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KENYA: FINAL COUNTRY REPORT



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DELIVER
No Product? No Program. Logistics for Health

KENYA: 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

The DELIVER project in Kenya began its operations in October 2000 after the Family Planning Logistics Management III Project ended. The primary goal of DELIVER at that time was *improved availability of contraceptives and other essential health commodities at service delivery points*. The main strategy toward this end was to strengthen health sector logistics management systems, and the main partner was the Ministry of Health Division of Reproductive Health. Over the next five years, DELIVER saw an extraordinary increase in its scope of work. By the end of the project in 2006, DELIVER was working with the National AIDS and STI Control Program, the National Leprosy and Tuberculosis Program, the STI Program, the National Public Health Laboratory Service, the Kenya Medical Supplies Agency, and the Kenya Expanded Program on Immunization. Its goal remained the same, but the number of essential health commodities increased to include antiretroviral drugs, HIV test kits and blood safety commodities, drugs for sexually transmitted infections, opportunistic infection drugs, essential drugs, tuberculosis drugs, laboratory reagents and consumable supplies, malaria bed nets, and prophylactic drugs. As a consequence, DELIVER's strategies and initiatives also increased.

The story of DELIVER in Kenya is one that exemplifies the complexities and paradoxes that can occur in a technical assistance project when donor funding for the provision of essential health commodities increases at a rapid pace without the commensurate scale-up of capacity on the part of the host country government. DELIVER was an important catalyst and agent for bringing about capacity and change in the status quo. However, despite its many successes, more efforts are required to achieve the goal of improved availability of essential health commodities.

DELIVER

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CONTENTS

- Acronyms..... v**
- Acknowledgments..... vii**
- Executive Summary ix**
- Program Background..... 1**
 - Country Context 1
 - Key Players and Roles 2
 - Key Challenges 3
- Goals and Objectives 7**
 - DELIVER Objectives 7
 - Relationship to USAID and Client Objectives..... 8
 - DELIVER’s Role in Relation to Other Organizations 8
 - Description of Strategies 9
 - Summary of DELIVER Funding and Staffing..... 11
- Program Results..... 13**
 - Element I: Improved Logistics System 13
 - Element II: Improved Human Capacity in Logistics 15
 - Element III: Improved Resource Mobilization for Commodity Security..... 15
 - Element IV: Improved Adoption of Advances in Logistics 16
- Lessons Learned and Future Directions..... 19**
 - Lessons Learned 19
 - Future Directions 20
- References 21**
- Appendices**
 - 1. CS Brief 23
 - 2. Commodity Schematic 29
 - 3. Preliminary Results from the Endline Survey (Focus on Eastern South) 31
- Figure**
 - 1. Commodity Security: Interventions, Objectives, and Outcomes..... 7
- Tables**
 - 1. Public-sector Vertical Logistics Systems in Kenya—DELIVER TA 14
 - 2. Other Public-sector Systems in Kenya—DELIVER TA 15
 - 3. Kenya (including Eastern South): Mean Months of Stock on Hand for FP Commodity on Day of Visit (by product) 33
 - 4. Kenya (including Eastern South): Mean Months of Stock on Hand for HIV Test Kits on Day of Visit (by product) 34

ACRONYMS

AIDS	acquired immunodeficiency syndrome
AMREF	African Medical and Research Education
ARV	antiretroviral
BTC	blood transfusion center
CA	cooperating agency
CIDA	Canadian International Development Agency
COCP	combined oral contraceptive pill
CS	contraceptive security
DANIDA	Danish International Development Agency
DARE	Decentralisation HIV/AIDS & Reproductive Health Project
DASCO	district AIDS & STI coordinator
DFID	Department for International Development (United Kingdom)
DHMT	district health management team
DHS	Demographic and Health Survey
DPHD	district public health department
DPHO	district public health officer
DPHN	district public health nurse
DRH	Division of Reproductive Health
DRP	Distribution Resource Planning
DTLP	district TB and leprosy program
FHI	Family Health International
FP	family planning
FPLM	Family Planning Logistics Management (project)
GDF	Global Drug Facility of the Stop TB Partnership
GDP	gross domestic product
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GOK	Government of Kenya
GTZ	<i>Deutsche Gesellschaft für Technische Zusammenarbeit</i> (German Technical Cooperation Agency)
HIV	human immunodeficiency virus
IDA	International Dispensary Association
IUCD	intrauterine contraceptive device
JICA	Japan International Cooperation Agency

JSI	John Snow, Inc.
KEMSA	Kenya Medical Supplies Agency
KfW	<i>Kreditanstalt für Wiederaufbau</i> (Germany)
KEPI	Kenya Expanded Program for Immunisation
KNCV	Royal Netherlands Tuberculosis Association
LMIS	logistics management information system
LMU	Logistics Management Unit
M&E	monitoring and evaluation
MDR	multidrug resistant
MEDS	Mission for Essential Drugs and Supplies
MOH	Ministry of Health
MSF	<i>Médicins Sans Frontières</i>
MSH	Management Sciences for Health
NACC	National AIDS Control Council
NASCOP	National AIDS Control Program
NGO	nongovernmental organization
NLTP	National Leprosy and Tuberculosis Program
NPHLS	National Public Health Laboratory Services
OJT	on-the-job training
PEPFAR	President's Emergency Plan for AIDS Relief
PRB	Population Reference Bureau
RH	reproductive health
RPM Plus	Rational Pharmaceutical Management Plus (project)
SCM	supply chain management
SDP	service delivery point
SIDA	Swedish International Development Cooperation Agency
STI	sexually transmitted infection
TA	technical assistance
TB	tuberculosis
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNFPA	United Nations Population Fund
USAID	U.S. Agency for International Development
USG	United States Government
WB	World Bank
WHO	World Health Organization

ACKNOWLEDGMENTS

The DELIVER project in Kenya is grateful to a number of key partners, stakeholders, and others who have contributed to the success that the project has enjoyed. We appreciate the dedication and support that the Ministry of Health (MOH) has demonstrated throughout our many years in Kenya. We especially thank our colleagues and friends in the Kenya Medical Supplies Agency (KEMSA), the Division of Reproductive Health, the National AIDS Control Program, the National Public Health Laboratory Service, and the National Leprosy and Tuberculosis Program. They have worked closely with us over the years to ensure that commodity security is realized. We are thankful to USAID/Kenya for the opportunity to assist them and the MOH to make the most of U.S. Government assistance in the Government of Kenya's (GOK's) efforts to reduce fertility and eradicate tuberculosis, malaria, and HIV/AIDS. Special thanks go to KEMSA and the staff of the Logistics Management Unit who have accepted and worked with the challenge of using logistics information in the management of commodities and who have been key partners in the distribution of commodities.

We also extend a special thanks to the other cooperating partners in Kenya, such as the British Department of International Development, the Royal Netherlands Tuberculosis Association, the *Deutsche Gesellschaft für Technische Zusammenarbeit*, the African Medical and Research Foundation, and Crown Agents, who have assisted us in the many strategies and activities we have used to ensure commodity security. Finally, we want to extend our deep appreciation to the many GOK and nongovernmental organization staff who have participated in the development and implementation of new logistics systems in Kenya.

EXECUTIVE SUMMARY

In 2001, DELIVER partnered with the Kenyan Ministry of Health (MOH), the U.S. Agency for International Development (USAID), the Kenya Medical Supplies Agency (KEMSA), and other stakeholders to build capacity in the public sector to ensure the uninterrupted availability of reproductive and essential public health commodities to clients throughout Kenya. Initially, there was one major objective: sustain the gains made in family planning logistics over the last decade. However, by late 2001, there were five key objectives toward which DELIVER was working: (1) sustain and institutionalize the family planning gains made through the Family Planning Logistics Management (FPLM) project, (2) assist the MOH and donors in achieving contraceptive security, (3) strengthen the logistics capacity of KEMSA to improve its ability to effectively distribute public health commodities, (4) maintain distribution of drug kits for sexually transmitted infections (STIs) to selected sites, and (5) strengthen other public health logistics systems as needed.

DELIVER's major strategies to achieve these five objectives were numerous in the early days because of the broad depth of experience developed over the many years of the FPLM project and the number of vertical programs with which it was actively engaged. There were nine main strategies: (1) contraceptive logistics, (2) commodity security, (3) KEMSA strengthening, (4) STI logistics system development, (5) human immunodeficiency virus and acquired immunodeficiency syndrome (HIV/AIDS) logistics system development, (6) tuberculosis (TB) logistics system development, (7) integration of systems, (8) monitoring and evaluation, and (9) provision of technical and administrative support to the MOH and its partners.

Through December 2003, DELIVER accomplished a major portion of its mandate as laid out in the objectives and strategies mentioned above. A USAID-sponsored, external, mid-term evaluation of DELIVER concluded that the project was well on its way to fulfilling its mandate, but the speed at which institutionalization was occurring was slow. DELIVER's strengths were identified as the stabilization of logistics, the development of a logistics management information system (LMIS), and much progress toward contraceptive security. Weaknesses, on the other hand, included inadequate development of human capacity, the slow pace of development of KEMSA into an autonomous distribution center, and the slow pace of health sector reform. It was observed by the evaluators that "...although the DELIVER project has accomplished a great deal with all partners expressing great satisfaction, the project has spent most of its time in manual delivery of commodities. It is however important to stress the fact that commodity movement would have suffered irreparable damage had DELIVER not been on the scene. The time that could be used by DELIVER for strategic engagement and focus on technical assistance is consumed in hauling of commodities. Caution is however given that today if DELIVER pulled out of the MOH without sufficient contingency measures, the supply chain would be paralyzed" (Rae, Abondo, and Ngidar 2003).

Interestingly, this latter observation would continue to plague DELIVER as it moved into the next phase of its work. With the advent of the President's Emergency Plan for AIDS Relief (PEPFAR), the DELIVER project had to position itself to support the new strategies in HIV/AIDS, particularly in relation to the development of logistics systems for all HIV-related commodities, the development of an LMIS, and the development of local capacity for forecasting, quantifying, and procurement planning. However, this positioning was not realized fully as the Government of Kenya (GOK) continued to delay the capacitation of KEMSA.

As the U.S. Government (USG) geared up the PEPFAR program to support the GOK's fight against HIV/AIDS in 2004, DELIVER also geared up through participation in USAID/Kenya's process of

developing its Country Operational Plan. DELIVER proposed the use of PEPFAR funds to support initiatives in three major areas: laboratory strengthening, distribution of condoms through public health officers, and the procurement and distribution of home-based care kits. The laboratory strengthening initiative involved subcontracts with the African Medical and Research Foundation (AMREF) and Crown Agents to assist with assessments, the development of standard operating procedures, and training. The home-based care kit initiative was not pursued when it was found that it would be prohibitively expensive to provide these kits from the United States; procuring the kits locally was also not an option. The distribution of public-sector condoms to bars, lodgings, and other social places through public health officers proved to be an extremely successful program. Seven to ten million condoms per quarter were distributed this way during this period.

In 2005, the focus on laboratory strengthening continued with PEPFAR funds. However, the initiative also took on the challenge of procuring CD4 reagents as well as other laboratory reagents and consumable supplies. DELIVER also worked with 16 provincial and district laboratories to upgrade and refurbish their physical premises. Significant work on seven of these labs was completed by the end of 2005. Further, AMREF developed standard operating procedures for good laboratory practices for these 16 labs.

In addition to the PEPFAR-funded work with labs, DELIVER also made significant progress in the implementation of a new HIV test kit logistics system and a new antiretroviral logistics system. Outside of PEPFAR, the project's work was directed to continued support of the National Leprosy and Tuberculosis Program (NLTP) and the development of a new logistics system for TB drugs. There was also significant work on an integrated LMIS for all commodities.

In 2006, the most significant development occurred in the laboratory logistics system. Following a system design workshop, standard operating procedures for the logistics system were developed as well as a training curriculum. Both were implemented between July and September 2006. Refurbishments on the other nine labs were completed.

An important initiative was implemented in late 2005 to early 2006. This involved a pilot program in Eastern South Province to test the efficacy of intensified logistics support. DELIVER placed a logistics advisor in the province to troubleshoot distribution, inventory control, and logistics information issues. The advisor visited many facilities and provided a great deal of on-the-job training and support. As hypothesized, the availability of such support made a difference in the availability of commodities within the province.

The LMIS that DELIVER spent more than five years developing with the MOH and KEMSA received some rejuvenation during 2006. A team from the home office joined the field office in a valuable exercise to build ownership and capacity within the MOH divisions to use the LMIS for logistics decision making. Among the most important decisions and processes were (1) developing one set of standardized LMIS records and reports across all projects, (2) carefully defining users' roles and responsibilities, (3) deciding on routine reports to be generated on a regular basis, and (4) developing standard procedures for the flow of information in and out of the system.

The period of 2005–2006 also saw some setbacks in DELIVER's KEMSA-strengthening objective. USAID contracted with a local company to provide support to KEMSA in making it operational and better able to carry out its key mandate of procuring, warehousing, and distributing health commodities to Kenya's public health sector. Unfortunately, the local company did not collaborate with DELIVER to achieve this purpose. This created a very difficult working environment and further postponed the needed capacity building in KEMSA that was required for DELIVER to hand over the distribution function as had been recommended during the mid-term project review.

As it turned out, the contracted managing agent was finally asked to cease its work with KEMSA, and a renewed relationship between DELIVER and KEMSA emerged—but late in the process. As a result,

DELIVER will be finishing its work in Kenya without having achieved one of its most important objectives. However, our local staff, who will necessarily be discharged at the end of DELIVER, could be hired to assist KEMSA in continuing to gain the capacity they need to manage commodity logistics themselves.

PROGRAM BACKGROUND

For more than 14 years, the Family Planning Logistics Management (FPLM) project worked closely with the Kenyan Ministry of Health (MOH) to improve planning, procurement, distribution, and information systems for family planning commodities. This collaboration led to demonstrated success in contraceptive availability with minimal product stockouts. When the U.S. Agency for International Development (USAID) expanded logistics support through the new DELIVER project, DELIVER was requested to maintain this high level of effectiveness and efficiency of contraceptive distribution with the MOH. In so doing, it was also asked to add logistics technical support to improve the logistics systems for other health products, especially those related to the increasing dangers of the HIV/AIDS epidemic and associated opportunistic infections, such as tuberculosis and sexually transmitted infections (STIs).

This report provides a glimpse of what DELIVER was able to accomplish over six years of increasing complexity in the country. It also provides some indications of the tremendous amount of work that remains in Kenya to achieve both the availability of commodities and the efficiency suggested above.

COUNTRY CONTEXT

The population of Kenya is currently estimated at 34 million, with an annual growth rate of 2.57 percent. As in many other developing countries, Kenya has a burgeoning youth population, with 42.6 percent of the population under the age of 14. As these young people enter reproductive age, the population will grow significantly. The average life expectancy in Kenya is 49 years of age and continues to decrease, in large part, as a result of the HIV/AIDS epidemic.

Kenya is a regional center for trade and finance in East Africa, but growth has been sluggish for a variety of reasons that include endemic corruption, weak commodity prices, and lack of donor and investor confidence. After more than 20 years of corruption and political oppression, a new opposition government, led by Mwai Kibaki, took office in 2002 with a mandate to end corruption and promote economic growth. The change in political leadership has encouraged donor support and is making significant strides in reducing corruption. The new political climate has been significant in turning the economic tide; after many years of lagging growth in the gross domestic product (GDP), the GDP in Kenya grew to 5.2 percent in 2005.

Despite this, more than 50 percent of the population remains below the poverty line and the GDP per capita is about U.S.\$1,000. The majority of the labor force is employed in the agricultural sector, which remains at the mercy of erratic rainfall and endemic drought. Further, the high prevalence of disease, including HIV/AIDS, TB, and malaria, and a struggling health care infrastructure, continue to hinder human and economic development. On the macroeconomic level, estimates suggest that the GDP is projected to be 14.5 percent lower than it would have been in the absence of HIV/AIDS.

The Joint United Nations Programme on HIV/AIDS (UNAIDS) estimates that there are currently 1.3 million Kenyans living with HIV, with an adult HIV prevalence rate of 6.1 percent. The rate of HIV prevalence varies greatly throughout Kenya, with a high of 35 percent reported in Suba, in the Nyanza Province on the border with Uganda, and a low of 4 percent in Kilifi, in Coast Province. Approximately 150,000 children from birth to age 14 are living with HIV.

The Government of Kenya and international donors have made substantial gains in increasing access to treatment and care for people affected by and infected with HIV/AIDS. In March 2003, President Kibaki declared a *total war* against HIV/AIDS and gave power to the National AIDS Control Council (NACC) to coordinate and manage the multisectoral response to the epidemic. When President George W. Bush

announced the President's Emergency Plan for AIDS Relief (PEPFAR) in 2003, Kenya was among the 15 original focus countries of the plan. Subsequently, under the plan, nearly \$92.5 million in FY 2004, \$142 million in FY 2005, and an estimated \$208.3 million in FY 2006 have gone to support Kenya's HIV/AIDS efforts. All of these efforts have significantly increased access to care and treatment: 19.7 percent of women and men infected with HIV are receiving antiretroviral therapy, and 9.3 percent of pregnant women are receiving treatment to reduce mother-to-child transmission. PEPFAR funds in Kenya have enabled DELIVER to make significant strides in enhancing HIV/AIDS and laboratory supply chains for the delivery of these services.

Contraceptive security remains elusive in Kenya. The contraceptive prevalence rate reported in the 2003 Demographic and Health Survey (DHS) was 39 percent; this is the same rate reported five years earlier in the 1998 DHS report. Further, the DHS indicates that, after dipping to 4.7 in 1998, the total fertility rate has actually increased again, to 4.9 in 2003.

Perhaps the most serious barrier to achieving contraceptive security in Kenya has been the lack of long-term donor commitment. It is well known how many contraceptives Kenya requires to achieve full supply and no stockouts. With DELIVER's assistance, the MOH has known what to procure, in what quantities, and when. However, donor support for these plans has been erratic, piecemeal, and uncertain, and this is the main barrier to achieving contraceptive security. With the exception of the *Kreditanstalt für Wiederaufbau* (KfW), and to a lesser extent USAID, it has been extremely difficult to obtain solid commitments from donors to procure definite quantities of contraceptives for an extended period. Even KfW was forced to leave a gap in funding because of the way its own funding was arranged.

In addition, the refocusing of health priorities (particularly to HIV and malaria) has left donors without the resources to commit to Kenya. Further, the curtailing of funds available to the United Nations Population Fund (UNFPA) means that this major donor for contraceptives has been constrained in its support, just at the time when it had introduced two new methods in Kenya.

KEY PLAYERS AND ROLES

DELIVER's key partners were the MOH and KEMSA. Specifically, DELIVER started working closely with the Division of Reproductive Health (DRH) in the provision of contraceptive commodities. This was a natural follow-on to the work done with the DRH during the FPLM project. In fact, DELIVER occupied an office within the DRH and had the role of technical advisor to DRH for contraceptive security. DELIVER also had an office at KEMSA where it continued to fulfill the distribution function for family planning products. However, with the change in donor focus toward HIV/AIDS, DELIVER's role in the DRH changed; indeed, DELIVER moved away from the DRH both physically and in terms of its technical support.

As the donor focus on HIV/AIDS, TB, and malaria evolved, so did the number of commodities being procured and brought into Kenya. DELIVER's role expanded significantly, and the project necessarily started working with NACC and the National AIDS and Sexually Transmitted Infections Control Program (NASCO), for the provision of HIV/AIDS commodities and STI and opportunistic infection drugs; with the National Leprosy and Tuberculosis Program (NLTP), for tuberculosis and leprosy commodities; with the Kenya Expanded Program on Immunisation, for vaccines; with the National Public Health Laboratory Services (NPHLS), for laboratory test reagents, equipment, and consumable supplies; and with the Pharmacy Division, for essential drugs. DELIVER's role within KEMSA expanded to assist KEMSA with the distribution of more than just family planning products. We also took on the role of technical advisors to the MOH divisions mentioned above so that adequate attention was paid to the development of logistics systems for the various commodities being procured.

DELIVER's expanded role brought us into closer contact with a number of other cooperating agencies and projects. We worked with the POLICY project on a number of issues related to commodity security,

forecasting, and building capacity in the district health management teams (DHMTs). DELIVER worked with the Rational Pharmaceutical Management Plus (RPM Plus) project to undertake drug quantification exercises for the MOH and for KEMSA. Later, we worked with RPM Plus on lab-related initiatives. Other cooperating partners included AMKENI for training purposes; Family Health International (FHI) for work in HIV/AIDS; PATHFINDER for initial work with home-based care for HIV/AIDS; EngenderHealth for clinical methods of contraception such as implants; and the Population Council for facility-based surveys.

During the life of DELIVER in Kenya, our role was relatively consistent in relation to our key partners—the MOH and KEMSA. We continued to manage the distribution function at KEMSA for the numerous vertical programs that emerged, despite recommendations to turn over this function, because KEMSA was never in a position, either structurally or in capacity, to be responsible for distribution. Our role with the MOH divisions was basically that of advisors for the new logistics systems needed to manage the increasing numbers of new commodities. In addition, we provided significant assistance in terms of the forecasting, quantification, and procurement planning for these commodities. At least one division, NASCOP, is now in a position to do much of the work for pipeline monitoring, system monitoring and troubleshooting, and logistics information management. In many ways, NASCOP has much of the capacity that the DRH had after our many years of work with them—as long as they can retain the personnel with whom we have worked.

KEY CHALLENGES

It can be seen that, as DELIVER's role grew within the expanding and complex health sector environment, so did its challenges. This section of the report is intended to provide a summary of some of those key challenges.

COMMODITY PROVISION

- The provision of health commodities in Kenya involves a complicated supply chain with numerous providers and stakeholders. For example, at least 11 types of commodities are provided to the health sector through approximately 19 donors or sources of funding. Procurement is guided principally by the source of funding. Each of these commodity types is being used by various MOH divisions or programs, each of which has its own ownership concerns and control issues. As a result, the complete integration of the logistics systems for these commodities is impossible. See appendix 2, Commodity Schematic, for a dramatic graphic presentation of the complexity in commodity provision.
- Without some manner of centralized integration of the various parallel logistics systems, rational forecasting, quantification, and procurement planning are also not possible. As a consequence, adequate quantities of commodities to meet demand are often lacking. In addition, distribution planning ranges from difficult to impossible. Distribution, therefore, becomes an ad hoc exercise and quite often requires last minute efforts to overcome a stockout or near-stockout situation.

REPORTING

- Reporting of essential logistics data is what drives a logistics system. Reporting rates in Kenya for most commodities have been very poor. As a consequence, there are only partial data on which to perform forecasting, quantification, and procurement planning.
- Without adequate data, the choices are to either extrapolate from data that are received or to use monitoring and evaluation (M&E) measures as follow-up to the poor reporting. DELIVER has experienced poor reporting from facilities throughout its time in Kenya. Therefore M&E follow-up trips in concert with MOH supervisors have been necessary. However, there is only so much M&E that can be done to supplement the lack of data.

- Measures have also been used to link reporting with the receipt of some commodities, but even this measure has not helped in getting full compliance. In addition, there is some controversy as to whether it is ethical to retain products meant for patients simply because an overworked health provider cannot provide a report. The reporting challenge remains an enormous barrier to achieving commodity security.

DONOR COMMITMENT

- In the early days of DELIVER (2000 and 2001), there were a number of donors for contraceptives in Kenya. The United Kingdom's Department for International Development (DFID) and the European Union were funding condoms and injectables, UNFPA was funding injectables, USAID was funding intrauterine contraceptive devices (IUCDs), and KfW was funding pills. However, as time went on, DFID's mission changed to malaria, UNFPA's funding was reduced, KfW's funding and planning cycles created a gap in its provision of pills, the MOH ignored warnings of impending gaps in donor commitment, and USAID limited its donations to IUCDs. All of these factors played a role in creating the crisis that Kenya now faces with respect to contraceptive security.
- The refocusing of health priorities, particularly on HIV/AIDS and malaria, has meant that donors have not had the resources to commit to contraceptives and other health commodities.

HUMAN RESOURCE CAPACITY

- One of the major lessons learned during the FPLM project was that an effective logistics system relies 20 percent on technology and 80 percent on people and their skills. Training was, therefore, one of the largest investments made in the project. However, with the tremendously expanded scope of logistics system development in response to the number of commodities coming into Kenya, the requisite human resource development required was very difficult to implement. Not only was it expensive to train hundreds, if not thousands of people, in the procedures for each new system, but also the people to be trained were often the same for each system. This meant that they were being taken away from their work too frequently.
- DELIVER recognized this challenge early in the planning for system implementation. The idea of doing integrated logistics training was therefore considered and eventually used. However, it quickly became apparent that the integration of how systems operate was limited because of the factors mentioned earlier (i.e., verticality of programs and different approaches controlled by various divisions/programs and the different nature of some commodities and how they are managed). As a result, it became clear that integrated logistics training was not the ideal approach.
- Ideally, training is a means to the end of improved performance—both for the logistics system and the individuals who operate it. Training should therefore be linked closely to the supervisory support system. DELIVER found this to be a very difficult objective, since supervisory support is hard to achieve with limited financial support and physical resources such as transport. In addition, staff who serve as supervisors are usually not trained as supervisors.
- Further, staff attrition in Kenya is very high. Even the best training can provide competent human resources for only so long before new staff need training.

KEMSA REFORM

- The operationalization of KEMSA has been an MOH health sector reform priority since March 2000. At that time, the Kenyan drug system was plagued by chronic shortages of certain essential drugs and overstocking and expiry of others. An assessment of the health commodity supply chain done in May 2001 by JSI/DELIVER revealed a multiplicity of supply chains for health care commodities in various vertical programs, e.g., vaccines, anti-TB drugs, family planning commodities, STI test kits, HIV/AIDS commodities, and laboratory reagents. The assessment also identified a lack of adequate financial

resources for capitalization and systems development; a lack of adequate human resources capacity both at managerial and technical levels; a poor state of repairs of physical facilities that require major rehabilitation; inadequate and poor state of motor vehicles, machinery, and equipment; lack of a management information system, a supplies management logistics system, and funds for monitoring; and inadequate security.

- KEMSA was gazetted as a state corporation on February 11, 2000. The Board of Directors was appointed and gazetted on July 21, 2000, and inaugurated by the Minister of Health on November 30, 2000. KEMSA's expressed vision was "to be the leading supplier of quality, affordable pharmaceutical, medical and dental supplies to all Kenyans." A five-year (2001–2006) strategic plan and business plan toward this end were developed in early 2001. However, the anticipated capitalization to operationalize the plans was not forthcoming.
- While DELIVER had an expressed objective to strengthen the capacity of KEMSA in the areas of procuring, warehousing, and distribution of health commodities, there was a serious lack of adequate human resource capacity at both managerial and technical levels. Therefore, DELIVER was faced with having to take on more of the warehousing and distribution work than they had been managing to date. DELIVER's country director developed a concept paper in May 2002 that proposed the development of a Division of Logistics and Commercial Services in KEMSA, but the proposal was not implemented.
- In 2003, however, USAID proposed the idea of contracting with a managing agent to help KEMSA become a viable business entity and self-sustaining parastatal organization. Requests for proposals were solicited, and several organizations responded. A local Kenyan company was selected and, by the end of 2003 to early 2004, the new managing agent was in place. At this point, DELIVER started to experience serious challenges.
- The new managing agent, although informed by USAID that they must work with DELIVER, chose to follow its own path. It was not easy to arrange meetings with representatives of the agent, and when meetings did occur, it was not easy to learn anything of substance from them about their overall vision and plans. KEMSA strengthening remained a DELIVER objective, but it was very difficult to know exactly the direction in which KEMSA was planning to go under the guidance of the managing agent.
- At one point, DELIVER was asked to hand over to KEMSA all of the vehicles and other resources it was using to support the distribution function and informed that KEMSA and its managing agent would take on this function for all commodities. DELIVER abided by the request and began the process of handing these over—but wanted to do so in a systematic way. About the time that plans were emerging and it appeared that the handover would take place, the Minister of Health asked the managing agent to step down from its position with KEMSA. Although the managing agent had been able to perform a needed restructuring of KEMSA, time and resources were wasted while the managing agent was on board. When this agent stepped down, KEMSA quickly came back to DELIVER for help. This was late in the process, however, and as stated earlier, DELIVER will leave Kenya without having completed a key strategic priority: strengthening KEMSA.

GOALS AND OBJECTIVES

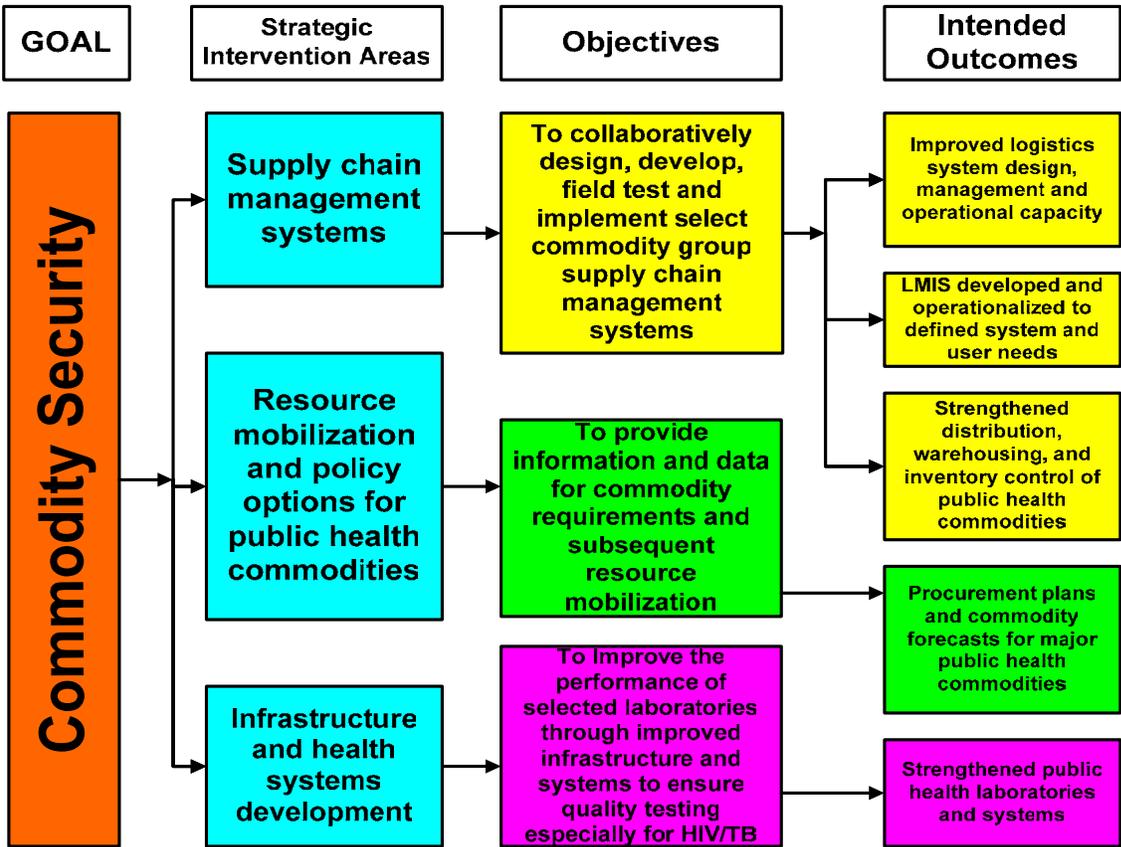
DELIVER OBJECTIVES

The DELIVER mandate and goal is to ensure the security of select commodities in the public health sector. In Kenya, this goal had three major strategic intervention components:

1. supply chain management systems development
2. resource mobilization and policy options for public health commodities
3. infrastructure and health systems development.

DELIVER has worked primarily in the first of these intervention areas, especially on developing an integrated LMIS, strengthening human capacity in logistics, and the physical warehousing and distribution of a variety of health commodities. With regard to resource mobilization, DELIVER has assisted in procurement planning and the quantification of commodities and mobilized resources to meet those commodity needs. To address infrastructure and health systems development, DELIVER, through major PEPFAR funding, has concentrated on improving selected laboratories to enhance the quality of testing, especially for TB and HIV. Figure 1 illustrates the components of the goal.

Figure 1. Commodity Security: Interventions, Objectives, and Outcomes



RELATIONSHIP TO USAID AND CLIENT OBJECTIVES

The primary goal of the DELIVER project was improved availability of contraceptives and other essential health commodities at service delivery points. To work toward this goal, one of the main strategies for DELIVER was to strengthen health sector logistics management systems. This strategy is critical in achieving the overall USAID/Kenya Strategic Objective #3: “to reduce fertility and the risk of HIV/AIDS transmission through sustainable, integrated family planning and health services.”

DELIVER’s technical work with the MOH was done primarily in divisions within the Department of Preventive and Promotive Health Services.

DELIVER’S ROLE IN RELATION TO OTHER ORGANIZATIONS

DELIVER’s mandate to improve health commodity availability defined its role in relation to other organizations tasked with this work. Most critical was its relationship with KEMSA, which was newly established in 2003 and eventually given a mandate to forecast, procure, warehouse, and distribute a wide range of medical commodities (including contraceptives, HIV/AIDS commodities, TB drugs, and malaria drugs) in addition to essential drugs for the public sector. KEMSA was, therefore, a key recipient of DELIVER technical assistance to improve its ability to order, track, and distribute drugs and other essential supplies as efficiently as possible.

DELIVER was given office space at KEMSA to establish the Logistics Management Unit (LMU), which acts as the information center for the LMIS, to which staff from the various divisions listed above are seconded. The LMU also shares staff, delivery vehicles, and decision making on distribution routing, timing, and allocations. Expertise in logistics has been institutionalized in the DRH, NASCOP, and KEMSA, with further work still to be completed for other divisions such as NLTP and NPHLS.

One of the key objectives for DELIVER in Kenya was to support the establishment of commodity security for a variety of commodities under the *parallel programs*, i.e., contraceptives, TB drugs, STI drugs, HIV tests, antiretrovirals (ARVs), and so on. With certain exceptions, DELIVER itself has not procured supplies; instead, it has worked closely with the MOH and donors in Kenya to ensure supplies are available when needed. This required close collaboration and regular contact with donors providing commodities under each of the parallel programs. This donor group included USAID, DFID, KfW, UNFPA, and the World Bank, for contraceptives; USAID, the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM), DFID, the World Bank, and UNFPA, for HIV/AIDS commodities; the Global Drug Facility of the Stop TB Partnership (GDF), the Royal Netherlands Tuberculosis Association (KNCV), the Canadian International Development Agency (CIDA), and GFATM, for TB commodities; and GFATM, UNICEF, and the World Health Organization (WHO) for malaria commodities. DELIVER has worked with other organizations that also support commodity provision either through acting as procurement agents (Crown Agents, *Deutsche Gesellschaft für Technische Zusammenarbeit* [GTZ] and the International Dispensary Association) or through their own service delivery (*Mèdecins Sans Frontières* and Populations Services International).

DELIVER also collaborated with other development partners during the project. These included the POLICY project for the national contraceptive and condom policy documents; WHO for the new reproductive tract infections policy documents; the African Medical and Research Foundation (AMREF) for a laboratory strengthening system; Crown Agents for procurement and strengthening of laboratory systems; the Centers for Disease Control and Prevention, Management Sciences for Health (MSH) RPM Plus, AMKENI, FHI, and others for HIV/AIDS programs; EngenderHealth and the Population Council for clinical methods of contraception; the Swedish International Development Cooperation Agency for viral load testing; and AID Africa Concern for slum-based projects.

DESCRIPTION OF STRATEGIES

1. SUPPLY CHAIN MANAGEMENT SYSTEMS DEVELOPMENT

Major Objective

To collaboratively design, develop, field test, and implement select commodity group supply chain management systems.

Intended Outcomes

- improved logistics system design, management, and operational capacity
- an LMIS developed and operationalized to defined system and user needs
- strengthened distribution, warehousing, and inventory control of public health commodities.

Interventions/Strategies

A fully developed supply chain management (SCM) system consists of a system for the distribution of commodities from the national level to district and service delivery points; a reports and information flow system that informs distribution planning decisions; and a process/system for the analysis of data collected, for the development of forecast/quantification information to inform procurement decisions, and for raising policy issues to ensure appropriate performance management decisions.

DELIVER worked with MOH division partners and DHMTs to develop, modify, and monitor the implementation of these SCM elements to ensure accurate and timely commodity distribution planning. Systems developed were nationwide, but special attention was given to the Eastern South Province of Kenya. This pilot project was developed to study the application of revised and improved logistics data gathering tools and to provide opportunities to better understand both district difficulties and successes with the management of these data reporting needs.

DELIVER has developed and implemented a fully functioning LMIS that is based on Oracle. Located in the LMU at KEMSA, the system collects and organizes district-and-below commodity issues and consumption data for use by decision makers at the division level. MOH division partners have direct access to use of these data for their planning needs. The system utilizes inventory control measures, such as maximum and minimum levels of commodities at facilities, to determine reorder levels and verify reorder quantities.

Applying the principles of good supply chain management and using the data gathered by the KILMIS and other extrapolative techniques, DELIVER has worked with MOH divisions for select commodities to mentor the development of division capacity to properly collect and analyze field data and prepare distribution request plans. Further, DELIVER has worked with KEMSA, a Government of Kenya (GOK) parastatal, to ensure development of a timely and accurate commodity request, distribution, and status feedback process. The capability to produce such plans and to monitor their progress is still in its infancy, and a good deal of collaboration and mentoring are still needed.

DELIVER has also provided resources to facilitate some of the distribution of commodities from the central warehouse to district level and helped to maintain warehouse and inventory control standards at KEMSA. Support to the TB program in particular, as well as for other commodities such as condoms, contraceptives, STI drugs, laboratory reagents, ARVs, and HIV tests, has provided extra assistance to get these commodities to the service delivery points.

2. RESOURCE MOBILIZATION AND POLICY OPTIONS FOR PUBLIC HEALTH COMMODITIES

Major Objective

To provide information and data for commodity requirements and subsequent resource mobilization.

Intended Outcomes

Procurement plans and commodity forecasts for major public health commodities to enhance commodity security.

Activities/Discussion

DELIVER has undertaken, with MOH division representative participation, a series of quantification/forecast exercises that have informed division counterparts of good forecast procedures as well as produced forecast/quantification needs outlines for selected commodity groups. At present, there is no such institutionalized capacity in the divisions.

A regular dialogue through the quarterly (sometimes bi-monthly) meetings of the Contraceptive Logistics Working Group (a subcommittee of the Inter-Coordinating Committee of the Division of Reproductive Health) has been established to maintain contraceptive security. Similar logistics working groups have been established for condoms and laboratory reagents for blood safety (HIV tests). Further strategies of establishing similar working groups for other commodity groups have been formed to help prevent the interruption of services frequently encountered by lack of commodities. (The 2002 six-month stockout of STI drugs is a typical example.) Using DELIVER expertise in projections and quantification of drug/commodity needs for different programs, the MOH planned its resource allocation needs accordingly.

Continuous procurement planning and oversight were maintained with all donors, the GOK, and the World Bank to monitor commodity deliveries and to advocate for increased resources to meet mid- to long-term demands. Regular (at least quarterly) projections were maintained for reproductive health supplies, condoms, and blood safety reagents (including rapid HIV tests).

3. INFRASTRUCTURE AND HEALTH SYSTEMS DEVELOPMENT

Major Objective

To improve the performance of selected laboratories through improved infrastructure and systems to ensure quality testing, especially for HIV and TB.

Intended Outcome

Strengthened public health laboratories and systems.

Activities/Discussion

With help from AMREF and Crown Agents, a comprehensive laboratory-strengthening project was carried out to renew, refurbish, supply, and re-equip key laboratories in Kenya for the analysis of diseases, but particularly HIV, TB, malaria, and STIs. This was to enable the WHO's 3 × 5 objective and the U.S. Government's target of 2-7-10 to be realized. Patients who require ARVs cannot begin treatment unless there is adequate blood testing (particularly CD4 counts). DELIVER, working with USG partners, has undertaken to identify, refurbish, develop good operating procedure guidelines, provide logistics and clinical training to laboratory technicians, and develop a supply chain maintenance system in select laboratory sites. Further, commodity forecast and quantification needs will be established for these sites.

SUMMARY OF DELIVER FUNDING AND STAFFING

FUNDING

Kenya was among DELIVER's largest and most complex country programs. Over the life of the project, USAID committed more than U.S.\$21 million dollars in funding to the Kenya program, beginning with \$2 million in FY 2001 and increasing proportionally each year to match increasing project deliverables. The total funding was almost exactly an even split between reproductive health and PEPFAR funding. In support of the distribution of reproductive health (RH), TB, and HIV/AIDS commodities, DELIVER has allocated about one-quarter of its funding each year to support KEMSA in the direct delivery of these products. However, while the level of RH funding remained relatively consistent from year to year since the beginning of the project, PEPFAR funding only began about half-way through the project, in 2004, and increased significantly thereafter. A large proportion of PEPFAR funds to the Kenya program funded the laboratory initiative. In addition to technical assistance (TA) and capacity building to support the laboratory initiative, about \$1.5 million was spent on the direct procurement of laboratory reagents (including CD4 reagents) and consumables.

STAFFING

At the beginning of the project, staffing consisted of one expatriate country director and about 15 technical and administrative staff. A number of casual workers were also employed. By 2005, the staff had expanded to 50. By the end of the project, the staffing pattern was as follows:

- senior management: country director (expatriate) and senior management advisor (expatriate)
- supply chain management team: six technical project officers and two logistics assistants
- LMIS team: one senior programmer/database manager, one junior programmer, and four data clerks
- distribution logistics team: one warehouse/inventory control manager, one transport logistics officer, four truck drivers, nine monitoring/evaluation drivers, and one forklift truck operator
- finance and administrative team: one senior accountant (deputy director), two accountants, two accounts assistants, two receptionists, two information technology support, and two utility workers.

This is a total staff complement of 43 of which 41 were local hires. This staff complement does not include consultants, casual hires (of which there were at least 10 per week hired on a rotation basis for the warehouse at KEMSA), and extra data clerks where required.

The in-country Kenya team was also managed by headquarters staff regarded as part of the team but based in Washington. This staff consisted of a country team leader, a program coordinator, a coordinator for country programs, and various technical officers who provided short-term technical assistance in Kenya during the six-year project. Administrative and financial staff in Washington also provided backstopping and financial management.

PROGRAM RESULTS

ELEMENT I: IMPROVED LOGISTICS SYSTEM

At the end of FPLM III and into the first year of DELIVER the only fully developed logistics system was for family planning commodities (including condoms for family planning) and a partial system developed for STI drugs in selected parts of the country. With the end of DELIVER, there is a fully developed logistics system for the following commodity groups:

- reproductive health
- TB and leprosy drugs and commodities
- STI drugs
- blood safety reagents and tests (including rapid HIV tests)
- ARVs
- condoms.

In addition, partially developed systems, or new systems, have been developed for laboratory supplies and malaria commodities. All of these systems are in various stages of maturity in as far as reporting rates, data quality, and use by the respective MOH divisions for their distribution planning.

Table 1 provides a summary of each of the systems for which DELIVER has provided technical assistance, showing the elements of each system.

For reproductive health, there was an established logistics system that had been developed and maintained by the FPLM project. Changes brought about by DELIVER, through transforming the old Clarion-based LMIS into a new Oracle-based LMIS, created better reports and a consumption-based system for determining resupplies of contraceptives to all facilities. Reproductive health had been further complicated by the fact that supplies eventually reached more than 4,000 facilities as opposed to just over 2,000 in the regular public health system. For more information on reproductive health commodity security, please see appendix 1: CS Brief.

Under TB, there has been a transformation in the monitoring of commodity supplies, with new tools and better supervision practices, all backed up with a considerable amount of financial support for formal training, on-the-job training (OJT), and supervision. This has resulted in a leaner supply chain, less expiries, and better record keeping. Unlike other vertical programs, there is cash support down to the district level to facilitate activities.

The logistics system for STI drugs was another one of the early systems that received attention when DELIVER started in Kenya. In fact, throughout the FPLM project, JSI had assisted the National STD/AIDS Control Programme (NAS COP) to improve the distribution of STI drugs. Then, early in the DELIVER Project, the GOK decided to collaborate with the World Bank to continue the work in this area. Most of the funding, therefore, came from the World Bank's DARE Project. JSI engaged in a contract with the DARE Project through JSI Logistics Services.

Blood safety commodities systems have been fully developed so that there is a continued safe blood supply in the country; all commodities service the six provincial blood banks in the country. On top of this, there is a comprehensive system for rapid HIV tests throughout Kenya; however, it is complicated by

the use of rapid test supplies for other purposes: voluntary counseling and testing, prevention of mother-to-child transmission, diagnostic counseling and testing, sentinel surveillance, and clinical diagnosis.

An ARV system was put in place that is very secure and constantly monitored. A policy of *no reports, no drugs* was implemented, resulting in high compliance. Practically speaking, the MOH knows exactly how many patients are on which regimen, where they are, and in what stage. Patients are reported monthly even though there are three-month buffer stocks at the facility level. It must be pointed out that none of the PEPFAR-funded ARVs are under this system as that is funded through the Mission for Essential Drugs and Supplies and MSH.

For condoms, there was remarkable success in distribution by the three divisions who shared responsibility (NASCO, DRH, and the Division of Environmental Health [DEH]). For a short time, support was similar to the TB program, to facilitate the distribution of condoms (in four provinces) down to the bottom-most levels of the system. This resulted in 22 million condoms being distributed in only one quarter, when the usual quantity is roughly one-third. See table 1 for more information.

Table 1. Public-sector Vertical Logistics Systems in Kenya—Deliver TA

Logistics System	Logistics System Financing	Supply Status	Inventory Control	Push/Pull System	Reporting Frequency
Reproductive health (contraceptives)	DELIVER, DRH	Full supply	Max/min levels of average monthly consumption	Pull based on consumption	Quarterly consumption reports
STI	DELIVER, NASCOP	Rationed, based on availability	Based on availability	Push based on consumption	Quarterly patient load and consumption reports
Condoms for STI/HIV prevention	DELIVER, DEH, DRH, NASCOP	Full supply	Max/min levels of average monthly issues	Push to district, pull to outlets based on issues data	Monthly to district, quarterly to central level
Blood safety reagents (including rapid HIV tests)	DELIVER, NPHLS, NASCOP	Full supply	Max/min levels of average monthly consumption	Pull based on consumption	Monthly to district, bi-monthly to central level
ARVs	DELIVER, NASCOP	Full supply for a fixed number of patients	Max/min levels of average monthly consumption	Push based on consumption and patient load	Monthly patient load and consumption reports
Eastern South Province: leprosy and TB drugs	DELIVER, NLTP	Full supply	Max/min levels of average monthly consumption	Pull based on consumption	Monthly to district, quarterly to central level
Leprosy and TB drugs	DELIVER, NLTP	Full supply	Current number of TB and leprosy cases being treated per service delivery point (SDP)	Push based on patient load, managed by provincial and district NLTP co-ordinators	Monthly (SDPs) and quarterly (districts/provinces) reports of current patient load

Table 2 summarizes other systems where DELIVER has started to provide technical assistance.

Table 2. Other Public-sector Systems in Kenya—Deliver TA

Logistics System	Logistics System Financing	Supply Status	Inventory Control	Push/Pull System	Reporting Frequency
Laboratory commodities	DELIVER, NPHLS	Non–full supply/rationing	Max/min being established	Push based on notional patient load	Quarterly to be established
Malaria	MOH	Non–full supply/rationing	None, due to inconsistent and irregular supply	Push: either in essential drug kits or separately in case of epidemics	No system of reporting; integrated with essential drugs
Essential drugs	KEMSA	Non–full supply/rationing	None, due to inconsistent and irregular supply	Push: number and type of kit issued based on type of facility	No system of reporting

Results for malaria show that DELIVER helped distribute 3.7 million nets within three weeks in August 2006. Under laboratories, there is now a full supply for CD4 count tests and a full supply of other reagents for testing for the next eight months. Hematology reagents still need to be procured, but this is complicated by the number of closed systems.

DELIVER conducted both baseline and endline surveys to measure the extent to which logistics systems had been improved over the life of the project. Appendix 3, Preliminary Results from the Endline Survey, summarizes the improvements that were achieved.

ELEMENT II: IMPROVED HUMAN CAPACITY IN LOGISTICS

DELIVER in Kenya has worked to improve the human capacity in logistics through formal training courses, OJT, and by providing detailed logistics manuals for the field. Because each of the logistics systems is vertical, there has been intensive training in logistics in one or two areas only for the majority of the country. Integrated logistics management training (for all systems under the parallel programs) was carried out only in Eastern South Province. This subprovince comprises nine districts (out of the 77 in the country) and was representative of the country in that it includes districts that are densely populated, sparsely populated, urban, rural, medium income, and low income.

Formal training in logistics management for individual commodity systems was given to 1,800 health workers and district-level supervisors in rapid HIV test kits; to 140, in TB drugs logistics; to 100, in laboratory supplies logistics; to 500, in condom logistics; and to 200, in STI logistics.

Beyond this, DELIVER undertook training in integrated logistics down to the facility level and reached nearly 300 health personnel, mainly from the public sector. Results show that integrated training for many logistics systems can work if the logistics systems involved have similar inventory control and LMISs and are managed by the same personnel.

ELEMENT III: IMPROVED RESOURCE MOBILIZATION FOR COMMODITY SECURITY

DELIVER in Kenya has for the last five years provided forecasts and quantifications for a number of commodities—notably, contraceptives, condoms, HIV tests, STI drugs, and more recently, ARVs and laboratory reagents. These forecasts and quantifications were fed into the regular logistics working groups (usually subcommittees of the relevant Divisional Inter-Agency Coordinating Committees) to provide

best estimates of the commodities to be procured for the programs. In this way, donors, government sources, and other funding groups could coordinate their efforts.

REPRODUCTIVE HEALTH

For the first time in Kenya's history, the government made a budget line item for contraceptives (in 2006), and approximately U.S.\$1.8 million of injectables and implants were procured. Key donors remain KfW and UNFPA for the most popular methods (injectables, low-dose pills, and implants). UNFPA has also provided emergency shipments of both male and female condoms. USAID has continued to provide IUCDs, and DFID provides some female condoms.

In the last two years, there has been inadequate funding for contraceptives despite comprehensive forecasts of need and drawn-up procurement plans. For example, the new KfW financing plan for providing injectables, low-dose pills, progestin-only pills, and implants has still not been agreed to by the Ministry of Finance and obligated to the Division of Reproductive Health in the MOH. As a result, a shortfall is likely in the next six months.

TUBERCULOSIS

The NLTP has a difficult job in juggling the several donors of anti-TB drugs. The GDF, the MOH, KNCV, GFATM, and CIDA all provide commodities. However, regular meetings coupled with good patient records and forecasts of needs have resulted in maintaining commodity security. One of the threats to commodity security is multidrug resistant (MDR) strains of TB. These are much more expensive to treat and, as yet, there are few drugs in the country for MDR TB.

HIV/AIDS

Most commodities that DELIVER handles for HIV programs come through GFATM. DELIVER has been instrumental in preparing the procurement plans and forecasts for GFATM procurement as well as regular forecasts of individual commodities such as rapid HIV tests. These forecasts, in turn, brought about resource mobilization—for example, DELIVER itself procured 300,000 Determine tests while DFID procured 500,000.

For ARVs, coordination of the type, formulation, and quantity was arranged among the various donors, including pediatric formulations from the Clinton Foundation. Forecast data and spreadsheet calculators assisted in determining the sourcing of ARVs.

LABORATORY SUPPLIES

Quantifications of selected laboratory supplies undertaken by DELIVER were the first ever carried out in the country for the NPHLS. These directly led to the procurement of essential laboratory tests for the support of the ARV program (patients need to know their CD4 count, viral load, blood count, glucose level, and so forth before they can proceed on ARVs).

Other commodities for which resource mobilization has been generated include condoms, zinc supplements, malaria drugs, STI drugs, and opportunistic infection drugs.

ELEMENT IV: IMPROVED ADOPTION OF ADVANCES IN LOGISTICS

DELIVER has put in place an integrated LMIS during the last four years of the project. This system is unique: it combines an inventory control system, a logistics data information system, and a distribution information system in one package. Written on an ORACLE software platform, it has the capacity for every commodity in the health system, including essential drugs, although this part has not been implemented as yet.

In summary, the present LMIS handles about 400 commodities from RH, TB, HIV/AIDS, STI, malaria, and laboratory programs. Although these commodity types are separated in the database, stock status and

consumption and distribution data for most of the *parallel programs* for more than 4,000 facilities in Kenya are available. About 20 million pieces of data are fed into this database per year, and because of the ORACLE platform, 50 users can access the system at the same time.

Another piece of software that has been written and adopted in Kenya is the Transport Management System, which handles management of the fleet of distribution and monitoring vehicles for maintenance, repairs, fuel consumption, and so on. This system is routinely used to schedule maintenance so that vehicles are optimally used for the distribution operation under KEMSA.

LESSONS LEARNED AND FUTURE DIRECTIONS

LESSONS LEARNED

The health commodity logistics system in Kenya is more complicated in its operations than in many countries. From a good foundation in logistics system management for contraceptives and a partial program for STI drugs, the project has expanded exponentially during the last six years. The concept of *integrated systems* has been managed to some extent in that much of the distribution of commodities has been integrated, but the integration of the information systems is not yet a reality. We still have vertical systems, even though at the bottom-most level it is the same person filling in the consumption records for all public health programs.

The first lesson learned is that it is extremely difficult to integrate information systems: each division wants (and perhaps needs) to *own* its data for its system. However, what can be done is to try and simplify the data gathering task, particularly at the lower levels, and provide comprehensive feedback reports that then guarantee compliance. Reporting rates are vital for a good LMIS, and therefore, continual monitoring through field visits is essential for the system to be useful. Frequent visits to facilities and districts can help increase reporting rates that make the systems more accurate.

Coupled with the need for frequent and accurate information from the field is the use of that information for generating more-accurate forecasts of need to inform the procurement process. A second lesson learned is that the mere existence of forecasts and draft procurement plans can assist the resource mobilization process and bring about long-term planning of commodity provision. Oftentimes, as is the position in Kenya, the expertise—and the courage—to make assumptions and produce forecasts of need do not reside in the various divisions of the MOH. One of the roles that DELIVER has played is to produce regular forecasts that then became a starting point for discussions on overall needs, donor commitment, and MOH contribution for the provision of essential commodities for public health.

A third lesson learned is that procurement can be complex and political. This is particularly the case in Kenya, which has been riddled with high-profile corruption cases mainly involving procurement at the national level. This is the same throughout the system, and recent problems with the procurement of condoms and rapid HIV tests, to name but two commodities, have highlighted how scrupulously careful procurement agents must be. The existence of clear forecasts, procurement plans, and very detailed technical specifications of the commodity being procured, coupled with a completely transparent procurement process, needs to be fostered for any procurement that takes place.

A final lesson learned is that the push by the USG under PEPFAR funding can sometimes compromise a unified supply chain and also bring about conflicts between cooperating agencies (CAs) because of their need to reach certain targets set by the program. This affected DELIVER in that commodities being managed in the system, especially any that were procured with USG funding, were deemed to *belong* to other CAs working in the HIV area. Organizations with PEPFAR targets tended to *save* some or all of these commodities for *their* sites, which undermined the unified supply chain in place. In addition, many of these other CAs did not understand the procurement process for these commodities and oftentimes overlooked GOK procurement and testing protocols. This resulted in a mix of products dictated by CA interests rather than by established protocols.

FUTURE DIRECTIONS

Maintenance of the LMIS to provide data for decision making, particularly for distribution planning, needs to continue. This requires providing data input staff as well as a system of provincial logistics advisors whose sole job is to constantly monitor and provide support to the facilities providing health care. The expense in fuel and maintenance costs is more than compensated for by reporting rates of consumption data in the system. This was amply demonstrated by the efforts made in one province (Eastern South) during the last six months of the project.

The Logistics Management Unit based in KEMSA should also be maintained so that eventually it becomes an Information Central, where stakeholders can receive the information they require to monitor and manage their individual commodity programs. With KEMSA increasingly being strengthened, and with the existence of the GFATM Procurement and Supply Chain Management Consortium at KEMSA, it is essential that stakeholders respect and have confidence in KEMSA's role in commodity management.

Monitoring and support for the TB program has been one of DELIVER's roles during the last four years; according to the NLTP, it is the only thing that keeps the TB program going. The level of support and the push toward further case detection and maintenance of TB patients needs to continue to avoid a relapse in the program. The risk of MDR TB will increase if this support is not maintained.

Following the highly successful refurbishment of 16 laboratories and the concurrent retraining of laboratory staff (by AMREF) in 16 laboratories and the implementation of a logistics system in 50 laboratories, there is need to extend this further. However, it may not be in DELIVER's remit to continue the procurement part of this work; some other agency may be in a better position to take this over. Nonetheless, it makes sense to continue the laboratory strengthening exercise with further refurbishment and an extension of the logistics system to all laboratories.

Finally, there is still some need to provide a *safety net* for distribution of commodities, especially for reproductive health commodities, because they are not covered under PEPFAR or the GFATM as are HIV/AIDS, TB, and malaria commodities. Some financing or resources (perhaps in terms of drivers and trucks) may need to be available for KEMSA to fulfill their mandate to distribute all commodities to the facility level. The dialog needs to continue with KEMSA on finding the best outsourced model for distribution to make the district level the focus of control in line with the health sector reform plans.

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APPENDIX 1

CS BRIEF

KENYA 2006

Population	34,700,000 (Population Reference Bureau [PRB] 2006)
Population Growth Rate	2.5% (PRB 2006)
Total Fertility Rate	4.9 (DHS 2003)
CPR	
Modern methods, married women	32.9% (DHS 2003)
Modern methods, all women	23.6% (DHS 2003)
Total Demand	58% (DHS 2003)
Unmet Need	25% (DHS 2003)
Source	
Public Sector	53.4% (DHS 2003)
Private Medical	40.5% (DHS 2003)
Other Private	4.6% (DHS 2003)
HIV/AIDS Prevalence Rate (adults)	15% (UNAIDS 2002) (Note: more likely 20%; reaches 30% in some areas. GOK quotes between 10% and 13% only.)
Health provinces, districts, and SDPs providing RH/FP services (their numbers)	Seven provinces (Western, Nyanza, Rift Valley, Central, Eastern, North Eastern, and Coast); one area (Nairobi); 77 districts 2,500+ SDPs (the actual number is not known—even by the GOK—we are currently assessing this)

Forecasting

1. Current method mix (based on Kenya/DHS 2003)	Commodity	2003*
	Male Condom	1.3%
	Female Sterilization	4.3%
	Injectable	14.9%
	IUCD	2.5%
	Implant	1.7%
	Oral Pill	7.9%
	Traditional	7.8%
	* % distribution in currently married women	
2. Presentation and use of contraceptive procurement tables (CPTs) in management decision making	None; IUCDs are the only product that USAID procures for Kenya.	

3. Assumptions related to data used in the CPTs	None
4. Sources and accuracy of data used in forecasting	DHS data (2003) for demographic forecasts. DRP LMIS issues data for logistics forecasts. Combined for national forecast; data accuracy for both sources good.
5. Role of technical assistance	DELIVER does the projections; the POLICY project also does demographic projections.

Procuring

Existence and role of the Logistics Procurement Unit	<p>Procurement is undertaken by different agents:</p> <p>Condoms: MOH through GTZ procurement agents using World Bank funds; emergency procurement by UNFPA; GFATM (30 million)</p> <p>Injectables: Crown Agents (working on behalf of DFID); the European Union (EU), KfW, and UNFPA</p> <p>Norplant: UNFPA supplied last shipment; KfW expected to procure next lot, but these will be Jadelle, not Norplant)</p> <p>IUCDs: USAID</p> <p>Low-dose pills: KfW</p> <p>Progestin-only pills: KfW</p> <p>Female condoms: UNFPA; emergency procurements through DFID.</p> <p>All procurement is coordinated through the MOH by the Logistics Management Unit (in partnership with DELIVER).</p>
Stock status analysis over one-year period (overstocks, stockouts, and consistency of procurement plans)	<p>A baseline survey with tracer commodities was performed in January/February 2001. Raw data showed that percentages of facilities experiencing a stockout in the last six months were very low: injectables 0%, pills 2%, condoms 5%, IUCDs 16% (this last figure because of provider bias).</p> <p>As a result of the endline survey conducted in 2006, it was found that the percentage of district stores and SDPs reporting stockouts on the day of the visit did not change very much between the baseline and the endline. However, differences were found between the rest of the country and the Eastern South pilot province in regard to district stores reporting stockouts. There were far fewer in the pilot province. Differences for SDPs were not apparent.</p>
Contraceptive supplier situation (percentage of commodities provided by supplier)	<p>Injectables: Since the last stock received from KfW, the country has had to receive emergency shipments from UNFPA. A further stock of 1,200,000 vials is to arrive at the end of November. This one is funded by the GOK/MOH. These injectables were part of a first-ever line-item budget for contraceptives from the MOH. A further stock of injectables should be procured now. Despite the arrival of the impending injectables and the UNFPA batch, Kenya will require more stocks by February 2007.</p> <p>Male condoms: Of the 300 million procured using World Bank money under the DARE Project, none remain. KEMSA is stocked out. As a response to the crisis, UNFPA is to supply 25 million, of which 14 million are to arrive at the end of October. The other 11 million are to arrive at an unknown time in the future. Despite JSI/DELIVER alerting the GOK, donors, and other stakeholders to this situation at least 18 months ago, no long-term donor has come forth. The World Bank agreed to procure 120 million condoms (80 million plain white and 40 million Sure), but there were problems with the procurement and it is being investigated by the bank. This has effectively stopped the procurement that was to have provided the country with at least an 18-month supply. Thirty million condoms (about a six-month supply at best) have been</p>

	<p>programmed under the Global Fund Round 2 Phase II workplan, which will help the situation.</p> <p>Female condoms: This method was also initially brought in by UNFPA, although subsequently DFID supplied a large number of these in the last year. Kenya is currently stocked out of female condoms. Some were to be procured through the Global Fund, but shifting priorities (particularly toward ARVs) have meant that these have dropped off the procurement plans.</p>
	<p>Implants: Although a relatively expensive method, demand in Kenya is outstripping supply all the time and, in fact, there are waiting lists for the method. Norplant was replaced by the two-rod Jadelle. In addition, the one-rod Implanon was also introduced, so that Kenya has two types of implants in the country. There are approximately 12 months of supply at the moment.</p> <p>IUCDs: USAID has been providing IUCDs for the last 10 years in Kenya. For the last six years, they have provided a 2-year supply at a time. Monthly offtake has hovered around 3,000 to 3,500. There are currently four months of supply remaining at KEMSA. Commodity security for this product is assured for the foreseeable future.</p> <p>Progestin-only pills: There is a total stockout countrywide even though we have been warning the MOH for the last year to find a donor. KfW has been asked to supply 200,000 (about a 10-month supply). We are waiting for an agreement to be drawn up.</p>
	<p>Combined orals (Microgynon): There is currently a stockout of low-dose pills. KfW (in their new agreement) was to have guaranteed an order of 7.5 million pills, but the agreement has been late in coming. Given the lead time for procurement, there will be a continued stockout for some time before the KfW-funded pills will arrive.</p> <p>Emergency contraceptive pills (Postinor-2): UNFPA brought these into the country following a concerted campaign that they should be available as a method, in particular to provide for post-exposure protection. KEMSA has approximately three months of supply remaining.</p>
Historical, current, and future role of USAID as a contraceptive donor	USAID provided condoms about 10 years ago and was the first provider of vaginal foaming tablets. For the last five years, USAID has only supplied IUCDs; it is unknown if USAID is interested in supplying other contraceptives. In the current climate of having to find another donor for condoms, injectables, progestin-only pills, and Jadelle, USAID may be asked to contribute.
Financing	
Commodity-funding mechanism (<i>i.e., basket funding, cost recovery, local public funds, etc.</i>)	<p>The pattern in donor financing has remained the same for many years. Certain donors have provided certain commodities over the years to achieve full supply. For example, in 2000 and 2001 when DELIVER started, there were a number of donors for contraceptives in Kenya. DFID and the EU were funding condoms and injectables, UNFPA was funding injectables, USAID was funding IUCDs, and KfW was funding pills.</p> <p>However, that pattern has changed. All of the major donors are still involved in financing, in addition to the MOH itself, but the commitment to full supply is no longer there for a number of reasons as explained below.</p>
Current and future donor contribution in commodity financing	DFID's focus changed to malaria, helping the poorest of the poor, and reducing poverty. They, therefore, stepped away from the provision of contraceptive commodities. Since then, they have funded emergency procurements of female condoms and some injectables—but only on an emergency basis.

	<p>USAID has consistently supplied IUCDs (the least used method of contraception) for the last several years. They have not committed to procuring any other contraceptive despite the fact that there are serious commodity gaps.</p> <p>KfW has become the only consistent donor of commodities, through the funding of low-dose pills and some of the progestin-only pills, as well as injectables. In other words, KfW has been taking care of the two most popular methods of contraception. It warned the MOH Division of Reproductive Health that there would be a year's gap in funding from August 2005 through August 2006 because of its own financial commitments and rolling plans. However, it remains a strong supporter and has committed to supplying pill needs for 2007–2009.</p> <p>UNFPA has been slightly erratic in its support for contraceptives through no fault of its own. The reduction in its funding basically meant that it could not commit to procuring the injectables that were needed for the whole country. It had also put into its plan the introduction of female condoms and emergency contraception, both of which they continue to support (although DFID procured some female condoms as demand escalated). UNFPA has also recently provided emergency procurements of 24 million male condoms because of the crisis Kenya is facing.</p> <p>The World Bank has (through the DARE project) supported the program with 300 million male condoms over the last few years. As a result of savings that the GTZ Procurement Unit made, there was scope for procuring another 120 million condoms to replenish the 300 million that would be finished by mid-2006. Unfortunately, there were some irregularities related to the procurement process that prompted an investigation. This has effectively stopped the procurement.</p> <p>The Global Fund has not been involved in the financing and procurement of contraceptives. However, they recently committed to buying 30 million male condoms.</p>
USAID/Mission intervention strategies	Through DELIVER, USAID supports the Logistics Working Group. The issue of severe contraceptive shortages has been presented to the Mission through various sources. At the time of this update, USAID's intervention strategies were not clear.
Delivering	
Length of the pipeline	12–18 months in total: 6 at central, 3–6 at district, 3–6 at SDPs. In addition, for most of the suppliers, we expect a 9- to 12-month procurement process on top of the pipeline. Thus, the total pipeline could be as much as 30 months or as low as 21 months.
Major institutions involved in RH/FP activities	These are the GOK, through MOH (Division of Reproductive Health); Family Planning Association of Kenya (but they are cutting back and actually doing less FP and more STI/HIV/AIDS and essential drugs); and Marie Stopes clinics (17 in Kenya), but they are being closed because of funding problems. FHI, EngenderHealth, PATH, PATHFINDER, INTRAH, JHIPIEGO, POLICY, and others are there.
LMIS status (level of efficiency)	Central to district is highly efficient, with 100 percent reporting, but district to SDP is only 50 percent reporting, necessitating estimates to be made at district level for resupply.
Commodity availability at SDPs	In Kenya, DELIVER's responsibility to date has been up to the district level only. This has resulted in both stockouts and expiries of contraceptives at the SDP level.

Major Issues

It is known how many contraceptives Kenya requires to achieve full supply with no stockouts. It is known when to procure and what to procure and in what quantities. DELIVER has assisted the DRH with all this information and the needed planning. However, donor support for these plans is erratic, piecemeal, and uncertain, and that is the main stopping point in achieving contraceptive security. Apart from KfW, and to a lesser extent USAID, it has been extremely difficult to obtain solid commitments from donors to procure definite quantities of contraceptives for an extended period. Even KfW was forced to leave a gap in funding because of the way its own funding was arranged. The refocusing of health priorities (particularly on HIV and malaria) has left donors without the resources to commit to Kenya. In addition, the curtailment of funds available to UNFPA has meant that this major donor for contraceptives has been constrained in its support, just at the time when it had introduced two new methods to Kenya.

A major problem is getting a consistent donor(s) for injectables, the most widely used contraceptive in Kenya. There is also a major issue in building up the supplies of pills after the year that KfW was not able to procure.

A major problem with condom supplies continues. Because 85 to 90 percent of condoms used in Kenya are actually for STI/HIV prevention, some of the PEPFAR funds could be used for these.

There are no real problems with distribution to the district level, despite the learning process that KEMSA is going through. However, as DELIVER finishes up its work in Kenya, there is still the ongoing issue of ensuring that contraceptives reach the clients from the districts.

In short, there are still a number of key issues affecting the ability of clients to choose, obtain, and use contraceptives in Kenya. Perhaps the most critical issue right now is restoring the level of donor commitment that would ensure that contraceptives are once again in full supply.

APPENDIX 2

COMMODITY SCHEMATIC

Commodity Logistics System in Kenya (as of July 2006)



Commodity Type (colour coded)	Contra-ceptives and RH equipment	Condoms for STI/HIV/AIDS prevention	STI Drugs	Essential Drugs	Vaccines and Vitamin A	TB/Leprosy	Blood Safety Reagents (inc. HIV tests)	Malaria	Anti-Retro Virals (ARVs)	MOH Equipment	Laboratory supplies
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Organization Key

- Government
- World Bank Loan
- Bilateral Donor
- Multilateral Donor
- NGO/Private
- JSI/DELIVER

Source of funds for commodities	USAID	KfW	EU	UNFPA	DFID	WHO	GOK	BTC	JICA	CIDA	GAVI	UNICEF	GDF	KNCV	SIDA	DANIDA	GOK, WB/IDA	US Gov	Global Fund for AIDS, TB and Malaria	MSF
Procurement Agent/Body	USAID	KfW	EUROPEA	UNFPA	Crown Agents	WHO	KEMSA	Government of Kenya	Japanese Private Company	UNICEF	MEDS	GTZ (procurement implementation unit)	CDI	JSI	PSCMC (Crown Agents, GTZ, JSI and KEMSA)	MSF				

Point of first warehousing	KEMSA Regional Depots	KEMSA Central Warehouse		KEPI Cold Store				MEDS	NPHLS store			
Organization responsible for delivery to district levels	NLTP (TB/ Leprosy drugs)	KEMSA and KEMSA Regional Depots (essential drugs, malaria drugs, consumable supplies)			JSI/DELIVER/KEMSA Logistics Management Unit (contraceptives, condoms, STI kits, HIV test kits, TB drugs, RH equipment etc)				KEPI (vaccines and vitamin A)	MEDS (to Mission facilities)	Provincial and District Hospital Laboratory Staff	Private Drug Source
Organization responsible for delivery to sub-district levels	Mainly District level staff: DPHO, DPHN, DTLP, DASCO, DPHO, etc or staff from the Health Centres, Dispensaries come up and collect from the District level											



APPENDIX 3

PRELIMINARY RESULTS FROM THE ENDLINE SURVEY (FOCUS ON EASTERN SOUTH)

BACKGROUND

Since January 2006, the upward flow of information and the downward flow of public health commodities in Eastern South districts have been managed with new and improved logistics systems that DELIVER designed and implemented in conjunction with the MOH.

The intervention started in late 2005, with the design of the logistics systems. This was followed by training health providers and their district managers and the distribution of LMIS and inventory control tools (stockcards, Daily Activity Registers, and consumption data report and request forms).

The scope of the intervention excluded any special distribution efforts of health commodities. Distribution of commodities remained the responsibility of KEMSA.

Before the intervention (late 2005), DELIVER in conjunction with the MOH assembled a team to establish baseline indicators for monitoring and evaluating the logistics systems performance during and after the intervention. The team was also to assess health commodities availability in health facilities and district stores.

Eight months after the intervention (August 2006), DELIVER, again in conjunction with the MOH, conducted a study to evaluate the performance of the logistics systems after the interventions and evaluate how well the new and improved logistics systems were functioning and what would be needed to make them fully efficient. This study was a part of the endline survey for the DELIVER project conducted in the whole country.

SAMPLE AND METHODOLOGY

For the baseline, a total of nine districts and 50 facilities were visited for the survey. This is about 10 percent of all facilities in Eastern South. For the endline survey, a similar 10 percent of facilities were visited. These facilities included public, nongovernmental organization, and Mission facilities.

The survey utilized DELIVER's well-tested Logistics Indicators Assessment Tool. This is an instrument that the DELIVER project designed for quantitatively assessing logistics systems.

PRELIMINARY RESULTS BY SYSTEM

FAMILY PLANNING (FP) LOGISTICS SYSTEM

Logistics Training

- The percentage increased of health workers reporting to have formally been trained in logistics both at district stores and facilities in Eastern South (district stores climbed from 50 percent to 88 percent; facilities rose from 30 percent to 53 percent).
- All health workers at the district level reported to have some kind of logistics training (formal, OJT, or self-trained) in Eastern South (while in the rest of the country about 6 percent reported no training in logistics). For SDPs, the number of health workers reporting no training in logistics decreased in Eastern South from 14 percent to 2 percent.

Availability of LMIS

- For SDPs, about 71 percent of facilities in the baseline reported having and using LMIS tools. During the endline, this figure had increased to about 92 percent. Nationally, currently 72 percent of facilities reported to have and use LMIS tools.
- One-hundred percent of district stores in Eastern South reported availability of LMIS reporting tools while nationally the figure is 88 percent.

Logistics Supervision

- For SDPs, the percentage of health workers who reported to never have had logistics supervision decreased from 46 percent to 17 percent for Eastern South between the baseline and endline surveys. Nationally, about 40 percent have never had any logistics supervision. The percentage of facilities that have received logistics training in the last three months increased from 51 percent to about 67 percent.
- For district stores, the percentage of facilities that have received logistics training in the last three months increased from 44 percent to about 75 percent. Nationally, only about 29 percent reported to have had a logistics supervision visit in the last three months. About 41 percent of health workers at the district level have never had any logistics supervision.

Storage Conditions

- The number of district stores that were assessed and found to have acceptable storage conditions in Eastern South increased during the intervention from about 43 percent to 89 percent. Nationally, only about 33 percent of district stores were found to be maintaining acceptable storage conditions.
- For SDPs, the number of stores that were assessed and found to have acceptable storage conditions in Eastern South decreased during the intervention from about 68 percent to 55 percent. About 2 percent of SDP stores were found to be maintaining excellent storage conditions in the endline survey.

STOCK STATUS

Stockouts on the Day of the Visit

- The percentage of district stores reporting stockouts on the day of the visit did not change very much between the baseline and endline. However, differences were found between the rest of the country and Eastern South. For instance, for combined oral contraceptive pills (COCP) (Chagulangu and Microgynon) and Depo-Provera, about 5 percent and 14 percent, respectively, of district stores were stocked out on the day of the visit, while this figure was 0 percent for these commodities in Eastern South.

- For SDPs, the percentage of facilities reporting stockouts on the day of the visit did not change very much between the baseline and endline. The difference between the national situation and Eastern South was not apparent.

Mean Number of Months of Stock at Endline Survey for FP Products

Table 3 shows the breakdown of FP commodities by product and facility.

Table 3. Kenya (including Eastern South): Mean Months of Stock on Hand for FP Commodity on Day of Visit (by product)

Product	Dispensaries	Health Centers	Hospitals	District Stores
COCP (Chagulangu and Microgynon)	0.2	1.6	3.8	15.7
Progestin-only pills (Microlut)	3.3	0.2	1.4	4.5
Injectables (Depo-Provera and Megestron)	1.5	0.7	0.7	2.2
IUCDs (Copper T)	0.0	1.3	18.4	33.9
Implants (Jadelle)	—	0.0	3.0	4.4
Emergency contraceptive pills (Postinor-2)	5.0	0.0	5.4	14.6
Male condoms	0.0	19.8	1.0	1.5
Female condoms	0.0	1.0	0.4	3.2

HIV LOGISTICS SYSTEM

Logistics Training

- The percentage increased of health workers reporting to have formally been trained in logistics both at district stores and facilities in Eastern South (district stores climbed from 11 percent to 83 percent; facilities rose from 23 percent to 51 percent).
- All health workers at the district level reported to have some kind of logistics training (formal, OJT, or self-trained) in Eastern South during the endline, a decrease from about 22 percent who reported no logistics training during the baseline.
- For SDPs, the number of health workers reporting no training in logistics decreased in Eastern South from 41 percent to 5 percent.

Availability of LMIS

- For SDPs, about 18 percent of facilities in the baseline reported having and using LMIS tools. During the endline, this figure had increased to about 98 percent. Nationally, currently 80 percent of facilities reported to have and use LMIS tools
- One-hundred percent of district stores reported availability of LMIS reporting tools in Eastern South, an increase from 78 percent, while nationally the figure is 90 percent.

Logistics Supervision

- For SDPs, the percentage of health workers who reported to never have had logistics supervision decreased from 50 percent to 14 percent for Eastern South between baseline and endline surveys. Nationally, about 33 percent have never had any logistics supervision. The percentage of facilities that have received logistics training in the last three months increased from 40 percent to about 83 percent in Eastern South

- For district stores, the percentage of facilities that have received logistics training in the last three months increased from 67 percent to about 100 percent. Nationally, about 72 percent reported to have had a logistics supervision visit in the last three months and about 10 percent of health workers at the district level have never had any logistics supervision.

Storage Conditions

- The number of district stores that were assessed and found to have acceptable storage conditions in Eastern South increased during the intervention from about 50 percent to 78 percent. Nationally, only about 55 percent of district stores were found to be maintaining acceptable storage conditions.
- For SDPs, the number of stores that were assessed and found to have acceptable storage conditions in Eastern South decreased during the intervention from about 77 percent to 46 percent. About 7 percent of SDP stores were found to be maintaining excellent storage conditions during the endline survey.

STOCK STATUS

Stockouts on the Day of the Visit

- Analysis of the percentage of district stores and facilities reporting stockouts on the day of the visit between the baseline and endline does not show any particular trend. For some commodities, there was a decrease in the percentage of facilities recording stockouts; for others, there were increases.

Mean Number of Months of Stock at Endline Survey for HIV Test Kits

Table 4 shows the breakdown for HIV test kits by product name and facility.

Table 4. Kenya (including Eastern South): Mean Months of Stock on Hand for HIV Test Kits on Day of Visit (by product)

Product	Dispensaries	Health Centers	Hospitals	District Stores
Determine	0.3	0.1	9.4	16.7
SD Bioline	0.6	0.1	0.4	2.1
Uni-Gold	0.0	0.0	0.1	0.1
RPR	0.5	0.0	0.2	0.4
Hepatitis B		0.0	11.4	0.3
Hepatitis C			0.0	1.1
Vironistika			0.0	1.1

LESSONS LEARNED AND RECOMMENDATIONS

The results of the lessons learned led to the following recommendations:

1. Roll out the Eastern South approach to the rest of the country.
2. Provide enhanced and focused supervision and monitoring and feedback mechanisms.
3. Ensure the availability of commodities at all levels.

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

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