



# USAID | ZIMBABWE

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## ZIMBABWE: FINAL COUNTRY REPORT



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**DELIVER**  
No Product? No Program. Logistics for Health



# ZIMBABWE: 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**

This report summarizes DELIVER's key role as the distributor of USAID's donated condoms and manager of the logistics system for public-sector condoms and antiretroviral (ARV) distribution for Zimbabwe's Ministry of Health and Child Welfare (MOHCW). DELIVER worked closely with the MOHCW and the U.S. Government to improve the availability of HIV/AIDS condoms in rural health centers and other public sector sites. DELIVER was tasked with improving logistics system performance, human capacity in logistics management, and resource mobilization for commodity security.

DELIVER's role was expanded to support the development, roll-out, and expansion of the National Antiretroviral Therapy (ART) Program beginning in 2003, specifically in the areas of site readiness assessments, quality assurance, logistics management, and condom distribution. DELIVER's objectives for the five phase 1 sites focused on HIV care and antiretroviral (ARV) therapy support activities for clinical readiness, overall planning and management, and managing, procuring, and distributing ARV medicines.

Program results, lessons learned, and future directions are offered in light of the many economic and social challenges currently facing Zimbabwe.

Cover photo by worldviewimages.com.

## **DELIVER**

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# ACRONYMS

AIDS	acquired immunodeficiency syndrome
ARV	antiretroviral
ART	antiretroviral therapy
C&C DRV	contraceptive and condom delivery and receipt voucher
CDC	Centers for Disease Control and Prevention
CPR	contraceptive prevalence rate
CPT	contraceptive procurement table
DFID	Department for International Development (UK)
DHO	district health office
DPS	Department of Pharmacy Services
DTTU	Delivery Team Topping Up
FHI	Family Health International
GOZ	Government of Zimbabwe
HIV	human immunodeficiency virus
IR	Intermediate Results (USAID)
JSI	John Snow, Inc.
LMIS	logistics management information system
MOHCW	Ministry of Health and Child Welfare
MCAZ	Medicines Control Authority of Zimbabwe
NatPharm	National Pharmaceutical Corporation
OI	opportunistic infection
PEPFAR	President's Emergency Plan for AIDS Relief
PMD	provincial medical directorates
PSI	Population Services International
RH/FP	reproductive health and family planning
SDP	service delivery point
SDR	summary delivery report
TB	tuberculosis
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	U.S. Agency for International Development

USG United States Government  
WHO World Health Organization  
ZNFPC Zimbabwe National Family Planning Council

# ACKNOWLEDGMENTS

DELIVER wishes to thank the staff of the Zimbabwe Ministry of Health and Child Welfare, particularly the AIDS & TB Program and the Department of Pharmacy Services (DPS); the Zimbabwe National Family Planning Council (ZNFPC); the National Pharmaceutical Corporation (NatPharm); the Department for International Development (DFID)/Zimbabwe; John Snow, Inc./Europe; Crown Agents Consultancy, Inc., Zimbabwe; and, of course, our funding agency, the U.S. Agency for International Development, for their support—not only financial, but also for their show of faith in our ability to provide worthwhile assistance. We believe that impressive strides were made over the course of the project, none of which could have been accomplished without all of your support and collaboration. The contributions of the above-mentioned agencies and others contributed enormously to the successful completion of these activities.



# EXECUTIVE SUMMARY

Zimbabwe is in crisis on several fronts, and it is increasingly difficult to implement effective programming. Political and economic policies have resulted in hyperinflation, high unemployment], shortages of food and fuel, and widespread hunger and disease. The country's once excellent public health system is declining, and quality health services are sparse. Many international donors have discontinued their development programs, leaving national health interventions underfunded. However, despite the severe economic, political, and health conditions, assistance still moves forward and serves to improve quality of life for those Zimbabweans reached by services.

Zimbabwe has a generalized HIV/AIDS epidemic, which ranks as one of the three most severe in the world. In 2004, the AIDS & Tuberculosis (TB) Program of Zimbabwe's Ministry of Health and Child Welfare (MOHCW) estimated the adult prevalence at approximately 24 percent. Life expectancy has fallen to 37 years, while infant mortality has more than doubled to 130 per 1,000 live births. The increased morbidity related to AIDS is stretching scarce health resources at a time when the country is facing enormous economic hardships.

Since the last quarter of 2003, DELIVER in Zimbabwe has played a key technical assistance role to support the expansion of Zimbabwe's National Antiretroviral Therapy (ART) Program in the areas of site readiness assessments, quality assurance, logistics management, and condom distribution. Working in close collaboration with the MOHCW and the United States Government (USG), DELIVER's original goal in Zimbabwe was to improve availability of HIV/AIDS condoms in rural health centres and other sites throughout the public sector by helping the ZNFPC to manage all the logistics functions required to deliver appropriate quantities of condoms on a regular basis. In 2003, the USG began to support the development and roll-out of the MOHCW's National ART Program in Zimbabwe. Actual ART delivery at four of the five initial sites began in August 2004. In the final year of the project, the U.S. Agency for International Development (USAID) Mission in Zimbabwe asked DELIVER to expand its portfolio to include technical assistance for ART care and treatment at the phase I sites and to the AIDS & TB Program of the MOHCW to support expansion of the national ART program. This request was unique, as it went beyond the DELIVER mandate and recognized the expertise of John Snow, Inc. (JSI) expertise in improving health service delivery systems and increasing quality of care.

## **IMPROVED LOGISTICS SYSTEM AND QUALITY OF CARE**

In Zimbabwe, DELIVER worked in and achieved significant results in three areas of supply chain management: (1) supply chain management of HIV/AIDS condoms and contraceptives through the ZNFPC; (2) supply chain management of USG-funded antiretrovirals (ARVs) for selected phase I ART sites; and (3) supply chain management of ARVs, opportunistic infection (OI) drugs, and HIV rapid test kits for the Zimbabwe national HIV & AIDS program.

In the final year of the project, the Delivery Team Topping Up (DTTU) system achieved 99 percent coverage of 1,600 facilities in Zimbabwe. The main indicator for effectiveness of the DTTU project is the stockout level. Out of the four commodities that were delivered on a full supply basis (male condoms, Depo-Provera, Lo-Femenal, and Ovrette), the stockout rates for any one product were less than 3 percent.

DELIVER conducted a study of logistics management in the national program in late 2005 and produced the report *Zimbabwe HIV & AIDS Logistics System Assessment*. This report resulted in two additional logisticians being placed in the AIDS & TB Program, and in orders being placed by DELIVER for three 7-ton delivery trucks dedicated to the distribution of HIV and AIDS commodities. Additionally, DELIVER assisted the national program in creating a Procurement and Logistics Subcommittee of the

National HIV Care and Treatment Partnership Forum. DELIVER worked with this subcommittee to develop an interim HIV/AIDS commodities ordering and distribution subsystem for the national program. DELIVER staff conducted training in the use of the system at the 50 current ART sites.

### **Technical Assistance to the Zimbabwe National Antiretroviral Therapy Program**

DELIVER assisted the MOHCW to assess more than 50 potential ART sites and assisted in training provincial teams to conduct their own site readiness assessment and follow-up assessments. It has also assisted the first five sites in developing standard operating procedures, and continues to provide technical assistance and other support to these sites. DELIVER assisted the national program in developing its monthly progress report for site reporting.

### **Support for Decentralization of HIV care and ART for Two Phase I Sites**

DELIVER supported the decentralization of HIV care and ART in two phase I sites to facilitate easier access for patients to services and adherence to HIV care and ART, but also to enhance quality of care by decongesting the ART initiating sites, reducing patient waiting times for services at these sites, and alleviating travel and transport costs faced by many individuals. DELIVER is providing support to the district of Mazowe with a mobile HIV care and ART clinic to ensure uninterrupted ART. HIV care and ART support have also been provided for stable patients from hospitals in Harare city and Harare city clinics. In total, 170 providers have been trained in OI and ART management. Lessons learned from these two models will be used by the national ART program for decentralization of HIV care and ART services in other rural and urban settings.

### **Quality of Care**

DELIVER's contribution to a major ART component of the USG has been to monitor the quality of HIV care given to patients by using the JSI Quality Management Program adapted for use in Zimbabwe. The tools are being pilot-tested in Mashonaland Central Province, using a provincial quality monitoring team to be trained with support by DELIVER.

### **HUMAN CAPACITY IN LOGISTICS**

Through DELIVER's support, human capacity in logistics management was provided in several areas. DELIVER trained over 76 staff from the ZNFPC, and project-wide in all of the country's provinces, on executing DTTU loading, delivery runs, and submission of written reports. Additionally, there is capacity now within DELIVER and ZNFPC head office logistics staff, who are now experienced in organizing and running DTTU training seminars. Twenty-five individuals from the MOHCW, NatPharm, The MOHCW's DPS, the Centers for Disease Control and Prevention (CDC), and the DTTU took JSI's training course, Supply Chain Management for Commodity Security, in a special session held in Zimbabwe. The special session enabled DELIVER to facilitate the training of many critical cadres in the logistics system for HIV/AIDS commodities in preparation of the roll-out of the national HIV/AIDS program. In collaboration with Family Health International, Medicines Control Authority of Zimbabwe laboratory technicians were trained to comply with international standards for condom-testing procedures.

### **RESOURCE MOBILIZATION FOR COMMODITY SECURITY**

Zimbabwe continues to rely on donors for its contraceptive needs. With the application of the Brooke-Alexander Amendment, USAID discontinued the provision of contraceptives, except for HIV/AIDS condoms for the public sector and social marketing. Therefore, the Department for International Development (DFID), through Crown Agents Consultancy, Inc., will be providing future contraceptive commodities to the public sector. The very accurate database arising from the DELIVER-designed DTTU system and the regular completion of contraceptive procurement tables (CPTs) by DELIVER and the ZNFPC have allowed these donors to plan for and provide a full supply of the commodities.

## **FORECASTING**

DELIVER assists the ZNFPC to prepare CPTs annually, and revises them semiannually for the public sector. The partners involved in the exercise are DELIVER, Crown Agents Consultancy, Inc., and the ZNFPC. Information from DELIVER's logistics management information system (LMIS), logistics data from the ZNFPC, and supplier-related data are fed into the PipeLine software to forecast future requirements and updated in the second half of the year with actual consumption data to adequately ensure that there are enough stocks in the pipeline. The accuracy of the data in the system has helped ensure that the stock levels stay within the desired minimum and maximum levels.

## **LESSONS LEARNED**

Over the course of DELIVER in Zimbabwe, change was constant, from the faltering economy to the turnover in personnel. In this environment, the single most significant lesson learned was the necessity of constant coordination between donors and the Government of Zimbabwe (GOZ) and of the ability to react nimbly as priorities shift. For DTTU, an essential element has been placing immediate control of resources directly in the hands of donors' contractors, rather than with government agencies. In ARV procurement and distribution, it was necessary to revise initial assumptions about the projected use of second line regimens and make subsequent changes to the project's initial procurement plans. Stakeholder and donor consensus was a critical step in establishing a sustainable, nationwide ART care and treatment program.

## **FUTURE DIRECTIONS**

As Zimbabwe's economic crisis worsens, the GOZ faces the very real possibility that it will not have the resources to maintain current ART patients' treatment. In a effort to strengthen the country's HIV/AIDS commodities ordering and distributions system, USAID and DFID have committed to develop an interim management system to strengthen NatPharm's capacity. Within the realm of ART treatment support, the USG continues its commitment to the patients in its pilot program and is also supporting the GOZ's ongoing treatment decentralization program. This should result in a decongesting of the major initiating sites and increase patients' access to continuing services. Finally, the DTTU system will continue in its present form for one to two additional years before being integrated into the essential drugs supply chain.



# PROGRAM BACKGROUND

## COUNTRY CONTEXT

Zimbabwe has a population of approximately 12 million people (United Nations 2004) with some 25 percent of the population between the ages of 15 and 24 and an additional 40 percent of the population between the ages of 0 and 14. Since 1990, the annual population growth has slowed from 3.5 percent to 0.5 percent. The country is currently experiencing four-digit inflation and extreme levels of poverty.

Zimbabwe has a generalized HIV/AIDS epidemic that ranks as one of the three most severe in the world. In 2004, the AIDS & Tuberculosis (TB) Program of Zimbabwe's Ministry of Health and Child Welfare (MOHCW) estimated the adult prevalence at approximately 24 percent; estimates of the number of people infected with HIV range from 1.8 million to 2.3 million out of the country's total population of 12 million. The number of those who are infected and are currently in need of antiretroviral therapy (ART) is approximately 342,000, including infants and children. The Zimbabwe National ART Program started providing ART on a relatively large scale in 2004. As of August 31, 2006, there were 40,710 people on ART nationally; of these, 34,710 were receiving ART through the public sector. Of the 34,710 patients receiving ART through the public sector, approximately 30,000 are receiving ART exclusively through Government of Zimbabwe (GOZ) support.

At least 70 percent of hospital beds in medical wards are occupied by patients with AIDS-related conditions. Life expectancy has fallen to 37 years, while infant mortality has more than doubled to 130 per 1,000 live births. The increased morbidity related to AIDS is stretching scarce health resources at a time when the country is facing enormous economic hardships.

Due to the current harsh economic climate, Zimbabwe has been hard hit by a huge exodus of trained staff to other countries. The MOHCW health staff complement and vacancy update as of the end of September 2004 indicated 56 percent, 32 percent, and 92 percent, respectively, of the posts for doctors, nurses, and pharmacists respectively are vacant. The vacancy situation tends to be worse in rural areas than in the urban areas, thus increasing the challenges for the scaling up of ART. There is no plan to address this situation (Government of Zimbabwe 2005).

In 2003, through Centers for Disease Control and Prevention (CDC) initiation, the United States Government (USG) began a joint U.S. Agency for International Development (USAID)/CDC effort of support for the development and roll-out of the MOHCW's National ART Program in Zimbabwe. Actual ART delivery at five initial sites began in August 2004. Both the CDC and USAID have combined their comparative advantages in the support for this program. Since the last quarter of 2003, DELIVER has played a key technical assistance role to support the expansion of Zimbabwe's national ART program in the areas of site readiness assessments, quality assurance, logistics management, and condom distribution.

## KEY PLAYERS AND ROLES

For DELIVER in Zimbabwe to achieve its program objectives over the past three years, it has required the intervention and cooperation of several different organizations. Among these are the AIDS & TB Program of the MOHCW, Zimbabwe National Family Planning Council (ZNFPC), the Department of International Development (DFID), JSI/UK/Crown Agents Consultancy, Inc., the National Pharmaceutical Corporation (NatPharm), and the National HIV Care and Treatment Partnership Forum. Table 1 shows DELIVER in Zimbabwe's principal areas of intervention and the primary partner organizations with whom DELIVER collaborates most closely.

**Table 1: Partner Organizations**

<b>Partner Organization</b>	<b>Commodity Security and CPTs</b>	<b>ART Care and Treatment</b>	<b>DTTU</b>	<b>USG ARV quantification and procurement</b>	<b>HIV/ADIS Commodities Interim Ordering and Distribution System</b>
AIDS and TB Program		X		X	X
NatPharm					X
ZNFPC	X		X		
MCAZ	X				
PSI	X				
JSI/UK/Crown Agents Consultancy, Inc.	X		X		

**ZIMBABWE NATIONAL FAMILY PLANNING COUNCIL**

As DELIVER’s primary local counterpart for the Delivery Team Topping Up (DTTU) system, the ZNFPC works with DELIVER to implement activities developed for DTTU, which distributes condoms and contraceptives nationwide. The ZNFPC is responsible for communicating and coordinating with its provincial staff, the MOHCW, and other stakeholders, and has the important role of service delivery and information, education, and communication. These efforts promote use of the condoms for HIV/AIDS prevention and increase condom demand.

Specifically, the ZNFPC provides—adequate warehousing space for storing the HIV/AIDS condoms in the Harare and Masvingo warehouses to allow for a maximum of 12-months’ supply of condoms and contraceptives at the central level of the system

- central and provincial ZNFPC technical personnel to staff the delivery teams
- sufficient office space for DELIVER staff based at the ZNFPC in Harare and Masvingo.

**JSI/UK AND CROWN AGENTS CONSULTANCY, INC.**

Through December 2005, JSI/UK, through Crown Agents Consultancy, Inc., assisted the ZNFPC with the development of a targeting strategy for the distribution of female condoms and provided financial support to include contraceptives in the HIV/AIDS condom-DTTU delivery system developed by DELIVER and the ZNFPC. More specifically Crown Agents Consultancy, Inc., was responsible for—

- providing staff to assist in implementing, monitoring, and evaluating the DTTU system
- providing per diems, information technology support, and other support for all Crown Agents Consultancy, Inc., DTTU project staff, as well as a portion of subsistence and travel allowance for ZNFPC delivery-team members while conducting deliveries
- leasing delivery trucks as necessary, and/or providing fuel, maintenance, repair, and general operating costs for delivery trucks and monitoring vehicles purchased by DELIVER
- providing office furniture, equipment, and supplies and other inputs, as appropriate.

## **AIDS & TB PROGRAM**

The AIDS & TB Program of the MOHCW is charged with coordinating the implementation of the health sector HIV/AIDS response. The program covers several technical areas, including: HIV/AIDS, TB, sexually transmitted infection, prevention of mother-to-child transmission, surveillance, AIDS at the workplace, and monitoring and evaluation. Each area has an assigned technical coordinator.

The capacity of the program to ensure commodity security of antiretrovirals (ARVs) and other HIV/AIDS-related products has been strengthened through the secondment of three logisticians: two from DELIVER, and one from CDC. The aim has been to secure regular forecasting and quantification of HIV/AIDS commodities, as well as closely monitor stocks of ARV drugs at ART sites. However, due to the lack of skilled manpower, these individuals are forced to work on all programmatic areas, rather than concentrate strictly on the logistics requirements of the programs.

## **NATPHARM**

NatPharm's mandate is to manage the supply chain management of all pharmaceuticals for the MOHCW, including HIV/AIDS commodities. Recognizing that the success of the Zimbabwe National ART program will depend in part on the development and implementation of a strong supply chain management system, DELIVER in May 2006 conducted an assessment of NatPharm and MOHCW capacity for supply chain management of HIV/AIDS commodities. The MOHCW has approved the recommendations of that assessment, and USAID has agreed to fund the implementation of some of those recommendations.

## **HIV NATIONAL HIV CARE AND TREATMENT PARTNERSHIP FORUM**

The National HIV Care and Treatment Partnership Forum is a critical structure for communication and coordination vital to the Zimbabwe's national ART roll-out. DELIVER began providing technical and other assistance to the AIDS & TB Program in organizing the ART partnership forum in November 2005. DELIVER and the World Health Organization (WHO) provide financial support for the meetings, and DELIVER also provides secretariat services. Members include USAID and the CDC (USG), DFID, UNICEF, the European Union, *Médecins Sans Frontières* (MSF), the Elizabeth Glaser Pediatric AIDS Foundation, Zimbabwe Association of Church Hospitals, the National AIDS Control Program, United Nations agencies, MOHCW personnel, and others. The MOHCW sets the date, venue, and agenda (with input from the group), and uses the e-mail database to send invitations to Forum members. The Forum meets bimonthly.

In addition to these groups, Population Services International (PSI) implements various HIV/AIDS-related programs, with funding from USAID and other donors. PSI is the lead agency in the social marketing of Protector Plus condoms and other contraceptives, and also runs a highly successful voluntary counseling and testing program (New Start). The Medicines Control Authority of Zimbabwe (MCAZ) tests and approves all condoms and ARV drugs used in the national program.

## **KEY CHALLENGES**

Zimbabwe is in crisis on several fronts, and it is increasingly difficult to implement effective programming. Political and economic policies have resulted in hyperinflation, high unemployment, shortages of food and fuel, and widespread hunger and disease. The country's once excellent public health system is declining, and quality health services are sparse. Many international donors have discontinued their development programs, leaving elements of the national health programs underfunded. USAID funding support for public sector family planning programs was discontinued when the Brooke-Alexander Amendment sanctions were imposed in January 2002. The Brooke-Alexander Amendment limits economic assistance when a foreign government defaults on loan payments. USAID assistance to the GOZ was further restricted in response to the flawed presidential election in March 2002.

*The hyperinflationary environment:* DELIVER is operating in an economic environment that is characterized by four-digit inflation and a state-controlled exchange rate regimen. In this environment,

project funds are exchanged at the official exchange rate, where they have sometimes fetched as little as 20 percent of the parallel market rate. This has exposed project funds to the hyperinflation that is obtaining in Zimbabwe. While recent changes to the currency and easing of the exchange rate were designed to try and alleviate some of the hardship, it has created a new difficulties for Zimbabweans, and the economic situation will not improve in the foreseeable future.

*Fuel shortages:* Zimbabwe is operating under a severe fuel shortage environment, mainly due to the shortage of foreign currency. International organizations can use their own foreign currency to import fuel through Caltex for use in projects. The Caltex facility has been reliable, but fuel is available only in major centers. It is a challenge to make distributions in rural areas, where there are no refuelling facilities. In addition to having an extra fuel tank installed on each delivery truck at the time of purchase, DELIVER has fitted each truck with a trunk that can carry 10 jerricans in order to increase the distances that the trucks can cover without returning for refueling on delivery runs that require more fuel than the two standard tanks can carry.

*Poor road network:* Although Zimbabwe has one of the better road systems in Africa outside South Africa, during the rainy season some clinics, hospitals, and community-based distribution workers become inaccessible due to the bad condition of roads. This leads to increased stockouts.

## **ANTIRETROVIRAL THERAPY**

The broad challenges with regard to the general operating environment discussed above apply for implementation of ART programs. The main challenges specific to the ART initiative include—

- operating in an environment with a very high need for ART services
- the need to keep adapting to changing MOHCW priorities that may not necessarily be in line with the DELIVER workplan
- staff attrition at the five sites and in the other GOZ areas DELIVER is supporting
- centralization of services in major hospitals, coupled with escalating transportation costs.

*High unmet need for ART:* The DELIVER ART activities are being implemented in an environment of high unmet need for ARVs and ART services. It is estimated that between 26,000 and 30,000 Zimbabweans are currently on ART. This represents less than 10 percent of the Zimbabweans with AIDS who need ART today. As an implementer for the USG, it is a challenge for DELIVER to manage the perception from our partners that the USG could do more to support HIV care and ART scale-up and to let them know that the USG is doing as much as it can, given the current environment.

*Need to keep adapting to MOHCW priorities:* DELIVER provides technical and other support to the national ART program. As part of this support, the MOHCW has requested significant DELIVER staff time to assist with the site readiness and follow-up assessments of the national ART sites. DELIVER has adapted to accommodate this expanding need, while ensuring priority areas in the DELIVER ART workplan also received due attention.

*Very high staff attrition in the health delivery system:* This is a major challenge for the national ART program and also for DELIVER activities in Zimbabwe. Staff attrition is very high in Zimbabwe because of the poor performance of the economy and AIDS mortality. This means that there is a continual drain of trained staff, and a continual loss of institutional memory that also affects the programs DELIVER is supporting. Staff shortage and high staff attrition are an increasingly major threat for the sustainability of DELIVER's programs and for future operations.

*Need for decentralization of services.* The national roll-out plan of HIV care and ART has focused largely on scale-up of HIV care and ART services through the central, provincial, and district hospitals,

depending on their readiness to implement services. There are currently 57 sites, nearly all of them hospitals, offering both ART initiation and ART follow-up services. Having a national scale-up plan focused on hospital-based HIV care and ART services has meant that most of the patients in care have to travel long distances to access HIV care and ART services at the nearest hospital certified to offer the services.

However, as Zimbabwe's economy has continued to experience increasing challenges, many of which have had an impact at the individual level. Escalating travel and transport costs, and sometimes unavailability of transport, are negatively affecting patient adherence to clinical care and ART nationwide, with potential for adverse public health outcomes for the Zimbabwe ART program. High hospital consultation fees are also a major disincentive for accessing hospital-based services, including HIV care and ART services for patients, leading to high defaulter rates. Additionally, as more and more patients are enrolled, the main ART sites initiating patients on ART are quickly reaching their saturation capacity. Decentralization of HIV care and ART services is therefore not only required in order to facilitate easier access to services and adherence to HIV care and ART for patients, but also to enhance quality of care by decongesting the ART initiating sites and reducing patient waiting times for services at these sites.

### **DELIVERY TEAM TOPPING UP**

The primary challenge for the DTTU programs has been DFID funding gaps. From the time that the JSI/Europe project closed its offices in Zimbabwe on 31 December 2005, the flow of DFID funds into the project was erratic and resulted in significant disruptions to the DTTU delivery schedule. DFID and Crown Agents Consultancy, Inc., are in the process of signing a contract that will continue DTTU funding through February 2007. DFID plans to have a new procurement contract in place by that time and that the contractor will be able to purchase contraceptives for the project and channel operational funds into DTTU.

An additional challenge for DTTU was the delays in condom distribution due to MCAZ testing standards. Some USAID-provided condoms failed MCAZ testing, in part because The MCAZ was using outdated WHO testing standards, and in part because of inconsistent testing procedures being used by the MCAZ. Family Health International (FHI), USAID's contraceptive quality assurance contractor, assessed MCAZ testing procedures and recommended training in the United States for two MCAZ staff. DELIVER funded the training. No condoms have failed MCAZ testing since that training and the adoption of the most recent WHO testing standard.



# GOALS AND OBJECTIVES

The Country Strategy and Evaluation Plan written in 2003 (GOZ 2003) focused primarily on the logistics management support for condom distribution in collaboration with the ZNFPC, with the caveat, "... once DELIVER has a presence in Zimbabwe, it is highly likely that our expertise in logistics will be needed by other stakeholders working in HIV/AIDS." This has certainly been the case. DELIVER has gone on to conduct contraceptive procurement tables (CPTs) for contraceptives, PSI's male and female condom procurements, developed an interim HIV/AIDS commodity ordering and distribution subsystem, procured USG-funded ARVs, and provided technical assistance in ART care and treatment.

## DELIVER OBJECTIVES

DELIVER's original goal was to improve availability of HIV/AIDS condoms in rural health centres and other sites throughout the public sector in Zimbabwe by helping the ZNFPC manage all the logistics functions required to deliver appropriate quantities of condoms on a regular basis. Later, this was expanded to include procuring and distributing USG-funded ARVs for selected phase I ART sites and providing technical assistance to strengthen public sector capacity in supply chain management of HIV and AIDS commodities for the national program. DELIVER focused its activities on achieving three objectives for supply chain management:

- Objective 1: improve logistics system performance
- Objective 2: improve human capacity in logistics management
- Objective 3: improve resource mobilisation for commodity security.

As developed in the 2002 *Strategic Plan for Support to Expansion of ART in Zimbabwe* by DELIVER, five phase I sites became the focus of ARV activities with the following objectives:

1. strengthen phase I sites clinical readiness to implement ART
2. support and monitor phase I sites during start-up of ART
3. strengthen sites' ability to manage ARV medicines
4. procure and distribute ARV medicines to phase I sites
5. plan and manage phase I sites.

## RELATIONSHIP TO USAID AND CLIENT OBJECTIVES

DELIVER's objectives were designed in concert with USAID's Strategic Objective "HIV/AIDS Crisis Mitigated" and Intermediate Results (IR), as presented in *USAID/Zimbabwe HIV/AIDS Strategy for FY 2003–FY2007*. Specifically, DELIVER's work in commodity logistics addressed IR1, "Reduced high-risk sexual behaviors by ensuring a consistent supply of condoms, contraceptives, and ARVs." Starting in October 2005, DELIVER's role expanded to include work under IR2, "Increased care and support for OVC and others infected with HIV," through decentralization and establishment of satellite sites and referral networks, quality improvement of service delivery, and infrastructure improvement. Further, DELIVER has been instrumental in supporting IR3, "Enhanced capacity to formulate, advocate, and implement improved HIV policies" through its monetary and technical support of the ART Care and Treatment Partnership Forum and the work of related logistics subcommittee, quarterly DTTU policy committee, and quarterly reproductive health commodity security meetings.

## **DELIVER'S ROLE IN RELATION TO OTHER ORGANIZATIONS**

DELIVER's principal role is to be the consignee for USAID-donated condoms, manage the logistics system for public sector condoms and USG-donated ARVs, and strengthen the MOHCW in ART. Through its resident expatriate advisors and local staff, DELIVER provides technical assistance to the ZNFPC and its other partners for the DTTU program, as well as to the MOHCW AIDS & TB Program and to donors and organisations supporting HIV/AIDS programs. DELIVER ensures a reliable and consistent supply of HIV/AIDS-related commodities for USG-supported programs and strengthens local capacity through logistics training.

DELIVER provides support, including secretariat services, to the National HIV Care and Treatment Partnership Forum, an update and troubleshooting forum for the MOHCW, donors, and partners around HIV care and ART. DELIVER sits on technical working groups and subcommittees, including the Logistics Subcommittee, the Monitoring & Evaluation Subcommittee, and the Pediatric ART Subcommittee, and provides technical assistance to the MOHCW through these forums.

## **DESCRIPTION OF STRATEGIES**

USAID/Zimbabwe has adopted a strategy that is closely coordinated with other USG agencies and with donor programs, and it is an integral part of the GOZ's national approach to HIV/AIDS. It is a multisectoral approach, requiring significant resources and creative thinking to address the vulnerability of Zimbabwe's quality of life. DELIVER is a key component of several interventions, including the DTTU, National HIV Care and Treatment Partnership Forum at the five phase I ART delivery sites, and support for the national ART scale-up effort.

### **DELIVERY TEAM TOPPING UP (DTTU)**

DELIVER worked with the ZNFPC to manage condom distribution and enabled the ZNFPC to effectively respond to the HIV/AIDS crisis by improving the performance of condom logistics. In 2002–2003, condoms were not reaching most rural areas in sufficient quantities. The ZNFPC and the MOHCW were unable to effectively adapt existing logistics systems in order to respond to the challenges of reduced human and transport capacity because of the economic environment. The current condom logistics situation required a comprehensive intervention with sufficient resources to respond effectively to the HIV/AIDS emergency.

DELIVER assisted the ZNFPC to design, document, and implement an effective and efficient condom logistics system that required a limited number of trained staff. Given the severe human resource shortages and the current strain being placed on staff in the health sector, the system was designed to improve logistics system performance while not requiring large numbers of trained staff to function. Therefore, formal training events were few. Central-level ZNFPC logistics staff (logistics manager and other key logistics management staff) developed their logistics management capacity primarily through on-the-job training, while collaborating with DELIVER staff. The provincial delivery teams were trained in the functioning of the system and their role in making it work. Each team is made up of one member of ZNFPC central or provincial staff, plus the truck driver.

With improved logistics data on actual condom use in the public sector, DELIVER continues to use PipeLine software to prepare annual condom CPTs, in collaboration with the ZNFPC. DELIVER works closely with USAID and other donors to improve resource mobilisation to cover both the costs of condoms, contraceptives, and other HIV/AIDS commodity procurement and their logistics management, as appropriate.

### **SUPPORTING THE NATIONAL ART SCALE-UP EFFORT**

The USG strategy is to work within the overall strategy of the MOHCW, providing support to the sites and the MOHCW, while increasing MOHCW capacity to further expand access to ART. DELIVER supports the MOHCW strategy through the development of ART site expertise and by working to

increase resource coordination. Coordination and collaboration with other donors, nongovernmental organizations, and universities is a key strategy of USG and DELIVER to maximize resources.

In September–October 2002, DELIVER undertook a comprehensive ARV logistics assessment to gauge the capacity and *readiness* of the existing infrastructure to manage ARVs and to determine what it would take to introduce ART at national and local levels. A very wide and deep selection of stakeholders was interviewed, including the MOHCW, donors, partners, implementing sites, and groups of people living with AIDS, in order to get as representative a view as possible.

Strategies developed from this assessment included increasing the capacity of the AIDS and TB program to ensure rational and effective ART roll-out; initiating ART services at the sites that are most ready, based on readiness assessments; and establishing and supporting a logistics section in the MOHCW to manage logistics for HIV/AIDS commodities. As part of the assessment, DELIVER conducted site readiness assessments at six initial sites and later collaborated with the MOHCW to conduct wider site readiness assessments for National ART roll-out. The five phase 1 sites (Howard Mission Hospital, Harare Central Hospital, Mpilo Central Hospital, Khami Road Clinic, and Triangle Sugar Estate Hospital) were among the first sites that the JSI assessment found were ready to start. DELIVER procures USG-funded ARVs and distributes them to these five sites. In September 2005, on behalf of USAID, DELIVER conducted an internal review of the state of the National HIV Care and Treatment Partnership Forum in Zimbabwe, including the five phase 1 sites. JSI HIV care and ART experts made recommendations that led to an expansion of DELIVER’s HIV care and ART support activities to the phase 1 sites and to assistance to the Zimbabwe National HIV Care and Treatment Partnership Forum.

Support provided by DELIVER to the five phase 1 sites was expanded to include—

- improving quality of HIV care and ART for patients at the five phase I sites
- supporting decentralization of HIV care and ART in one urban setting and one rural setting for patients who are stable on ART
- documenting best practices and lessons learned for the National HIV Care and Treatment Partnership Forum and ART program to inform the scale-up decentralization activities
- supporting quality of HIV care and ART monitoring activities in one pilot province; the lessons learned about HIV care and ART in this province will be documented and used by the national HIV care and ART program to inform the larger-scale quality of care monitoring activities.

## **SUMMARY OF DELIVER FUNDING AND STAFFING**

During the term of the DELIVER contract, USAID committed U.S.\$7,437,000 to Zimbabwe, comprised of Population, Child Survival and Maternal Health, and HIV/AIDS funds. With the application of the Brooke-Alexander Amendment to Zimbabwe, USAID discontinued the provision of contraceptives, and the project’s priorities were focused on HIV/AIDS condom distribution and logistics. As USG funding and priorities intensified to respond to the severe HIV/AIDS epidemic in Zimbabwe, HIV funding from USAID expanded with the largest tranche in FY 2004, and the focus of DELIVER’s assistance in Zimbabwe has remained exclusively in this area.

From the inception of the DELIVER project through mid-2003, Zimbabwe received technical assistance on a case-by-case basis, with a focus on HIV/AIDS-related logistics issues. As initial needs of the country were assessed, the Mission supported the establishment of a local presence, staffed by one logistics advisor and two local technical staff for the first few months. As demands increased and technical assistance needs expanded, the project’s local presence was expanded, ending the project with a staff complement of two expatriate technical advisors and twelve local employees.



# PROGRAM RESULTS

## ELEMENT I: IMPROVED LOGISTICS SYSTEM

DELIVER worked in and achieved significant results in three areas of supply chain management:

1. supply chain management of HIV/AIDS condoms and contraceptives through the ZNFPC
2. supply chain management of USG-funded ARVs for selected phase I ART sites
3. in the final year of the project, supply chain management of ARVs, opportunistic infection (OI) drugs, and HIV rapid test kits for the Zimbabwe national HIV& AIDS program.

In the final year of the project, the USAID/Zimbabwe also asked DELIVER to expand its technical assistance for ART care and treatment at the phase I sites and to the AIDS & TB Program of the MOHCW to support expansion of the national ART program.

### HIV/AIDS CONDOMS AND CONTRACEPTIVES

The supply chain management of HIV/AIDS condoms and contraceptives is achieved through the DTTU system. The DTTU system's main feature is that deliveries of condoms and contraceptives are made straight from the central warehouses in two locations to the 1,600 clinics, hospitals, and community-based distributors in the country. This system effectively bypasses intermediate warehouses at provincial and district levels and makes sure that those condoms and contraceptives are available at the service delivery point (SDP) where clients can access them. In the new system, no facility holds stock on behalf of other SDPs. For example, district hospitals do not hold stock for subordinate clinics, but hold only the stock that they require to dispense directly to the public. Deliveries are made to every SDP once every four months. Very low consuming or remote SDPs might receive deliveries at less frequent intervals than higher consuming, more accessible SDPs. In the DTTU system, SDPs do not have to place orders to trigger deliveries. The DTTU delivery truck is loaded up with condoms and contraceptives and delivers to each facility every four months. Under the DTTU system, the delivery teams travel to all facilities in turn, assess the stock, and *top up* the amount of each commodity to an eight-month stock level for each facility. Because deliveries are made once in every four months and the maximum stock is set at an eight-month stock level, each facility should ordinarily have a safety-stock equivalent of four months at the time of the delivery run. In the event that an SDP experiences an unexpected surge in demand, it must make an emergency order, and the delivery team will carry out an emergency delivery before the scheduled delivery date. This ensures that the facility does not run out of stock.

The data from the deliveries are captured in a database, which provides a very accurate basis for quantification and procurement. At the completion of each provincial delivery run, the delivery team leader places the original of all completed DTTU contraceptive and condom delivery and receipt vouchers (C&C DRV) in an envelope, and the driver delivers them to the central warehouse in Harare. Information from the stock counts and delivery documents is encoded in JSI's Top Up software and forms the basis for a logistics management information system (LMIS). The ZNFPC uses the LMIS to periodically disseminate stock status reports and distribution system performance reports to HIV/AIDS and family planning stakeholders. The ZNFPC also analyzes consumption and stock-on-hand data arising from the LMIS, and uses this information to more accurately forecast future condom and contraceptive requirements.

Two special forms have been designed for the DTTU system: the *DTTU C&C DRV* and the *ZNFPC DTTU Stock Transfer form*. Data that are encoded into the DELIVER Top Up software are processed to

produce the *Summary Delivery Report* (SDR), showing stock on hand, adjustments, monthly consumption, and quantities delivered for each facility. The ZNFPC provides a copy of the SDR for each delivery round for each province to the respective provincial medical directorates (PMDs), along with a cover letter indicating any problems or issues in implementing the DTTU system. The PMDs, in turn, provide a copy of the SDR to each of their district health offices (DHOs) for the SDPs in their respective districts. The SDR and cover letter keep the PMDs and DHOs informed of the supply status of HIV/AIDS condoms and contraceptives in the SDPs in their areas and allow them to address any issues related to availability of commodities. The ZNFPC will also use information from the system to provide periodic reports to the MOHCW, to the ZNFPC Board, and to donors and other stakeholders on product availability and consumption and on the functioning of the DTTU system. In addition to the above, the ZNFPC also uses the information on consumption, stock on hand, and losses and adjustments from the SDPs generated by the DTTU system to make forecasts of demand and undertake procurement planning and shipment scheduling.

DELIVER procured five 7-ton delivery trucks to support the system. In the final year of the project, the DTTU system achieved 99 percent coverage of facilities in Zimbabwe. The main indicator for effectiveness of the DTTU project is the stockout level. Of the four commodities that were delivered on a full supply basis (male condoms—Depo-Provera, Lo-Femena, and Ovrette), the stockout rates for any one product were less than 3 percent. This is in sharp contrast to stockouts as high as 40 percent in some provinces prior to the implementation of the system.

## **HIV/AIDS COMMODITIES**

After obtaining the necessary waivers and approvals from USAID/Washington, DELIVER forecasted and procured USG-funded, branded ARV drugs for 500 patients treated at three of the first five sites in the national ART program. This was the first major USG ARV drug procurement for non-research purposes, and many of the lessons learned from this activity were taken into consideration in the design of President's Emergency Plan for AIDS Relief (PEPFAR) procurements. DELIVER designed a supply chain management system, including forms and registers for the sites using the USG drugs. This system has worked well, and has informed the development of the Zimbabwe national HIV/AIDS commodities supply chain management system.

DELIVER conducted a study of logistics management in the national program in late 2005 and produced the report *Zimbabwe HIV & AIDS Logistics System Assessment*. This report resulted in two additional logisticians being placed in the AIDS & TB Program, and in orders being placed by DELIVER for three 7-ton delivery trucks dedicated to the distribution of HIV/AIDS commodities. Additionally, DELIVER assisted the national program in creating a Procurement and Logistics Subcommittee of the National HIV Care and Treatment Partnership Forum. DELIVER assisted this subcommittee to develop an interim HIV/AIDS commodities ordering and distribution subsystem for the national program and conducted training at the 50 current ART sites in the use of the system.

As a follow on to the above-mentioned study, DELIVER conducted a capacity assessment of NatPharm to determine its strengths and areas needing improvement in order for it to successfully manage the supply chain for the rapidly expanding quantities and types of HIV/AIDS commodities. This study recommended the formation of a special unit at NatPharm to handle this function, creation of an HIV/AIDS logistician post at NatPharm and at the MOHCW's Department of Pharmacy Services (DPS), and closer coordination between the AIDS & TB program, the DPS, and NatPharm. In August 2006, the MOHCW approved the recommendations of this report, and DELIVER advertised for HIV logistics focal persons for the DPS and the HIV/AIDS Logistics subunit being formed at NatPharm.

## **TECHNICAL ASSISTANCE TO THE ZIMBABWE NATIONAL ANTIRETROVIRAL THERAPY PROGRAM**

In an arrangement that is perhaps unique among country-based DELIVER projects, DELIVER in Zimbabwe provides technical ART assistance to the National ART Program. DELIVER has three physicians on its staff to support this activity. DELIVER has assisted the MOHCW to assess more than 50 potential ART sites, and has assisted in training provincial teams to conduct their own site readiness assessment and follow-up assessments. It has also assisted the first five sites in developing standard operating procedures, and continues to provide technical assistance and other support to these sites. DELIVER assisted the national program in developing its monthly progress report for site reporting.

DELIVER provides ARV support to four of the five phase 1 sites. Ongoing assessments of the implementation of this support revealed that the sites had many other challenges that were impacting the quality of the HIV care and ART the sites were providing, including—

- staff shortages
- gaps in staff training
- enrollment bottlenecks due to inadequate support services, such as counseling and lab services
- inadequate training and continuing medical education resources
- shortages or stockouts of OI drugs.

The USG and DELIVER have expanded the support provided to the five sites to address some of these challenges. A rapid response fund—a quality improvement fund—was set up to facilitate procurement of equipment and services that would lead to enhancement of quality of care at these sites. Many quality-of-care challenges identified at the sites have been addressed, and continue to be addressed, through this expanded support. Among the additional support provided is the establishment of a small library of HIV care and ART reference materials at each site for use by site providers.

### **Support for Decentralization of HIV Care and ART for Two Phase 1 Sites**

One of the phase 1 sites, Howard Hospital, is located in a rural area where transport difficulties for patients are particularly acute. DELIVER is providing support to Howard Hospital to run a mobile HIV care and ART clinic to take HIV care and ART services to satellite health centers around the hospital so that patients can access the services nearer to their homes, ensuring uninterrupted ART. Expanding on this support, DELIVER is providing support to the whole of Mazowe district, where Howard Hospital is located, for longer-term and more sustainable decentralization of HIV care and ART for patients who are stable on ART. This support includes:

- technical assistance in developing a decentralization plan
- training rural health center staff in OI/ART management in preparation for permanent decentralization of HIV care and ART follow-up services for stable patients to their nearest health center
- supervision of HIV care and ART services at the rural health centers.

Through this support, DELIVER has trained 94 providers in OI/ART management. The plan and model of decentralization developed for this district will be used by the national ART program for decentralization of HIV care and ART services for other rural settings.

At the request of Harare Central Hospital, another phase 1 site, and also at the request of the national ART program, DELIVER is supporting decentralization of HIV care and ART for stable patients from hospitals in Harare city to the Harare city clinics. The support in Harare includes—

- training of staff in Harare city clinics in OI and ART management
- technical and clinical care meetings for Harare city -based HIV care and ART providers
- supervision of HIV care and ART services at the city clinics.

Through this support, DELIVER has provided training for 60 city-clinic providers in OI/ART management. The lessons learned and model used for decentralization of HIV care and ART services in Harare will be used by the national HIV care and ART program to guide decentralization activities in other urban settings.

### **Quality of Care Support for the Mashonaland Central Province HIV Care and ART Program**

A major future direction for the ART component of USG support through DELIVER will be to contribute to efforts aimed at ensuring quality care and continuity care for people living with HIV/AIDS. This development stems from an agreement reached between the USG and the AIDS and TB Program that the USG provide additional support around quality of HIV care activities in one of the provinces as an avenue to learn lessons that could be applied nationally. The AIDS & TB Program recommended that the support be provided through Mashonaland Central Province, as DELIVER was already involved in the province through HIV care and ART support and decentralization support at Howard Hospital and in Mazowe district. The support includes monitoring the quality of HIV care given to patients, and in this endeavor DELIVER has received concurrence from national ART program to use monitoring tools developed by the JSI Quality Management Program and adapt them for use in Zimbabwe for HIV care monitoring. The tools will be pilot-tested in Mashonaland Central Province, using a provincial quality monitoring team to be trained with support from DELIVER. To date, DELIVER has been working with the province to identify a quality management team. A training curriculum has already been developed to train this team. As the province rolls out more HIV care and ART sites, the support to Mashonaland Central Province will be extended to support the ongoing HIV-care quality monitoring activities in the province, as well as the site readiness assessments. Lessons learned through DELIVER's work in this area will be scaled up and applied to the national ART program.

## **ELEMENT II: IMPROVED HUMAN CAPACITY IN LOGISTICS**

Seventy-six individuals from the ZNFPC and the project underwent DTTU delivery-team training to prepare for their roles as team leaders under the DTTU. The first DTTU course was carried out in October 2003. The course took participants from the phase one provinces of Masvingo and Mashonaland West, as well as two candidates from the ZNFPC head office, two area coordinators from Crown Agents Consultancy, Inc., and the DELIVER deputy logistics advisor. After the first training course, Seminars were held in the two provinces to inform stakeholders about their roles in the DTTU system about their roles in the DTTU system. The stakeholders' seminars were followed by the first delivery run in the two pilot provinces in November 2003. During the first delivery run, DTTU teams were closely monitored and guided through the loading, delivery, and report-writing stages. The same emphasis was placed on the subsequent delivery runs, and by the third delivery run in March 2004 the teams were proficient in executing their duties.

In April 2004, the second DTTU training course was held in Nyanga. In this session, ZNFPC staff from the remaining six provinces were trained on DTTU procedures in preparation for the roll-out phase of the project. Deliveries in the six provinces followed the same pattern as the pilot provinces—that is, stakeholders' seminars were held in each of the six provinces, and these were followed by the first deliveries in the provinces. The deputy logistics advisor, two area coordinators, and two members of the ZNFPC head office logistics staff participated as facilitators in the training sessions. In this way, a pool of local staff began to gain experience on how to organize and run the DTTU training seminar. A coaching approach was again used to guide the team leaders through their first deliveries and report submissions. By the end of the year, all provinces in the country had been covered by DTTU deliveries, and team

leaders in all provinces had been coached on how to execute DTTU delivery runs and how to submit written reports after such delivery runs. Due to staff turnover, the DTTU project held a training seminar on DTTU procedures for new team leaders in April 2005 in Masvingo.

### **TRAINING IN SUPPLY CHAIN MANAGEMENT FOR COMMODITY SECURITY**

Twenty-five individuals from the MOHCW, NatPharm, the DPS, the CDC, and the DTTU system participated in JSI's training course, Supply Chain Management for Commodity Security, in a special session held in Zimbabwe. The special session enabled DELIVER to facilitate the training of many critical cadres in the logistics system for HIV/AIDS commodities, in preparation of the roll-out of the national HIV/AIDS program. The goals of the course were to increase participants' understanding of logistics management and commodity planning, and to enable them to assess and address the problems encountered in logistics systems they support. Besides being introduced to the theoretical aspects of logistics management, the participants were also exposed to logistics systems from departments other than their own during presentations by various participants. All in all, participants were given the framework on which a logistics advisor's work is based.

The ZNFPC's director of administration and finance attended this course in Arlington, Virginia. Three other Zimbabwean staff attended the course at other locations in Africa. Two of the local DELIVER staff attended the Supply Chain Management for Commodity Security Course in Ethiopia, while the third attended the same course when it was held in Ghana.

### **MEDICINES CONTROL AUTHORITY OF ZIMBABWE CONDOM TESTING**

Local regulations require all male condoms to be tested by the MCAZ before they can be made available for use by clients. In 2005, over 6 percent of the condoms in one shipment failed the MCAZ test, notwithstanding the fact that all these condoms passed the quality control test conducted by FHI before shipment. This prompted USAID to stop all condom shipments to Zimbabwe in March 2005. The condom shipments were resumed in October 2005, when Zimbabwe formally adopted the 2003 WHO specifications for condoms as its national standards. However, the condoms continued to fail, even after these new standards were adopted, and USAID asked FHI to investigate the circumstances surrounding the failure of the USAID-donated condoms. A team from FHI flew into the country in January 2006 and witnessed the sampling and testing procedures at the MCAZ during the testing of USAID-donated condoms. The team concluded that the MCAZ laboratory technicians were not consistent in their testing procedures and recommended that they be trained to international standards at FHI laboratories in North Carolina. USAID sponsored the retraining of the laboratory technicians to international standards by FHI through DELIVER. The laboratory technicians have since finished training and have resumed duty at the MCAZ. Since the return of the technicians, all USAID-supplied public-sector condoms have passed the MCAZ testing.

### **ADDITIONAL TRAINING SUPPORT**

DELIVER sent four Zimbabwean doctors to the HIV/AIDS Training Program for Medical Doctors in Africa at the Infectious Disease Institute in Uganda in 2004 and 2005 to learn about the most recent advances in clinical care and treatment best practices for developing countries. During the last year of the project, at the behest of the USAID Mission, DELIVER also sponsored Zimbabwean participants to attend several large, international HIV/AIDS meetings. Most notably, this included the United Nations General Assembly Special Session on HIV/AIDS in New York City; the annual PEPFAR implementers' meeting in Durban, South Africa; and the 16th Annual AIDS Conference in Toronto, Canada.

## **ELEMENT III: IMPROVED RESOURCE MOBILIZATION FOR COMMODITY SECURITY**

Historically, USAID provided the Zimbabwean public sector with all its requirements for oral contraceptives and injectables. DFID, on the other hand, supplied the Zimbabwean public sector with

male condoms and other contraceptives. With the application of the Brooke-Alexander Amendment to Zimbabwe, USAID discontinued the provision of contraceptives. However, under a humanitarian waiver allowing HIV/AIDS support, USAID became the supplier of male condoms to the social marketing and public sectors and female condoms to the social marketing sector. In addition, DELIVER began procurement of ARVs in 2004.

### **CONDOMS AND CONTRACEPTIVES**

To ensure a continuing supply of contraceptives after the Brooke-Alexander Amendment restrictions, DFID agreed to provide the contraceptives to the public sector. DFID's traditional policy is to buy generic contraceptives in support of its reproductive health-commodity security programs worldwide, in contrast to the *buy American* policy of USAID. However, DFID purchased the oral contraceptives from Wyeth of Canada, the branded contraceptives that Zimbabwean clients were used to, until such a time as a smooth transition could be made to generic contraceptives.

The subcommittee of the Reproductive Commodity Security Meeting, which was tasked with organizing the transition to generic oral contraceptives, could not meet its target, even though the close-out of the DFID project was postponed from December 2005 to May 2006. DELIVER, Crown Agents Consultancy, Inc., and DFID were then asked by the Reproductive Commodity Security Meeting to quantify the amount of branded contraceptives that were required to bridge the gap up to the time that generic contraceptives could realistically be expected to be purchased. DELIVER advised DFID and Crown Agents Consultancy, Inc., to purchase all the oral and injectable contraceptives that were supposed to be delivered in 2006, according to the CPTs that had been done in September 2005.

Crown Agents Consultancy, Inc., however, indicated that the supplier of the contraceptives, Wyeth of Canada, had many commitments and could only make available a very limited quantity within the remaining life of the DFID project. When the commodities were bought and received by the ZNFPC in June 2006, the public sector had eight months of stock at the central warehouse. It had been anticipated that by October 2006 the new DFID project would be in place and would place the orders for the contraceptives to be received by the end of the year. However, it now appears that the new project may not be contracted until the end of the first quarter of 2007. DFID has indicated to DELIVER and USAID that it can undertake an emergency tendering process later in 2006, which will meet shipment requirements until the first shipments to be ordered under the new project will arrive in country.

USAID, in the second half of CY 2006, became the supplier of female condoms to the public sector. Using the data from its LMIS, DELIVER was able to complete a special CPT to quantify the requirements for female condoms for the public sector for USAID. On the basis of this CPT, USAID has placed orders for the requirements for the public sector for female condoms for 2006 and 2007.

The very accurate database arising from the DELIVER-designed DTTU system and the regular completion of CPTs by DELIVER and the ZNFPC have allowed these donors to plan for and provide a full supply of the commodities.

### **ARV PROCUREMENT**

As at the time of writing this report, DELIVER has successfully procured and delivered nine different ARV formulations to support the ART program in Zimbabwe at a cumulative value of \$1,130,523.53, as shown in table 2:

**Table 2: ARV Formulations and USD Cost**

	<b>Antiretroviral Drug</b>	<b>Quantity (# of Pills)</b>	<b>U.S.\$ Cost</b>
1	Lopinavir/Ritonavir – LPV/r 133.3/33.3 capsule (Kaletra)	90,900	24,865.50
2	Nevirapine NVP 200 mg tablet (Viramune)	971,520	643,461.73
3	Didanosine ddl 200 mg tablet (Videx)	29,700	12,622.50
4	Didanosine ddl 50 mg tablet (Videx)	5,100	807.50
5	Stavudine d4T 40 mg capsule (Zerit)	504,536	38,204.40
6	Stavudine d4T 30 mg capsule (Zerit)	521,840	34,883.90
7	Lamivudine 3TC 150 mg tablet (EpiVir)	1,097,160	104,230.20
8	Zidovudine ZDV or AZT 300 mg tablet (Retrovir)	86,700	25,143.00
9	Efavirenz EFV 600 mg tablet (Stocrin)	265,860	246,319.80
<b>Total Cost</b>		<b>3,573,316</b>	<b>\$1,130,523.53</b>

#### **ELEMENT IV: IMPROVED ADOPTION OF ADVANCES IN LOGISTICS**

As the project nears its end, DELIVER is completing the development and implementation of the Top Up software designed expressly for the DTTU system. This will enable the system to produce required reports much more quickly than the previously used Excel spreadsheets. Ad hoc reports can also be generated, and the quality of data will be improved as well. The data can be accessed by anyone on the computer network at any time.

#### **ELEMENT V: ESTIMATION OF USAID CONTRACEPTIVE NEEDS**

DELIVER assists the ZNFPC in preparing CPTs annually and revising them semiannually for the public sector. The partners involved in the exercise are DELIVER, Crown Agents Consultancy, Inc., and the ZNFPC. Consumption data for the DTTU project are encoded at the DELIVER offices and kept on a central server. Excel spread sheets have been used as data-capturing software, but DELIVER's new software program, Top Up, will now be used; all the data from the field will be entered into this software. This will improve encoding speed, and the software has the capacity to generate reports more quickly.

During the CPTs exercise, DELIVER's LMIS department aggregates the data for the past year, analyzing any trends. At the same time, the ZNFPC's logistics department brings to the meeting data related to warehouse issues, such as stock on hand and losses. Crown Agents Consultancy, Inc., provides DFID with supplier-related data, such as details about quantities received or on order. All this information is then aggregated and input into the PipeLine software, using the set desired minimum and maximum levels. Forecasts for the next three years for all the products are made. It is also during this time when the national stock status is analyzed, any unusual trends in the national consumption rate are observed, and forecasting assumptions are made.

Once prepared, the CPTs are presented to ZNFPC management by DELIVER. On approval by the ZNFPC, the CPTs are then presented to the larger group of partners at a meeting chaired by the ZNFPC. This group consists of USAID, DFID, the United Nations Population Fund (UNFPA), the ZNFPC, JSI/UK, and Crown Agents Consultancy, Inc. If adopted, the CPTs are then formally quantified and orders placed.

A revision of the CPTs is done in the second half of the year. During this exercise, actual consumption amounts are fed into the PipeLine software, and the actual rate of consumption compared with the forecast for the rest of the year. This process has helped to ensure that there are adequate stocks in the

pipeline. The accuracy of the data in the system has helped ensure that the stock levels fall between the desired minimum and maximum levels. Any abnormal consumption patterns or losses (expiries) are quickly detected and looked into. For the social marketing sector, PSI prepares the CPTs and JSI reviews them prior to orders being placed.

# LESSONS LEARNED AND FUTURE DIRECTIONS

## LESSONS LEARNED

Over the course of DELIVER in Zimbabwe, change was constant, from the faltering economy to the turnover in personnel. In this environment, the single most significant lesson learned was the need for constant coordination between donors and the GOZ and the ability to react nimbly as priorities shift.

### DELIVERY TEAM TOPPING UP IMPLEMENTATION

The lesson learned in DTTU is that, even in a fragile state environment with a collapsing economy, commodity security can be achieved with willing donors, accurate product forecasting, and a well-designed and implemented distribution system. Key to the success of the system has been placing control of financial and other resources for the system in the hands of the donors' contractors, rather than with government agencies.

### ARV PROCUREMENT AND DISTRIBUTION

Several lessons have been learned through the DELIVER experience procuring and distributing ARVs in Zimbabwe. First, if newly enrolled ART patients are treatment naïve, the requirement for second line drugs in the first year of treatment will be minimal. Second, assumptions about weight gain and the use of Stavudine (Zerit) D4T30, versus Stavudine (Zerit) D4T40, have to be monitored carefully so that order quantities can be adjusted, as necessary. A third lesson learned is that the requirement for Zidovudine-containing first line, alternate regimens increases rapidly in the second year of treatment, and this must be taken into account in forecasting. Finally, it is absolutely necessary to have provisions in the ARV procurement contracts with suppliers that allow for revising quantities ordered—especially cancellation of orders—as the program gains experience.

### SUPPLY CHAIN MANAGEMENT

Placing additional personnel in logistics positions in a national HIV and AIDS program by itself is not enough to achieve quality supply chain management. This must be accompanied by organizational and operational support, technical assistance, training, and monitoring and evaluation.

### ART CARE AND TREATMENT

A key lesson learned in providing HIV care and ART technical assistance and support is that getting stakeholder buy-in and consensus is necessary for successful program implementation, and getting buy-in from the national ART program is absolutely critical. Program start-up may be slightly delayed while the process of consensus-building and obtaining stakeholder buy-in is ongoing, but the rewards in smooth implementation and ownership of projects by the stakeholders thereafter far outweigh the negative impact of such early delays.

Another lesson learned is that to achieve pre-set goals and targets in providing HIV care and ART technical assistance and support in an environment where the national economy is performing poorly and staff attrition at all levels of the national health care system is very high often requires an investment of additional resources for the same activities. This can become very costly. The continual loss of skilled staff and institutional memory from the system requires ongoing training of new staff and rebuilding of relationships and systems to ensure program sustainability.

## **FUTURE DIRECTIONS**

### **FUTURE OF ARV DRUG SUPPLY**

A reversal of Zimbabwe's economic woes is nowhere in sight. It is likely that the GOZ will have increasing difficulties in securing the foreign exchange necessary to purchase the ARV drugs needed to maintain current patients on treatment. Most donor-funded ARV assistance is for so-called *additive* patients. For the national program to avoid widespread ARV stockouts and non-adherence to treatment, some donors must be found to take over a large portion of the ARV drug supply for patients currently on treatments.

### **IMPLEMENTATION OF THE INTERIM HIV AND AIDS COMMODITIES ORDERING AND DISTRIBUTION SUBSYSTEM**

With promised USAID support to the HIV/AIDS unit to be formed at NatPharm and the willingness of DFID to fund activities to strengthen supply chain management, the prospects are good for a successful implementation of this interim subsystem. It is likely that the system will have to be revised, based on experience gained in the first six months of implementation.

### **QUALITY OF CARE SUPPORT FOR ANTIRETROVIRAL THERAPY (ART)**

The USG focus on supporting decentralization of stable ART patients for follow-up care at sites near to their places of residence will continue. This decongesting of the initiating sites will allow for significant expansion in the number of people on ART. The current roll-out of HIV care and ART sites and services is very important and much needed. A major gap in this roll-out is the lack of monitoring and support to sites in the quality of ART being provided to patients. Quality of HIV care and ART monitoring and support is not only important in ensuring good outcomes in terms of morbidity and mortality for the patients who are currently on ART, but is also critical for safeguarding the future of the national ART program by ensuring appropriate treatment to avoid development of drug-resistant HIV strains.

### **DELIVERY TEAM TOPPING UP**

USAID and DFID, the two donor supporters of DTTU, have agreed that the system should be continued in its present form for one to two more years. There is a sentiment that the commodities being managed under the DTTU should eventually be integrated into the overall essential drugs supply chain, if this can be accomplished without deterioration in the current widespread availability of these products in all service outlets.

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# APPENDIX 1

## CS BRIEF

### ZIMBABWE 2006

<b>Contraceptive Security Brief</b>	
Population (2002)	12,576,742 (BUCEN 2002)
Population growth rate	83% (BUCEN 2002) Note: According to Zimbabwean demographers, 2001 was the first year registering negative population growth because of the HIV/AIDS crisis.
Women of reproductive age	3,154,086 (BUCEN 2002)
Total fertility rate	3.8 (ZDHS 2005–2006 Preliminary Report)
Contraceptive prevalence rate (CPR) (modern methods, all women)	59.0% (ZDHS 2005–2006 Preliminary Report)
Unmet need	13% (DHS 1999)
Total demand	68% (DHS 1999)
Source	76.7% (DHS 1999)
Public sector	22.9% (DHS 1999)
Private sector	0.4% (DHS 1999)
Other	18.0% (ZDHS 2005–2006 Preliminary Report)
HIV/AIDS prevalence rate (adults)	10 provinces (includes newly created Harare and Bulawayo metropolitan provinces);
Health regions, districts, and SDPs providing reproductive health and family planning services (their numbers)	58 health districts; over 1,200 SDPs

<b>Forecasting</b>																			
Current method mix and projected trend (ZDHS 2005–2006 Preliminary Report)	<table> <tr><td>Pills:</td><td>43.0%</td></tr> <tr><td>IUD:</td><td>0.3</td></tr> <tr><td>Injectable:</td><td>9.9</td></tr> <tr><td>Condom:</td><td>1.4</td></tr> <tr><td>Implant:</td><td>1.2</td></tr> <tr><td>Female sterilization:</td><td>2.0</td></tr> <tr><td>Male sterilization:</td><td>0.1</td></tr> <tr><td>Others:</td><td>2.3</td></tr> <tr><td>Not currently using:</td><td>39.8</td></tr> </table>	Pills:	43.0%	IUD:	0.3	Injectable:	9.9	Condom:	1.4	Implant:	1.2	Female sterilization:	2.0	Male sterilization:	0.1	Others:	2.3	Not currently using:	39.8
Pills:	43.0%																		
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Female sterilization:	2.0																		
Male sterilization:	0.1																		
Others:	2.3																		
Not currently using:	39.8																		
Presentation and use of CPTs in management decision-making	<p>DFID currently provides all contraceptives and USAID currently provides all condoms used in the public sector, and USAID currently provides all the male and female condoms used in the social marketing sector.</p> <p>CPTs are completed every 8 months, which coincides with the completion of two trimester deliveries under the Delivery Team Topping Up (DTTU) distribution system for condoms and contraceptives. The results of the CPTs are always presented to the ZNFPC and then to its donor partners. This provides timely financial information to both USAID and DFID in deciding budget allocation. The CPTs have been instrumental in ensuring a full supply of condoms and contraceptives for the national public sector program.</p>																		
Assumptions related to data used in the CPTs ( <i>approach used</i> )	Consumption and stock on hand data used in the CPTs are taken from the DTTU LMIS and from non-DTTU issues from the ZNFPC warehouses and are very complete and reliable. The DTTU delivery teams make physical counts of stock at all health facilities in the country three times a year.																		
Sources and accuracy of data used in forecasting ( <i>data quality</i> )	As noted above, the data used in the CPTs from the DTTU system are very complete and of very high quality.																		
Role of technical assistance	DELIVER provides technical assistance in forecasting and procurement planning. The ZNFPC has had rapid turnover of logistics managers in the past 3 years, and does not have a staff person capable of using PipeLine software for preparing CPTs independently. USAID and DFID provide the bulk of the funding for implementing the DTTU system.																		
<b>Procuring</b>																			
Existence and role of the Procurement Unit	As noted earlier, the ZNFPC has a logistics unit, but has struggled with the loss of high-level staff in recent years.																		
Stock status analysis over one-year period (overstocks, stockouts, and consistency of procurement plans)	Except for female condoms that donors could not afford to provide in full supply, other products are maintained in full supply. USAID has now committed to provide female condoms in full supply for 2006 and 2007, with the first USAID-funded shipment expected to arrive by the end of 2006. Stockouts for all products have been held below 5% nationwide for the past two years																		

<p>Contraceptive supplier situation (<i>percentage of commodities provided by supplier</i>)</p>	<p>USAID and DFID are the major contraceptive commodity donors, with USAID providing all male and female condoms and DFID providing all hormonal contraceptives in the public sector.</p> <p>USAID also provides all male and female condoms to the PSI social marketing activity.</p> <p>All USAID condoms are provided through the CPF.</p>
<p>Historical, current, and future role of USAID as a contraceptive donor</p>	<p>USAID had planned to phase out contraceptive donations to Zimbabwe in the late 1990's. However, the economic crisis in Zimbabwe has made it impossible for the GOZ to finance their contraceptive commodity needs. Nonetheless, USAID decreased its overall role as a contraceptive supplies donor, while DFID assumed a more prominent role beginning in 2001. Because of the Brooke-Alexander Amendment, USAID/Zimbabwe will only be providing HIV/AIDS male and female condoms.</p>
<p><b>Financing</b></p>	
<p>Commodity funding mechanism (i.e., basket funding, cost recovery, local public funds, etc.)</p>	<p>All funds for contraceptive supplies are from donor sources. USAID and UNFPA provide direct donations of commodities and manage their own procurement. UNFPA is not supplying product as of the end of 2006, as USAID has taken over the supply of female condoms. Crown Agents Consultancy, Inc., procured DFID commodities through May of 2006, and DFID is tendering for a procurement agency under its new project.</p> <p>The ZNFPC does recover a small amount from the sale of hormonal contraceptives to the public sector. This is theoretically to offset their distribution costs in managing the logistics system. Since contraceptives are free to clients, this money comes from provincial or district health budgets.</p>
<p>Current and future donor contribution in commodity financing plan over the next five years.</p>	<p>(See contraceptive supplier situation above.) DFID's funds cover contraceptive needs through the end of 2006. DFID has pledged to continue supplying hormonal contraceptives in their next 5-year activity, and is tendering for a procurement agent for that activity. The USAID Mission is planning to access the CPF condoms as long as that mechanism is in place.</p>
<p>USAID Mission intervention strategies (strategic objectives and plan for contraceptive security)</p>	<p>Public and social marketing sector HIV/AIDS condom logistics will continue to be an important component in USAID's strategy, as will support for logistics of other HIV/AIDS commodities.</p>
<p><b>Delivering</b></p>	
<p>Length of the pipeline</p>	<p>The DTTU system uses a maximum stock of 20 months and a minimum stock of 10 months. The central warehouse uses a maximum of 12 months and a minimum of 6 months, with the SDPs having a maximum of 8 months and a minimum of 4 months for male and female condoms, orals, and injectables. Implants and IUDs are managed outside the DTTU system on an ad hoc basis.</p>

Major institutions involved in reproductive health and family planning activities	The MOHCW and the ZNFPC are the major organizations distributing contraceptives in the public sector. PSI also manages a large social marketing program, which sells male and female condoms, Duofem, and Depo-Provera.
LMIS status (level of efficiency)	The DTTU system LMIS is complete and reliable for the products distributed through the system. JSI/ DELIVER is completing the development of Top Up, custom designed software for the DTTU LMIS, which will allow for quicker and more accurate reporting.
Commodity availability at SDPs	Under the DTTU system, stockouts for products available in full supply are usually less than 3% nationwide.

### **Major Issues**

The lack of political stability in Zimbabwe and the deteriorating bilateral relations between Zimbabwe and Britain and the United States could possibly put future funding for contraceptive supplies at risk. In terms of its relationship with the United States, Zimbabwe has been in violation of the Brooke-Alexander Amendment since January 2002. USAID may now only provide HIV/AIDS condoms and limited amounts of other HIV/AIDS commodities to the Zimbabwe public sector.

The economic crisis has compromised ZNFPC's capacity to operate. Without the USAID and DFID commodity support and technical and resource support to the DTTU, it would be extremely difficult for the MOHCW and the ZNFPC to maintain the CPR that it now enjoys.

# APPENDIX 2

## PROGRAM RESULTS MATRIX

Objectives/Strategies	Results	Contribution to DELIVER's Elements	Remarks
<ul style="list-style-type: none"> <li>• Improve availability of HIV/AIDS condoms in public sector health facilities.</li> </ul>	<ul style="list-style-type: none"> <li>• DTTU system distributes to 99% of all health facilities every trimester and has achieved stockout rates of less than 5%.</li> </ul>	<ul style="list-style-type: none"> <li>• Technical assistance from local and DELIVER/DC personnel</li> </ul>	<ul style="list-style-type: none"> <li>• JSI DELIVER designed and assists the Zimbabwe National Family Planning Council (ZNFPC) in implementing the Delivery Team Topping Up (DTTU) system.</li> </ul>
<ul style="list-style-type: none"> <li>• Procure and distribute USG funded ARV drugs for selected phase I sites.</li> </ul>	<ul style="list-style-type: none"> <li>• ARV drugs are provided in full supply for 500+ patients at the phase I sites.</li> </ul>		<ul style="list-style-type: none"> <li>• Storage and distribution are accomplished under a JSI DELIVER contract with a drug wholesaler.</li> </ul>
<ul style="list-style-type: none"> <li>• Provide technical assistance and strengthen public sector capacity in supply chain management of HIV/AIDS commodities in the national program.</li> </ul>	<ul style="list-style-type: none"> <li>• The national program has an interim ordering and distribution subsystem for HIV and AIDS commodities and is forming a special unit to manage these commodities.</li> </ul>		<ul style="list-style-type: none"> <li>• DELIVER designed the interim system and conducted the assessment which led to the formation of the HIV and AIDS commodities subunit.</li> </ul>
<ul style="list-style-type: none"> <li>• Strengthen phase I sites' clinical readiness to implement ART.</li> </ul>	<ul style="list-style-type: none"> <li>• The phase I ART sites have standard operating procedures and are correctly following national guidelines.</li> </ul>		
<ul style="list-style-type: none"> <li>• Support and monitor phase 1 sites during start-up of ART.</li> </ul>	<ul style="list-style-type: none"> <li>• All 5 sites monitored and are now decentralizing stable patients to lower level facilities.</li> </ul>		<ul style="list-style-type: none"> <li>• The phase I sites were selected as the result of an assessment procedure designed by DELIVER.</li> </ul>
<ul style="list-style-type: none"> <li>• Strengthen sites' ability to manage ARV medicines.</li> </ul>	<ul style="list-style-type: none"> <li>• phase I sites are able to manage ARVs using Project designed forms and procedures.</li> </ul>		<ul style="list-style-type: none"> <li>• DELIVER also provided monitoring, support and technical assistance to ensure and enhance quality HIV care and ART.</li> </ul>
<ul style="list-style-type: none"> <li>• Assist in planning and management of phase I sites.</li> </ul>	<ul style="list-style-type: none"> <li>• Computer equipment and other resources have been provided to selected sites to improve quality of care.</li> </ul>		



For more information, please visit [www.deliver.jsi.com](http://www.deliver.jsi.com).

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