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SUCCESS STORY

Delivery Team Topping Up: Bringing About Reliable Distribution in Difficult Environments



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Delivery team truck at a health facility in Zimbabwe in 2008.

In 2003, before implementation, stockouts of condoms in the two provinces occurred at an average of 20 percent of all facilities. After the pilot had been implemented, that rate fell to an average of 2 percent.

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The term “fragile state” is often used to describe countries wherein a variety of disruptive forces makes operation of normal public sector systems impossible. The causes vary and are not new. They include warfare, civil strife, general economic failure, or especially poor governance. Public health transport systems are particularly vulnerable. In response to these shortcomings, the USAID | DELIVER PROJECT and its predecessors, collaborating with their in-country partners, have adopted an approach used successfully in the commercial sector—notably the soft drink industry—called the “Delivery Team Topping Up” (DTTU) system to ensure the availability of condoms for the prevention of HIV and AIDS and of contraceptives in Zimbabwe.

In any country, a key step in ensuring the availability of public health supplies is the setting up and maintenance of reliable supply chains with effective in-country distribution systems. Reliable transport is essential for operating such distribution systems. Part of the definition of a fragile state is that transport is one of many failed systems: it is either nonexistent or highly undependable. This definition means, in turn, that effective supply chains cannot be operated in such environments.

One key question is how can the international community best support a reliable, well-functioning supply chain when the public sector can no longer provide this service?

One such solution is the DTTU system. DTTU systems are distribution systems in which special investments are made to ensure that reliable vehicles, drivers, technical staff members, or a combination of these will directly provide or “top up” facilities with the health products that they need.

Under a DTTU system, delivery trucks are filled with a predetermined quantity of a product—usually based on past consumption patterns—and the product is driven to health facilities. The drivers or other staff members who are part of the delivery team have the responsibility of calculating current consumption and re-supply quantities, and they

reconcile inventories at each facility visited. Thus, they “top up” the inventory of each facility with quantities needed to meet the next period’s requirements.

This approach is not new and has been used for decades in commercial distribution networks, from which it is now borrowed for use in public distribution networks. The USAID | DELIVER PROJECT and its predecessor projects, Family Planning Logistics Management (FPLM) and DELIVER, have been working with DTTU systems for many years when keeping health commodities in full supply has been a critical need and priority.

As defined earlier, DTTU has three main characteristics: (a) specially trained drivers (or other accompanying technical staff members), (b) reliable transport, and (c) adequate operating funds. In situations where options for transport within the public and private sectors are not available or reliable, this approach means in practice that the DTTU will have to acquire and maintain its own fleet of trucks. This necessity creates a major start-up cost, but in some fragile state situations, donors recognize the need and are prepared to cover this expense. The recurrent costs of fuel, maintenance, and staff travel expenses also must be covered. However, in terms of effectiveness, the results have been good.

The Case of Zimbabwe

The implementation of the DTTU system in Zimbabwe to supply health facilities with contraceptives and condoms for HIV and AIDS prevention serves as a good example of DTTU in practice. The DTTU system was implemented in Zimbabwe in 2004 and is still operating.

The public health care system in Zimbabwe operates in a difficult economic environment. Hyperinflation has very negatively affected program capacities. High unemployment has led to an exodus of trained staff members, and the effect has been most severe in rural areas. Many vacant positions have remained unfilled, and rotations through posts are frequent. Those factors contribute significantly to specific system failures, including the supply chain.

The hyperinflationary environment has also affected financing for donor-funded projects and programs. Donor funds are exchanged at the official artificially low exchange rate, which, in turn, reduces the amount of money actually available for program implementation. More generally, the foreign exchange situation has brought about widespread fuel shortages. When available, petrol can be obtained only in urban centers, as no refueling points exist in rural areas.

In 2002, the DELIVER project conducted an HIV and AIDS commodities transport assessment in Zimbabwe. The objective was to clarify why HIV and AIDS-related products and contraceptives were unavailable in rural clinics even when a donor-funded one year’s supply was in place in central warehouses in Harare and Masvingo. The conclusion was that under the country’s deteriorating health system, the public sector supply chain could not provide the required services. The report proposed a DTTU system to resolve the problem.

USAID, through the DELIVER project, supported the Zimbabwe National Family Planning Council (ZNFPC), which is responsible for public sector HIV and AIDS and contraceptive supplies, to design and implement the DTTU system. Other key partners included the United Kingdom’s Department for International Development (DFID) and DFID’s technical assistance providers Crown Agents and John Snow, Inc./United Kingdom (JSI/UK).

The partners carried out a pilot test of the new system in Masvingo and Mashonaland West provinces in 2003 and implemented it nationally in 2004. In 2003, before implementation, stockouts of condoms in the two provinces occurred at an average of 20 percent of all facilities. After the pilot had been implemented, that rate fell to an average of 2 percent.

The partners decided to streamline actual distribution into two tiers only: (a) the central warehouses in Harare and Masvingo and (b) the service delivery points (SDPs). SDPs include Ministry of Health (MOH) health centers, district council clinics, hospitals at all levels, nongovernmental organizations (NGOs), and community-based distributors.

In each ZNFPC provincial office, the Nurse-in-Charge/Community, the Service Delivery Coordinator, the Stores-in-Charge, and the Provincial Accountant have been trained in how to carry out deliveries. In addition, all truck drivers received training so that they can perform stock accounting and reporting tasks during deliveries. Two teams operate in each province at one time, and it takes two to four weeks to complete all deliveries in a given province.

The ZNFPC delivery teams consist of one of the ZNFPC technical staffers listed earlier, who serves as team leader, and of one driver. All SDPs are re-supplied every two months and are “topped-up” to four months worth of the product.

Orders are not placed by the SDPs, but instead the delivery teams calculate the needs at the time of the deliveries using forms designed for this purpose. This approach decreases the burden on the health workers for reporting. Very importantly, the delivery teams carry out physical inventories and reconcile quantities delivered, quantities in stock, and—in some cases—quantities returned.

An evaluation in 2007 showed remarkable results. Focusing on condoms for HIV and AIDS prevention and contraceptives, the evaluation found that throughout the nation, the DTTU system has achieved 99 percent of coverage of all service delivery points—more than 1,200 clinics. On the same national scale, it has achieved more than 95 percent availability of contraceptives and HIV and AIDS condoms. The evaluation also determined that the cost of delivery from the two central warehouses to health facilities was about \$0.02 per unit, where unit is defined as 1 male or female condom, 1 vial of Depo-Provera, or one cycle of pills. This cost is equivalent to 12 percent of the total value of all products. Because of its success, HIV tests and nevirapine, an anti-retroviral drug used to prevent mother-to-child transmission of HIV as well as other uses in HIV and AIDS management, have been added to the DTTU.

Although the focus of this presentation is the utility of DTTU systems in fragile state situations, the discussion is also relevant to just about any country struggling with similar issues, such as the lack of human resources. It is easy to see how the practice of having trained central level teams doing all of the paper work—thus relieving the limited number of service providers of this duty and allowing them to focus on clinical care—can be beneficial for strengthening the health system in general.

And this point—perhaps—suggests one of the criteria for success with DTTU in Zimbabwe. In spite of the breakdown in many MOH services, there was and still is a largely intact network of SDPs that are generally accessible by road. Health care providers are in place to receive supplies, and they can be reached on a predictable basis.

It is important to acknowledge, once again, that success in Zimbabwe has required significant donor investments. Donors have funded the costs of the system design, staff training, vehicles, vehicle maintenance, fuel, and per diems. Whether donor funded or country funded, those costs must be met. In Zimbabwe, the chronic state of humanitarian crises justified the donor funding of what would normally be considered recurrent operating costs.

In conclusion we can say that DTTU systems yield positive results in increasing the availability of a product in difficult environments by guaranteeing direct delivery to health facilities, and DTTU should be considered when other alternatives are either not available or not reliable.

The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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