

Interagency Supply Chain Group

Measuring Accountability for Last Mile Delivery (January 2018)

The broad purpose of the Interagency Supply Chain Group (ISG) is to share information and seek greater alignment across supply-chain investments to bring more impact to individual agency supply chain strategies. The group promotes coordination both globally across programs, and locally through national leadership with the overall aim of improving the efficiency and effectiveness of in-country supply chains. The ISG is an informal partnership of 15 major actors involved in providing supply chain support to countries: Bill and Melinda Gates Foundation, DFID, Global Affairs Canada, the Global Drug Facility, KfW, the Global Fund, Gavi, NORAD, UNDP, UNFPA, UNICEF, USAID, World Bank, WFP and WHO.



Background

The improvement of national supply chain systems in developing countries has gained unprecedented support in the last decade. With increasing recognition of the critical position that supply chains occupy within global health, stakeholders have worked to prioritize investments, increase funding and improve outputs on an unmatched scale. This is especially true for the members of the Interagency Supply Chain Group (ISG), all of whom are invested in this area.

Given the complexities of a well-functioning supply chain system, it is to be expected that many systems in lower-income countries and lower-middle-income countries often operate in labyrinthine and inefficient ways. In part, this is a product of the sustained neglect that such systems experienced over decades as systematic and routine updates were not implemented as needed. Today, poor regulation, inadequate budgets and a limited population of trained

supply chain professionals have helped to create supply chain systems which struggle to meet the growing demands placed on them because of both expanding population needs and increasing numbers of essential health commodities.

One of the most fragile parts of the supply chain is the last mile, because it depends on a range of different aspects. Reasons for not reaching the last mile might be: transportation breakdowns, unreliable electricity supply, need for refrigeration, forecasts turn out wrong, stocks run out, transportation costs not budgeted for, wrongly recorded or missing stock levels and consumption data, bad weather challenges, questionable quality of products at the facility level, low skilled staff, low salaries, overburdened health workers, and other motivational incentives.¹

At both macro and micro levels, the concept of last mile delivery lacks a widely-accepted definition. A logistics trade publication, for instance, writes that, "[f]or U.S. retailers with broad global supply chain operations, 'last

¹ Reproductive Health Supplies Coalition, Last Mile Advocacy, 2017

mile’—the portion of transit from the final delivery center to the customer’s door—is really the last hundreds of miles from the destination port to the store.”² A donor agency, however, suggests that “[t]he last mile, or last 10 kilometers, is the final delivery leg to the point of service delivery or retail sale.”³ A third party offers a more elaborate definition, writing that “[t]he ‘last mile’ is not a literal mile but is commonly used in the telecommunications industry to describe the final leg of the network that reaches the customer. More recently, the term has been used to refer to the last stage of a supply chain, also seen as the last segment.”⁴

Many of the challenges experienced by the supply chain are exacerbated in last mile delivery activities. In part, this is because a uniform definition for “last mile delivery” does not exist. The absence of a shared baseline limits disclosure of last mile activities as organizations are often uncertain if their supply chain programs should be categorized as “last mile” or as having “last mile” components.

Communication and coordination among different entities suffers because of this confusion. This is true both within organizations and between organizations, as well as between donors and national governments.

In addition to confusion concerning true last mile distribution activities, limited levels of transparency among stakeholders is also pervasive. Developing and implementing a unified donor strategy for the provision of informed technical assistance packages to low income and low to middle income governments becomes even more complex when organizations restrict the information and data that they share with each other. Infrastructure challenges related to both distance and geography are typical in the

final leg of distribution. Indeed, it is not uncommon for the last part of tranship to cover hundreds of miles over poorly maintained roads which have been ravaged by time, use and weather while utilizing vehicles better suited to shorter distances.

Moreover, most partners are not accountable for the deliveries of commodities to community health outlets and patient consumers of these commodities, and rely on in-country partners, and therefore cannot bear full responsibility for issues within this part of the supply chain. Harmonized definitions and metrics to measure accountability for last mile delivery therefore need to be cognizant of this. Partners do however recognize that there needs to be greater oversight and management of in-country supply chains.

Operational definition of last mile delivery

As we go further down the supply chain, it gets harder for the providers (donors/partners) to ensure the availability of the commodities, as accountability for their distribution is handed over to in-country partners. As a result, we (donors/partners/stakeholders) are reliant on in country-specific partners, processes and systems to deliver commodities in the last mile. As such, the providers (partners/donors) can support national systems strengthening in these areas by developing and promoting advance and innovative technologies (Visibility Analytics Network, Barcoding (GS1) & Track & Trace, mHealth as examples). The real essence of last mile delivery, as mentioned above, should rely upon ensuring that the commodities reach its clients/end-users, considering the humanitarian context, maturity of in-country supply chains and available resources.

² Walsh III, Francis, "Last Mile Logistics: Key to Competing in the Retail Race" <http://www.inboundlogistics.com/cms/article/last-mile-logistics-key-to-competing-in-the-retail-race/> (2015).

³ USAID | DELIVER PROJECT, Task Order 4. Using Last Mile Distribution to Increase Access to Health Commodities. Arlington, VA: USAID | DELIVER PROJECT, 2011.

⁴ United Nations Population Fund, "Last Mile Logistics" http://africa.unfpa.org/public/cache/offonce/home/procurement/supplychain/lastmile_logistics;jsessionid=0CD0C1412E8955B03FFCD924E071092B.jahia01 (accessed 10 June 2015).

The supply chain can broadly be split into three streams:

Up-stream: This encompasses the up-stream supply of quality assured medicines and health products. In principle, this stream comprises of the whole procurement process to include the initial scope, procurement, selection of manufacturers and through to delivery to the first port of entry into a country.

Mid-stream: Mid-stream starts at the country level, either port or Central Warehouse and covers the distribution of commodities from the port of entry or central warehouse to the regional or sub regional levels.

Down-stream: The down-stream covers the transportation or distribution of the commodities to their final destinations from the district level warehouses. The down-stream includes delivery to the final and most remote Service Delivery Points (SDP) to ensure that the end users can access commodities when they need them. However, it is recognized that supply chains do have a defined end and that this should be the SDP. Beyond that is outside the scope of a supply chain as the distribution and administration to end users should be considered as part of the provision of service delivery.

Operational Definition for Last Mile Delivery:

The Interagency Supply Chain Group defines the last mile delivery as the movement of commodities through the mid-stream and down-stream stages of the supply chain through to the service delivery point.

Recommended Key Performance Indicators (KPIs) for LMD

Generally, there is good reporting and data capture currently for supply, demand and distribution up to the point at which commodities are handed over to the recipient in country. There is also some reporting on commodities at the SDP but this is reliant on ad-hoc surveys or aggregate data reported by routine health information systems, for example the DHIS2. This can be problematic, as this means it may be difficult to validate evidence of aggregated

reported consumption of commodities by the patient consumer. This may be attributed to challenges in reporting of logistics data on patient consumption and interoperability of systems to facilitate information exchange, limited health worker capacity to support data reporting, and potential reluctance to report on it.

KPIs exist for those elements of distribution at up-stream delivery of the last mile i.e. those from the manufacturer to the point at which the goods are handed over to in-country partners. For this part of the supply chain, the partners are directly accountable for the commodities, and have access to information on lead and delivery times, volumes of deliveries, and leakage throughout this chain. KPIs for last mile delivery to community-based health outlets are inherently more difficult; there are limitations to a one-size-fits-all approach, and data needs to be contextualized by looking at the humanitarian context, country maturity / capability and strength of existing last mile delivery supply chains. However, there are benefits to providing a more structured approach to what information is captured, how commodities are tracked and ultimately, the ways in which performance, and outcomes, can be improved.

It is recognized that KPIs for LMD need to go beyond simply looking at outputs and outcomes. It is important to consider the process and maturity levels of the in-country supply chains too so that short-term incentives (e.g. improving delivery to SDPs) are not prioritized to the detriment of long-term objectives such as supply chain strengthening. As maturity levels are variable, focusing solely on outputs may set unrealistic expectations on what is achievable, fail to indicate faults within LMD, and create perverse incentives. It is therefore proposed that harmonized KPIs for LMD should have a suite of indicators that can be adapted/adopted by individual partners/organizations in compliance with their mandates, policies and support to the countries.

Performance Assessment Areas (Domain)	KPI	Level	Definition	Numerator	Denominator
1. Availability	Stock Out Rate	Outcome	This indicator helps to measure stock availability (or lack thereof) during a specified period	# of facilities stocked out, by product, on the day of the assessment (reporting day or day of visit)	# of requests that are fulfilled without delay
2. Financial and Cost Efficiency	LMD Costs	Output	Costs dedicated to last mile delivery by in-country partners	Costs related to commodity distribution	N/A
3. Financial and Cost Efficiency	Metric for long term sustainability for LMD	Outcome	Ratio of LMD budget that country is able to self-finance (public or private funds)	Amount of funds that a country can provide towards its LMD budget	Total LMD budget
4. Forecasting and Supply Planning	Forecast Accuracy	Outcome	For all products that the program has committed to supplying this indicator measures the percentage of difference between forecasts previously made for a year and the actual consumption or issues data for that year	Actual amount of products consumed	Forecasted amount of products for consumption
5. Warehousing and Inventory Management	OTIF - On time and in full	Outcome	This indicator measures the suppliers compliance with the agreed quantities and agreed delivery time	# of orders in which the supplier was in compliance with the agreed quantities and delivery time	# of orders
6. Waste Management	Existence of Supply Chain Management Protocols for Disposal of Medical Waste and Management of Unusable Products	Output	This indicator monitors whether supply chain management protocols are established for the disposal of medical waste and for the management of expired, damaged, and/or recalled product. This indicator can be measured and reported annually.	Yes / No	N/A
7. Waste Management	Volumes of commodities wasted/lost at each link in the LMD supply chain.	Output	This indicator measures the total volume of products wasted by distribution level	Volume of commooddities wasted (stratified by level of delivery)	N/A
8. Maturity	Number of supply chain maturity assessments complete	Output	This indicator measures the number of supply chain assessments completed	# of completed supply chain maturity assessments	N/A
9. Maturity	Number of countries at level of maturity	Output	This indicator describes the maturity of a country supply chain	# of countries (stratified by maturity level)	N/A
10. Maturity	Number of improvement plans in place	Output	This indicator measures the existance of a supply chain improvement plan	# of improvement plans in place	N/A