



Guatemala: Supply Chain Costing Study Provides Data for Decisionmaking



USAID | DELIVER PROJECT 2013.

The technical staff of the Ministry of Health (MOH) and MINFIN of Guatemala, validating the data collection tools for supply chain costing.

The supply chain is an integral part of the performance management agreement being implemented by the Ministry of Health and Welfare, in collaboration with the Ministry of Finance (MINFIN).

MARCH 2015

This publication was produced for review by the United States Agency for International Development. The publication was prepared by the USAID | DELIVER PROJECT, Task Order 4.

Introduction

Although the Guatemalan government has made significant budget contributions to procure medicines, the supply chain is still challenged to ensure essential medicines are available for all segments of the population, especially for those living in poor and remote regions. Because of this, health services still face stockouts, particularly at the primary health care level.

The USAID | DELIVER PROJECT, in collaboration with the Ministries of Health and Finance of Guatemala, conducted a supply chain costing study for a set of medicines to determine the following: (1) the total supply chain costs associated with providing a set of essential medicines, and health commodities for the following programs: immunizations (PI), reproductive health (PNSR), and food security and nutrition (PROSAN); (2) costs by levels (central, regional, district, and service delivery points) and for each supply chain activity (procurement, transport, storage, and management); and (3) the unit cost for the supply chain activities, measured in terms of the value of the flow of medicines; by weight and volume and by cost category, including labor, hardware, infrastructure, information systems, data collection, and reporting.

Costing Study Overview

The study, conducted in 2013, used data from January to December 2012. It included four groups of medicines: (1) contraceptives; (2) vaccines; (3) micronutrients, procured by central-level programs, then distributed through various channels and various information systems; and (4) essential medicines, procured decentralized and separately by the Regions (*Dirección de Área de Salud*, or DAS), hospitals, and the health care extension program (PEC). Fifty-six services were surveyed: the central level units, and the regions: Quiché, Totonicapán, Alta Verapaz, Guatemala South, Huehuetenango, and Jutiapa.

The methodology was based on costing the logistics activities, which was obtained from the cost structure of the entire supply chain. A central part of the study was to determine the value of the throughput from the central level to the health posts and community centers.

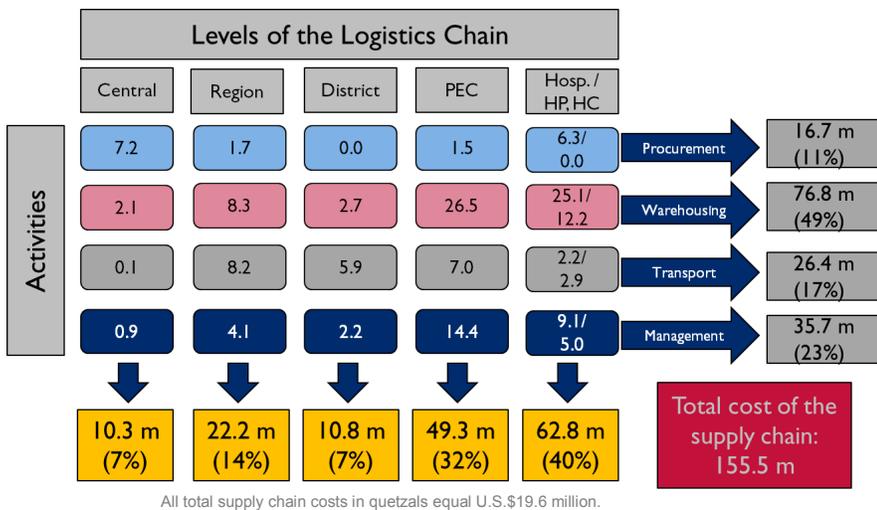
The value of the throughput was Q. 459.8 million (US\$58.2 million).

Results

Table 1 shows the operational value for each supply chain activity. It is clear that the storage—including depreciation of property and equipment, and labor—contributes to 49 percent of the total cost of Q. 155.5 million (equivalent to US\$19.8 million). Management—monitoring and logistics control—is the second highest cost, because there are several players and levels in the supply chain. Similarly, the four activities at the different levels were costed. The health service delivery points (hospitals, health centers, health posts, and community centers) account for the largest cost (72 percent). It is known that if small amounts of medicines are transferred to faraway places, higher costs will result because the fixed costs remain the same.

When analyzing costs by category, figure 1 shows that labor represents 64 percent of the total cost. The study documented invisible costs such as out-of-pocket expenses—the cost covered by health care workers to distribute and receive products—are disbursed by service providers with the lowest salaries.

Table 1. Operational Value for Logistics



Logistics activities are the operational component of supply chain management. This includes procurement planning, procurement, warehousing and inventory management, transportation and freight management, and data collection and information systems.
 Source: USAID | DELIVER PROJECT, Task Order 1. 2011. *The Logistics Handbook: A Practical Guide for the Supply Chain Management of Health Commodities*. Arlington, VA.: USAID | DELIVER PROJECT, Task Order 1.

The methodology requires a correlation between the value of the throughput—Q. 459.8 million (US\$58.5 million)—with the cost of the supply chain—Q. 155.5 million (US\$19.8 million). In this case, the cost of the supply chain corresponds to 33.8 percent of the value of the throughput, which means that for every Quetzal spent on medicine procurement, 0.338 cents are needed for supply chain activities (see figure 2 on the following page).

Notes: 1. The throughput is the amount of products that passed through the supply chain system and were registered in inventory control cards. The study found that the throughput value was equivalent to 87 percent of the total medicines registered in SICOIN. 2. Management costs include administrative time to monitor and to control logistics.

*Acronyms in Spanish—Health Area Office (DAS); Health Service Providers (PSS); Coverage Extension Program (PEC).

Figure 1. Distribution of Supply Chain Costs for Specific Categories (Percentage)

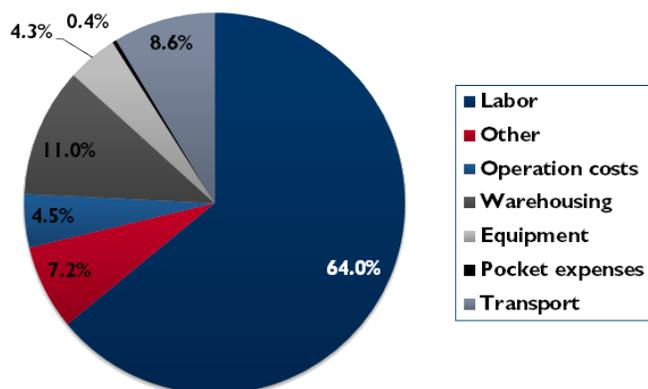
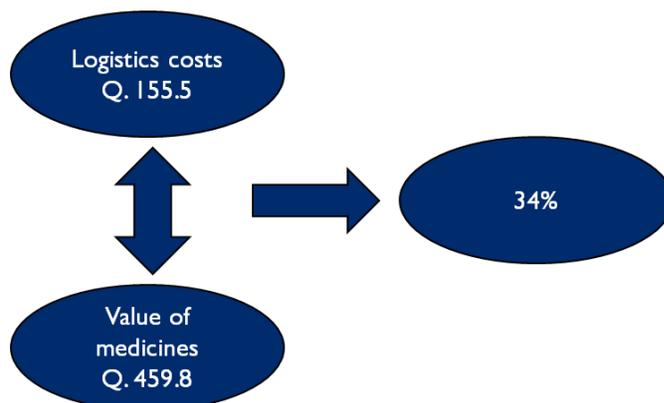


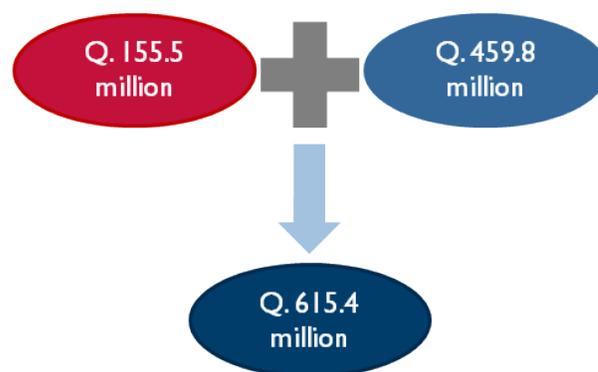
Figure 2. Relationship Between the Investment in Medicines and Supply Chain Activities



Conclusions and Recommendations

- The value of the total throughput is Q. 459.8 million (US\$58.2).
- The supply chain estimated cost was Q. 155.5 million (US\$19.8 million), which is 33.8 percent of the value of the medicines that flowed through the chain. This means that for every quetzal spent to distribute medicine, logistics costs were Q. 0.34. The MOH needs to budget the value of medicines, plus the supply chain cost (see figure 3).
- Costs may be optimized when analyzing alternatives. Some examples include exploring outsourcing some logistics activities; automated inventory management; analyzing the distribution levels; reviewing the frequency of replenishment; training human resources, while reducing personnel turnover.
- Optimizing the supply chain is a challenge for the MOH. For instance, they may reorganize the supply chain functions in one strategic supply chain management department that encompasses all the supply chain functions. The core strategic functions are management, monitoring, controlling, and evaluating the integrated supply chain at the centralized and decentralized levels. Similarly, in putting together a computerized logistics information system, this shall be based on a results-based management scheme that will report directly to the highest authorities of the MOH, while consistently keeping them informed.

Figure 3. Estimated SC Cost Plus Value of Throughput



All total supply chain costs in quetzales equals U.S.\$19.6 million.

Source: USAID | PROYECTO DELIVER. 2014. *Estudio de Costos de la Cadena de Suministros del Ministerio de Salud Pública y Asistencia Social*. Arlington, Va.: USAID | PROYECTO DELIVER.

Investing in lifesaving commodities and in supply chains will ensure that the population will receive these products when and where they need them.

The views and opinions of the authors herein do not necessarily represent the views of the U.S. Agency for International Development or the U.S. Government.

USAID | DELIVER PROJECT

John Snow, Inc.

1616 Fort Myer Drive, 16th Floor

Arlington, VA 22209 USA

Telephone: 703-528-7474

Fax: 703-528-7480

Email: askdeliver@jsi.com

Internet: deliver.jsi.com