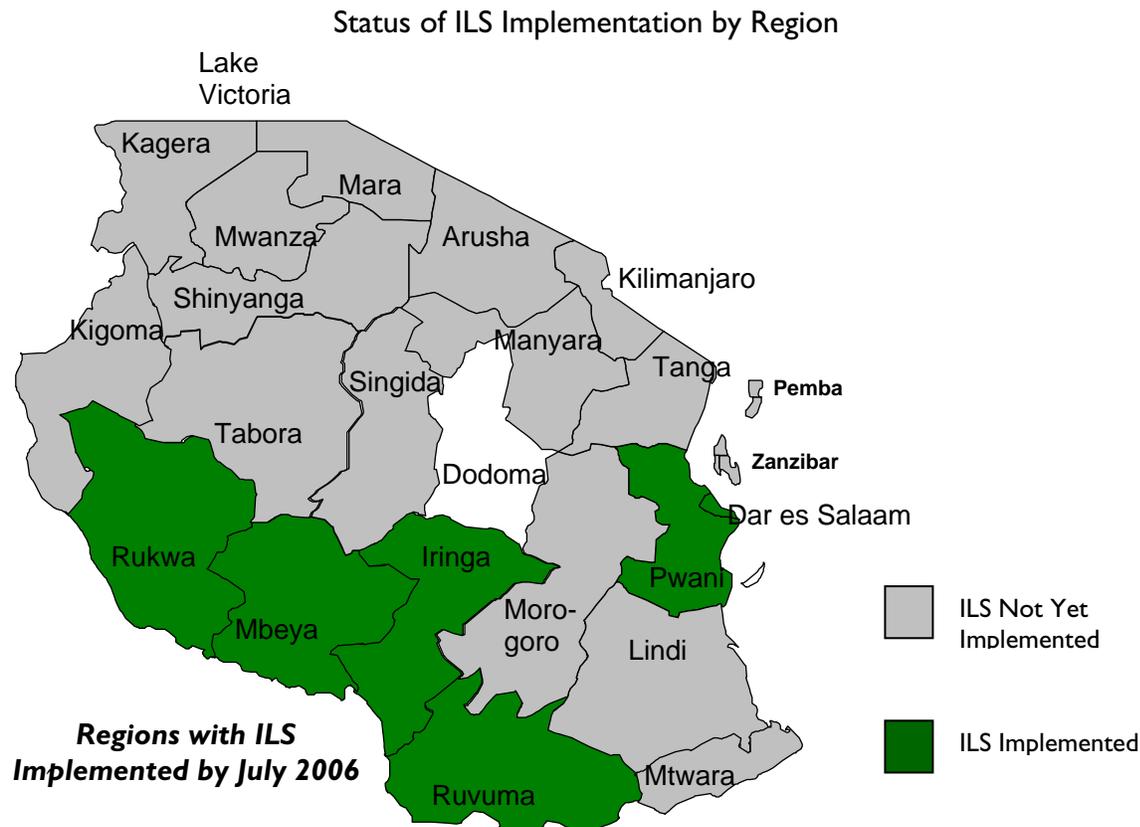
completed roll-out to two other regions; thus at the end of project, seven of the 21 regions in Tanzania will be covered by the ILS, accounting for a total of 33.51 percent of the population (based on population projections from Population Planning Unit URL: <http://www.tanzania.go.tz/population.html>). See table 4.

Table 4: Population Covered by ILS Since Initiating Implementation

Region	Funding Source	Population	% Total Population
Dodoma	USAID/DELIVER	1,977,658	5.17
Iringa	USAID/DELIVER	1,988,996	5.20
Mbeya	USAID/DELIVER	2,517,779	6.59
Rukwa	USAID/DELIVER	1,308,690	3.42
Dar es Salaam	DANIDA/HSPS	2,680,535	7.00
Coast	DANIDA/HSPS	994,528	2.60
Ruvuma	DANIDA/HSPS	1,360,295	3.55
Total Mainland		38,277,506	33.51

The process of designing and implementing the ILS also led to recognition of the significant need for more logistics system strengthening in some areas more than in others, and for certain product groups for which a different interim solution was needed from those derived from the ILS (see figure 1). Priority for the ILS roll-out was therefore given to areas still using the EDP kit system, while regions using the indent system would be rolled out later.

Figure 1: ILS Implementation by Region as of July 2006



ADDITIONAL LOGISTICS MANAGEMENT ASSISTANCE

Working with the NACP, DELIVER assisted in designing the data collection and ordering tools to be used in the care and treatment centers (CTC) to manage ARV distribution, namely the report and request (R&R) forms and the dispensing registers with job aids. DELIVER was involved in training the first CTC members by preparing the logistics module of the site training materials following NACP guidelines. DELIVER also assisted in the delivery of training at the Muhimbili Teaching Hospital for the sites in Dar es Salaam. DELIVER and the NACP have monitored the use of these tools continuously, and slight modifications have been made over time to ensure that they meet the needs of the program. Such changes have included the need to modify the dispensing registers and the R&Rs to capture information about the number of patients in each regimen, which will provide the necessary data to forecast future ARV requirements. DELIVER also participated in supervisory visits to the CTC sites to reinforce the importance of record keeping, timely ordering and reporting, and other logistics management tasks, and has hired two local consultants to supplement NACP's understaffed efforts to monitor and provide OJT for logistics practices in the field.

DELIVER was also involved in designing and printing tools for the *mini-indent* system for improving the management and availability of STI medicines and supplies at health facilities. This system is designed to provide accelerated improvement in the logistics management of STI medicines and supplies that are donated directly under JICA support to the health sector. DELIVER has also provided support to the NACP for annual quantification of STI medicines and supplies, as well as HIV test kits, which helps to provide data to both JICA and the MOH for planning and budget purposes.

As part of general technical support to the MOHSW, DELIVER conducted an in-depth assessment of logistics and service system capacity for the delivery of PMTCT services in 2003, which informed central-level program management of the readiness for a roll-out of PMTCT services. DELIVER also assisted in the training of Elizabeth Glazer Pediatric AIDS Foundation (EGPAF)-supported sites in logistics management for PMTCT services.

ELEMENT II: IMPROVED HUMAN CAPACITY IN LOGISTICS

Logistics competency is rarely available to any satisfactory degree in the pre-service training curricula of most health professional training programs, and is equally absent in the post-qualification in-service training programs in most developing countries. In most cases, logistics skills are acquired on the job, and the depth and complexity of which skills are acquired become direct measures of the aspects to which the personnel are exposed, which is driven in turn by the logistics system in which they work. Over the course of this project, DELIVER has undertaken a number of specific activities designed to build human capacity in logistics. The examples below illustrate this.

TRAINING OF TRAINERS (TOT) AND TRAINING FOR THE ILS PILOT AND ROLL-OUT

As part of the implementation process, there was a need to instill in health facilities staff and their supervisors the basic tenets of a good logistics system and how these principles and practices have been incorporated into the design of the ILS. During the ILS pilot phase implementation, *master trainers* were identified through the ZTCs in Morogoro and in Iringa. These trainers were taken through a TOT course that included training in the principles of adult learning and course delivery techniques as well as an overview of the principles of logistics. In addition, these trainers were exposed in depth to the design elements of the ILS and the various forms and registers required to implement it. The two-week TOT, with seasoned DELIVER trainers, ensured that the selected trainers were able to pass on an acceptable level of knowledge and skill to the staff involved in the ILS implementation. The training also equipped them to be a logistics management resource for the ILS and for the MOH at large. The trainers then provided a week-long training to 1,181 staff involved in logistics activities at health centers, dispensaries, and hospitals in the two pilot regions of Dodoma and Iringa—those who are directly involved in drug management and those who supervise them. As shown by the results of the pilot assessment of the ILS, the training provided was quite successful and enabled ILS in the two regions to take off. The pool of trainers trained in the first round was also expected to, and actually did, provide a pool of trainers for the roll-out of the ILS in other regions. By the end of this project, DELIVER will have trained an additional 1,200 health workers in the Mbeya and Rukwa regions in ILS and will have provided training materials and staff time for the training of 20 trainers as well as monitoring their training of approximately 800 health workers from the Dar es Salaam, Coast (Pwani), and Ruvuma regions in the ILS implemented through DANIDA funding.

CONTRACTING PHCI FOR THE ILS ROLL-OUT—BUILDING ON THE PILOT TO INSTITUTIONALIZE CAPACITY

The ZTCs in Tanzania have been established by the MOHSW to provide in-service training and capacity building to health workers in the country. Experience gained in training the ILS pilot regions showed that the administrative burden of training oversight was enormous and greatly strained the rather thin capacity of the in-country DELIVER office. Administration of participant per diems and other related tasks proved extremely tedious and time consuming for DELIVER local office staff, given the distances traveled to attend each of the eight training sessions conducted simultaneously each week for eight consecutive weeks. To forestall this, and in keeping with the strategy to reinforce the capacity of the zonal training institutions, DELIVER successfully sought and obtained a waiver to contract the services of the PHCI-I to implement ILS training for up to 1,200 staff from the Rukwa and Mbeya regions. This built on PHCI-I's past experience in delivering training programs and followed a precedent already set through direct contracting between USAID/Tanzania and PHCI-I for the delivery of reproductive health-related

activities. Beyond the direct benefit of its ability to roll-out training quickly to trainees in distant and remote locations, use of the ZTCs also has the benefit of imparting to these establishments the needed technical capacity in logistics training as well as familiarity and experience in managing funds using USAID-approved accounting procedures—a capacity that will prove very useful in the future as they are able to implement more USAID-funded programs. The roll-out training also provided support and allowed the newly established and fledgling ZTC in Mbeya to gain familiarity with USAID financial management procedures in collaboration with and under the tutelage of the more experienced Iringa ZTC.

INVOLVING ALL NEW PSU STAFF IN ILS PILOT EVALUATION

Another activity that has improved human capacity in logistics in the Tanzania health sector is the close working relationship of the PSU and the MOHSW. Until recently, the PSU has been seriously understaffed and unable to meet its huge mandate of overseeing the national logistics system adequately. Fortunately, the situation is changing with the recent recruitment of four additional staff to supplement the preexisting two. In an effort to get the new staff quickly up to speed with the intent and design of the ILS, they have been actively engaged as technical partners in ILS roll-out and related activities. Among these technical collaborations was an assessment of the ILS pilot implementation. Partners from the PSU were selected and trained as part of the ILS pilot assessment teams and assigned key roles, such as team leaders in the data collection aspects of the assessment. In addition to their role in data collection from the field, these PSU members were involved in analyzing preliminary data and presenting findings from the evaluation to a large MOHSW audience. This built a sense of ownership of the ILS system and provided these staff with a clear understanding of ILS tenets and the implementation of the ILS. In addition to this level of involvement, staff from the PSU were included in the review process for the ILS Procedures Manual and the subsequent training of trainers using the revised material.

TRAINING SUPPORT FOR PSU ROLL-OUT OF THE ILS

AS PSU became more confident and ready to expand implementation of the ILS through DANIDA funding, DELIVER provided support by organizing and delivering a TOT workshop to prepare for PSU's roll-out of the ILS to the Dar es Salaam and Coast regions. DELIVER provided the training curriculum, materials, and technical oversight to ensure standardized and uniform delivery of the ILS training. This also helped to build the institutional capacity within the PSU to deliver and monitor the ILS training. Subsequently, an additional region, Ruvuma, was added to the regions where the ILS was rolled out using HSPS funds, and the PSU organized and conducted the training completely on its own, using PSU staff as trainers.

PREPARING CPTs WITH RCHS STAFF

The DELIVER project, working closely with the RCHS, has assisted the MOHSW in preparing annual contraceptive forecasts and procurement plans (CPTs) for a number of years. This exercise is scheduled to coincide with preparation of the annual MOHSW MTEF, assisting the RCHS in determining the quantities and costs to include in its annual budget exercise. This process affords RCHS staff the opportunity to improve their skills in quantification, shipment scheduling, and medium-term budgeting. DELIVER has also introduced the use of PipeLine (a Microsoft® Access-based software package) to assist in forecasting and procurement. Key RCHS staff members have received training in PipeLine skills, which allows for routine data collection and pipeline monitoring.

MONTHLY CS MEETINGS—ANALYZING STOCK STATUS TABLES WITH ALL RH STAKEHOLDERS

The Contraceptive Security Committee, comprised of representatives from all RH stakeholders, conducts monthly meetings chaired by the head of RCHS. These meetings serve as a platform for monitoring shipments and procurement plans and ensuring that financial resources are sufficient to cover commodity requirements. DELIVER strongly encouraged the establishment and functioning of this group and has been hosting these meetings for the past two years at the local DELIVER office pending completion of

the RCHS conference room refurbishment. Distribution, stock status, and pipeline data are jointly analyzed at this monthly forum, sharpening the skills of the participants to understand and use logistics data in making supply-related decisions.

An example of the benefit of this forum is that at the June 2005 meeting, it became evident that delays in procurement using donor basket funds would seriously compromise the availability of injectables, pills, and implants. USAID's presence at the meeting allowed for an immediate pledge to air ship supplemental quantities of Depo-Provera, Lo-Femenal, and Norplant. These shipments arrived within four months, and a crisis was averted. The arrival of these shipments accounts for the 2005 spike in USAID-funded contraceptive receipts in figure 2 below.

QUANTIFICATION WITH NACP

Skill transfer to the MOHSW staff has also been realized through activities involving the quantification of commodities needed for the NACP, particularly in support of ART services. Working closely with the NACP and other partners, DELIVER developed ARV quantification spreadsheets using assumptions and lessons from other countries, adapted to the Tanzanian context by consensus gained among a broad range of local resource persons, to guide the initial forecasts. These have since been refined based on in-country experience gained over the course of time in the national program. The spreadsheets, together with other DELIVER software, such as ProQ and PipeLine, have been used to undertake national quantifications, and NACP logistics officials have become familiar with the concepts and techniques involved in the process.

LOGISTICS SYSTEM DESIGN TRAINING COURSE

The effectiveness of a supply chain is imperative for the success of any public health program, including family planning, TB and leprosy, AIDS prevention and treatment, vaccination, etc. All require an uninterrupted supply of essential products, such as contraceptives, drugs, vaccines, HIV tests, etc. Efficient management of health commodities is especially critical in an environment in which we are witnessing increasing demand but limited resources. In response to these challenges, DELIVER conducted a comprehensive introductory course in logistics system design and management, September 13–October 1, 2004, in Dar es Salaam, Tanzania.

The goals of the course were to increase participants' understanding of logistics management and commodity planning, and to better enable them to assess and address the problems they encounter in the logistics systems they manage. The areas of learning included but were not limited to—

- logistics management information systems
- inventory control systems
- storage and quality assurance
- logistics system assessment, monitoring, and evaluation
- interrelationship of policy and supply chain
- commodity requirements forecasting
- pipeline monitoring and procurement planning
- drug quantification.

The 20 participants who attended the course, drawn from Botswana, Ethiopia, Ghana, Haiti, Kenya, Romania, Rwanda, Tanzania, and Uganda, were responsible for planning, managing, or monitoring FP, AIDS, or other health commodity logistics systems at the national level. They came from both public and

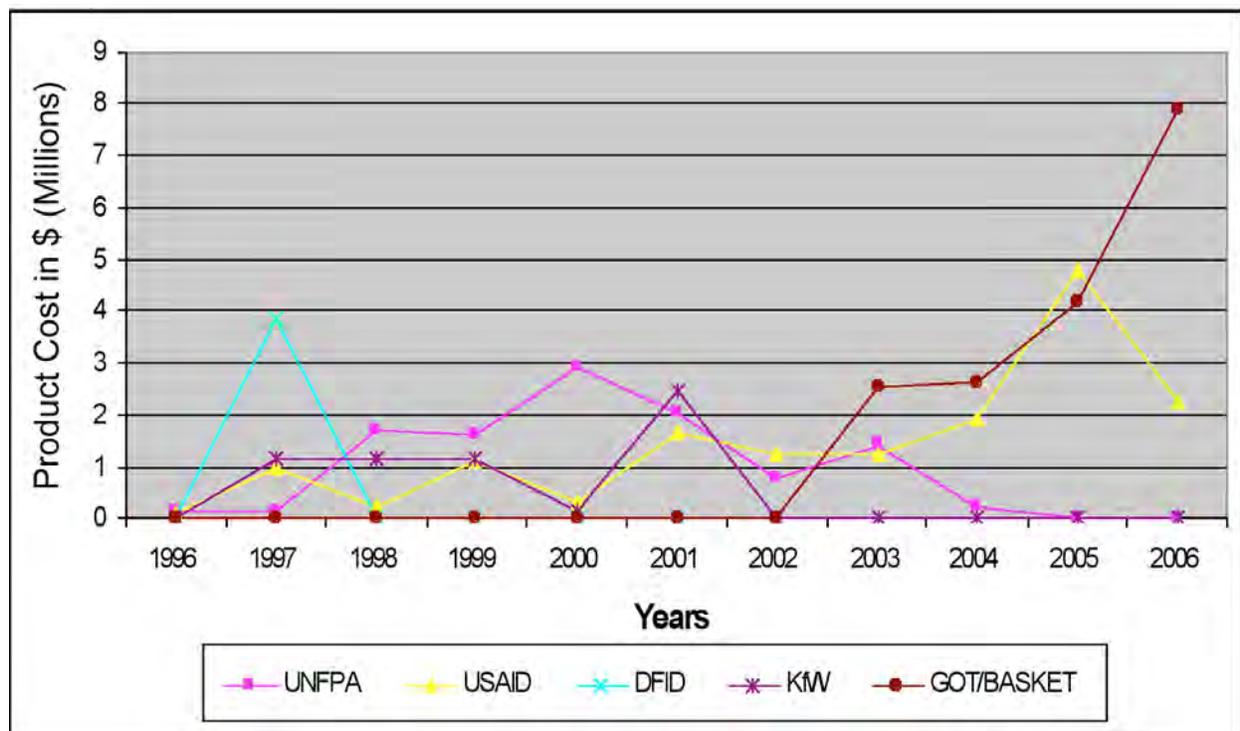
private sectors. Participants from DELIVER’s principal counterparts, the PSU and the MSD, attended the course, as did two local DELIVER staff members.

ELEMENT III: IMPROVED RESOURCE MOBILIZATION FOR COMMODITY SECURITY

Although the overall contraceptive prevalence rate in Tanzania has remained virtually unchanged over the past four years (26 percent), the proportion attributed to modern methods has increased from 17 percent to 20 percent since 1999 (2004/2005 DHS). This, of course, means an increase in the quantities of contraceptive products that must be imported to keep up with this increasing demand for modern methods. Therefore, the ability of the MOHSW’s RCHS to mobilize resources, from the GOT and from the development partner community, has become increasingly crucial to the continued success of Tanzania’s FP program. This challenge has been exacerbated by the fact that over the past years the development partners have been shifting from in-kind contraceptive donations to monetary contributions to the donor basket fund. As these contributions are not specifically earmarked for contraceptive procurement, RCHS must compete with other MOHSW departments to obtain them.

Figure 2 shows the value of public sector contraceptives received each year by source and illustrates the trend of development partners shifting away from in-kind donations and the subsequent increase in mobilization of donor basket and GOT revenue-generated funds to cover the expanding demand for contraceptive products. USAID is the only remaining partner that continues to provide direct contraceptive support. The spike in 2005 USAID-funded receipts coincides with the emergency shipments referred to in the contraceptive security meeting section above.

Figure 2: Sources of Funding for Contraceptives (1996–2006)



DELIVER has been working closely with the RCHS throughout the project to face and overcome the challenges presented by the evolving contraceptive security situation in Tanzania. A brief description of some of DELIVER’s interventions to assist the RCHS in its resource mobilization efforts follows.

ANNUAL CPT EXERCISE—STAKEHOLDER AWARENESS

The annual CPT exercise is conducted in February/March each year, specifically scheduled to coincide with the MTEF submissions by various MOHSW departments. The results are presented in a meeting of all reproductive health (RH) stakeholders, including the GOT, development partners, social marketing organizations, and NGOs, before April each year, making all aware of the quantities, proposed scheduling, and cost of upcoming contraceptive needs. This regular mechanism to coordinate the GOT and donor budgeting and planning activities through the annual stakeholders' consultative meetings provides an effective mechanism for coordinated stakeholder budgeting, financing, and planning for availability of contraceptive commodities in the public and social marketing sectors.

QUANTIFICATION AND SCHEDULING FOR THE GOT CONTRIBUTION

As illustrated in figure 2, funding for contraceptives in the past has come primarily from USAID, UNFPA, KfW (a German funding agency for international development), and the UK's Department for International Development (DFID). Since fiscal year 2002/2003, the new initiative of using pooled or basket funds to purchase contraceptives has been introduced. The funds are mobilized through the annual MTEF planning. There are two separate funding elements under the MTEF—the *GOT* funding, generated from revenues collected through the Tanzania Revenue Authority and deposited in the Treasury, and the *basket* funding, consisting of monetary contributions from development partners. Though the partners may express what they may hope their contribution will be used for, ultimate allocation of these funds is entirely up to the GOT.

Table 5 illustrates the allocations RCHS has been able to obtain for contraceptive procurement since the beginning of the shift from in-kind donations to basket fund contribution. As in-kind donations have decreased, the range of products procured by the MOHSW has increased (now including condoms, which do not appear in this table as they are procured with Global Fund and World Bank T-MAP funds rather than basket or GOT).

Table 5: Funds Mobilized for Public Sector Contraceptive Procurements

Fiscal Year	Amount in Tanzanian Shillings	Amount in U.S.\$*	Type of Contraceptive Procured
2002/2003	1.5 billion (all basket)	1,519,500	Injectables
2003/2004	3.8 billion (all basket)	3,518,420	Orals and injectables
2004/2005	7.7 billion (all basket)	7,174,090	Orals, injectables, and implants
2005/2006	6.9 billion (all GOT)	5,818,770	Orals, injectables, and implants
2006/2007	5.8 billion (1.3 basket, 4.5 GOT)	4,590,120	Orals, injectables, and implants

*Based on Interbank exchange rates on March 1 of the fiscal year.

The procurement process—from quantification to budget allocation to availability of funds to tendering to contracting and, finally, to the actual receipt of products in country—requires an unexpectedly long time, as long as two years. Yearly allocations are not received all at once, but in quarterly tranches, and the GOT's procurement agent, MSD, cannot initiate tendering and contracting until the Treasury has released the funds. So the considerable overall lead time required caused significant disruption in product availability before the shift away from in-kind donations was assimilated fully, particularly during 2004 and 2005.

DELIVER has been assisting the government in gaining a better mastery of quantifying contraceptive needs and financial resource requirements as well as delivery schedule planning in a manner that ensures continued availability of commodities to support current and expected service delivery levels.

QUANTIFICATION AND SCHEDULING FOR OTHER DONOR CONTRIBUTIONS (WORLD BANK T-MAP, GLOBAL FUND)

Condoms were previously funded and procured mainly by UNFPA, with USAID supplementing UNFPA's supply, especially for emergency needs. However, since 2002, UNFPA has supported the sector wide approach (SWAp), and has suspended in-kind donations in favor of basket funding. As a result, the MOHSW, using MSD as its procurement agent, has been procuring condoms for the public sector with funding mobilized through Global Fund Round 4 and the World Bank's T-MAP project. DELIVER has been working closely with the NACP (GOT beneficiary for Global Fund and T-MAP), MSD, and the World Bank to develop their capacity in matters relating to quantifying condom requirements, coordinating multiple sources of funding, scheduling staggered deliveries, etc.

DONOR COMMUNITY INTEREST IN CONTRACEPTIVE SECURITY: MTEF GAP ANALYSIS

Representatives from all of the international donors that support health-related activities in Tanzania are organized into the Development Partners Group (DGP), which meets monthly to harmonize its strategies and coordinate its efforts. Responsibility for chairing these meetings revolves among the agencies, with each agency chairing for a period of two years. The current chair, responsible for health at the World Bank, recently stated, "Within the Development Partners Group for Health, for the past two years we have spent more time discussing contraceptive logistics than any other single subject in the health sector."

As table 5 above detailing each fiscal year's allocation of GOT and basket funding for contraceptive procurement indicates, RCHS's ability to mobilize donor basket funds for the first three fiscal years shown in the table was progressively (and impressively) improving. Subsequently, the total allocation has declined slightly, with GOT funding constituting the vast majority. Though one could argue that the allocation of GOT revenue-generated funding demonstrates an even greater commitment to contraceptive security than the use of donor-provided basket funds, what appears to be an overall downward trend has been cause for concern—particularly the somewhat disappointing result for 2006/2007. Consequently, the DPG asked DELIVER to conduct an in-depth contraceptive funding gap analysis and to formulate sound arguments to ensure sufficient funding through future budget reviews. Although no additional funds could be made available for 2006/2007, RCHS was able to obtain a commitment that the entire amount allocated would be released with the first tranche, allowing procurement to begin to strengthen buffer stocks quickly. In addition, all parties concerned are now aware that an increased contraceptive procurement allocation will be required in the 2007/2008 exercise.

ELEMENT IV: IMPROVED ADOPTION OF ADVANCES IN LOGISTICS

Because of our long-term involvement in logistics in a range of countries worldwide, DELIVER is in a position to benefit from a wealth of experience and lessons learned to adopt and adapt successes in other areas of intervention. In Tanzania, DELIVER has undertaken the following activities to benefit from the adoption of advances in logistics by the Tanzania MOH and other partners.

THE USE OF PIPELINE SOFTWARE

Some logistics tasks and procedures are amenable to automation or the use of software applications to enhance productivity and reduce errors. This is the case with the logistics activities that DELIVER and its predecessor projects, the Family Planning Logistics Management (FPLM) projects, have undertaken over the years. The experience gained from this coalesced into the development of in-house software applications to enable more accurate logistics functions. The most successful software application to have been developed and used with resounding success is the PipeLine Tool, a procurement planning and shipment scheduling tool that is used in preparing annual CPTs in all of the countries where DELIVER works, and beyond. This software has been shared extensively with our Tanzanian partners, mainly the RCHS and also the social marketing sector currently made up of Population Services International (PSI) and Tanzania Marketing and Communications (T-MARC). In the last year, the application was also used to facilitate preparation of CPTs for Zanzibar, and the software was shared with DELIVER partners there

as well. Staff from these organizations have been trained in collecting and inputting the appropriate data into the application and generating reports that can be produced from the application for both planning and monitoring purposes. PipeLine software is also being used to quantify ARV requirements in Tanzania.

IMPROVING THE QUANTIFICATION AND PROCUREMENT OF ARVS AND RELATED SUPPLIES

DELIVER gained considerable experience over the course of the project working with many countries whose recognized capacity in quantification and procurement planning for the traditional contraceptives and other reproductive health commodities has been solicited for the new and challenging area of HIV-related commodities management. As DELIVER became aware of the issues facing its partner countries in logistics management of ARVs and HIV test kits, such new knowledge was quickly brought to the benefit of the Tanzania program through direct technical assistance to the NACP and other area players. Such understanding has influenced and guided the development of logistics management tools and reporting formats for the ART program, including, for instance, the need to collect and report data on the number of patients per regimen of ARVs from the ART treatment centers. Another area in which the programs have benefited from DELIVER assistance is in procurement planning for imported ARVs to ensure that the pipeline is kept adequately full all the time and the risk of expiry or product obsolescence is kept to an acceptable minimum level. As mentioned above, the FPLM-developed PipeLine software has been used to assist with this process.

As at the time of writing this report, the DELIVER project has successfully procured and delivered 17 different ARV formulations to support the ART program in Tanzania with a cumulative value of U.S. \$4.336 million, as shown in table 6.

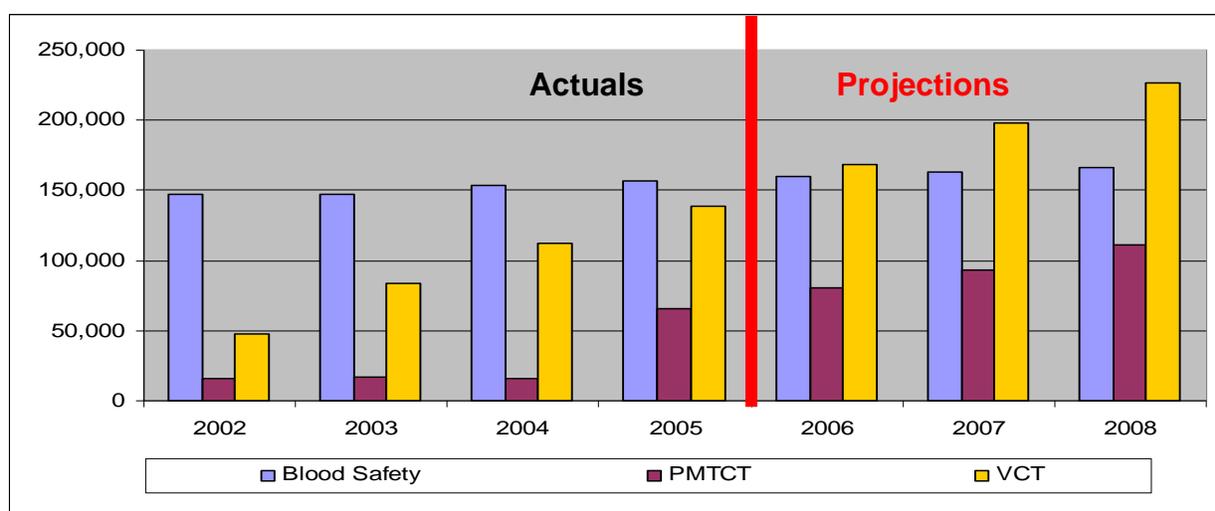
Table 6: ARV Formulations and Cost in U.S.\$

	Antiretroviral Drug	Unit	Quantity	Cost (U.S.\$)
1	Lamivudine (3TC) 150 mg tablets (Epivir)	tablets	2,635,200	250,344.00
2	Abacavir (ABC) 20 mg/ml (Ziagen) oral solution	bottles	149,760	19,543.68
3	Abacavir (ABC) 300 mg (Ziagen) tablets	tablets	429,600	521,964.00
4	Didanosine (DDI) 100 mg (Videx) tablets	tablets	718,440	152,668.50
5	Didanosine (DDI) 25 mg (Videx) tablets	tablets	59,280	6,916.00
6	Didanosine (DDI) 2 g (Videx) Powder	sachets	173,932	21,726.76
7	Efavirenz (EFV) 200 mg (Stocrin) tablets	tablets	22,680	11,438.28
8	Efavirenz (EFV) 50 mg (Stocrin) tablets	tablets	160,200	20,185.20
9	Efavirenz (EFV) 600 mg (Stocrin) tablets	tablets	1,981,950	2,053,300.20
10	Lamivudine (3TC)150 mg/Zidovudine (ZDV) 300 mg (Combivir)	tablets	1,893,600	615,420.00
11	Lopinavir/Ritonavir LPV/r) 133.3/33.3mg (Kaletra) capsule	capsules	961,200	219,474.00
12	Lopinavir/Ritonavir (LPV/r) 80/20 mg/ml (Kaletra) oral solution	bottles	54,000	7,398.00
13	Nelfinavir (NFV) 250 mg (Viracept) tablets	tablets	59,400	15,441.71
14	Nelfinavir (NFV) 50 mg/ml (Viracept) powder for oral solution	sachets	79,776	17,375.10
15	Nevirapine (NVP) 200 mg (Viramune) tablets	tablets	430,980	258,588.00
16	Ritonavir (RTV) 100 mg (Norvir) tablets	tablets	80,640	9,206.40
17	Saquinavir (SQV) 200 mg (Invirase) tablets	tablets	515,160	135,739.70
				4,336,729.53

IMPROVING THE QUANTIFICATION OF HIV TEST KITS

With the heightened awareness of HIV and its impact, coupled with the plethora of intervention programs, four key areas of HIV test kit use have been identified in Tanzania: blood safety, voluntary counseling and testing (VCT), PMTCT, and clinical diagnosis. Planning the commodity requirements for these groups' testing needs has been uncoordinated and has had poor outcomes, including shortages and stockout situations. DELIVER has strongly advocated the centralization (or coordination) of HIV test kit management in one place in the MOHSW, the natural home of this being the NACP. Working with partners from the NACP, and as part of the Japan-U.S. Global Health Partnership, DELIVER has introduced the concept of a national (public sector) joint quantification and procurement planning for all HIV test kit requirements, irrespective of which sub-NACP programs will use the kits. An analysis of test kit use trends in over the past few years, and of projections for the near future, developed as part of the quantification of HIV test kits and related supplies completed in February 2006, as depicted in figure 3 below buttresses the need for such joint planning.

Figure 3: HIV Test Kits Use and Projections by Purpose



DELIVER has worked with the NACP and other partners in using the ProQ software application, developed specifically by DELIVER to quantify HIV test kits to conduct the forecast of test kit requirements.

USING A DATABASE APPLICATION TO MANAGE LOGISTICS DATA

The volume of data generated in logistics systems, from handling as wide a range of products as are available in the health sector and through as many service delivery points, is phenomenal. In most instances routine reports generated and submitted are often difficult to summarize or analyze at the central level. To overcome this situation and meet the need for data on commodity use at the central level for budgeting and procurement planning purposes, DELIVER is working with a local software development firm to develop a database application to enable systematic data capturing and analysis at the central level. The database has the dual role of facilitating order processing at the MSD and collecting data on commodity use at the facility level, which MSD traditionally did not collect in the past. Built with remote access capacity, the ILS database has features that will also enable online order submission by Web-enabled facilities through the Internet and provide access to data on product usage to MOHSW program managers. DELIVER recruited an IT specialist data manager and two data entry clerks to assist the software development firm and MSD in deployment of the software and routine entry of orders received from client facilities.

SUPERVISION AND MONITORING OF ARV USE AND MANAGEMENT

The rapid expansion of the national ART program, with the attendant distribution of ARVs to 200 health facilities across the country so far, has raised the need for closer monitoring of logistics management activities at the CTCs. Beyond the support provided by DELIVER in designing the forms and reporting formats for use in the logistics management of ARVs, NACP has developed and adopted a supervisory checklist for routine use in monitoring and supervising the CTCs. A data collection tool has also been provided to help collect quantitative data on the performance of the ARV logistics system to provide critical data needed for central-level decision making. DELIVER has hired two local consultants to supplement NACP's understaffed efforts to use these tools to monitor and provide OJT for logistics practices, and to reinforce the importance of record keeping, timely ordering and reporting, and other logistics management tasks in the CTC sites.

ELEMENT V: ESTIMATION OF USAID CONTRACEPTIVE NEEDS

Throughout the DELIVER project, USAID/Tanzania has relied on DELIVER to determine what quantities of what contraceptives should constitute the USG contribution to Tanzania's FP program. For the public sector, this means determining how to complement most appropriately the increasing proportion of the overall need that is being procured by the GOT. For the social marketing sector, it means estimating how the overall market will expand and be shared between the USAID-funded program and what is funded now by the Dutch and Germans. Although this quantification of needs is primarily conducted during the annual CPT preparation, since USAID's contribution complements the sometimes unpredictable GOT procurement activities, it must be monitored constantly. And as USAID is the last remaining partner to provide in-kind donations, it is the only donor with the capacity to respond rapidly, so it has been called upon frequently to provide emergency relief when supply problems arise.

DRAFTING USAID CONTRACEPTIVE ORDERS AT CPT TIME

DELIVER has been the driving force behind the annual CPT preparation exercise for the past several years. This exercise informs USAID what contraceptives to order and to budget for, taking into account the activities planned by all of the organizations that intervene in Tanzania's FP program, and in complementarity with local resources that are made available for contraceptive procurement through GOT and donor basket funds.

Public sector CPTs are prepared by DELIVER in collaboration with RCHS for—

- USAID
- GOT/basket fund-supplied products
- Global Fund and T-MAP-funded condoms in collaboration with the NACP.

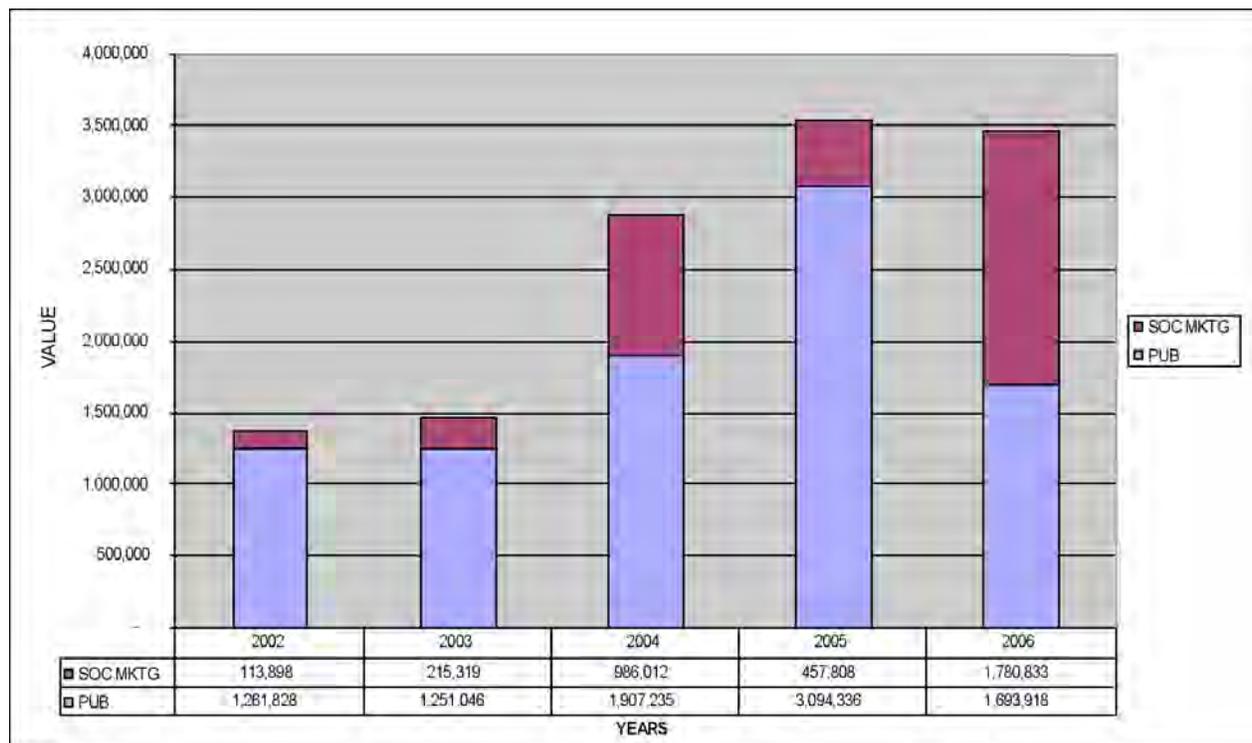
In February 2006, a separate CPT exercise was completed for the first time for the Ministry of Health of Zanzibar. Though Zanzibar has its own distinct Ministry of Health and drug distribution network, it had always relied on contraceptive supply from the mainland. Now, as an increasing percentage of the mainland's contraceptives are procured with funds mobilized by the GOT, supply from the mainland can no longer be taken for granted, and USAID and UNFPA have pledged to cover Zanzibar's contraceptive needs directly, with USAID supplying Depo-Provera, Lo-Femenal, and intrauterine devices (IUDs), and UNFPA supplying Microgynon, Microval, condoms, and implants.

For the social marketing program, DELIVER assisted PSI in preparing CPTs for Duofem and female condoms through 2004. After USAID's shifted their support to T-MARC as its social marketing contractor in January 2005, DELIVER has continued to provide assistance in preparing CPTs for Duofem and female condoms, in addition to adding Depo-Provera and a USAID-funded male condom to the range of socially marketed products. (Though male condoms were previously socially marketed by PSI, and

continue to be the most widely distributed condoms in the country, they were and still are procured by PSI with funding from the Embassy of the Netherlands.) Although DELIVER no longer actually prepares CPTs for PSI, DELIVER does collaborate closely with PSI, as it remain a major factor in the whole market landscape of contraceptive distribution in Tanzania.

Figure 4 illustrates the trend in USAID contraceptive funding over the last five years. During the transition from donor in-kind donations to monetary contributions to the basket fund, USAID focused the majority of its support on the public sector, often relieving crisis situations caused by delays in the GOT procurement process. Now that the GOT has a better mastery of the process, USAID is increasing the amount of support it provides to the social marketing program.

Figure 4: Value of Contraceptives Received from USAID (2002–2006)



Note:

Figures for 2006 include shipments for receipt in 2006 but not yet received as of the time of this writing.

SHIFTING SOURCES OF FUNDING CAN MEAN A SHIFT IN THE PRODUCTS PROCURED

As MOHSW procurement with GOT and basket funds represents an increasing share of Tanzania’s contraceptive importation, the brands available to the consumer have changed in some cases, posing some challenges to accurate quantification. Will the new product enjoy the same popularity as its predecessor? Will a change cause a significant shift in the method mix? Through careful monitoring of distribution patterns and analytic discussion at the monthly contraceptive stakeholders meetings, DELIVER has kept RCHS and USAID informed about the impact such changes may have.

Combined Oral Contraceptives: For years, Tanzania has made two combined oral contraceptives available—Lo-Femenal, supplied by USAID, and Microgynon, formerly supplied by UNFPA. Microgynon had always been the more popular of the two, accounting for approximately two-thirds of the total combined pill consumption. When UNFPA’s direct supply was suspended, MOHSW began procuring the same product with donor basket funds. However, due to delays in the procurement process,

availability suffered, and Microgynon consumption declined. This led to an unexpected increase in Lo-Femenal consumption, for which USAID had to compensate by increasing Lo-Femenal orders and bringing in a large (1,500,000 cycles) emergency air shipment. It has been determined that MOHSW procurement should favor generics rather than brand names, so a generic equivalent to Microgynon has been procured. DELIVER is closely monitoring the effect this will have on the combined pill market share that Lo-Femenal will hold in the future to adjust USAID's contribution, more than likely upward, if necessary.

Implants: Prompted by news of the imminent termination of USAID's contract with its Norplant supplier and the uncertainty of USAID's future willingness to supply implants, the RCHS decided to shift to Implanon as the implant offered through the public sector. DELIVER has been assisting with quantification and providing advice for the phaseover. As mentioned in the discussion of Element III, there is some concern over RCHS's continued ability to mobilize sufficient funds to cover the portion of Tanzania's contraceptive needs not covered by USAID in-kind donations, and Implanon is an expensive method. DELIVER will monitor the phaseover closely, and if USAID decides to continue to provide implants, will assist in quantifying a potential split between GOT-procured Implanon and the new USAID-supplied product.

Injectables: Depo-Provera has been the injectable contraceptive product offered to clients from the beginning of the FP program in Tanzania, donated by UNFPA, DFID, KfW, and USAID. Injectables have long represented the largest percentage of the method mix in Tanzania, and with the advent of GOT contraceptive procurement, Depo-Provera was the first product to be procured to complement in-kind donations and ensure sufficient supply. Subsequently the tender was awarded to Megestron, but similar to the combined oral pills, procurement delays caused poor availability, and USAID was called on to respond with an increase in Depo-Provera donations to cover the potential gap. It is now quite possible that the generic tendering that resulted in Microgynon's no longer being available may also bring a generic injectable to Tanzania. Should this be the case, it will certainly affect the balance in favor of USAID-supplied Depo-Provera.

These are the types of complementarity factors that DELIVER has been monitoring, and will continue to monitor, to ensure maximum effectiveness of USAID's contraceptive contributions. DELIVER's monitoring of contraceptive supply status and the pipeline has served as an early warning system to identify potential shortfalls due to shifts in consumption patterns or delays in the GOT procurement process. DELIVER has been called on a number of occasions to quantify potential gaps and assist USAID in placing orders to avert stockouts to the extent possible, and to mitigate the negative impact interrupted supply would have on Tanzania's FP program.

LESSONS LEARNED AND FUTURE DIRECTIONS

A number of key lessons have been learned over the course of implementing the DELIVER project, and careful application of these should lead to greater success in health logistics systems development and implementation. The first set of lessons relates very closely, but not exclusively, to the changes that have occurred in reproductive health commodities management in Tanzania immediately preceding and during the life of DELIVER:

IDENTIFY CRITICAL ISSUES FOR SUCCESSFUL COLLABORATION WITH THE PUBLIC SECTOR

Providing technical assistance such as DELIVER requires identification of a common objective around which to galvanize the relationship between the donor organization and the recipient. Whenever the objectives of the two parties are in agreement, successful partnerships are easy to develop and sustain and results are achieved. The MOH must identify and perceive these objectives as pressing short- to mid-term needs and preferably repetitive or phased in nature to sustain collaboration over time. In providing technical assistance through the DELIVER project, a number of areas were identified that met these criteria. The need for a robust integrated logistics system, leading to the design, pilot testing, and roll-out of the ILS, provided this ingredient for the relationship with the PSU. The ILS's forced quarterly ordering to an appropriately calculated maximum level has meant better product availability than was observed under the kit, indent, and numerous vertical systems. With the NACP, a strong collaborative relationship based on quantification of ARV requirements, periodically revised for the USG-provided ARVs and conducted frequently on an ad hoc basis whenever other funding sources were identified. This relationship translates into a strong but flexible response to who procures what and when, and ARVs currently enjoy the best availability of any product category distributed through the public health care system.

The annual CPT exercise and regular review of contraceptive stock status through the monthly CS meeting forum provided the means to maintain a close, ongoing relationship with RCHS. This forum allowed for a number of supply problems to be identified and remedial action taken to avert crises—most notably a delay in GOT procurement of COCs, injectables, and implants in 2005 that found a USAID-funded solution to avoid potential stockouts, thanks to this relationship. Whereas DELIVER was successful in developing strong partnerships based on these areas of intervention, the project was less able to influence other areas, even with the same partners, which were either longer term or merely one-off exercises without regular follow-up. Such was the case with promoting a broader, longer-term vision of contraceptive security and the annual STI drug and HIV test kit quantification.

The process by which the public sector establishes its priorities and objectives tends to be long and drawn out and subject to many nuances. The level of engagement needed to influence the public sector agenda-setting process is often underestimated, and while some interventions are pragmatic and very much part of the donor's agenda, it may take longer than expected to achieve progress because interactions with the public sector may not be perceived as important by the MOH counterparts.

SHIFTING FUNDING MECHANISMS BRINGS NEW CHALLENGES FOR COMMODITY MANAGEMENT

There is a definite paradigm shift in the mechanisms through which commodities for family planning programs are funded. These shifts have seen in-kind donations and vertical or earmarked funding give way to a more integrated approach, consistent with health sector reform initiatives and MTEF budgeting processes. This shift has resulted in local empowerment at the national level, but has also created the need for numerous departments to compete for perennially inadequate funding at the national level. This shift calls for setting clear program goals, thereby prioritizing commodities that need to be funded. This presents both an opportunity and a challenge. While it allows the national-level MOHSW to build commitment, it also requires that program managers develop the skills necessary to negotiate or lobby for support for their programs.

This year, due to an overall budget deficit, the allocation for contraceptive procurement was less than expected. Part of this funding was then earmarked for condoms, thus jeopardizing injectable contraceptive availability, in spite of Global Fund procurements largely covering public sector condom needs. Political agendas and a lack of coordinated information sharing can hamper the rational use of limited resources. And even when the budget allocation has been obtained, the procurement process can be quite lengthy and is fraught with potential delays. So with this empowerment comes the need to develop a longer-term vision in commodity programming as well as the longer-term financial planning that must accompany it. Though progress in this direction was made through collaborative technical assistance provided by DELIVER during annual quantification exercises scheduled to coincide with the annual GOT budget submission, maintaining the long-term perspective must be reinforced continually.

THE SECTOR WIDE APPROACH IS HERE FOR THE LONG TERM

The planning and delivery of health services has undergone significant changes over the past couple of decades. The most far-reaching shift in the approach since the introduction of the concepts of primary health care in the 1970s and 1980s has hinged on issues related to health financing and resource mobilization and allocation. The current paradigm, steeped in health sector reform initiatives is that of the sector wide approach. This approach to coordinated planning and resource mobilization has been the nemesis of many vertically funded and managed programs. It is paramount now more than ever to become actively engaged at the policy and central level to ensure that issues that are important to any player in the health sector are recognized and integrated into the sector wide plans. Otherwise, there is a high likelihood that the agenda will not receive the necessary support and endorsements required for successful implementation. At the same time, the need to impart critical management skills to local health managers in several areas is even more important now.

Managers are expected to provide oversight over a wider range of services and management functions than in the past. Not only does this mean that they may be responsible for areas in which they have little experience or training, but also that their availability to follow interventions closely may be limited by numerous and varied demands on their time. At one point, due to key program managers' unavailability, there were no regular CS meetings for five months. Procurement delays for condoms went undetected, leading to a temporary nationwide shortage. For decentralization to succeed, the central level must be willing to delegate, but the district level must also be willing, able, and available to assume the responsibility delegated to it. How well this shift in responsibility is assimilated varies among geographic areas, and among interventions, and can be a key factor in the success or failure of technical assistance.

CONTINUOUS, SUSTAINED CAPACITY BUILDING NEEDED TO COUNTERACT THE UNSTABLE HUMAN RESOURCE FACTOR

While Tanzania may not be among the nations reputed to be losing critical human resources to the global brain drain marketplace, internal shifts are prevalent, and staff often move after acquiring critical

capacity-building exposure through projects such as DELIVER. This phenomenon dictates that successful capacity building requires that needed skills be transferred to many staff within the partner organization to build a successful transfer. When availability of staff in the partner organization is thin, it becomes much more complicated than expected. For instance, at the onset of DELIVER, the PSU was expected to be strengthened and infused with more staff under the Pharmaceutical Master Plan (PMP). It took close to three years before any staff were added to the PSU, and the current staff situation is nowhere near ideal. A number of counterparts in the NACP and MSD have moved on to other jobs since the onset of DELIVER assistance. And at the facility level, many health workers trained and experienced in ARV logistics distribution have been reassigned. District pharmacists are the key focal points of the ILS, yet due to the overall lack of pharmacists nationwide, many districts must make due with *pharmaceutical technicians*. Should this jeopardize the ILS's performance, it could also jeopardize product availability. Therefore, a continuous, sustained capacity-building effort is needed to ensure product availability and avoid potential stock problems arising from improper ordering due to a lack of mastery of the logistics system. Recognizing the paucity and mobility in staff and planning for it are imperative to future success.

EFFICIENT PROCUREMENT AND DISTRIBUTION OF ARVS REQUIRES CLOSE MONITORING AND DILIGENCE

Countless bureaucratic and regulatory steps are involved in introducing any new medicine in a country, which is a very time-consuming and slow process. Firsthand experience with these was gained from introducing ARVs into Tanzania's care and treatment program. Selecting commodities and verifying their regulatory status in-country is a necessary and important step that should be given due attention if later delays are to be avoided. As the ART program matures, the initial high visibility and attendant priority given to it, which facilitated prompt clearing of landed products, gives way to treating it just as any other commodity. The need for continued diligence in ensuring prompt clearing from the ports cannot be overemphasized.

Continual monitoring of commodity needs and use patterns also has led to the realization that initial assumptions that dictated forecasts are not always realized. It is important to collect data on the distribution and use of medicines continually, analysis of which is crucial for better forecasts and management of the supply chain.

Monitoring supplier performance in meeting specifications for product shelf life at the time of receipt has also been an important lesson. The relatively shorter shelf life of ARVs requires that they be monitored closely at the point of receipt as some suppliers may slip in meeting the shelf life requirements specified in their contracts.

BUILDING SOLID COLLABORATION LEADS TO OWNERSHIP AND SUSTAINABILITY

The ILS has proved to be a successful intervention, receiving endorsement at the highest levels in the MOHSW, and the results are very encouraging. The ILS has been rolled out to approximately 34 percent of the country, and it should be expanded to benefit the whole country. With the advent of SWAp, donors are shifting away from direct support to specific programs, and the era of vertical programs with their own logistics systems, as was the case with family planning in Tanzania, has definitively been superseded by an integrated approach. The PSU's belief in the benefits of the ILS can be witnessed by the fact that it leveraged funds from DANIDA's HSPS to roll-out the ILS to three regions this year, and there is the possibility that it will secure additional funds for training one more region. Building solid collaborations, such as the one with the PSU around the ILS, and flexibility in incorporating each partner's desires, as exemplified by including materials on the rational use of medicines in the ILS, are necessary in building ownership and leveraging additional resources.

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APPENDIX 1

CS BRIEF

TANZANIA 2006

Contraceptive Security Brief													
Population–2006	38,277,506 (Population Planning Unit URL: http://www.tanzania.go.tz/population.html)												
Population Growth Rate	1.95% (BUCEN 2004)												
Total Fertility Rate	5.7 (DHS 2004–2005)												
CPR modern methods, all women	17.6% (DHS 2004–2005)												
Modern methods, married women	20.0% (DHS 2004–2005)												
Total Demand													
All women	40.2% (DHS 2004–2005)												
Married women	49.5% (DHS 2004–2005)												
Unmet Need													
All women	16.6% (DHS 2004–2005)												
Married women	21.8% (DHS 2004–2005)												
Source													
Public Sector	68.4% (DHS 2004–2005)												
Religious/Voluntary	7.7% (DHS 2004–2005)												
Private Medical sector	5.0% (DHS 2004–2005)												
Other Private	18.4% (DHS 2004–2005)												
HIV/AIDS Prevalence Rate													
Men	7.0% (THIS 2003–2004)												
Women	6.3% (THIS 2003–2004)												
Health regions, districts, and SDPs providing RH/FP services	<table> <tr> <td>Zones:</td> <td>8 including Dar (MSD)</td> </tr> <tr> <td>Districts:</td> <td>121 (MOH)</td> </tr> <tr> <td>Health Centers:</td> <td>500 (approx.)</td> </tr> <tr> <td>Dispensaries:</td> <td>3,500 (approx.)</td> </tr> <tr> <td>Marie Stopes:</td> <td>20 clinics (approx.)</td> </tr> <tr> <td>UMATI (IPPF):</td> <td>18 clinics (approx.)</td> </tr> </table>	Zones:	8 including Dar (MSD)	Districts:	121 (MOH)	Health Centers:	500 (approx.)	Dispensaries:	3,500 (approx.)	Marie Stopes:	20 clinics (approx.)	UMATI (IPPF):	18 clinics (approx.)
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Forecasting	
1. Current method mix and projected trend	Injectable 43%, pill 30%, female sterilization 13%, condoms 10%, implant 3%, IUDs 1%.
2. (DHS 2004–2005)	Injectables show a considerable increase in the method mix—43% up from 35% in 1999.
3. Presentation and use of CPTs in management decision making	USAID supports an Annual Contraceptive Procurement Stakeholder meeting through the Reproductive and Child Health Section (RCHS) division of the MOH. The CPTs are prepared for and presented at this meeting. RCHS uses the CPTs to determine the contraceptive procurement budget for the annual MOHSW Medium-Term Expenditure Frameworks (MTEF) budgeting exercise. As of 2006, separate CPTs are prepared for Zanzibar.
4. Logistics data used in the CPTs (approach used)	For the public sector, Medical Stores Department (MSD, the central stores and zones' stores) issues and stock on hand data were the most reliable, cross-checked with RCHS's dispensed-to-user data. Sales data and projected trends are used for the social marketing CPTs.
5. Sources and accuracy of data used in forecasting (data quality)	82% of expected contraceptive reports were received during the second half of 2004, and 68% during the first half of 2005. However, at the time of the CPT preparation in February 2006, only 14% had been received for the second half of 2005. Thus, the availability of accurate and up-to-date dispensed-to-user data is not clear.
6. Role of technical assistance	<ul style="list-style-type: none"> • Assist the RCHS in public sector CPT preparation and contractors for social marketing CPTs. • Quantify condom needs for all potential funding sources (Global Fund, WB, USAID, GOT, basket, etc.). • Provide support for logistics' technical assistance. • Develop an integrated logistics system for FP, STI, condoms, essential drugs, lab and diagnostic supplies, dental supplies, and radiology supplies under the U.S.-Japan Partnership for Global Health.
Procuring	
1. Existence and role of the Procurement Unit	MSD began contraceptive procurement in 2003 and has procured Depo-Provera, Megestron, Microgynon, Microval, Implanon, condoms, plus generic equivalents of Microgynon and Microval. It is the official procurement unit via the GOT and/or basket funds. MSD's procurement is regulated by the Public Procurement Act of 2004, which makes it less flexible to handle special ad hoc situations.
2. Stock Status Analysis over one-year period (overstocks, stockouts, and consistency of procurement plans)	<p><i>Copper T:</i> There were significant stocks remaining at the service delivery points waiting for the few clients with whom this method is still popular.</p> <p><i>Injectables:</i> Depo-Provera, most of which is donated by USAID to cover shortfalls, and Megestron that MSD buys via basket funds. There was poor availability in 2004 and 2005, but availability improved after receipt of the USAID emergency shipment of 1,350,000 vials of Depo-Provera in October 2005. About 5.6 million doses were received in the first half of 2006.</p> <p><i>Implants:</i> The GOT is procuring Implanon with its own funds; a shipment of 13,000 was received in May 2005. USAID's last donation of Norplant, 13,500 sets, was received in May 2005. Additional shipments of GOT-funded implants totaling 110,000 pieces are scheduled for receipt in 2006 and 2007.</p> <p><i>Oral pills:</i> Close to 7 million cycles were received in the first half of 2006, composed of Lo-Femenal donated by USAID and generic combined and mini pills—equivalent of Microgynon and Microval, respectively, procured by MSD on behalf of GOT.</p> <p><i>Condoms:</i> Condom availability was poor in 2004, 2005 until USAID-donated emergency shipments, as well as 28 million T-MAP-financed condoms,</p>

	were received. During the first semester of 2006, more than 47 million condoms had been received by the MSD.
3. Contraceptive supplier situation (percentage of commodities provided by supplier)	Current direct donor funding for contraceptives is limited to USAID, which represents about one-third of total public sector contraceptive costs. USAID provides Lo-Femenal, Depo-Provera, IUDs, and condoms to the public sector, as well as Duofem and female condoms to T-MARC's social marketing program. Until the MOH's recent switch to Implanon, USAID also provided Norplant.
4. Historical, current, and future role of USAID as a contraceptive donor	USAID has supported donor collaboration and technical assistance for increased CPR. It is assisting the MOH in continuing to promote long-term and permanent methods through the Directorate of Hospital Services with TA from EngenderHealth. USAID covers approximately one-third of public sector contraceptive costs through direct product donation. USAID thinks that the GOT should be able to assume this responsibility progressively.
Financing	
1. Commodity funding mechanism (i.e., basket funding, cost recovery, local public funds, etc.)	For the public sector, USAID supplies MSD directly, and MSD distributes to MOHSW. USAID also provides all products for T-MARC's social marketing program. All other donors put their money in basket funding for contraceptives. The GOT also contributes significant amounts to contraceptive procurement. Cost recovery is not a likely option in the near future.
2. Current and future donor contribution in commodity financing plan over the next 5 years	Encouraged by RCHS's recent ability to mobilize GOT and basket funds for contraceptive procurement, the Mission would like to see this trend continue and its own role as provider of in-kind donations to the public sector incrementally reduced. USAID and UNFPA have now pledged to split Zanzibar's contraceptive needs for the next few years. The costs breakout to roughly two-thirds USAID and one-third UNFPA.
3. USAID/Mission intervention strategies (strategic objectives and plan for contraceptive security)	The Mission strategy is to support RCHS by— <ul style="list-style-type: none"> • continued contraceptive support to the public sector • promoting long-term and permanent methods • providing male condoms, female condoms, and Duofem to T-MARC's social marketing program • providing technical assistance to monitor procurement and distribution and to promote contraceptive security.
Delivering	
1. Length of the pipeline	Currently all public sector contraceptives are integrated to MSD from port clearance to delivery to districts. Based on the current distribution system, the pipeline is approximately 13 months. USAID shipments are staggered, delivered quarterly or bi-annually. MSD procurements on behalf of the GOT tend to be larger and less frequent.
2. Major institutions involved in RH/FP activities	Reproductive and Child Health Section, MOH National AIDS Control Programme (NACP) T-MARC Population Services International (PSI) UMATI (IPPF affiliate) EngenderHealth Marie Stopes International
3. LMIS status (level of efficiency)	MSD has an automated-MIS (ORION) for all the drugs and supplies it manages. It includes financing, warehousing, payroll, personnel, and other modules. It is currently only configured to capture stock levels and distribution from MSD central and zonal stores. Districts issue to SDPs, including UMATI and Marie Stopes, based on R&Rs.

	LMIS data are not generally used by RCHS for purposes other than compiling annual CPTs.
4. Commodity availability at SDPs	Contraceptives are generally more available than are other commodities. They are usually not in short supply in the country, though with the shift from donors providing in-kind donations to contributing funding to the basket, there was a roughly 2-year stretch characterized by periodic shortages and in-country stock imbalances, leading to the necessity for <i>emergency</i> orders. USAID is now the only donor in a position to respond quickly to emergency situations.

Major Issues

Over the past several years the development partners have been shifting progressively from in-kind contraceptive donations to monetary contributions to the *donor basket fund*. As these contributions are not earmarked specifically for contraceptive procurement, RCHS must compete with other MOHSW departments to obtain them.

The *length of the procurement process*—from quantification to budget allocation to availability of funds to tendering to contracting and, finally, to actual receipt of products in country—has proved to require an unexpectedly long time, as long as two years. Yearly allocations are not received all at once, but in quarterly tranches, and MSD cannot initiate tendering and contracting until the Treasury releases the funds.

APPENDIX 2

PROGRAM RESULTS MATRIX

Objectives/Strategies	Results	Contribution to DELIVER's Elements	Remarks
<ul style="list-style-type: none"> • Ensure availability of essential health commodities at all levels of the public sector health care delivery system through an integrated supply chain <ul style="list-style-type: none"> - Design and implement a fully operational logistics system and logistics MIS - Build individual and organizational capacity for logistics system management • Enhance logistics system procedures and MIS to manage the flow of all essential drugs and integrate STI drug management into indent and kit systems • Design and implement a logistics system and MIS for HIV test kits and supplies • Increase management efficiency and availability of condoms for STI/HIV prevention by streamlining distribution of condoms for STI/HIV prevention through the existing system for family planning condoms and facilitating distribution through non-clinical sites 	<ul style="list-style-type: none"> • Integrated logistics system (ILS) designed based on strengths of existing systems • Pharmaceutical Supplies Unit (PSU) strengthened and clearly designated as <i>owner</i> and implementer of the ILS • ILS <i>subsystem</i> designed for STI drugs, laboratory supplies, and HIV test kits and introduced in indent and kit system regions • LMIS and reordering system designed for ARVs and incorporated into ART training module • Condoms included in ILS—managed through MCH coordinators in kit and indent regions—included in annual CPTs, and stock status tracked during monthly contraceptive security meetings 	<ul style="list-style-type: none"> • TA from local and DELIVER/ DC personnel • Funding for training and training materials reproduction • Funding for management tools production and distribution • Funding for ARV procurement (est. U.S.\$7.8 million LOP) • At USAID/ Tanzania's request, TA given to develop malaria strategy 	<ul style="list-style-type: none"> • 7 of 21 regions trained in ILS (over 3,000 health workers trained) • PSU reinforced through office remodeling, procurement of computers and office furnishings, etc. • PSU and ZTC capacity strengthened to deliver ILS training (approx. 40 trained in TOTs) • Full set of manuals and management tools developed and made available • Database for capturing all ILS data under development—soon to allow Web-enabled online ordering by districts • Annual quantification exercise conducted for STI drugs and HIV test kits—informs both JICA and MOHSW procurement • NACP's ARV quantification and distribution monitoring capacity enhanced • Annual CPT exercise scheduled to coincide with MOHSW annual budget exercise—used to mobilize both donor and GOT funds

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

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