



Reproductive Health
SUPPLIES COALITION

**SUMMARY OF LAST MILE DISTRIBUTION
MODELS FOR HEALTH COMMODITIES
DISCUSSION**

Overview and Purpose

Despite the proliferation of projects employing the Informed Push approach to supply chain in the past few years, little has been written about this approach. This document presents a summary of an email discussion that took place on the International Association of Public Health Logisticians (IAPHL) list serve. During the IAPHL discussion conducted in June and July 2014, four questions were posed to members of the group by the discussion moderators. The four questions were:

- What are the considerations to take into account when planning to implement such a model of distribution?
- What challenges were faced before and during the implementation of each system?
- What aspects of the transport management have posed challenges during implementation?
- What elements have to be in place to make this system work best?

The responses to these questions are summarized below and detail the lessons learned from existing implementations of the model. The four implementations discussed in this brief are summarized below to highlight the different approaches taken in different settings as well as to provide context to the lessons learned.

Informed Push Model Overview

The Informed Push distribution model for health commodities is based on a commercial sector approach, and uses teams of trained drivers and staff to monitor and restock commodity inventory at health service delivery points within low and middle income countries.

Using a small number of trained staff dedicated to supply management, informed push allows for increased visibility into consumption patterns to better inform supply decisions further upstream. Informed push models have proven effective in a number of countries for capturing facility-level data and reducing stock outs for a range of products. It also allows the limited number of health care providers to focus on clinical care.

The four informed push implementations discussed in this brief are as follows:

Direct Distribution and Information Capture -- Nigeria

In 2013, the USAID|DELIVER PROJECT started a pilot of a system called Direct Delivery and Information Capture (DDIC) in Ebonyi and Bauchi states in Nigeria. Through DDIC, the project supports the FMOH to deliver 24 public health commodities, including contraceptives, antimalarial medications, and maternal, newborn and child health products to 378 selected service delivery points in the selected states. The trucks arrive, carrying predetermined quantities of health commodities, based on the facilities' past consumption data. By investing in reliable transportation, DDIC ensures that truck drivers and team leaders are available to deliver commodities to health facilities according to an established delivery schedule. A team leader traveling with the truck inspects the facilities' storage space, counts stock-on-hand for the different health commodities, and enters this inventory data into a specifically-designed inventory management database.

Delivery Team Topping Up (DTTU) -- Zimbabwe

Eleven years ago, Zimbabwe's DTTU system made its first delivery runs to bring supplies to health facilities; the system has since proven itself as one of the most effective and robust supply chain solutions in the history of the USAID | DELIVER PROJECT and its predecessors. With very little

interruption, DTTU trucks have rolled out to make deliveries to the country's more than 1,300 public sector health facilities, maintaining high delivery coverage, and low stockout rates. Based on vendor-managed inventory (VMI) principles (a concept used extensively in the commercial sector), DTTU routinely supplies all public sector health facilities with condoms, contraceptives, and other health commodities by sending delivery trucks directly to facilities to "top up" supplies and collect stock data.

Informed Push -- Senegal

In 2011, the model for contraceptive distribution, known locally as "pousse pousse" or informed push in Senegal, a driver with a truck full of supplies visits each point of sale on a regular schedule, topping up the stock and recording quantities of products sold. The data collected by the driver is used to ensure sufficient stock at the warehouse and at each site, figure out which products and sites are the most popular, and prepare the manufacturers to keep pace with demand.

Dedicated Logistics System -- Mozambique

In 2009, with technical support from VillageReach, the Ministry of Health of Mozambique (MISAU) introduced the DLS in the Gaza Province for vaccine distribution. The DLS is an informed push system, instead of following the administrative tiers, has a dedicated field coordinator for the two delivery zones and a vehicle for each zone. Each month, the field coordinator follows a transport loop to each health center to deliver the appropriate quantity of vaccines based on actual consumption during the month before, collects data on vaccine utilization and confirms its quality, checks the refrigerator to ensure it is functioning correctly, and provides supportive supervision to health workers. The data is entered into a new information management system that enables improved data visibility with key information on system performance for decision-makers.

Lessons learned and considerations

The key themes that emerged from this discussion included considerations around engaging third party logistics, human resources challenges, communication and coordination, data collection, advocacy and partnership, and availability of commodities.

Third party logistics

While engaging a third party logistics company (3PL) is often more cost-effective and efficient than managing the Informed Push process through the public sector, discussion participants identified a number of additional considerations to keep in mind when considering the question of outsourcing.

- The Senegal IPM contracts with the private sector to carry out storage and distribution activities from the regional level direct to the service delivery points. As such, it is important to be aware of what the existing capabilities of the private sector are and to identify if capacity building is required to meet performance expectations.
- Similarly, effort and resources need to be applied toward monitoring their performance after they have been contracted. While the Senegal IPM does not need to worry about certain issues like transport management or route planning, they need to make sure that the private operators they contract are meeting performance expectations. Sometime outsourcing can be seen as "getting rid of a problem", however it is important to understand your operation well in order to effectively manage a 3PL and crucially understand the cost base. This changes the nature of the M&E somewhat to focus more on results and less on operations.

- When considering outsourcing it is important to understand the capacity of the 3PLs in the marketplace. “Capacity” refers both to their physical capacity (their ability to accommodate the necessary volumes) and their technical capacity (their ability to manage the operation effectively and provide a good service to their client).
- While it sounds obvious, it is important to state that managing a 3PL is a different process and requires a different set of skills to managing an in-house transport operation. The first hurdle is often procuring transport services and preparing service level agreements to which both parties have to adhere. This process, along with the development of the accompanying KPIs and reporting processes can be challenging to a transport manager who has not experienced these processes before.
- In Senegal, the clients pay a small fee for most family planning products and each level in the supply chain keeps a portion of those costs. This is referred to as the cost recovery system. With IPM, service delivery points pay for their products after they are consumed. This is different than the previous system where the products were paid for at the point of ordering. When first implementing the IPM, care must be taken to ensure that the SDPs are not charged for the products for which they have already paid. This requires additional data collection and organizing, but can be relatively easily overcome.
- Continuous monitoring and improvement of the 3PL performance is needed.
- Outsourcing is often expected to happen overnight while in reality it should be seen more as a progression. A gentle transition, starting with one route, allows Central Medical Stores to get used to managing 3PLs, test performance monitoring and reporting processes, and undertake more detailed evaluation of the costs associated with outsourcing.
- Outsourcing is proposed as an all or nothing solution; in many countries the central medical stores (CMS) transport operation is one of the few, if not the only, transport operation with true national coverage. 3PLs are unlikely to find it profitable to service extremely rural locations and likewise the CMS is likely to be shocked at the prices which 3PLs charge for such deliveries. Therefore, from the outset, it is worth considering to what extent the CMS may need to maintain some of its own vehicles in order to supplement 3PL capacity and maintain national coverage.
- Lots of experts tell governments to outsource, very few explain how; in one country there were 13 logistics assessments spanning from 2002 - 2012, eight of which proposed that the CMS should outsource in order to save money and improve service levels. In many such reports consultants fail to address basic questions such as how a CMS might sell or transfer its transport assets and, if necessary, its cadre of drivers.
- Weak financial management practices and funding flows and funds availability often delay operating payments for transport management.

Human resources

Human resources challenges were highlighted as a potential barrier. In this model it is necessary for the delivery drivers to also have high enough literacy and numeracy skills to be able to monitor stocks, report on these supply levels, and accurately restock. The drivers must also have good knowledge of the terrain and have the capacity to conduct routine maintenance on their vehicle.

Communication and coordination

Communication and coordination between stakeholders and key players is essential for the success of complex supply chain management.

- Each of the players and stakeholders in the system need to be communicated with thoroughly to understand the changes that are coming. A thorough, well thought out communication plan in advance of the implementation can also help prevent the spread of misinformation, which poses a risk to the success of the implementation.
- Coordination with the upstream supply chain is essential. The system works best (and is easiest) with a full supply of the commodity being delivered. An upstream stockout would undermine the effectiveness of an informed push system.
- Implementation of a communication system between the 3PL and the service delivery points and the IPM management is helpful.
- Sometimes service delivery points carry out outreach activities that are not communicated with the 3PL or the Informed Push Model staff, whether planned or unplanned. These activities dramatically increase the use of stock and either result in stockouts or reduce the stock levels to below minimum levels. It is a constant challenge to ensure that these activities are communicated so the 3PL can deliver enough stock.
- Coordinating various stakeholders at the central level can be a challenge in terms of harmonizing/integrating commodities of vertical programs for distribution. This can be overcome by working through procurement and supply management coordination mechanisms in all supported sites where issues related to commodities are discussed.
- While the Senegal IPM works well and avoids stock outs regardless of adherence to stores management procedures at the SDP, it is a constant battle to get the storekeepers to maintain their store in proper condition with updated and accurate stock cards.

Data collection

Data collection is another important component for the IPM, including what type of software to use, the availability of appropriate infrastructure such as computers and how it connects to other information systems in place. Forecasting is often challenging at the beginning if there is no consumption data available, but this issue will resolve over time with accurate data collection and reporting.

Advocacy and partnerships

- Effective advocacy and partnerships with stakeholders is crucial to rolling out the IPM.
- This is required for all major stakeholders to ensure clear understanding and support for the various activities. Major stakeholders could include officials of the Ministry of Health, program managers, donors, implementing partners, facilities staff and, community leaders.
- Advocacy is a key component to generate provincial support for any system optimization. The DLS project in Mozambique has generated evidence of this system working in four provinces with a few key vocal supporters from provincial leadership. Although this bottom-up evidence has been important for national advocacy, they have found that it is also helpful to have global leadership and global partners encouraging system optimization.

- Global leadership for system optimization. Evidence is being generated for improved distribution systems worldwide; this evidence is now influencing global strategies and policies which need to be communicated to countries through partnership, idea building, and country-level adoption.
- Ensuring regular government funding flows and availability is important to sustain the system. As we have moved to a cost-share approach, the government has more responsibility to support the operating costs.
- Where there are many donors supporting governments with commodities for different program areas, advocacy is important to harmonize distribution of commodities at the central level.
- Advocacy at a national level for system optimization is also a challenge. The multi-tiered government-run system has been in operation for more than 30 years and has become the common and accepted practice. Introducing system design changes and efficiencies to the supply chain challenges the mainstay of operations, what people are accustomed to and comfortable with.

Commodity supply

The availability of commodities at the central level is vital to the system working properly. For example, the DDIC project in Nigeria integrates distribution of commodities for three programs: malaria, family planning, and MNCH. Only family planning commodities are available in full supply. The project had to advocate for sufficient commodities from various donors, governments and implementing partners.

Additional challenges

Other challenges mentioned by project representatives include:

- The flow of government funds to support distribution costs may not match the payment schedule required for 3PL operations. Often the funds can get delayed or diverted to other programs. This can cause delays in distribution, or requires additional support.
- Poor road networks: Accessing the facilities is a key challenge especially during the rainy/wet season. The model could be adapted to make deliveries on a tricycle, motorbike, or canoe depending on the nature of commodities and the geography.
- Security of delivery teams and commodities: Security may be a key challenge in some areas, particularly in Nigeria.
- Adequate plans and provisions for sustainability of the system should be made from the beginning. It is also important to ensure the budget is sufficient to cover vehicle running costs, to include fuel, repair, maintenance and vehicle depreciation.