GAVI Study – Outsourcing the Distribution Component of Vaccine and Medicine Supply Chains

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In particular we also acknowledge the time offered and input provided by those at the front line; those working in the Ministries of Health and Central Medical Stores of our focus countries who took time out of their busy days to speak with us, and on whose shoulders the health of nations rest. A special thank you to all those who participated in our interviews, often at short notice and over a crackly line, for sharing their time and expertise so freely. Where no specific reference is provided the insight can be directly attributed to them. We would like to take this opportunity to thank the members of the GAVI Private Sector Working Group for their guidance.

This has been a broad study, undertaken in short timelines and we have been unable to get input from everyone that we wanted to, simply due to practicalities and other commitments. Yet we have compiled a worthwhile report which we hope will be of practical benefit to all interested parties, whether government organisations, NGO's, donors or private sector LSPs.

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ABBREVIATIONS

3PL	Third Party Logistics company
4PL	Fourth Party Logistics company
ARV	Antiretroviral
CHAI	Clinton Health Access Initiative
CI	Continuous Improvement
CMAM	Central Medical Store Administration (Mozambique CMS)
CML	Cargo Management Logistics
CMS	Central Medical Stores
CMST	Central Medical Stores Trust (Malawi CMS)
DPS	Provincial Health Directorate (Mozambique)
EMLIP	Essential Medicines Logistics Improvement Programme
EPI	Expanded Programme on Immunisation
FMCG	Fast Moving Consumer Goods
IHS	Imperial Health Sciences
IPM	Informed Push Model
JSI	John Snow Inc.
KEMSA	Kenya Medical Supplies Authority (Kenya CMS)
KPI	Key Performance Indicator
LMICs	Lower Middle Income Countries
LSP	Logistics Service Provider
MOH	Ministry of Health
MSD	Medical Stores Department (Tanzania CMS)
MSL	Medical Stores Limited (Malawi CMS)
NGO	Non Governmental Organisation
NMS	National Medical Stores (Uganda CMS)
OTIF	On Time In Full
PEPFAR	President's Emergency Plan for AIDS Relief
POD	Proof of Delivery
PPP	Public Private Partnership
PSC	Parallel Supply Chain
RFH	Riders for Health
RFI	Request For Information
RFP	Request for Proposal
RTI	Road Traffic Incident
SLA	Service Level Agreement
SOPs	Standard Operating Procedures
TA	Technical Assistance
TAM	Total Asset Management
TORs	Terms of Reference
TRM	Transport Resource Management
WFP	World Food Programme
WHO	World Health Organisation

EXECUTIVE SUMMARY

This report focuses on how to outsource the physical distribution of vaccines and medical products to a private sector Logistics Service Provider (LSP) in sub-Saharan Africa. It analyses existing approaches to **outsourcing**, the challenges encountered and lessons learned.

A number of outsourcing examples have been identified within the focus countries of Uganda, Zambia, Mozambique, Senegal, Nigeria, Ghana, Kenya, Tanzania and Malawi. These are primarily for the distribution of ambient medical products and are often funded by, or supported with Technical Assistance (TA), from donors. Many are elements of vertical supply chains[1] and some are part of the government operated Central Medical Store (CMS) supply chain. There are just two examples of outsourced vaccine logistics that have been identified, a public private partnership in South Africa, and one in Nigeria.

Many government supply chains are operating with limited transport capacity, which limits their ability to make last mile deliveries, and results in health workers collecting commodities from the next tier in the supply chain.

Outsourcing is often used as a means to improve efficiencies, access new capabilities or access additional capacity, and has proven successful in the majority of cases. Outsourcing is also an option when financing for an asset is not available which this is becoming an increasingly important issue now as donors are reluctant to pay for warehouses and trucks for Central Medical Stores. Task-shifting (the reallocation of duties in order to allow organisations to focus on their core mission) is another reason to outsource. Despite the successes there are still are host of barriers and challenges, which limit further progression in some countries, and for some organisations.

CHALLENGES FOR GOVERNMENT ORGANISATIONS

- Limited capability to manage service contracts and use Key Performance Indicator (KPI) data to improve supplier performance
- Costs of existing in house operation are often not fully understood
- Lingering concern over loss of control, in some cases political rather than operational
- Limited opportunity to redeploy existing resources, we didn't identify any circumstances where a private sector LSP had taken on government fleet
- Needs a change of mindset to think like a customer rather than an investor, to buy a service instead of assets
- Transport fleets are typically a shared resource, serving a variety of freight and personnel requirements across multiple (vertical) commodity programmes, which makes it challenging to isolate and quantify the unique costs for government transport

Challenges for Private Sector LSPs

- Contract lengths being offered are relatively short and offering longer term contracts is key to developing the market, enabling capital investment to be amortised over longer periods

[1] For the purpose of this report the phrase "vertical supply chains" refers to vaccine or pharmaceutical supply chains which run parallel to the main national government run supply chain. Such vertical supply chains are often established by NGOs or development organisations.

- Request for Proposal (RFP) and contracting structures can be quite rigid, and focused more on process deliverables rather than results delivery, restricting opportunities to deliver operating efficiencies
- Risk around reliability of payment from government organisations

Recommendations

- Stakeholder advocacy is key when proposing supply chain changes
- Leverage existing supply chain infrastructure in other sectors where possible
- Use the proposed outsourcing framework to manage the process
- Link larger LSPs with smaller local operators and incentivise them to work together to develop in country capability
- Governments that are considering outsourcing should consider implementing a KPI suite beforehand in order to measure improvements following transition

A Framework for Outsourcing

The framework has been designed specifically to assist government operated CMS vaccine and medical supply chains in outsourcing distribution services.

It describes, using example templates and documents, how to manage an outsourcing in a structured manner, that will result in the selection of a private sector LSP that is capable of delivering the specified service at a competitive price, and how to manage implementation, right through to business as usual.

INTRODUCTION

For more than a decade, development partners and donors have been encouraging governments in developing countries to explore ways of working with the private sector to reduce costs and improve service delivery levels. The distribution of vaccines and medicines has for a long time shown potential for outsourcing. Today, a number of countries have started contracting local transport companies or third party logistics providers (3PLs) to supplement their in house distribution operations. This report aims to provide a foundation of understanding; both in terms of the current literature, and also through a series of deep-dive examples of outsourcing experiences from African countries.

This report is split into three sections, it differs from previous work because it is focused on 'how' to outsource distribution in a medical supply chain in sub-Saharan Africa, rather than 'why'. The sections of this report are as follows:

Section 1 – Literature Review

Section 2 – Country Examples

Section 3 – Outsourcing Framework (practical tools and guidance)

The Literature Review section analyses the current landscape for outsourced distribution of vaccines and medical products to private sector LSPs in sub-Saharan Africa, considering what outsourcing is, and the context for this report. It compares pharmaceutical supply chains, with those for soft drinks and details some promising practices and lessons learned.

The Country Examples are deep dives into the state of medical supply chains in nine focus countries, to understand successes, failures and lessons learned. The following country examples are considered:

- Uganda
- Zambia
- Mozambique
- Senegal
- Nigeria
- Ghana
- Kenya
- Tanzania
- Malawi

The deep dives are summarised in this report with some challenges and recommendations unpacked[2].

[2] Due to the limited timescale of this research there have been challenges in arranging and conducting as many interviews as hoped, due to simple practicalities and availability of interviewees. As a result the deep dives on some countries are more detailed than others.

The final section is a practical toolkit to assist government operated CMS vaccine and medical supply chains in the outsourcing of distribution services. The Outsourcing Framework begins with a list of considerations for outsourcing and explains the process from creating a project plan and RFP, through contracting to implementation and business as usual.

SECTION 1 - LITERATURE REVIEW

This literature review is divided into three broad sections, firstly the literature around challenges facing supply chains for vaccines and medicines is explored, followed by an explanation of outsourcing and the potential benefits. Finally some promising practices and lessons learned from the literature are presented.

This research found that there is literature available that makes the case for outsourcing supply chains and provides some interesting examples. Literature that is relevant to country specific examples is featured in the country deep dives later in this report. However, the review found that there was little literature available that offered guidance on how to outsource supply chains or around how to effectively manage service providers.

Current Literature – challenges facing supply chains for vaccines and medicines

An effective supply chain for vaccines and medicines is a key component in improving public health in sub-Saharan Africa. Conversely an ineffective supply chain can impact on integrity of vaccines, cause supply shortages and lead to vaccine expiry and wastage (PATH, 2011). USAID (2014) describes supply chain strengthening as a programmatic intervention in market shaping alongside health product procurement and health provider training. In Ghana this approach can be seen in practice, where pharmacy students are being taught supply chain best practice as part of their studies and it is considered a critical element of their core competencies (USAID, 2014).

Sabot, Yadav and Zaffran (2011) state that nearly 80% of children in the world are now vaccinated each year and that existing supply chain systems are “largely adequate” for current demands, despite going on to say that as many as 50% of vaccine doses are wasted in some countries. Babaley, Tata and Yadav (2011) say medicine distribution systems have received considerable attention in recent years, driven by factors including:

- Increased funding, which has resulted in medicine supply chains struggling to cope with increased activity
- Increased stock levels at CMS’s but no reduction in stock-outs for patients due to inefficiencies further down the supply chain

On top of these current issues, Sabot, Yadav and Zaffran (2011) discusses a growing future requirement to provide protection against malaria and TB, with bulkier vaccines that could cost up to 50 times those of today.

Distribution is a key challenge here, and particularly the shortage of functioning transport according to Babaley, Tata and Yadav (2011) who suggest that an outsourced provider can offer a higher frequency of delivery at better rates in some geographies and contexts.

Naudé and Khumalo (2001) offer some illustrations of the challenges. They argue that there are formidable logistical difficulties with rural social service delivery and that many of these have to do with the following factors:

• Relatively low population densities and poor economies of scale;

• The large distances that have to be traversed, mostly involving the use of poor roads or tracks;

• Low rates of private vehicular mobility, tele-connectivity and support (maintenance);

• Under-developed market facilities, storage and other logistical infrastructure.

• High cost of capital limits scaling and the attainment of higher operational efficiencies

The combined effect is that logistical services (such as to store and to take produce to markets, or to order and deliver critical inputs such as seed and spare parts) is often prohibitively expensive.

Govindaraj and Herbst (2010) illustrate the challenge succinctly; “As has been observed in many state-run services around the world, CMSs were characterized by inefficiency and poor performance. There is indisputable evidence that centralized CMSs in Africa have experienced serious problems with procurement, financial and logistics management, security, and storage. As with other public institutions, CMSs in Africa have failed to adapt to the increasing complexity of the global pharmaceutical market. Shortages of trained staff have been exacerbated by bureaucratic rigidity and poor incentives. In addition, there is evidence of corruption, lack of transparency, leakage, and rent-seeking in the system, which is frequently politically influenced.”

Kevin Etter (2015) highlights the impact of a stock-out on an individual; it can result in a wasted journey of several hours walk each way between clinic and home.

Comparison to Coca-Cola and the soft drink supply chain

Gates (2010) suggests that while parts of the developing world lack access to such fundamentals as clean water and sewage systems, nearly everywhere you go you can get Coca-Cola.

Yadav, Stapleton and Van Wassenhove (2013) describe Coca-Cola as a product that “exemplifies a successful supply chain in the developing world”. It is not uncommon to hear the question raised as to why vaccines and medicines cannot be delivered through the same supply chain, which is already in place and can deal with diverse markets and levels of road infrastructure.

While there are similarities between the requirements of a vaccine and medicine supply chain and that of consumer goods, there are also fundamental differences:

- Medicine production occurs in limited locations, and is highly regulated. Soft drinks concentrate is produced internationally, the bottling is less capital and skill intensive and can be carried our locally (Yadav, Stapleton and Van Wassenhove, 2011)
- Systematic collection of data in a soft drinks supply chain enables continuous review and problem solving, similar data in medical supply chains is typically not available until the end of a project and analysis is conducted on a ‘one off’ basis (Gates, 2010)
- Distribution of soft drinks is competitive which drives outsourced LSPs to deliver best service at lowest cost, there is limited competition in medical supply chains and an increased need for traceability and security (Yadav, Stapleton and Van Wassenhove, 2011)
- Contracts in soft drinks supply chains incentivise outsourced partners to improve sales and service, there is limited opportunity to replicate this in medicine supply chains due to limited competition and the fact that they are typically publicly run (Yadav, Stapleton and Van Wassenhove, 2011)

- Soft drinks are aspirational, which is driven by the marketing (Gates, 2010), Coca-Cola is a product that people 'want' while vaccines and medicines are products that people 'need' and where the benefit might be greater to society as a whole than to each individual (Yadav, Stapleton and Van Wassenhove)

Despite these fundamental differences, there are practices from the soft drinks supply chain that can be applied to vaccines and medicines. Wright (2014) suggests streamlined processes, clarity of roles and responsibilities and trust and collaboration as key areas where the vaccine and medicine supply chain can learn. "Project Last Mile" was set up in 2009 as a formal partnership between Coca-Cola, The Global Fund to Fight AIDS, Tuberculosis and Malaria, and the Bill & Melinda Gates Foundation to share best practice in distribution, logistics and marketing (Moye, 2014).

One example of a specific focus area is preventative maintenance of cold chain equipment, such as refrigerators, in Ghana, where Coca-Cola equipment was 99.3% operational, while 20% of Ghana Health Services' equipment was non-operational. Coca-Cola has shared its processes and tools and provided access to staff to share best practice (Sarley, 2013).

What is outsourcing?

The United Nations Commission on Life-Saving Commodities (2014) states that "Many industry leaders outsource their non-core functions to partners better placed to provide those services enabling them to focus on their core competencies. For example, the technology company Apple outsources its manufacturing and transportation of its products while focusing on the development and design of their products. Likewise government agencies could consider the outsourcing of their non-core functions enabling ministries of health and their personnel from the most rural health centers up to the highest leadership roles to focus on health service delivery and health system management (their core competencies). Contracting or outsourcing of non-core functions, such as warehousing and transportation, allow the public and private sectors to apply their core competencies, focusing on what they do best. For example, outsourcing transport for distribution of medicines allows a health care worker to focus on the patient instead of organizing fuel, a driver, and a vehicle to go pick up the medicines."

USAID (2010) suggests that "outsourcing has emerged as a potential way to maximise the resources of governments ([Ministries of Health] MOHs) and improve service delivery while leveraging the expertise of private sector service providers to better meet customer needs".

CMS' are operating under greater autonomy and they are seeking economies of scale and efficiencies through the outsourcing of distribution activities to specialist companies that have the relevant specialist expertise and resources. USAID (2011) describes this as an advantage of outsourcing, while a disadvantage is that you have less direct control over that function.

These arrangements require ongoing monitoring and enforcement of the pre-established performance standards (Babaley, Tata and Yadav, 2011), which is a competency that is unlikely to be prevalent within existing organisations. USAID (2011) agrees, suggesting that "oversight is still required to ensure that the organisation is performing its role adequately, managing performance-based contracts, and fulfilling its designated function(s) within the overall system".

USAID (2011) describes the following four models for outsourcing, while acknowledging that this isn't an exhaustive list and there will be variations on these models:

Definition	Description
MOH contracts with an in-country commodity management firm.	The MOH provides funding for the commodities; the private firm manages all aspects of the supply chain—from quantification and procurement, to delivery to the health centers, including management of the LMIS.
MOH contracts with an in-country private warehouse/distribution company to store and distribute health commodities.	The MOH procures commodities; the private firm physically manages them. The MOH instructs the company on what quantities to deliver to which facilities; the private firm picks, packs, and transports the commodities to the facilities.
MOH contracts with a transportation company to distribute products from government-managed warehouses.	The government facility obtains and stores the products, and picks and packs the orders. The private company transports the products to the health facilities.
MOH purchases products from local wholesalers.	The MOH determines what it needs; the private company procures the commodities and delivers them to the MOH. The MOH manages and distributes the commodities through government-run facilities and transportation networks.

The focus of this report is on the physical distribution of vaccines and medical products, which is the supply chain role which has the highest potential for private sector involvement according to Babaley, Tata and Yadav (2011) the other three models will be covered where the outcomes are relevant.

Outsourcing of distribution to third party logistics companies (3PLs) is increasingly prevalent throughout Lower Middle Income Countries (LMICs) and a fourth party logistics company (4PL) strategy for the design, optimisation and operation of medical supply chains in now recognised as a worthwhile investment (Bornbusch et al. 2014).

Promising Practices and Lessons Learned

Decision making processes

Existing literature can steer organisations through a process to determine whether outsourcing is likely to deliver a benefit, and to understand the challenges it is likely to bring.

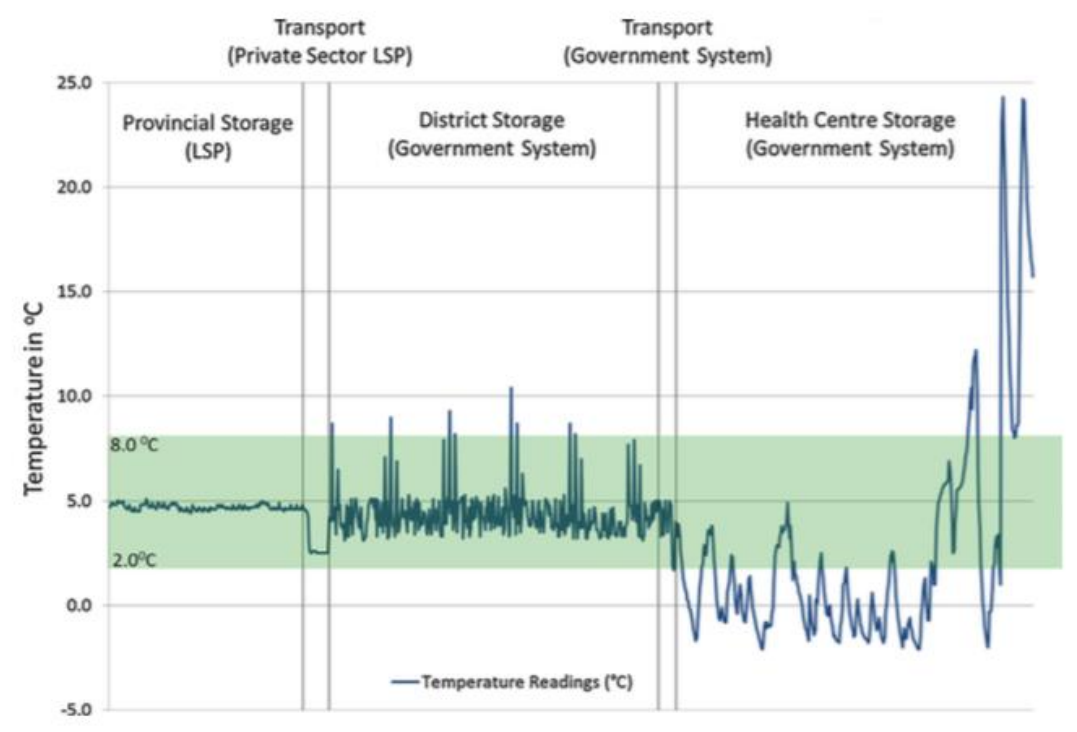
USAID (2010) say that any decision to outsource should only be made following an exhaustive evaluation of resources and intended outcomes. It recommends a Deliberation phase where the core competency of the organisation is identified and operational bottlenecks are recognised, in order to highlight processes that have potential for outsourcing. This is followed by a feasibility analysis to understand the political and operational implications of outsourcing the identified processes, and then a cost benefit analysis, to include the costs of tendering and ongoing contract management of a third party. A report by MIT-Zaragoza, Transaid and VillageReach (2011) recommends a similar three phase process; Assessment of government run distribution system and LSP options, Assessment of potential for distribution outsourcing and Execution of the outsourcing relationship.

USAID (2011) discusses four further steps, project team formation, LSP recruitment, service level agreement and monitoring and evaluation. A report by the UN Commission on Life-Saving Commodities (2014) presents a private sector engagement model of Interaction, Dialogue and Agreement. These models provide a firm foundation for the decision making process, although successful implementation is dependant on the individuals involved having sufficient expertise and understanding of the operation.

Lessons Learned

Private sector involvement in the vaccine and medicine supply chain is not always easy to implement but it can deliver so much more than just additional distribution capacity. It can encourage supply chain innovation and improve performance, through contracts and incentives that incorporate competitiveness, risk and accountability (USAID, 2011).

Maintaining consistent temperatures



An outsourced LSP provider in the Western Cape Province in South Africa has consistently maintained vaccines within the World Health Organisation (WHO) guidelines of 2-8˚C during both storage and transport. From a transport perspective 85% of deliveries were transported under good temperature conditions, the remainder were not due to the poor practices of a subcontract courier. While stored in government facilities the temperatures were breached at both ends of the scale due to poor quality cold chain equipment, and vaccines were exposed to temperatures below freezing in 30% of health centres.

Source: Lydon, P., Raubenheimer, T., Arnot-Kruger, M. and Zaffran M. (2015) 'Outsourcing vaccine logistics to the private sector: the evidence and lessons learned from the Western Cape Province in South Africa', Vaccine, 33(29), pp. 3429-3434.

The most common concerns in an outsourcing arrangement are those of control and payment (USAID, 2010). The Public Sector partner tends to be concerned about control, which can be mitigated by a partial or phased outsourcing by region, this has the added benefit of reducing risk. Private sector partners are concerned about timely and accurate payment, which can lead to hesitancy to make significant investments, this can only be eliminated by developing a true partnership and trust. Private sector logistics partners are also concerned about volumes. Volume guarantees can greatly increase the likelihood of LSPs investing in the necessary assets and systems.

USAID (2010) also highlights contract management as key to successful outsourcing, the outsourcing organisation must prepare, enforce and monitor a contract which includes clauses for payment terms and performance expectations.

Improving cost and service through outsourcing

Imperial has established dedicated multi market warehouses in South Africa, Kenya and Ghana as part of its contract with SCMS (Supply Chain Management Systems), set up by USAID. This approach has delivered an 85% reduction in transport costs, zero stockouts and less than 1% obsolescence.

Source: Imperial Health Sciences (2015) *Hubs into Africa*, Available at: http://www.ihs.za.com/content/hubs-into-africa (Accessed: 20th November 2015).

The Future of the Vaccine Supply Chain

Project Optimize (WHO PATH, 2012) proposes a future vision, a desired state for 2020:

"Immunization supply systems are designed to maximize effectiveness, agility, and integration with other supply systems. They support continuous system improvement through learning, innovation, and leveraging synergies with other sectors".

It goes on to suggest that this state is realised by addressing the following information and knowledge gaps:

- Vaccine supply and logistics systems that maximize effectiveness and agility
- Supply systems that are more integrated with wider health supply systems
- Supply systems that continually adapt to changes through ongoing monitoring, learning, and innovation
- Supply systems that leverage synergies with other sectors including the private sector

SECTION 2 - COUNTRY EXAMPLES

An Introduction: Cold Chain Logistics in sub-Saharan Africa

In parts of sub-Saharan Africa there is evidence of successful examples of outsourced cold chain logistics in sectors other than healthcare including Fast Moving Consumer Goods (FMCG) and fresh produce, yet the perception that cold chain is a challenge in the pharmaceutical supply chain persists.

Frozen ice cream distributed to retailers in Tanzania

Fresh peas grown in the Rift Valley and shipped to the United Kingdom

There are similarities between a vaccine supply chain, and that for ice cream, for example. In both instances product is sourced from a central location and distributed to many local delivery points, both rural and urban. Both products are highly sensitive to temperature and must be kept under careful control at all times. The ice cream supply chain is commercially driven, there is a financial benefit in delivering an ice cream, provided it arrived in good condition the business at the final destination will make a profit. If that profit cannot be realised because the 'cost to serve' in a certain area is higher due to lack of infrastructure or resources, economics dictate that that area will not be served.

The vaccine supply chain is not driven by the same motives; the health facilities are not profit driven in the same manner as the ice cream vendor, and all areas must be served, despite limitations in infrastructure and resources. The benefit isn't a few pence profit to the retailer but a much greater benefit to society as a whole, and therefore less easy to quantify.

From an economic perspective, the penalties to the ice cream retailer of a lost or spoiled ice cream are greater than the penalties to a health facility of a lost or spoiled vaccine. Reaching all areas, in a timely, reliable fashion, at a reasonable 'cost to serve', when there is no commercial imperative is the challenge facing the vaccine supply chain.

The following sections provide a series of deep-dive examples, illustrating the situation for outsourced vaccine and medicine distribution in our focus countries.

Mozambique: A Strategic Drive to Outsource

The Medical Supply Chain in Mozambique

Mozambique is fairly advanced in terms of private sector involvement in the medical supply chain. It was a key element of the 2013 Strategic Plan for Pharmaceutical Logistics, that distribution *"must, whenever possible, be outsourced to allow institutional attention to be focused on the core functions"*. (VillageReach, 2014).

Private sector 3PL and 4PL capacity is being utilised at all levels. However, last mile distribution capacity has been a challenge and it is not unusual for health facilities to make their own collections from the district stores, in some instances the location of health facilities wasn't known to Central Medical Store Administration (CMAM) because they had never made deliveries there.

Outsourced Transport from CMAM to Provincial Warehouses

In line with the strategic plan, the government made a decision to outsource distribution from the CMAM warehouses to provincial warehouses where they didn't have sufficient capacity or infrastructure. This now includes the transport of an estimated 90% of product from the three CMAM warehouses to eleven provincial warehouses on a quarterly basis, as well as to three regional hospitals outside of Maputo.

Each province has a private sector LSP contracted as the primary transporter, these contracts are closed book and charged on a 'per km' basis.

Prior to the outsourcing, CMAM had limited in house capacity, made up of relatively small vehicles, used for emergency and local runs. As a result the outsourcing has improved service delivery levels, although there is a perception that it could be better, if the LSPs were managed more closely. The following challenges have been identified:

- **Reliability of outsourced LSPs** – vehicles were not always arriving on time and it was standard practice with some to wait in the city until they could find other cargo to fill the vehicle with
- **Lack of experience in CMAM to manage LSPs** – There isn't a culture of improvement, if an LSP fails, they tend to get blamed, rather than taking a collaborative approach to determining the cause and resolving the situation
- **LSPs weren't being paid on time** – Payment delays of up to six or eight months have led to breakdowns in relationships and some of the highest quality LSPs refusing to work with CMAM
- **Retaining quality staff at MOH level** – Most staff are pharmacists, not logisticians. They do receive training in pharmaceutical logistics, warehouse management practices and contract management, but tend to move on quickly (sometimes into private sector roles) and leave a gap behind them

Some programmes manage separate arrangements to move product from the CMAM warehouse, which is not within CMAM's control. These movements are typically outsourced to an LSP by the relevant donor, and are not planned in line with other outbound volume, which can lead to multiple underutilised vehicles travelling to similar destinations – not to mention inefficiencies at loading bays.

Transport from the Provincial Warehouses to the Health Facilities

In Maputo City and Maputo Province, CMAM are responsible for delivering to district level. In the remaining nine provinces, CMAM's responsibility for distribution is to deliver to the provincial warehouse, from this point onward the DPS (Provincial Health Directorate) is responsible for onward transport to district stores, and health facilities. In practice, the health facilities will often make their own collections due to a lack of transport capacity.

Due to the decentralised nature of the system, and the autonomy of each DPS, distribution solutions and initiatives vary by province.

Project Last Mile - Utilising the Coca-Cola Supply Chain

CHAI and Coca-Cola have established 'Project Last Mile' in Mozambique. This has enabled the Clinton Health Access Initiative (CHAI) to access Coca-Cola contracted LSPs on behalf of the relevant DPS, to conduct last mile deliveries in five provinces. In doing so, they have been able to leverage Coca-Cola's scale for government transport procurement, bringing cost down and improving service. There is even scope to link performance on pharmaceutical deliveries to the Coca-Cola contract in order to ensure ongoing success for both parties.

Essential medicines, antiretrovirals (ARVs) and vaccines[3] are now being transported directly to health facilities using these vehicles during the first and fourth weeks of the month, while they conduct deliveries on behalf of Coca-Cola during the second and third weeks.

Performance is described as satisfactory and a clear improvement on the previous system, which relied predominantly on collections.

At present CHAI manages the contract and pays the private sector LSPs, with funds provided by DFID. The provinces are building relationships with the LSPs and Coca-Cola ahead of transition in 2016/17, the success of which will be dependant on the ability of the provinces to manage the LSP contracts. CHAI are working hard to harmonise the objectives of the project with the goals of the MOH.

In provinces where Coca-Cola has no presence, CHAI have made separate arrangements with private sector LSPs, which is also funded by DFID.

[3]Following trials, they have proven a capability to maintain a reliably consistent temperature for 24 to 48 hours in a cool box

"Cashflow is king"

VidaGas is a social enterprise set up to distribute bottled propane across five provinces in northern Mozambique. They supply gas to the MOH on 30 day payment terms, but often have to extend to 60 days, and even 90 days, because the MOH is unable to pay. This happens regularly, and particularly in the latter third of the financial year. MOH business makes up only c.10% of overall VidaGas volume and therefore VidaGas is able to offset this risk with its commercial income which is on 15 day payment terms.

"Cashflow is king in a service company" and risk of non payment is often a concern for private sector LSPs when considering contracting directly with a government entity. LSPs need to received prompt payment in order to fund their operations and provide an ongoing service to the government entity.

Outsourcing Transport in Tete Province

VillageReach were invited by the government of Tete Province to establish the Transport Services Solution (TSS) initiative. They have established a group of partners to deliver the programme, which includes Medecins San Frontieres and the Bill & Melinda Gates Foundation.

Tete is a huge province, it is c.12 hours drive from the provincial centre to the furthest district, while approximately 75% of the population resides in the eastern and southern parts of the province resulting in very low population density in the west. There is a specific challenge with ARVs which will be the focus of the project (c. 85% of volume), the remaining 15% are vaccines, with and test kits for ART and malaria medicines to be added within one year. Traditionally, access to trucks and 4x4s has been limited, and distribution has been conducted using ambulances. Initially there will be two one-tonne vehicles operating on a dedicated basis providing transport from the provincial depot to health centres, the first shipments were conducted in November 2015.

"Why wouldn't you outsource?"

"CMS' will often state that an outsourced LSP costs more than operating an in house fleet while the service level is poor. The definition of service level isn't always clear and what they really mean is that the transport wasn't at their beck and call.

An outsourced LSP will say that their most competitive rate is dependant on good vehicle utilisation, FMCG clients prescribe specific collection and delivery times which they adhere to but CMS' can make vehicles wait for an entire day.

A CMS will say they need flexibility from transporters because pick/pack is manual and they cannot avoid delays.

Critics will always say private transport is more expensive and private sector LSPs are getting rich.

Successful execution of an efficient service is dependant on discipline at the CMS to load in pre agreed collection slots"

The arrangement is set up as a three-way contract between VillageReach, Absolute (a private sector LSP) and the DPS. MSF has a separate contract agreement with VillageReach to include ARVs, in order to support a long-standing MSF HIV treatment program that had reached the upper limits of coverage for the province's population due to lack of availability of ARVs in rural communities. With a plan to hand over the program to the government during the second year of operation, VillageReach is providing the following services and support:

- Project management
- Assessment capacity
- Management of funds
- Training government on how to manage an outsourced LSP
- Training LSP on health commodity handling
- Monitoring LSP performance
- Monitoring and reporting of inventories and consumption at the health facilities

Absolute were selected following an RFP process, for which they prequalified because they had previously conducted ad hoc closed book work within the province. They already held the relevant licence for the transport of health commodities. Overall, six LSPs expressed interest in the RFP and three responded, of which two were considered to be technically suitable. Absolute had an appetite to win the business and understood that it was a potential gateway to further opportunities. They are rewarded based on performance, receiving 100% of their charge for 100% On Time In Full (OTIF) with penalties for performance lower than 100%, there are no bonus payments for good performance.

VillageReach Dedicated Logistics System (DLS)

VillageReach has collaborated with the Expanded Programme on Immunisation (EPI) to reduce exposure to insufficient transport capacity at the provincial and district level in four provinces; Cabo Delgado, Gaza, Niassa, and Maputo.

They have introduced dedicated teams, whose focus is on ensuring that vaccines reach the health facilities. The teams are based at the provincial level and focus specifically on distribution, stock management and improved information management. Three distribution vehicles and one supervision vehicle operate in each of the four provinces, which also have excess capacity to deliver other commodities alongside the vaccines.

Source: VillageReach (2014) Evaluation of health system transport capacity and demand: Mozambique case study, Seattle: VillageReach.

In Summary

- There is a strategic drive to outsource distribution *"whenever possible"*
- As a result Mozambique is quite advanced in terms of outsourcing to private sector LSPs
- Outsourcing has resolved some of the issues related to limited transport capacity, and more health facilities are now receiving deliveries, rather than making collections
- CHAI and Coca-Cola have implemented Project Last Mile, an innovative solution to leverage Coca-Cola's scale and capability
- VillageReach are operating some innovative last mile solutions in select provinces

Nigeria: Establishing a Modern Supply Chain from Scratch

The Medical Supply Chain in Nigeria

Traditionally operated by the government, the medical supply chain in Nigeria is now transitioning into an outsourced distribution model. Historically there have been five levels in the supply chain:

Federal	1x central warehouse
Zone	6x zonal warehouses, managed by federal level
States	36x state stores, often pick up from zone, rather than receive deliveries
LGA (similar to district)	Pick up from state stores
Ward Health Facilities	Typically 6x Health Facilities in a Ward, target to have one cold chain equipped facility

There has been no last mile solution as such, and each state has its own model. In some cases health workers are making collections from state stores, incurring costs out of their own pocket and impacting on the amount of time they have available to see patients.

Strong Capability and Capacity in the Private Sector

Maturity in the private sector logistics market is greater in some states than others. Broadly speaking, capability and capacity are good because the ambient FMCG logistics market is well developed and competency is not an issue. Cold chain capacity however is more limited, mainly due to a lack of well-maintained equipment to support vaccine distribution.

The Outsourcing Study for Drug Distribution in Kano State, Nigeria conducted by Transaid (2010) found that:

- *Private sector capacity is adequate to provide distribution services for essential medicines*
- *A variety of providers are available. A cross section highlighted the difference between different types of provider in terms of systems, processes, and strengths*
- *In-house 3PL management capacity requirements vary greatly. Depending on the experience of the service provider, it is clear that varying amounts of 3PL management capacity will be required within the contracting party to manage the 3PL relationship*

Private sector LSPs have supported the medical supply chain in the past, one example being a vertical contraceptive programme where private sector LSPs and bus companies conducted distribution services from Lagos to the 36 state stores.

A Strategic Decision to do Something Different

In 2012 it was widely acknowledged that the government supply chain for medicines and pharmaceuticals simply wasn't performing to an acceptable standard, there were issues from procurement, through each successive layer of distribution down to poorly maintained cold chain equipment at health facilities. These issues led to countrywide stockouts, and ultimately it became a political situation, which was the spark for things to change.

The donors weren't satisfied with performance and in early 2014 USAID, GFATM and the Gates Foundation were working together to understand whether a co-operative approach was feasible. This led to the formation of the Nigeria Supply Chains Integration Project (UNICEF also joined the group in mid 2014). Following a period of strategic analysis they developed a plan, which is initially being executed in two states, Lagos and Abuja.

The government bought into the plan, whereby they would oversee and manage the supply chain, while private sector LSPs would be engaged to conduct physical distribution. The intention was that this would replace the existing government supply chain, not simply becoming a Parallel Supply Chain (PSC) alongside it. The initial focus was on essential medicines, ARVs, and malaria commodities with scope to include family planning commodities and vaccines at a later stage.

What can the World Food Programme teach us about outsourcing?

The World Food Programme (WFP) utilises c.5,000 trucks globally every day, the majority of which are provided by private sector LSPs. They operate 800 of their own vehicles, only in areas where there is no commercial market, or where the routes are not commercially viable.

Using their own in house freight forwarding capability, and a basket of pre-qualified private sector LSPs, they manage movements cost effectively and maintain a level of flexibility that allows them to redirect product that is en route to a new destination if circumstances demand it. They have been managing private sector LSPs conducting last mile distribution in challenging circumstances for c.50 years.

Contracting is managed by their in country logistics management teams, they conduct bi-annual RFQs through local newspapers with a focus on cost, provided LSPs can demonstrate their capability to deliver. Charging is closed book, per metric tonne. Contracts are issued for 6-12 month periods with performance assessments at the end of the contract and regular KPI reviews.

Competition is encouraged, and multiple LSPs are often contracted on the same route. WFP have built positive, longstanding relationships with the LSPs and hold an extensive historical dataset on pricing.

The New Supply Chain Model

Developing a countrywide solution has been a challenge because each state has autonomy over their own supply chain. As such, some states are well progressed while others are yet to gain political buy in to make a transition possible.

The proposed model was for six new ambient zonal hubs, to replace the existing 36 state stores over a five year implementation period. Breakshipment points would be added further down the supply chain, where geography dictated this was necessary, potentially at some of the existing state store locations. These hubs would be newly built with c.5,000 pallet spaces at each, a significant improvement on the existing state facilities, some of which are in such a poor state of repair that it impacts on product integrity. At present, the hubs are being progressed in Lagos and Abuja with funding support from USAID. Determining the optimal size and location of the hubs is a challenge due to a lack of historical volumetric data and the likely exponential growth in demand over the coming decade.

In order to drive efficiencies, it is intended to introduce direct deliveries from zonal or state stores to health facilities wherever possible, and eliminate the LGA level.

This approach places new demands on the stakeholders and their roles need to be redefined:

Government	Donor	Private Sector LSPs
• Oversight • LSP Procurement • Contract Management • Governance	• Funding • Technical assistance	• Warehouse and distribution operations • Continuous Improvement • Subcontract haulier management

The government will be issuing an RFP for warehousing and distribution in 2016.

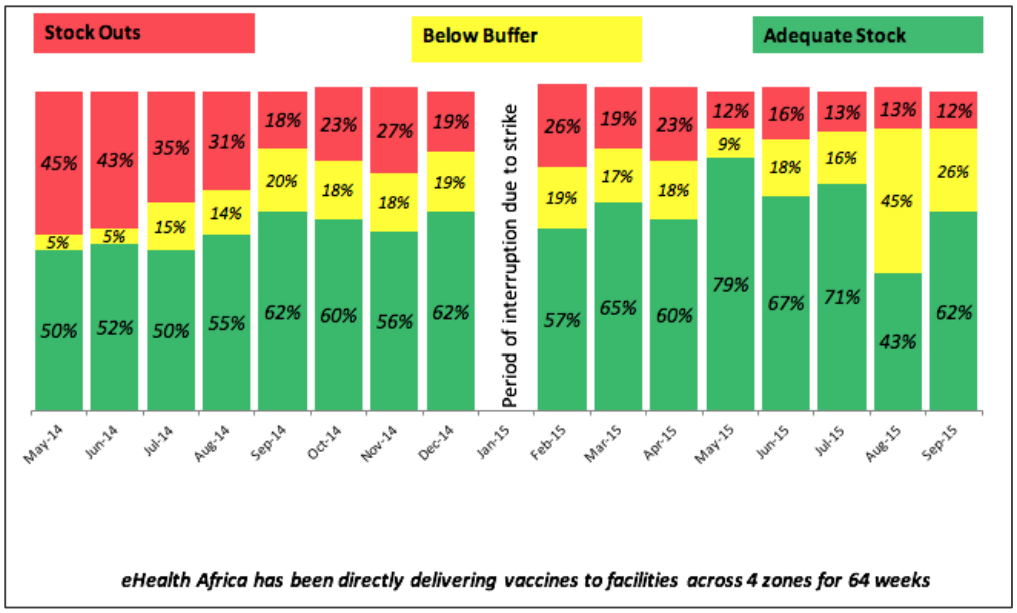
Further Examples of Private Sector Engagement

A New Supply Chain Model for Vaccines in Kano State

The Kano state government, BMGF and the Dangote Foundation collaborated in a tripartite arrangement to introduce a new informed push model for vaccine distribution in Kano state. The donors provided Technical Assistance (TA) to set up the contract but it is now fully government funded.

Following a government managed RFP process the contract was awarded to eHealth Africa, a Non Governmental Organisation (NGO) who are held accountable to defined KPIs. There was a good response from private sector LSPs but they were not considered to have sufficiently robust cold chain expertise. eHealth Africa are operating the contract as a distinct division, as if it were a private entity in its own right and the intention is to continue with this model.

Vaccines are now transported directly from state or zonal cold stores to c.300 health facilities in fully monitored cold chain vehicles. Initially health facilities were being served on a bi-monthly basis, which has since been reduced to monthly. The frequency of stockouts has been reduced significantly:



Vaccine Stock trend in Kano State May 2014 – Sept 2015

Source: Thompson, A. (2015)

eHealth Africa (2015) have conducted the following activities:

- facility mapping
- route optimisation
- vaccine handling training and driver certification
- temperature monitoring
- data and stock management
- allocation forecasting

eHealth Africa worked closely with the government to develop a suite of KPI's with which to manage the contract, leveraging the visibility they have through use of technology. Such as GPS vehicle tracking, fleet management software and temperature logging equipment. This has given the government a greater understanding of performance than it has had in the past, and in comparison to other suppliers. The challenge for the government is to develop the capability to interpret and utilise the data to proactively manage the contract and drive improvement.

While eHealth Africa operate on a similar basis to a private sector LSP, they have taken a significant risk in capital investment, which would be prohibitive for many businesses. Initially awarded a one year contract, they have amortised the investment in new vehicles over five years, which would leave them exposed if the contract is not renewed. During the RFP process, all costs were shared with the government on an open book basis and these costs have now been converted into fixed activity rates.

This model has since been implemented in Bauchi state, and will be extended to Niger state next, with an intention to roll out nationwide.

A Fragmented Supply Chain Can Drive Additional Cost

Countries with decentralised responsibilities for the medical supply chain have an additional challenge, because they cannot consider the entire supply chain when determining the optimal supply chain solution.

Often, sourcing location decisions are made due to politics or historic practices, rather than efficiency. This can result in a fragmented system whereby product is shipped over greater distances than necessary, possibly in underutilised vehicles. If the distribution is outsourced in this scenario, the private sector LSP will be limited in scope to deliver operating improvements, but given the freedom to determine which warehouse should serve each health facility they will be able to model an optimal solution and reduce the overall operating cost, while maintaining or even improving service.

Furthermore, in many areas, multiple organisations control different programmes or commodities which can lead to multiple vehicles making journeys to a similar destination. Where feasible, a collaborative approach to planning can realise synergies and reduce costs for all parties involved.

The Nigeria Unification Programme

The President's Emergency Plan for AIDS Relief (PEPFAR) established the Nigeria unification programme to unify twelve existing vertical supply chains for ARVs into a single model from zonal warehouses to healthcare facilities. It was intended to be a short term programme to outsource distribution to private sector LSPs. The plan was for phased deployment to up to 1,200 delivery points, which eventually grew to 4,000-5,000 per order cycle.

The programme is managed by Imperial Health Sciences (IHS), an Africa-wide 4PL, who have contracted five local private sector LSPs to provide capacity through a robust RFP process.

Riders for Health

Riders for Health are an NGO with in house distribution and vehicle maintenance capability in Nigeria, in many respects they function like a private sector provider. They are currently operating the following contracts:

- Last mile distribution of anti malarial commodities across 15 states on behalf of John Snow Inc. (JSI), utilising five in house vehicles supported by hire vehicles where necessary
- Six vehicle maintenance workshops offering vehicle maintenance for a local and international agencies, including Catholic Relief Services
- Fleet management and vehicle maintenance services on behalf of the WHO, originally a contractual arrangement which began in 1999, now operated on a pay as you go basis

Source: Riders for Health (2015)

In Summary

- The government operated supply chain is undergoing a significant strategic transition to outsourced arrangements with LSPs
- Simplification of the supply chain, and bypassing levels is key to improving efficiency and service
- The private sector logistics market is strong, evidenced by the capability and capacity available and the breadth of outsourced arrangements in place

Kenya: Ten Years of Expertise in Distribution Outsourcing

The Medical Supply Chain in Kenya

Kenya Medical Supplies Authority (KEMSA) operates an ambient medical supply chain in Kenya to deliver products to regional stores, split into three zones. It does not operate an in house fleet, and contracts all transport to private sector LSPs.

The logistics market in Kenya is relatively mature, with good representation from global payers and strong regional companies, such as Freight in Time.

Ten Years of Transport Outsourcing

KEMSA began to outsource transport back in 2004, and now has over ten years of experience. They have been able to apply some of the lessons learned to the outsourcing process, which has evolved quite significantly.

All opportunities are published as an RFP, and advertised in relevant newspapers. Due to the maturity of the logistics market in Kenya, there are a range of private sector LSPs that have the capacity and capability to bid for the work.

When KEMSA first started outsourcing the focus was primarily on price and they were allowing small LSPs to bid for specific lanes or clusters. Their strategy was to contract with a diverse range of LSPs to encourage competition but this has since changed, with the focus shifting to larger LSPs that can manage distribution to an entire zone. These LSPs tend to exhibit better quality and service attributes, and the focus of evaluation has moved in this direction, although price remains a key factor.

The contracts are between KEMSA and the LSPs on a closed book basis, typically based on planned quantities by destination. The successful bidders name, and price is published on the KEMSA website so there is full public transparency:

KEMSA	BM Logistics - Western Region	Kshs	34,181,100 per cycle
	Jihan Freighters Ltd - Eastern Region	Kshs	18,158,640.00 per cycl
	Harry & Stan Ltd - Central Region	Kshs	12,990,000.00 per cycl

Extract from KEMSA Contracts Awarded 2012-13

Source: KEMSA (2015)

The contract is operated on the basis of firm delivery time Service Level Agreements (SLAs) which are measured and monitored, KEMSA have been able to significantly reduce lead times as a result.

Building a Private Sector Logistics Business

Freight in Time is an example of a successful private sector LSP that has grown from a base in Nairobi to manage operations in eight countries across East Africa. Over the past ten years they have focused their growth on pharmaceutical business, in the private sector as well as government and donor funded supply chains and this now makes up c.40% of their annual $40m revenue.

Government Outsourced 'Transport Asset Management' in The Gambia

Source: Riders for Health (2015)

Riders for Health (RFH) have been working with the MOH in The Gambia for many years, to provide an outsourced vehicle maintenance service. In 2006 they took on the MOHs existing fleet under their Transport Resource Management (TRM) model, whereby fleet management and vehicle maintenance is provided on a 'cost per km' basis. RFH have a comprehensive cost model which reflects everything from lifetime repair and maintenance to rider's safety gear, which they derive the 'cost per km' from against an estimate of the vehicle's lifetime kms. 'Cost per km' enables the MOH to plan journeys and control vehicle usage according to actual costs incurred, although there are clauses in the contract to adjust this based on unforeseen parameters.

In 2009, when the fleet reached the end of it's life, the arrangement was extended to Total Asset Management (TAM), whereby it included provision of a brand new fleet on a 'cost per km' basis, this time to include vehicle leasing as well as fleet management and maintenance.

This arrangement required a significant investment in c.250 vehicles including ambulances, pick ups and motorcycles. RFH borrowed c.$3.5m in two instalments from a local African bank, underwritten by international donors. The government doesn't incur any capital costs against the vehicles, they budget annually based on the 'cost per km', and pay quarterly up front. They have full visibility of the costs incurred by RFH, and are benefitting from significant vehicle uptime improvements, with just 0.0015 accidents per 1,000kms and two negligent breakdowns in over 10m kms. No outreach clinics have been cancelled due to transport or fuel constraints, previously 32% were cancelled.

RFH have a network of workshops as well as mobile technicians providing 'outreach maintenance' in rural areas. All parts are genuine, manufacturer approved, rather than the lesser quality equivalents that are available on the local market. As well as TRM and TAM, RFH also offer Interval Servicing, whereby they plan and manage the servicing schedule for a vehicle and Demand Servicing, which is ad hoc, as requested by their customers.

RFH was started after first hand experience of almost completely non existent fleet management and maintenance procedures in SSA. A shortage of expertise, and a widespread misunderstanding of the hostile conditions in which they were operating was leading to vehicles becoming unusable and cannibalised for parts within a couple of years, rather than having a full five year operating life, which is feasible if maintained in a systematic manner.

Source: Nagaraju, V. and Mashonga, N. Riders for Health (2014)

Their maturity is demonstrated by genuine 3PL behaviours, they support the development of their clients businesses and streamline their supply chains to deliver efficiencies where possible. For example, they are currently increasing warehouse capacity for a client, which will deliver a cost benefit in reduced container storage charges at the port.

KPIs are key to contract management and they tend to focus on product integrity and delivery performance. These are reviewed regularly with clients and at a bi-annual account review. PODs are managed with electronic scanning tools and make up part of the billing pack which Freight in Time submit to their clients.

All vehicles are inspected to ensure that they meet minimum safety standards, whether the vehicle is operated by Freight in Time themselves, or one of their approved subcontracted transporters.

In Summary

- KEMSA outsource all of their transport to private sector LSPs
- After more than ten years experience, they have evolved their RFP process based on lessons learned
- Contracts are closed book, and funded by KEMSA, with full public price transparency
- The logistics market in Kenya is relatively mature

Senegal: Leveraging Private Sector Capacity in the move from Push to Pull

The Medical Supply Chain in Senegal

Senegal reorganised its CMS into a semi-autonomous unit— Pharmacie Nationale d'Approvisionnement (Senegal National Pharmacy) or PNA—in 1979, in an effort to better support primary health care policies, move toward decentralisation and strengthen local service delivery. However, international assessments in the 1980s highlighted ongoing issues:

- an inadequate supply of drugs at peripheral levels of care
- inadequate management practices
- poor financial management
- delays in procurement and payment of suppliers
- mismatches between items requisitioned and those supplied
- procurement not always being from the least expensive source
- poor inventory control leading to frequent stock-outs
- corruption

(Govindaraj and Herbst, 2010)

An established Outsourced Medical Supply Chain in England and Wales

The National Health Service Supply Chain is operated by DHL, they manage procurement of commodities and make c.500,000 deliveries per annum with a fleet of 175 vehicles, they employ 2,400 people across eight sites.

DHL was targeted to deliver over £1bn in savings over the ten year term, primarily by increasing order volume, reducing distribution costs, and focusing on the product range to reduce the procurement cost.

Key performance criteria are:

- Reduce product prices to facilities
- Increase usage of procurement contracts by customers
- Reduce net logistics cost per line
- Improve inventory turns
- Increase warehouse productivity
- Increase transport productivity

The original contract was awarded under a ten year term, on a closed book basis. It was recently extended for two further years, and is now an open book arrangement.

Source: NHS Supply Chain (2015) *Suppliers,* Available at: *https://www.supplychain.nhs.uk/suppliers/key-facts/* (Accessed: 23rd November 2015).

In recent years the CMS has taken steps to manage inventory based on actual demand and 'push' product through the supply chain to meet this need. In doing so they have utilised private sector capacity, which has proven very successful and supply chain performance has improved significantly.

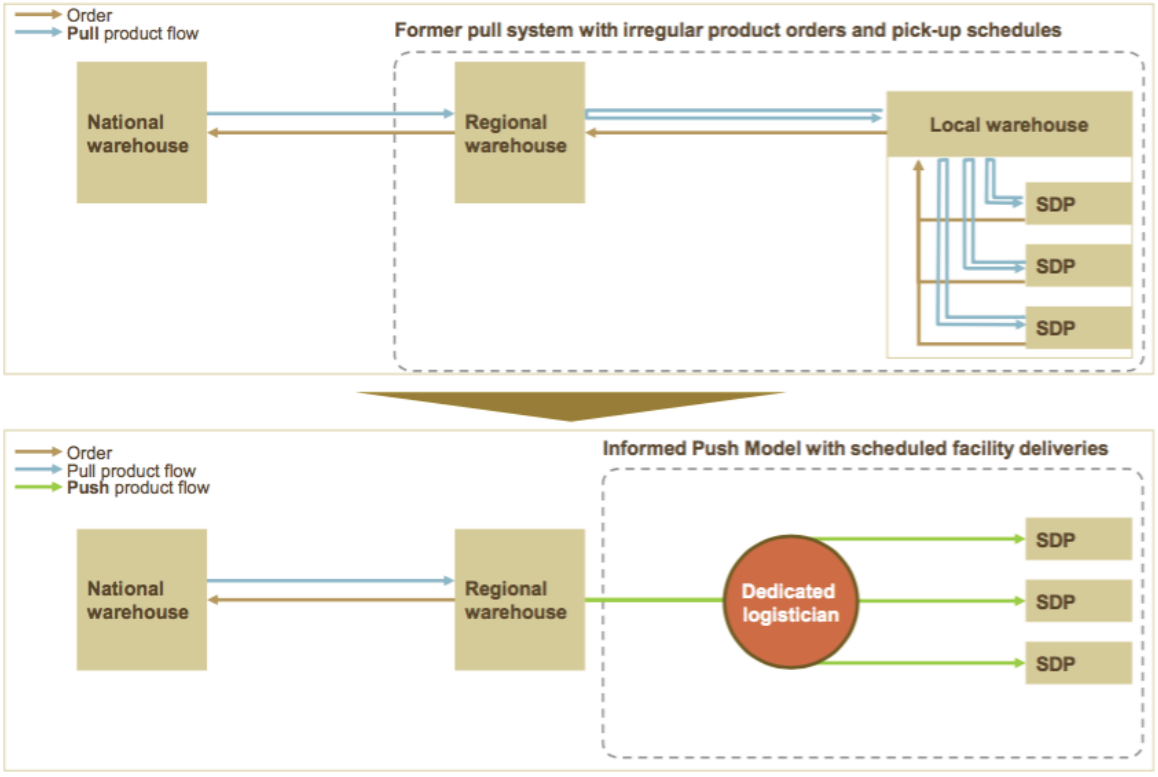
Moving from Pull to Informed Push

Demand in the CMS operation has always been based on 'pull', which is typical across sub-Saharan Africa. In this model health centres determined their own requirements and placed orders against the CMS. In practice this has a number of drawbacks:

- Medical professionals are not logisticians and often cannot forecast effectively leading to risks of over ordering/emergency ordering resulting in dramatic fluctuations in stock levels (see "the bullwhip effect" for more details)
- Arranging dedicated transport can be problematic
- Cashflow implications of paying for commodities ahead of demand

One of our interviewees suggested that 80% of health centres had experienced a stockout, sometimes up to 80% of the time. As a result the government initiated the new Informed Push Model (IPM) system, initially for contraceptive products, it is now being extended to include items on the UN lifesaving commodities list plus ARVs and malaria medication.

The IPM system has eleven dedicated logisticians, each aligned to a Regional Medical Officer and a team of five people divided across five zones. The vehicles are equipped with touchscreen tablets, enabling the distribution teams to collect data on stock levels at health facilities, which is transferred and available for immediate stock visibility centrally. Each delivery point has a fixed stock level by product and the distribution teams replenish stocks to that level each month. This resolves the three drawbacks of the pull system, eliminating a need for forecasting, providing contracted arrangements for transport and payment for delivered stock is now due one month after delivery



Source: Daff et al. (2014)

Leveraging Private Sector capacity

IntraHealth International (funded by the Bill and Melinda Gates Foundation and Merck for Mothers) are supporting the government by establishing Standard Operating Procedures (SOPs) and issuing and managing contracts with private sector LSPs (Daff et al., 2014). There are five private sector LSPs involved, and one additional region is covered by the regional pharmacy themselves.

The LSP contracts are currently with the IPM project with the intention that these be transferred to CMS by July 2016. They are one year closed book contracts with a monthly charge covering all pre-agreed delivery points and provisions for early termination based on poor service. Overall the private sector is strong in Senegal and there was a strong competitive bidding process for selection. The evaluation was focused on service and weighted towards technical factors, rather than financial.

The LSPs proposed their own routes as part of their bid response in order to provide the most cost effective solution. One limitation of this has been that costs were underestimated in rural areas, where population density is low. In these areas, it may be necessary to review the rates and ensure that the LSP is earning sufficient return to provide a good service, or consider an option for the CMS to continue to provide services.

Effects of Change

Daff et al. (2014) reports immediate and sustained benefits:

- Stockouts of contraceptive pills, injectables, implants, and intrauterine devices (IUDs) were completely eliminated at all 14 public health facilities in the pilot district over the course of the 6 month pilot phase
- Once expanded to all 140 public health facilities in the Dakar region, stockouts had reduced to less that 2% after a 6 month period

These results demonstrate the benefit of implementing an IPM system, but also illustrate that private sector LSPs can deliver the highest standards of service, and utilise complex, technology based solutions.

Ongoing developments

There are a number of focus areas for the project going forward:

- Training and coaching of CMS staff – the CMS vehicles which deliver other commodities will be travelling alongside the IPM vehicles and conducting deliveries together, enabling IPM distribution teams to train and coach their CMS colleagues
- Ongoing supply chain analysis – modelling and costing of various options to recommend the optimal solution to CMS
- Use of data – ongoing analysis and performance management based on IPM data

In Summary

- IPM has resolved issues of the previous push system; unreliable forecasting, arranging transport and cashflow
- IntraHealth International is supporting the government in distribution outsourcing by issuing and managing contracts with five private sector LSPs
- The private sector logistics market is healthy in Senegal and there was a strong competitive bidding process
- Stock outs have been reduced to less than 2% across 140 public health facilities after a 6 month period
- The IPM distribution teams are training and coaching their colleagues from CMS

Tanzania: Managing Capacity Challenges in the Medical Supply Chain

The Medical Supply Chain in Tanzania

Medical Stores Department (MSD) manage the medical supply chain utilising a mixture of their own fleet and that of a private sector LSP. They have an appetite to outsource more of their transport but there is a limited market of private sector LSPs with sufficient capability and expertise.

Combining Own Vehicles with Private Sector Capacity

MSD have been using private sector LSP capacity for the past five years, initially it was instigated because they had limited capacity on their own fleet. Usangu Logistics are contracted to serve the zonal stores in Tabora and Mwanza, and MSD deliver to the other six zonal stores using their own fleet.

Health facility deliveries (from zonal store to the lower tier) are conducted using MSD vehicles, because previous private sector tender responses for last mile distribution have been perceived to be expensive when compared to using the MSD fleet.

The annual distribution calendar is published on the MSD website, enabling each district to plan order submissions and expected delivery dates:

			QUARTER I											
			July				August				September			
DISTRICT	GROUP	# HFs	WK 1	WK2	WK3	WK4	WK 1	WK2	WK3	WK4	WK 1	WK2	WK3	WK4
SINGIDA URBAN	A	10	Order Submissio n no later than				Order processing and packing				Delivery to SDP			
SINGIDA RURAL	A	23												
IKUNGI DC	A	30												
MANYONI	A	45												
IRAMBA	A	32												
MKALAMA DC	A	26												
KONGWA	B	47	Delivery to SDP				Order Submissio n				Order processing and packing			
MPWAPWA	B	50												
BAHI	B	37												
DODOMA URBAN	B	38												
KITETO	C	21	Order Processing and Packing				Delivery to SDP				Order Submission			Orc
KONDOA	C	29												
CHEMBA DC	C	33												
CHAMWINO	C	61												

Extract from Distribution Calendar for Dodoma Zone

Source: MSD (2015)

Vaccine distribution is also conducted in house with two dedicated cold chain vehicles making deliveries to the districts.

Do Regulations Limit Supply Chain Opportunities?

It is common practice for a restriction to be placed on pharmaceutical products, limiting the other products which can be transported alongside them. In some cases there will be genuine reasons why you shouldn't, yet in others it might be a missed opportunity for synergy.

The definition of a pharmaceutical product is key here, and a consideration of the other products; some chemicals and oils would clearly be an issue, but tinned food products would be fine. Often, it is a perception, rather than a documented regulation that prohibits certain behaviours. If there is a good business case to do so, then the policy should be challenged.

With additional flexibility there would be scope to leverage existing infrastructure, in some instances, on a marginally costed basis, and increase capacity without significant investment:

- Groupage capacity in existing private sector LSP vehicles
- Post office vehicles which already serve populated areas
- Local or long distance bus and rail services
- Cold chain capacity in dairy and ice cream distribution
- Last mile solutions including donkeys, bicycles and headloading

Conversely, excess capacity within an existing network could be utilised by offering space to private sector FMCG suppliers such as P&G, Mondelēz, Unilever and Nestle, which would generate an income.

Tendering and Contracting

Tendering has proven challenging in Tanzania, very few LSPs responded to a recent tender and the lack of capacity in the market means that very few have experience of pharmaceutical distribution.

MSD plan to retender, and include additional information based on a recent geo mapping exercise, conducted with support from USAID. A limitation of the recent tender was that there was no distance data for the health facilities and the bidding LSPs did not know where they were located. Knowledge of the rural areas, and the types of vehicles required to access them seem to be lacking.

The existing contract, in place with Usangu Logistics, is for 3 years and is paid per tonne/km on a one way basis. There are no specific KPIs in place but the vehicles are managed by the MSD transport unit in the same manner as their own fleet.

In Summary

- Distribution outsourcing has proven successful in Tanzania
- The capacity and capability limitations in the market are restrict MSD from outsourcing additional volume
- Tendering has proven to be challenging in the recent past

Uganda: Improving Service with Outsourced Last Mile Logistics

The Medical Supply Chain in Uganda

National Medical Stores (NMS) manage the medical supply chain in Uganda, utilising a combination of insourced and outsourced transport. Operation of the central warehouse and distribution to district facilities is maintained in house. The last mile distribution from district to health facilities has been outsourced to two LSPs, which has had a positive impact on service.

Vaccine distribution is managed in house by NMS.

Changing Strategy to Fix Service Issues

Prior to 2011, Uganda suffered severe and frequent stock outs at the majority at the majority of health facilities, in 2015 up to 98% are being delivered.

Medicines were not making it through the last mile to the health facilities, and with mounting political pressure, it was decided that a change of strategy was required. A strategy review was conducted, beginning with an assessment of the mandate of NMS, which is to store and distribute medicines. In the eyes of the people NMS were not delivering against this mandate and the NMS team were under pressure to improve service delivery, and to do so quickly.

Outsourcing the last mile element of distribution was considered to be a viable option, and a pilot was conducted over 15 months, starting in 2011 utilising vehicles hired from the existing district fleets. Over time, the pilot was extended to cover about 20 districts.

Outsourcing Last Mile Logistics

The pilot proved successful and a decision was taken to outsource all last mile logistics in Uganda. The majority of transport from NMS to the district stores is still conducted by NMS using their own fleet, while all transport from the district stores to health facilities is outsourced to private sector LSPs.

Delivery vehicles in Uganda

Source: National Medical Stores (2015)

The private sector LSPs have had to be innovative and adapt to the local environment, it is a truly multi modal solution where trucks are supplemented by bicycles, headloading and boats when the conditions demand it. They have increased expanded their team and have invested in new vehicle capacity.

There are currently two contracted LSPs, Threeways Distribution and Muru international. Between them, they serve all 112 districts, visiting each on a bi-monthly basis. Originally there was a third LSP but their contract was terminated during the first year due to an unsatisfactory level of performance.

LSP selection was conducted using a thorough RFP process, key elements of which were:

- to determine their capability in last mile logistics
- understand if they had relevant pharmaceutical expertise
- conduct background checks
- understand the LSP's financial position; could they manage if payment was slightly late
- understand scale; could they provide a minimum of five vehicles of the varying sizes required to manage access restrictions at various health facilities
- understand how flexible they could be in meeting the demand of the NMS

LSPs were contracted directly by the NMS, based on Ugandan government guidelines. NMS outsourced the bid evaluation to an auditor, who worked closely with the NMS risk team in order to ensure a thorough evaluation, which took a few months. This was a smart means of mitigating against any lack of outsourcing experience among the NMS team.

The LSPs were initially contracted for a six month probationary period, and are now operating to one year contracts, which are renewed annually. The contracts stipulate clear Terms of Reference (TORs) which are audited by the customer care team in the field, including:

- use of correct equipment
- product care requirements, e.g. keeping medicines out of sunlight
- driver uniform requirements
- PODs return procedure, to be received at regional level and paid on receipt
- responsibility for losses and damages

There are no performance based risk/reward payments but the contracts can be terminated if performance does not meet the required standards.

An Improved Service

The private sector providers work to a lead time of five working days to deliver to an entire district, and all PODs are returned to NMS. NMS have seven customer care staff working in the field, visiting the districts and assessing performance.

The delivery report is posted on the NMS website every week enabling full visibility to all parties.

Kazibwe (2014) says *"compliance of outsourced distributors, the infrastructure of outsourced distributors, and the organisational culture of outsourced distributors positively and significantly contributed to the performance of NMS".* Service has improved considerably and the NMS team are now focused on how to make it great, a key part of which is engaging with the public to explain the progress that has been made.

NMS MEDICAL LOGISTICS

NATIONAL MEDICAL STORES

NMS WEEKLY DELIVERY REPORT

(CYCLE 3)

WEEK: 2nd November – 6th November 2015

No.	District/Facility	Date Dispatched	Supplies
1	Mbale Regional Referral Hospital	2/11/15	EMHS
2	Zone 1	2/11/15	IV Fluids
3	Moroto Regional Referral Hospital	2/11/15	EMHS
4	Kween DHO	2/1/15	EMHS
5	Mayuge DHO	2/11/15	EMHS
6	Jinja Regional Referral Hospital	2/11/15	EMHS
7	Bulambuli DHO	3/11/15	EMHS
8	Sironko DHO	3/11/15	EMHS
9	Mbale DHO	3/11/15	EMHS
10	Amudat DHO	4/11/15	EMHS
11	Nakapiripirit DHO	4/11/15	EMHS
12	Kapchorwa DHO	4/11/15	EMHS
13	Kapchorwa General Hospital	4/11/15	EMHS
14	Budaka DHO	4/11/15	EMHS
15	Pallisa DHO	4/11/15	EMHS
16	Pallisa General Hospital	5/11/15	EMHS
17	Kibuku DHO	5/11/15	EMHS
18	Namutumba DHO	5/11/15	EMHS
19	Kaliro DHO	6/11/15	EMHS
20	Jinja DHO	6/11/15	EMHS
21	Kayunga DHO	6/11/15	EMHS
22	Kayunga General Hospital	6/11/15	EMHS
23	Buyende DHO	6/11/15	EMHS
24	Kamuli DHO	6/11/15	EMHS
25	Kamuli General Hospital	6/11/15	EMHS
26	Buikwe DHO	6/11/15	EMHS
27	Kawolo General Hospital	6/11/15	EMHS

To let us know how better NMS can be of service to you, please contact us on;
Toll free: **0800122221** (UTL), **0800200015** (MTN), Tel: **+256414320089/320507** or
Email: **sales@nms.go.ug**, Website: **www.nms.go.ug**,
Social media: www.twitter.com\nmsuganda or facebook.com\nmsuganda

NMS Weekly Delivery Report

Source: National Medical Stores (2015)

Bringing Vaccine Logistics into NMS

Vaccine distribution had been managed by UNFPA, until it was taken in house by NMS in 2014. The decision to progress with an in house solution was based on a lack of cold chain experience and capacity among local private sector LSPs. There is some limited cold chain capacity available but this tends to be food related, rather than vaccine.

NMS required seven refrigerated trucks to undertake distribution from NMS to district stores countrywide, these were taken from the existing NMS fleet and additional ambient vehicles were hired in to backfill. NMS now proactively manage the temperature in the delivery trucks and in over 2,000 solar powered health facility fridges. The last mile distribution is conducted using cool boxes on ambient vehicles, which is separate to the outsourced last mile solution contracted to Threeways and Muru. This leg is typically a maximum of c. 60km and takes approximately 2 hours.

In Summary

- Following a change in strategy, outsourcing last mile distribution has improved service significantly, in 2015 up to 98% of product is being delivered, before 2011 the majority was being lost
- Following a successful pilot, an RFP process was conducted to select the outsourced LSPs
- Two LSPs are now involved, and they provide a diverse multimodal solution which includes use of bicycles, headloading and boats, as well as trucks
- The LSPs have annual contracts, which stipulate a clear set of TORs
- Visibility and transparency are key to the improved service levels

Zambia: Managing Strategic Change with Outsourced Capacity

The Medical Supply Chain in Zambia

The supply chain is managed by Medical Stores Limited (MSL), with a combination of in house and outsourced LSP distribution. This has been the result of a recent strategic change whereby MSL is now responsible for last mile distribution, which previously fell under the remit of the district.

The change has been instigated to resolve availability issues at the health facilities under the previous system, research carried out by Dalberg Global Development Advisors and the MIT-Zaragoza International Logistics Program (2008) said *"In Zambia, products are largely available at the CMS but don't quite make it out to the facilities where availability is poor."*

MSL – A Para-statal CMS

MSL is as a para-statal organisation, it operates storage and distribution services funded by contributions from both government and donors. Research (Dalberg , 2008) explains that this enables it to behave like a private sector organisation in some respects, and benefit from best practice, including staff incentive schemes, more flexible terms of employment and freedom to invest in technology.

In the early 2000's a decision was made to outsource four director positions at MSL to a private sector organisation, in order to resolve management issues and build capability. Crown Agents secured the contract, and the model was operated for twelve years, over several terms, prior to a transition back to MSL employed directors.

Source: Medical Stores Limited (2015)

Following this transition, in 2013, the mandate at MSL changed, to include responsibility for last mile distribution. Prior to this MSL had been responsible for delivery to the district level or hospitals, and the districts had responsibility for last mile to health facilities. MSL are in the process of transitioning to this model, new provincial hubs have been established in Western, Southern and Eastern provinces, while in the other provinces last mile is still managed by the districts.

MSL has opted to operate warehousing and distribution at the new hubs on an in house basis, it was considered important that the customer facing staff making deliveries to health facilities were employed by MSL, to ensure consistent application of policies and procedures. MSL has chosen to outsource the deliveries from CMS to the new provincial warehouses.

Today MSL is moving towards a fully commercial, self-financing model. In the future there is scope to extend this commercial approach to incorporate private sector volume and generate additional income for MSL, something which there is an appetite for within the private sector.

MSL work closely with JSI, who are supporting the USAID Deliver project and SCMS programme in country, and have been instrumental in the introduction of the following initiatives from a financial and technical perspective.

The Essential Medicines Logistics Improvement Program

In line with the role out of the provincial hub model, JSI implemented the Essential Medicines Logistics Improvement Programme (EMLIP). It is a manual pull resupply system whereby each individual health facility sends routine monthly consumption data to MSL. Following the initial rollout to 27 districts, central stockouts were reduced from c.50% in 2012 to c.28% in 2013 (USAID, 2014).

Using this information, MSL now picks and packs for each individual facility, rather than at the district level. While service has improved, this has been operationally challenging because there are a lot more boxes to physically handle, and additional staff and resources are being utilised in order to maintain service.

Outsourcing to an LSP Provider with Limited Capabilities

The CMS in Botswana had been operated by Crown Agents on an outsourced basis, it was a well regarded operation, with good quality facilities and ISO 9001 accreditation. The government took the decision to outsource the entire operation to a third party.

Ultimately the winning bidder was Botswana Couriers, a semi private organisation which is linked to the post office in Botswana.

Botswana Couriers were in a strong position in terms of assets and network, because they could utilise existing post office infrastructure and vehicles. Conversely, they didn't have the expertise in managing inventory, in batches and with short expiry dates, that was required to manage the CMS warehouse. Similarly, there were challenges with delayed orders, inconsistent billing and a lack of reporting. While the contract had been well designed, and there were penalties associated with poor performance, these were not exercised by the government.

The government has been able to reduce staff numbers, with those remaining focused on managing the contract with Botswana Couriers, rather than running the operation.

Engaging with Outsourced LSPs

The market for outsourced logistics in Zambia is fairly strong, there are a number of players although they tend to have strengths in specific regions rather than a cohesive country wide network.

JSI issued an RFP detailing the requirements for a distribution service from the MSL central warehouse to the three new provincial hubs. They set up a committee to evaluate the responses, which included representation from MSL. The evaluation was focused on specific areas:

- Ensuring LSP providers had sufficient capacity and vehicle availability
- Site visits to LSP providers existing facilities to validate RFP responses

- LSP providers reputation
- Cost, which was the determining factor once capability was determined

Following the evaluation, JSI contracted with two private sector LSPs. Based on their capability, and where they could deliver competitive advantage, one was allocated to the Southern province, and the other to the Eastern & Western provinces.

Initially the LSPs were granted short term contracts from August 2015 through to December 2015, which was determined by the length of JSI's contract. The outsourced LSP contracts have since been extended to June 2016, contracts are between JSI and the LSP and JSI make the payments. Charging is based on a fixed closed book lane rate matrix, with payment triggered by the presentation of a clean POD. Headline KPI performance is measured and reviewed at regular monthly meetings, key measures are vehicle availability and delivery performance against lead time.

All private sector LSP drivers have attended an induction at MSL and are aware of the guidelines. The LSP providers have proven reliable to this point, with no major concerns raised by either JSI or MSL.

There have been some challenges, particularly in terms of managing the expectations of the different layers of management at MSL. There were some early instances of the LSPs being asked to perform activities that were outside the scope of their contract, and some challenges with emergency orders which were within scope of the contract but outside of the normal delivery schedule. These have now been resolved.

While still in its infancy, the success of this outsourcing might give MSL the confidence to consider outsourcing last mile distribution, once it is satisfied that a private sector LSP can provide similar (or improved) levels of customer service at delivery points.

Outsourced Time Critical Temperature Controlled Requirement

MSL have an in house cold chain capability for vaccines, utilising cool boxes on their in house fleet. They also had an additional requirement to move laboratory reagents under temperature controlled conditions. Reagents have a very short shelf life, and the monthly MSL schedule was not able to move them sufficiently quickly.

As a result JSI and MSL have contracted with a private sector LSP to provide this service. This is something which has been in place for some years, it is currently outsourced to Lechwe Express, which is also one of the contracted LSP providers for provincial warehouse ambient transport, as well as the local agent of UPS. Volumes are relatively low, and charges are closed book, per consignment, based on volume and distance

Lechwe Express has a good network in Zambia, a range of temperature controlled vehicle types and experience in dealing with pharmaceuticals. They use an electronic USB data logger, which captures temperature data every few minutes and provides an audit trail which is reviewed by JSI prior to issuing payment.

To date, there have been no significant failures in terms of product integrity or late delivery. A former supplier (a global player in the parcel distribution market) was not able to meet the time sensitive demands and maintain product integrity.

In Summary

- MSL is a para-statal organisation, funded by government and donors
- Transport from the MSL central warehouse to three new provincial hubs has recently been outsourced, which is proving successful
- JSI have implemented EMLIP, a manual pull resupply system which is reducing stockouts
- JSI also manage an outsourced arrangement for the time sensitive delivery of temperature controlled laboratory reagents, on behalf of MSL

Ghana: An Interim Solution in a Crisis

The Medical Supply Chain in Ghana

The medical supply chain in Ghana has changed rapidly, following a devastating fire in January 2015 which destroyed the CMS in Tema. Utilising available private sector LSP capacity has enabled continuing operations with an interim supply chain, while plans are made for the future.

Prior to this, distribution in the medical supply chain in Ghana had been managed on a decentralised basis, with health facilities making ad hoc collections from the stores at the next tier up.

Decentralised Approach to Distribution

Historically, distribution between tiers in the medical supply chain in Ghana has been fairly ad hoc. Dalberg Global Development Advisors and the MIT-Zaragoza International Logistics Program (2008) explained that facilities were responsible for arranging their own transportation and collecting product from the next highest tier in the supply chain. This tends to be expensive and time consuming for health workers, ultimately it will lead to stockouts because there is no schedule to manage forecasting, order placement and deliveries.

Funding Challenge

An ongoing challenge in the establishment of any new operation is the capital investment required, pharma grade warehousing, trucks and IT are all significant and need to be amortised over long periods of time. Depending on the scale of investment, and in order to be cost competitive, this would typically be 3, 5 or even 10 years in the private sector.

Donor funders tend to focus on 12 month cycles, possibly up to 18 or 24 months for certain projects, often because the focus is on transitioning quickly to government ownership. This short term approach drives additional cost, in truck leasing over shorter timescales for example, and could affect the contracted LSP's appetite for investment. In many circumstances, these projects would not be viable for the global LSP players because they are not in a position to take risk on capital beyond the contract term. The UN Commission on Life-Saving Commodities (2014) identifies government contracting and regulatory procedures as a possible limitation to extended contract length and inhibiting private sector LSPs from spreading investment and risk over time.

In is not unusual for outsourced arrangements to remain in place beyond the term originally intended, and while it does impact on flexibility a change of approach to consider 3 or 5 year options is likely to drive better value in the longer term.

In many current cases fixed costs are being recovered over much shorter terms than is typical in the private sector, fuelling a perception that the private sector is more expensive than a government funded operation.

The USAID Deliver project proposed a system of scheduled deliveries but Dalberg Global Development Advisors and the MIT-Zaragoza International Logistics Program (2008) said that this was only implemented in three out of ten regions. The remaining regions cited the following as barriers to implementation:

- lack of funding
- lack of appropriate trucks
- lack of proper procedures
- lack of adequate staff
- service levels at the CMS

Utilising Private Sector Capacity in a Crisis

Following a fire at the central store, the CMS in Ghana immediately sought out an alternative warehouse location, and secured it within very short timescales. Unfortunately it had a limited capacity and was not wholly compliant with guidelines for the storage of pharmaceuticals. The donors, who funded the commodities that were to be stored there took a strong stance with the CMS and made efforts to find an alternative.

IHS had an existing hub in Ghana, which was being utilised by a mix of private sector and donor funded pharmaceutical clients, including PEPFAR, GSK and AstraZeneca. When the facility was built, IHS had made a conscious decision to invest in future capacity and c.50% of the space was available. The donors made arrangements with IHS to utilise this space, with funding provided by Global Fund and USAID.

IHS now receive inbound volume of behalf of Global Fund, which they store and distribute to the ten regional stores and four teaching hospitals, each served bi-monthly with additional emergency shipments if required. IHS uses a local LSP to undertake all of the transport to the regional stores, on a twelve day lead time from date of order. This arrangement supersedes the previous situation whereby regional stores collected their orders from the old CMS site.

The Supply Chain of the Future

Following some initial concern about losing control through outsourcing, the CMS in Ghana have seen a significant reduction in stockouts since IHS took on the distribution. This experience may lead them to consider outsourcing some or all of the future CMS supply chain.

There is no clarity as yet, in terms of the supply chain model CMS intend to pursue but they have an opportunity to leverage private sector capability to design an optimal supply chain and operate some, or all elements of it. There is even scope to consider integration with other private sector pharmaceutical clients, sharing warehouse space and vehicles which would generate an income and reduce costs to the CMS as a percentage of product value delivered.

In Summary

- Utilising private sector LSP capacity has enabled ongoing operations following a fire at the CMS
- The private sector approach has been to manage deliveries to the regional stores, rather than regional stores collecting as they had in the past
- The future supply chain model isn't clear yet, but this is an opportunity to increase private sector involvement to deliver a more efficient solution based on a set delivery schedule

Malawi: Building the capability of an outsourced LSP

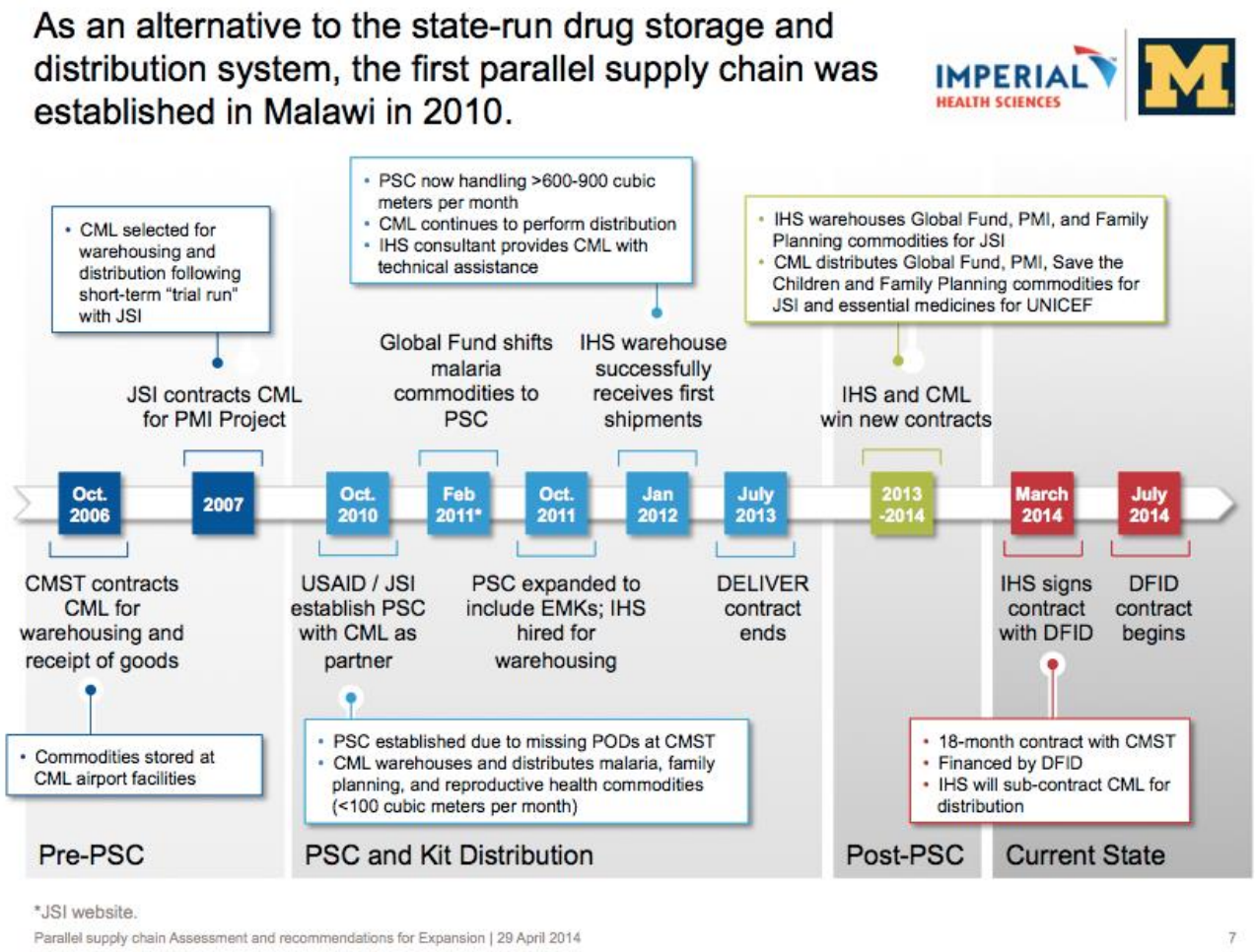
The Medical Supply Chain in Malawi

A donor funded PSC (Parallel Supply Chain) was established in Malawi, due to concerns about traceability of commodities in the Central Medical Stores Trust (CMST) supply chain. IHS were contracted and worked with a local LSP called Cargo Management Logistics (CML), strengthening their capability significantly.

Since the implementation of the PSC, CMST have outsourced some distribution to IHS/CML leading to significant stock availability improvements, and now they intend to continue with an outsourced arrangement.

Establishing the Parallel Supply Chain

After conducting audits USAID and other donors were concerned about traceability of the health commodities they had provided in Malawi, a significant proportion of which could not be accounted for at their destination. One of our interviewees suggested that essential medicines were out of stock at 95% of the 645 health facilities in the country.



Source: Cooper et al., 2014

Outsourcing of Cold Chain Equipment Maintenance

Outsourcing of non-core functions can span a variety of technical areas. In Nepal, the Ministry of Health recently recognised that it did not possess the requisite knowledge to manage maintenance of medical equipment, including cold chain equipment. So in 2009, a pilot project was undertaken in two regions whereby a Public Private Partnership (PPP) was established with a local maintenance provider. The PPP was under-pinned with a well-defined contract including specific deliverables, response times, verification of work undertaken and verification of invoices (a maintenance software package was used for this, more detail at Appendix 3).

Initially the maintenance provider established two regional workshops plus a regional mobile unit. Basic equipment is still maintained internally by hospital technicians (if available), while more complex equipment is covered by the maintenance contract. There have been some challenges maintaining levels of necessary spare part stock across the different locations however stakeholders have already observed improvements in terms of increased equipment uptime, increased life span, and improved service delivery. Real time visibility of maintenance information has also proven extremely valuable. A process for registering and verifying job cards was also instituted to ensure timely payment of the maintenance provider.

After the pilot, in 2013 a countrywide cloud-based inventory assessment was undertaken which will form the basis for a wider roll out of the maintenance contracts. Funding from KfW was necessary for the expansion of the programme due to limited national health budgets. The PPP consulting contract was tendered by the MoH/KfW and technical support for the process will be provided by an international consultant.

- The future technical support will include:
- Assistance with tendering the maintenance contracts
- Assisting with a review of service provider capacity
- Verifying capacity and levels of competition in order to establish the requirements of a national/regional tender
- Implementation of the project with on-line maintenance information

Overall the transition has been seen as positive but has also been recognised as time consuming. During the pilot project the maintenance provider did initially experience difficulties adhering to what they saw as complex and stringent contractual details. Significant training was required to build the capacity of both parties (the MoH and the maintenance provider) in order that they could understand and implement appropriate standard operating procedures. In conclusion, the stakeholders felt that regular communication, and the provision of technical support throughout the process, were vital in ensuring the success of the pilot.

The donors began to consider other alternatives to the government operated CMST supply chain and ultimately, they decided to set up a PSC. JSI, and in turn IHS was contracted to implement this. It was established in October 2010 (Cooper et al., 2014), and was intended to be an interim arrangement while the CMST was strengthened in the background, with investment in new vehicles planned. IHS were initially awarded a one year contract which might be perceived as limiting potential for capital investment, or driving up the cost of investment. It did prove expensive in year one because IHS had to recover fixed costs that would more typically be spread over a 5-10 year contract in the private sector, but they were able to reduce the costs significantly in year two. The contract was underwritten by DFID, so the private sector LSPs are not exposed to risks arising from government non-payment.

An estimated 40% of medicines now move through the PSC in Malawi, with the remaining 60% being managed by the CMST.

Building Capability of an In Country LSP

IHS now operates a dedicated warehouse while distribution is subcontracted to CML, who had been an incumbent LSP to the CMS since October 2006. CML were predominantly a freight forwarding organisation with a small mixed fleet of 15 vehicles and limited warehouse capacity. They had aspirations to grow and improve their operations and part of the arrangement was that IHS would support CML with ongoing business improvement. The overall market for logistics in Malawi is weak with a lack of corporate capacity to build on.

IHS supported CML by delivering improvements in the following areas:

- Organisation and Management
  - through the implementation of a clearly defined management structure
- Planning and control
  - by supporting the implementation and use of a new routing and scheduling system with GPS vehicle tracking (c. US$50k investment by CML). Planning can now account for road conditions and access limitations at specific health facilities
- Fleet size
  - increased to c. 30 vehicles by providing access to additional vehicles on a commercial basis. Initially, CML were not able to access sufficient funding through traditional channels, this changed after c.18 months and the IHS provided vehicles were transitioned out
- Robustness of organisation
  - through the implementation of SOPs to cover areas including Proof of Delivery (POD) handling, driver instructions and KPIs
- Communication and transparency
  - regular bi-weekly operational meetings and daily reporting of clear, objective metrics

(Cooper et al., 2014)

CML is delivering to each of the 645 health facilities on a monthly basis, within a window of 15 working days. The contract is based on a minimum volume and charged on a ‘per pallet’ basis with activity based charges for additional services. There is no explicit risk and reward mechanism in the contract but if CML were not delivering JSI and IHS would seek to understand why and work with them to remedy the issue.

CML has now become an accomplished LSP in it's own right. It has been able to leverage this new capability to bid for additional work with other private sector clients, both within Malawi and further afield, creating a more robust business which improves stability for the PSC.

Parallel Supply Chain Performance

In recent years, a significant proportion of Malawi's total requirement for health commodities have been shipped through the PSC, and bypassed the CMST entirely. The warehouse space has increased from c. 300 sqm of block stack space to a dedicated pharmaceutical grade warehouse with a capacity of 5-6,000 pallets.

The parallel supply chain is performing strongly:

- Nearly 100% of commodities delivered to 600+ facilities within 10-15 day distribution period, monthly
- Stock-out rates of key medical commodities 60-70% lower than before the PSC
- Nine reports are produced monthly that show the health of the PSC
- Averaged 99.83% in 2013 for clean PODs
- All commodities tracked by batch number

(Cooper et al., 2014)

Current State

In 2014 GFATM decided to run a competitive tender for the distribution of its commodities, which was won by Bolloré, a French company that works with a local private sector LSP. As a result these commodities have now moved away from the PSC.

Since July 2014, CMST has contracted with IHS/CML to undertake all distribution from regional stores to districts and hospitals leading to a remarkable improvement in stock availability. This arrangement is planned to continue through to July 2016, and the opportunity will be retendered publicly between January and July 2016, CMST have now built the capability to performance manage outsourced LSP providers and intend to continue with an outsourced arrangement.

Vaccine Distribution in Malawi

The EPI works with a government owned and operated vaccine supply chain. There are warehouses established in 3 regions:

- Northern - currently a temporary site
- Central - warehouse with cold store
- Southern - warehouse with cold store

The central store in Lilongwe receives all vaccines and 4 vehicles are engaged to trunk vaccines to the northern and southern warehouses. The districts collect from the regional stores and manage distribution to health facilities, which can lead to challenges with cold chain integrity.

In Summary

- Established a new PSC, which has delivered a remarkable improvement in service in one of the most challenging environments in SSA, proving that this approach can work
- Success of the PSC has led government to outsource an element of the CMST distribution, and build specific capability to manage this type of arrangement going forward
- CML have grown to become a strong private sector LSP in their own right
- The limited contract lengths have led to high costs in year one

CHALLENGES AND RECOMMENDATIONS

Outsourcing is often used as a means to access additional capacity, and has proven successful in the majority of cases, although many of our interviewees haven't always found the transition to be smooth. The CMS's in Mozambique and Kenya, countries with strong private sector logistics markets, have both made a strategic decision to outsource instead of operating an in house fleet.

However, despite the successes there are still are host of barriers and challenges, which limit further progression in some countries, and for some organisations.

Challenges for Government Organisations

- Lingering concern over loss of control, in some cases political rather than operational
- Limited capability to manage service contracts and use KPI data to improve supplier performance and drive supply chain efficiency
- Limited opportunity to redeploy existing resources; we didn't identify any circumstances where a private sector LSP had taken on any vehicles from a government fleet. In many cases they are contracted to provide additional capacity, and in one case where the in house fleet was no longer required, the contracted LSP assessed it and it did not meet their minimum standards, their preferred option was to utilise their own vehicles. Furthermore, disposing of government owned assets can be a complex process, and any associated income is likely to be accounted for locally, rather than benefitting the operation, so there is little incentive to transfer ownership of vehicles.
- Limited expertise to consider optimisation of the entire supply chain, and alternative models such as the Direct Delivery Strategy implemented by IHS in South Africa
- Needs a change of mindset to think like a customer rather than an investor, to buy a service instead of assets
- Costs of existing in house operation are often not fully understood, with key elements such as capital equipment costs accounted for elsewhere, and resources often shared with multiple (vertical) donor programmes. This is challenging when determining whether an outsourced LSP is proposing value for money in an RFP process, and often leads to the conclusion that a private sector LSP is more expensive

Challenges for Private Sector LSPs

- Risk around reliability of payment from government organisations, either due to complex, time consuming systems or their inability to pay towards the end of the financial year. The capital intensive nature of logistics services results in a high sensitivity towards cash flow
- Contract lengths being offered are relatively short, often one year or even less, which is too short to amortise capital costs, particularly for vehicles. This is often driven by donor investment cycles, and a desire to transition operations back to government. It fuels a perception that private sector LSPs are more expensive, and offering longer term contracts is key to developing the market
- RFP and contracting structures can be quite rigid, restricting opportunities to deliver operating efficiencies. This might be because the outsourced LSP is only in control of a portion of the supply chain or the pricing and contracting structure does not incentivise them to do so

Recommendations

- Link larger LSPs with demonstrable expertise with smaller local operators, and incentivise them to work together to develop in country capability and capacity, on a commercial basis, similar to the IHS and CML example in Malawi
- Governments that are considering outsourcing should consider implementing a KPI suite beforehand, which can be measured consistently through the transition to an outsourced LSP in order to measure improvements
- Leverage existing supply chain infrastructure in other sectors where possible. Challenge regulations that prohibit this, or are perceived to prohibit it, if there is a business case to do so
- Follow the guidance in this report and use the outsourcing framework to manage the process

Advocacy

Throughout this report there are examples of instances where governments decided to outsource the transport of vaccines and medicines. In each case the decision to outsource was motivated by different factors. What is consistent however is that in each case a broad range of stakeholders needed to be convinced of the benefits of outsourcing in order to build the political will to support the transition from in-house distribution. It is recommended that all stakeholders recognise the value of advocacy as a tool to inform and educate governments and donors about the benefits of outsourcing in terms of both cost savings and also improved service delivery. Such advocacy can include the following activities;

- Sharing examples, such as those in this report, where outsourcing has made a measurable impact on improving service delivery or reducing costs
- Encouraging opportunities whereby CMS staff can meet with LSPs. Often CMS senior management do not have opportunities to meet with LSPs and discuss their respective concerns about collaboration
- Likewise, stakeholders could encourage private sector users of LSPs such as Coca Cola, Unilever, and mining companies to meet and discuss their experiences of outsourcing transport services. This approach could help a CMS to understand the processes by which organisations outsource their transport, and equally could serve as an open forum to discuss challenges or risks
- Equally exchanges could be valuable whereby individuals from some CMS' are able to travel to visit CMS' in other countries where outsourcing has taken place or other improvements made

SECTION 3 - OUTSOURCING FRAMEWORK

This framework is designed to assist government operated CMS vaccine and medical supply chains in outsourcing distribution services. Elements of it can also be applied to distribution outsourcing by other types of organisation in sub-Saharan Africa.

It is intended to be used in conjunction with existing procurement tools and other materials. The United Nations Commission on Life-Saving Commodities, The Technical Reference Team on Private Sector Engagement (2014) provides a useful summary of tools that are available to support wider public sector engagement.

This Outsourcing framework is divided into three sections:

- Considerations for Outsourcing
    - The Consideration Flow
    - Preparing an Outsourcing Proposal
- The Outsourcing Process
    - Project Plan
    - Procurement
    - Contracting
    - Key Performance Indicators
    - Implementation
    - Business as Usual
- Summary and Checklist

The focus is on the 'How', rather than 'Why'. The following literature will provide a broader understanding of 'Why' an organisation might consider outsourcing:

- USAID | DELIVER PROJECT, Task Order 1. (2010)
- United Nations Commission on Life-Saving Commodities, Technical Reference Team on Private Sector Engagement (2014)
- Dalberg Global Development Advisors and the MIT-Zaragoza International Logistics Program (2008)

Considerations for Outsourcing

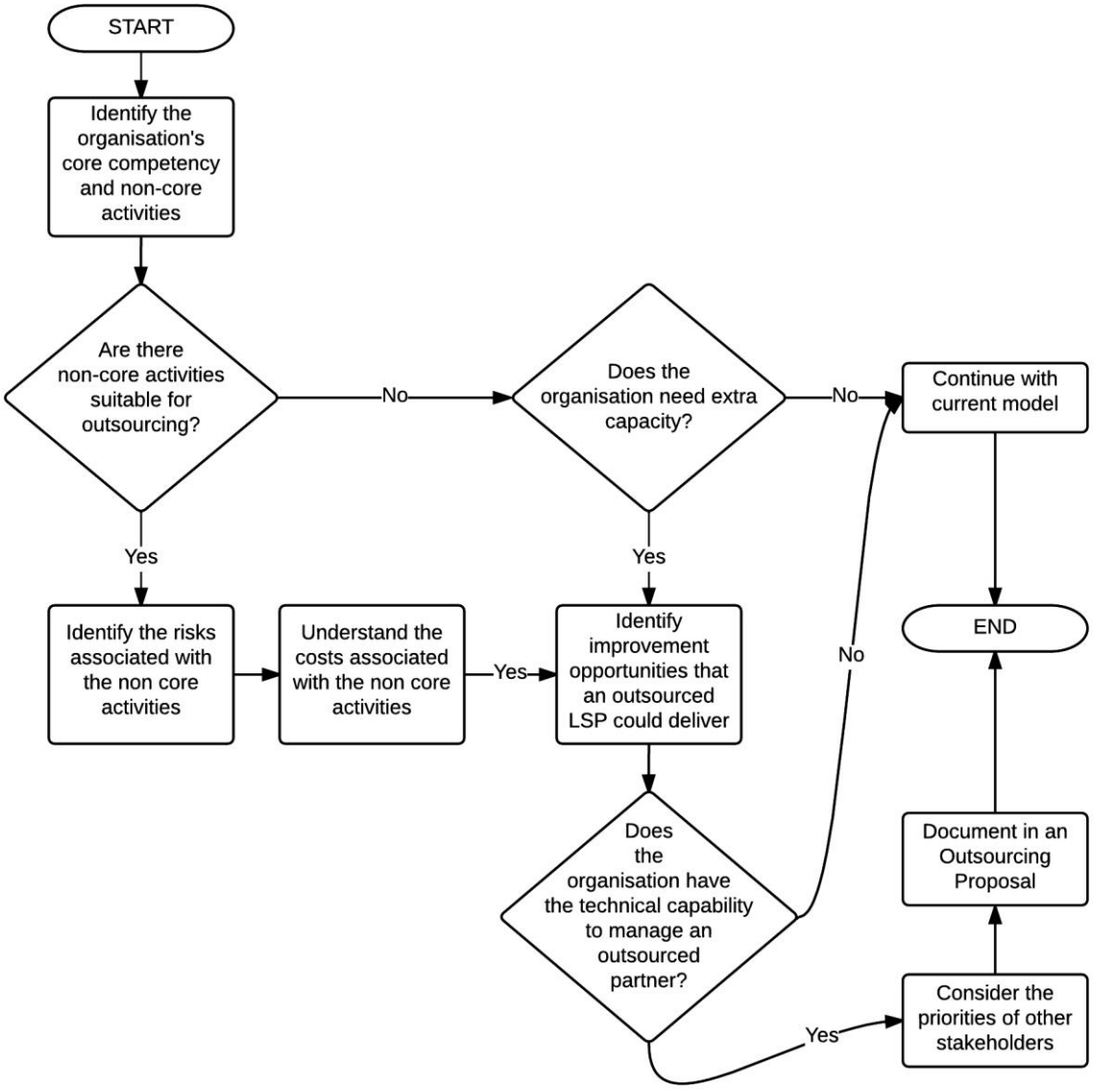
There are some key considerations to be made prior to outsourcing:

- What activities are non-core, and therefore suitable for outsourcing?
- Does the organisation need additional capacity, which could be gained by outsourcing?
- What are the costs, risks and opportunities for improvement?

Once a potential outsourcing opportunity has been identified it should be documented as a proposal for all stakeholders to review, prior to making a firm decision to proceed.

The Consideration Flow

This flow will drive a fact finding process that is likely to involve a series of meetings with representatives from senior management, operations management and finance. The flow should be read in conjunction with the notes in the table below.



What is the organisation's core competency[4]?	What is the purpose of the organisation, or the mandate to which it operates? Some activities are core to the delivery of this, and some, while remaining the responsibility of the organisation, might be considered non-core, and therefore potentially suitable for outsourcing. Distribution is often cited as a non-core activity, some others might include: • Warehousing • Transport planning • Stock control • Maintenance of vehicles and equipment • Procurement • Customs clearance • Facilities management • Security
Does the organisation have capacity to meet future requirements?	Demand is forecast to grow significantly, particularly in the vaccine market where both volumes, and the physical size of vaccines are increasing. Can the organisation grow at the speed and to the scale required to meet future demand? Are the necessary people and assets available in the market, and accessible to the organisation? Is it in a position to make the necessary investment?
What is the risk associated with these activities?	Would transferring these risks to a third party enable them to be managed more effectively? For example, an LSP might be better placed to manage a high turnover of drivers, because they have established relationships with recruiters and can offer a structured training programme as well as career progression opportunities across their wider organisation.
Are the costs associated with the relevant activities fully understood?	It is not unusual for a CMS to be unaware of the full cost of their own end to end supply chain, which makes it difficult to assess the value of outsourcing. Is there visibility of all costs at the requisite level to understand whether an outsourced proposal would deliver value for money? Might some items be costed in budgets elsewhere or does the budget include items associated with another activity? For example it is not uncommon for the amortisation of capital investment on vehicles to be budgeted centrally. Similarly, a CMS warehouse budget may include driver salaries, because that is where all of the staff costs have been allocated.
Are there improvement opportunities that an outsourced LSP could deliver?	Is the organisation seeking to deliver change, either now or in the future, which could be facilitated by an outsourced provider? MIT-Zaragoza, Transaid and VillageReach (2011), identifies the following examples: • Redesign supply chain – e.g. new warehouse or staging locations • Redesign management approach • Improve capabilities – technology, reliability

[4]USAID | DELIVER PROJECT, Task Order 1 (2010), defines the core competency of a business as it's *"main purpose and it's key to survival"*, for example Apple's core competencies are design and innovation, the manufacturing process is considered non-core, and is outsourced to a third party.

Does the organisation have the technical capability to manage an outsourced partner?[5]	Are the mechanisms in place to budget, and understand costs by category (e.g. fuel, tyres, wages) and by region? Are the financial systems set up to manage PODs and pay external partners on time? Is there a means of collecting and recording KPI data?
What are the priorities of other stakeholders?	Have you conducted a Stakeholder Mapping exercise to identify stakeholders and gauge their perspectives, interests and objectives. Stakeholders will be from a diverse range of organisations which might include donors, other government departments or civil society organisations.

Prepare an Outsourcing Proposal

The output of the meetings and research conducted during the considerations flow will guide the outsourcing organisation as to which activities have potential for outsourcing, and the benefits that might be realised.

At this stage a brief proposal can be drafted to describe the parameters of the outsourcing, it is recommended that the proposal contains the following information:

What activity will be outsourced?	Detailed description of distribution activity, clarity over links with, or dependencies on other activities.
What is the organisation seeking to achieve?	What are the objectives? What benefits will the outsourcing deliver? • Risks to be transferred • Capacity to grow • Estimated cost and service benefits • Proposed Continuous Improvement (CI) opportunities
What are the risks of outsourcing?	Any identified risks and associated mitigations.

The proposal should be shared with all relevant stakeholders who should be engaged in making a decision about whether to progress with an outsourcing. Advocacy is key when proposing supply chain changes (if it has been deemed that outsourcing is likely to derive benefits) and consultative communications aimed at all affected parties would be beneficial to satisfy any concerns and describe the potential benefits.

Once stakeholders have reviewed the proposal, a decision can be made as to whether to progress with a outsourcing. This is likely to need senior management signoff at a board or cabinet level.

[5] Delays in payment to LSPs or non-payment are critical risks to ongoing operations, which should be managed as part of a Risk Mitigation Strategy. External technical support from donors or technical partners could be sought to assist governments in undertaking a public financial management audit, part of which should be a review performance against payment terms for existing suppliers in other sectors.

The Outsourcing Process

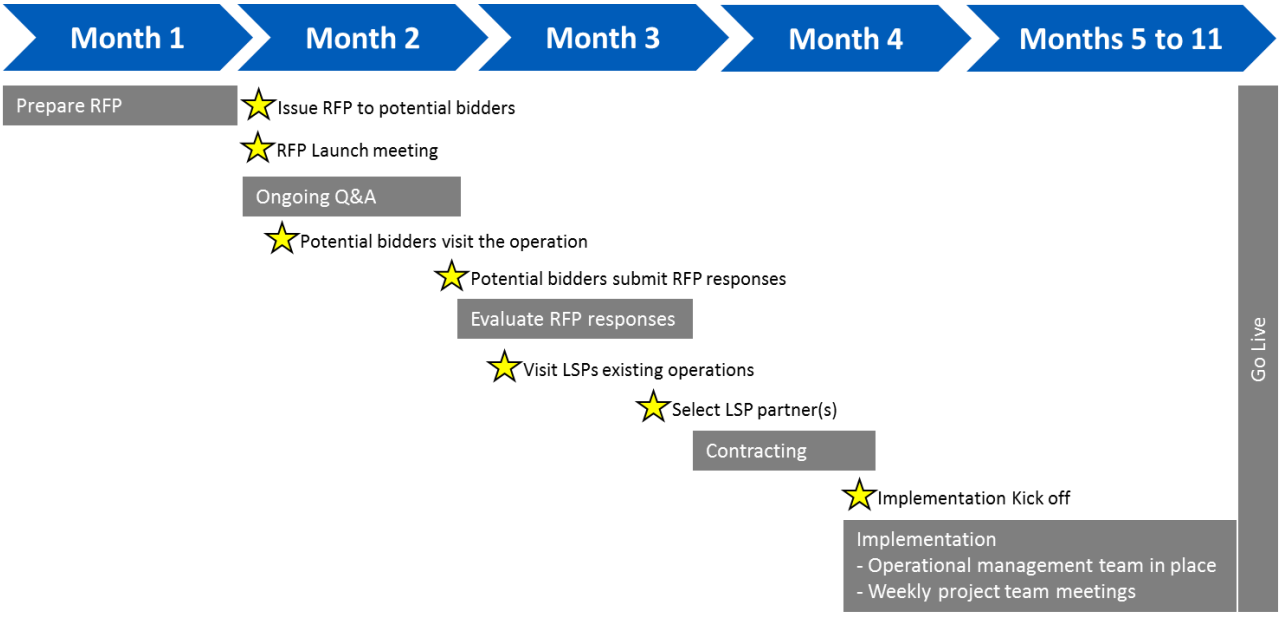
This process (and the examples and templates included as appendices) outlines outsourcing from the start of planning an outsourcing project, through the procurement, contracting and implementation phases to business as usual.

This is focused on the specifics of distribution outsourcing. United Nations Commission on Life-Saving Commodities, Technical Reference Team on Private Sector Engagement (2014), provides a useful template of procurement processes applicable to all private sector engagements.

Any public sector procurement process will be subject to the regulations and procedures of the country. Should these prove to be restrictive to the scope of the outsourcing or limit the potential to realise benefits, it may be necessary to challenge them. Public sector procurement organisations are typically focused on the procurement of goods, and perform well in this area, yet may have a more limited capability in the procurement of services.

Project Planning

It is good practice to put together a project plan, timescales will be dependant on the scale of the outsourcing, but the key activities will be closely assigned to the high level example below. It is recommended that the outsourcing be managed according to the principles of an established project management methodology, such as PRINCE2.



It is recommended that the project plan is created in a spread sheet and each activity is aligned to the staff and resources that will be required to undertake it, with their associated costs. This way, you can build up an estimated budget for the project from RFP preparation, through implementation to go live. Depending on the resources that are already available within the outsourcing organisation, this process can prove to be more costly than anticipated at the outset if not budgeted carefully.

Procurement

The procurement process involves running a Request For Proposal (RFP) process in order to:

- Understand the capabilities of the relevant players
- Select a partner based on capability and value

RFPs are typically published in national newspapers, although it may be feasible to focus on regional publications if you are tendering specific regions, dependant upon the procurement regulations you are operating under. An RFP is also often known as an Invitation To Tender (ITT).

This framework assumes a single stage in the process, but it is possible to run two stages, and shortlist at the end of the first stage. In such an instance you would run a Request For Information (RFI) process initially to determine capability at a high level, and then follow this with an RFP where you would share the detailed data and information about the activity with a shortlist of the bidding LSPs.

Understand the capabilities of the relevant players

An RFP must clearly state the parameters of the distribution activity that is to be outsourced, the high level information can be derived from the internal proposal which has already been prepared. A lot more detail will need to be added to this in order to provide sufficient information for potential bidders, allowing them to understand the opportunity and prepare a robust response.

Although, each outsourcing will have specific requirements, the following information is recommended as a minimum amount to be included in an RFP document. An example RFP is included at Appendix 4.

Scope of services required	• Definition of distribution activity e.g. national to regional/district, regional/district to health facility and/or last mile • Links and/or dependencies with other activities such as warehousing, who are they managed by and how is hand off conducted • Order lead times • Management structure requirements • Any provision to be made by the outsourcing organisation free of charge such as office space, vehicle parking and utilities

Summary of contract TORs	• Contract length (with potential to ask bidders to respond on more than one timescale in order to gauge the value of a longer term arrangement) • Open book or closed book[6] • Volume expectations or guarantees[7] • High level expectations of insurances and liabilities • Fuel price mechanism[8] • Contractual KPIs • Specific regulatory requirements that will govern the operation e.g. Good Distribution Practice (GDP)[9]

Volumetric data	• High level annualised volumes and seasonality profile
	• Historic dataset showing the following for each consignment
	  ○ Collection address
	  ○ Collection date and time
	  ○ Delivery address
	  ○ Delivery date and time
	  ○ Vehicle access restrictions
	  ○ Volume in most relevant measure (pallets, kgs, m^3 etc.)

Solution design parameters	• Provide fixed delivery schedule or invite respondents to design optimal solution
	• Vehicle types required, or invite respondents to make proposal
	• Clarity over what parameters are fixed and which may be varied e.g.
	  ○ Can a health centre be served by a different warehouse
	  ○ Can delivery dates or times be optimised
	  ○ Can pallets be double stacked

CI	• Identified initiatives to be implemented during contract term • Invitation for respondents to propose initiatives

[6] An open book arrangement is one whereby the bidding LSP shares full visibility of their cost budget with the outsourcing organisation, and earns a profit by charging a management fee. A closed book arrangement is typically based on a set of transactional rates per Km or per load, which are inclusive of the bidding LSPs profit

[7] Anticipated volumes over the period of the contract, with a guaranteed minimum level, if relevant. This enables the bidding LSPs to scale their solutions accordingly, accounting for the relevant amount of assets in an open book budget or apportioning fixed costs accordingly in a closed book environment.

[8] A contractual mechanism to adjust the fuel element of a closed book rate (typically c. 30%) to account for fluctuations in the fuel price

[9] Further information is available at *https://www.gov.uk/guidance/good-manufacturing-practice-and-good-distribution-practice*

Instructions for responses	• Deadline date
	• How to respond, where to and in what format, electronic or hardcopy
	• Blank spread sheet template for financial response (see examples at Appendix 5)
	  ○ Closed book rate matrix or open book budget
	  ○ Required charging mechanism[10] or invitation for respondents to propose
	• Format for response, and content required
	  ○ Company information
	  ▪ Profiles of Directors and relevant Operational Managers
	  ▪ Summary of services offered in country
	  ▪ Case studies of similar operations for other clients in country
	  ▪ Annual report
	  ▪ Copies of relevant insurance policies and certifications
	  ○ Description of proposed solution
	  ▪ Cost and service benefits to be delivered
	  ▪ Proposed vehicle specification
	  ▪ Proposed management structure and staff levels
	  ▪ Proposed added value initiatives
	  ▪ Proposed Continuous Improvement (CI) initiatives
	  ▪ Relevant SOPs and Health & Safety procedures

Typically, the following events would be scheduled as part of the RFP process:

- A launch meeting to present the RFP content to potential bidders and answer initial questions
- Site visits to allow potential bidders to view the distribution activity and get a full understanding of the requirements
- An ongoing facility to respond to questions by email throughout the bidding phase. Questions and answers should be shared with all bidders, to ensure consistency in the proposals

Select a partner based on capability and value

Evaluation and selection is conducted to ensure confidence in the capability of the selected LSP(s) to deliver the required service, at the proposed cost, for the duration of the contract term. It is recommended that an evaluation matrix, similar to that published in USAID | DELIVER PROJECT, Task Order 4 (2014) is utilised to assist selection (see Appendix 6). Visiting an existing operation of each bidding LSP is a very good way of understanding their capability further, and validating the RFP responses.

[10] Ensure that the proposed charging mechanism promotes the desired behaviour, that it encourages the outsourced LSP to utilise its vehicles fully loaded, over the most efficient route. For example, a 'per km' charge could lead less scrupulous LSPs to take advantage by running longer routes than necessary. Similarly, a charge based on 'percentage of product value' could leave the outsourcing organisation exposed if product values increase significantly in the future. In a closed book environment, a lane rate for each route, or even a monthly charge for all forecast activity might prove more beneficial

Evaluation criteria should be relevant to the specific distribution activity being outsourced and weighted accordingly. It is recommended that approximately 5 are selected from the following table, additional project specific evaluation criteria can be included where necessary.

Evaluation Criteria	Notes	Recommended Weighting
Cost	Value of bid, compared to competitors. Lowest cost may not always score highest, it is important to ensure that an LSP hasn't been too aggressive and will generate sufficient return, particularly in rural areas where actual costs are often underestimated. Challenge the cost if it is too low, and ask the LSP to review it again, operations that have not been costed correctly will ultimately fail.	High
Service	Technical capability to deliver the outsourced activity, accounting for added value put forward by LSPs such as routing and scheduling systems, changes to management structure etc.	High
Financial standing	Is the LSP solvent, able to make the necessary capital investment and maintain positive cash flow over the contract term?	Medium
Business scale	What % of the LSPs overall business would this contract represent? Less than 50%, for example, ensures that their scale can be leveraged, and their fixed costs are also apportioned across other contracts. A high proportion might make them more exposed, with cashflow implications if the outsourcing organisation is unable to pay on time.	Medium
Existing core services	Relevance of the existing core services of the bidding LSP to the activity being outsourced. This will highlight whether the activity is matched to the bidding LSPs competency, for example, a strength in delivering containers from port to DC isn't directly transferable to last mile vaccine delivery.	Low
Experience in public health	Experience of the bidding LSP in the public health sector	Low
Experience in country	Experience of the bidding LSP in country. An LSP that is strong in country A is not always capable of offering equal service in country B where local conditions, staff and resources differ.	Low
Experience in specific service(s) required	Experience of the bidding LSP in specific service, e.g. last mile distribution in rural areas, or cold chain using refrigerated vehicles.[11]	Low
CI	Appraisal of the cost and service benefits that the LSPs proposed CI initiatives will deliver	Low

Recommended Weighting	
High	30-40%

[11] One stakeholder proposed that the weighting for this element should be higher when LSPs are exhibiting local knowledge regarding actual distribution routes

Medium	15-20%
Low	5-10%

Contracting

Once an LSP partner has been selected it will be necessary to agree terms and finalise a contract. Contracting for distribution services requires a level of relevant expertise due to the capital intensive nature of the business and the implications of service failure. As such, negotiating items including liabilities, consequential loss and payment terms can be critical to the ongoing success of the outsourcing arrangement and viability of the organisations.

The following should be considered during the contracting process, and clearly laid out in the contract where relevant:

- Product and service specific terms of reference
    - e.g. temperature control requirements for vaccines, implications of not maintaining good conditions
    - See example of TORs at Appendix 7
- Clear Service Level Agreement (SLA)
    - Expected or guaranteed volume levels, implications of variance to forecast
    - Emergency capacity requirements, limits and timescales
    - Expected response times
- Contract start date, term and termination clauses
- Agreed pricing and structure, open book or closed book, price review mechanisms during contract term
- Payment terms and implications of non payment on LSPs capability to provide continuity of service
- Relevant KPI service levels for risk/reward payments
- Visibility of costs and service information to be reported by each party and when (e.g. daily, weekly, monthly)
- CI to be delivered by LSP over contract term
    - Agreed productivity, cost or service improvements
    - Timescale for implementation, some may not come in until years 2 and 3.
    - Implications of not realising proposed benefits
    - Basis of gainshare arrangements for any cost benefits
- Commitment to capital investment and amortisation period, any implications of early contract termination
- Rules for assignment and subcontracting
- Agreed levels for liquidated damages and liabilities
- Insurances required

Some outsourcing organisations have chosen to include a clause which oblige the outsourced LSP to make a financial commitment in the form of an upfront payment to the government, which is held as a bond and returned to outsourced LSP on successful completion of the contract. While this provides a level of assurance to the outsourcing organisation, an upfront payment of c.10% of the overall contract value might be a barrier to entry for some LSPs.

An incentivised contract is dependent on accurately measured, achievable KPIs with full visibility to both the outsourcing organisation and the contracted LSP. If the KPIs are not achievable,

measurable or visible to both parties, the LSP will not be able to gauge performance and strive to earn the reward payments, and the relationship is likely to breakdown.

Key Performance Indicators

KPIs are an essential tool in measuring overall supply chain performance, and tracking the performance of a contracted LSP. They are also useful for measuring performance of an in house fleet, and can be used to analyse performance improvement when transitioning to an outsourced LSP.

In both open and closed book environments these measures can be used to determine risk or reward payments, it is recommended that the number of KPI's that are linked to the budget or contract is restricted to about 3. Additional KPI's can be tracked on a scorecard for the purpose of operational improvement, to drive desired behaviours and measure benefits delivered by a contracted LSP. Each measure should have an achievable target agreed between both parties, and those linked to risk or reward payments will have agreed levels where bonus and/or penalty payments apply.

It is important to be able to break down performance by LSP (if more than one is contracted) and by the relevant regions or districts in order to compare performance and drive healthy competition.

Some KPI's might be reviewed in a daily meeting, while others are more relevant for review on a weekly or monthly basis. Performance against daily and weekly measures will also be reviewed at the monthly meeting.

The following table is provided as a guide, these are KPI's which might be typical to an outsourced distribution contract. You should define KPI's that are directly linked to the objectives of your outsourcing, they should be achievable and drive decision making. In most situations it would be prudent to have fewer KPI's and use them to drive performance improvement, rather than a longer list, which can be cumbersome to track and manage.

KPI	Description of measure	Frequency of review
OTIF (On Time In Full) %	Number of consignments arrived within contracted delivery window with no loss or damages divided by total number of consignments	Daily
Delivery points served %	Number of delivery points served divided by number of delivery points scheduled	Daily
Stock outs %	Number of stock outs occurred due to outsourced LSP failure divided by number of facilities served. Note that stockouts due to procurement issues or stock outs further up supply chain, which are outside the control of the outsourced LSP should not be counted.	Daily
Average turnaround time at collection	Total dwell time for all vehicles at collection point divided by total number of collections. Measure individually by collection point, if more than one.	Daily
Average turnaround time at delivery	Total dwell time for all vehicles at delivery points divided by total number of deliveries. Measure individually by delivery point, or by groups of delivery points, if more than one.	Daily
No. of Health and Safety incidents	No. of reportable incidents occurred	Daily
Returned PODs %	Number of returned PODs divided by number of PODs issued	Daily
Temperature control compliance %	Number of loads where temperature control was within contracted temperature range (based on instances where Vaccine Vial Monitors show compliance) divided by total number of loads	Daily
Vehicle uptime %	% of time vehicle is available for use Availability can be measured as % of 24 hour period, of anticipated operating hours or days available per week depending on requirements	Weekly
Vehicle utilisation %	% of time vehicle is used as % of time for which it is available Utilisation can be measured as % of 24 hour period, of anticipated operating hours or days utilised per week depending on requirements	Weekly
Average load size	Total volume divided by total number of loads	Weekly
Average drop size	Total volume divided by total number of drops	Weekly
Kms per load	Total Kms driven divided by total number of loads	Weekly
Kms per drop	Total Kms driven divided by total number of drops	Weekly
Driver availability %	Number of shifts where driver was available for work divided by number of shifts contracted	Weekly
Road Traffic Incidents (RTIs) per million Kms	Number of RTIs divided by (Total Kms driven divided by 1,000,000)	Weekly
Kms between RTI's	Total Kms driven since last RTI	Weekly
Fuel consumption by vehicle	Litres per 100 Km or Km per litre depending on preference	Weekly
Cost per Unit	Total cost divided by total number of units Might be deliveries, pallets, cases or doses.	Monthly

Cost per Km	Total cost divided by total Kms driven	Monthly
Driver turnover %	Number of drivers who have left divided by the total number of drivers	Monthly

Implementation

Implementing a new distribution activity or outsourcing an existing activity to a new LSP can be risky. Continuity of service can be impacted by physical and communication constraints. There are a few options to consider which will de-risk implementation:

- Run a small pilot
- Phase implementation by region or district
- Phase implementation by product type

Depending on the scale of the activity and the individual situation, implementation is likely to be a 3 to 6 month programme from contract award through to go live. It is important to budget sufficiently for the time and resources that are required to do this.

When outsourcing an existing activity due diligence is a key activity during the early stages of implementation, this is an opportunity for the contracted LSP to spend time in the operational environment and validate the information that was provided in the RFP document, to ensure that their solution is deliverable under the terms that have been agreed.

Whether an individual or a team undertakes an outsourcing, these are the type of responsibilities that need to be taken into account, although they can be adapted to suit specific projects:

Functional Area	Summary of responsibilities
Fleet	• Procurement or transfer of vehicles • Establish vehicle maintenance arrangements • Vehicle workshop and staff (if relevant) • Legal compliance
IT	• Transfer or implementation of systems • Procurement of equipment • Setup and testing
Facilities	• Property procurement or construction • Fit out • Security • Cleaning
HR	• Recruitment • Transfer of existing employees (if relevant) • Pensions and rewards
Operations	• Due diligence • Staff training • Establish operating processes and SOPs
Health and Safety	• Risk assessments • Health and safety compliance
Finance and commercial	• Budgeting • KPI reporting • Procurement • Supplier management
Solution Design	• Validating solution parameters from RFP • Ongoing solution modelling and validation

Business as Usual

Once implemented, the outsourcing organisation has an ongoing responsibility to manage the performance of the contracted LSP, to ensure that the agreed service levels are being met, at the agreed cost. This requires a specific set of skills, which are different to those required to manage a physical operation. The Transaid 3PL Management Capacity Assessment Tool (see Appendix 8) can be used as a guide to determine the ability of a public sector organisation to manage an outsourced logistics contract.

Should it be determined that an outsourcing organisation does not have the capability, this can be resolved by recruiting externally for a dedicated Contract Manager with experience of managing outsourced contracts.

The contracted LSP has an obligation to perform against the agreed contract terms, deliver the agreed CI initiatives and will be striving to earn reward payments. This requires a high level of technical expertise in operational management to determine the root cause of problems and resolve them, performance managing staff where necessary. The maturity of the LSP will reflect the level of expertise it has in these areas, and in some cases it will be necessary to support the ongoing development of the LSP. Coaching and mentoring from the outsourcing organisation's Contract Manager might be sufficient, an alternative would be to partner with more mature LSPs, and encourage capability development in a similar fashion to the CML/IHS example in Malawi.

Typically the outsourcing organisation's Contract Manager and the Senior Operational Management from the outsourced LSP would meet for a formal monthly review, the agenda might include:

- Performance against budget – last month and year to date
- KPI performance and associated risk and reward payments
- Progress with CI initiatives
- Health and Safety performance
- Any concerns or issues

Summary and Checklist

Timescales will vary dependant on the scale of the outsourcing, and other local variables but it is anticipated that the Outsourcing Process will take between three and twelve months from the point at which a decision to outsource has been made. The consideration period may take longer if it is difficult to gather information, or it may be relatively short if there is a clear business case.

The following checklist can be used as a reminder of the stages involved in the framework:

Considerations for Outsourced

- ✓ Hold a series of meetings and follow the Consideration Flow
- ✓ Document an Outsourcing Proposal for stakeholder review
- ✓ Make a decision about whether to proceed with outsourcing

The Outsourcing Process

- ✓ Prepare a project plan, in line with an established project management methodology
- ✓ Prepare and RFP document and advertise to potential bidders
- ✓ Conduct site visits and answer bidders questions
- ✓ Prepare an evaluation matrix
- ✓ Evaluate bidders responses and select an LSP(s)
- ✓ Prepare a draft contract and negotiate terms with the LSP(s)
- ✓ Finalise operating KPIs
- ✓ Plan implementation, derisking where possible by phasing
- ✓ Move to business as usual, conduct monthly reviews with the LSP(s), actively manage their performance and use data to drive operating improvements

APPENDICES

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2. List of Persons Consulted

Country of Focus	Name	Title	Organisation
Gambia	Vinay Nagaraju	Chief Operating Officer (and Acting CFO)	Riders for Health
Ghana, Malawi and Nigeria	Clinton De Souza	Director of Public Health	IHS
Ghana, Malawi and Nigeria	Gavin Pearson	Director International Operations	IHS
Ghana, Malawi and Nigeria	Ishmael Muchemenyi	Freight & Logistics Manager	IHS
Kenya	Joshua Obell[12]	Operations Director	KEMSA
Kenya	Amit Shah	Group Operations Director	Freight in Time
Malawi	Malcolm Clark	General Manager – Private Sector Engagement	IHS
Malawi	Phillip Kamutenga	Country Director - Malawi	JSI
Malawi	Feston Kaupa	CEO	CMST Malawi
Mozambique	John Beale	Director, Strategic Development & Group Lead, Private Sector Engagement	VIllageReach
Mozambique	Kevin Pilz	Senior Supply Chain Advisor	USAID
Mozambique	Custodio Mondlane	Procurement and Supply Chain Manager	CHAI
Mozambique and Senegal	Leah Hasselback	Supply Systems Strengthening Advisor	USAID
Multiple countries	Deborah Dull	Program Officer - Supply Chains	Bill and Melinda Gates Foundation
Multiple countries	Per Kronslev	Procurement and SCM Consultant	SCMS/MSH
Multiple countries	Chris Wright	Senior Technical Advisor	JSI
Multiple countries	Martin Ewert	Supply Chain Officer	Bill and Melinda Gates Foundation (seconded from Proctor & Gamble)
Multiple countries	Prashant Yadav	Senior Research Fellow and Director-Healthcare Delivery Research	William Davidson Institute at The University of Michigan
Multiple countries	Sian Rogers	Head of Health Logistics Consultancy	Crown Agents
Multiple countries	Innocent Dube	Senior Supply Chain Consultant (Health)	Crown Agents
Multiple countries	Tom Brown	Supply Chain Leader	Crown Agents

[12] Partial interview due to telecommunications issue and unable to reconnect

Country of Focus	Name	Title	Organisation
Multiple countries	Richard Holmes	Partner	SmartChain
Multiple countries	Xavier Tomsej	Senior Advisor for Supply Chain & Logistics	USAID
Multiple countries	Dr. Iain Barton	Managing Director	IHS
Multiple countries	Dion Guy	SCMS Country Director	IHS
Multiple countries	Rob Botha	Public Health Consultant	IHS
Multiple countries	Maeve Magner	Consultant	GAVI
Multiple countries	Nick Murdoch	Global Head of Aid & Relief Services	DHL
Multiple countries	Johnathan Spearing	Head of Customer Solutions and Business Development - Shared Value/GoGreen	DHL
Multiple countries	Andrew Jackson	Logistics Officer	World Food Programme
Nepal	Pieter de Ruijter	Head of Healthcare Technology Management	Health Partners International
Nigeria	Kayode Ajayi	Country Director	Riders for Health
Nigeria	David Sarley	Senior Program Officer	Bill and Melinda Gates Foundation
Nigeria	Adam Thompson	Executive Director and Co-Founder	eHealth Africa
Senegal	Modibo Dicko	Directeur de Projet	IntraHealth International
Senegal	Lamtoro Mamadou Seck	Director of the National Pharmaceutical Agency	PNA Senegal
Tanzania	Missanga Muja	Inbound & outbound Logistics manager	MSD Tanzania
Uganda	Norbert Kazibwe	Transport & Logistics Manager	NMS
UK	Dan Jones	Head of Transport, NHS Supply Chain	DHL
Zambia	Wendy Nicodemus	Country Director – Zambia	JSI
Zambia	Yapoma Nkhoma	Senior Public Health Logistics Advisor	JSI

3. Additional Information on Health Partners Asset Management Software

Health Partners International's asset management software, known as PLAMAHS, offers a solution to rationalise the planning and management of assets in health services. The PLAMAHS software is a computerised, open source tool for planning and managing equipment, buildings and other physical assets for the health sector. PLAMAHS is designed specifically for health systems in lower and middle-income countries where there is no existing overview of physical assets. Physical asset expenditures represent a significant portion of health care budgets.

PLAMAHS can hold data on:

- a reference to the health and equipment policy in order to assess compliance with the policy
- infrastructure, asset and medical equipment status, for inventory, maintenance or identifying future requirements
- budgets in order to plan and allocate the available financial resources
- procurement information that radically simplifies the acquisition of appropriate equipment

Additional features allow for querying, reporting and uploading images of facilities, buildings and equipment to support data entries. PLAMAHS can be customised to meet the needs of individual health services, health systems, individual providers or donor organisations. HPI and partners have developed user manuals to support the integration and use of the PLAMAHS software into existing systems and teams. It is currently being used in Nepal, Malawi, Nigeria and Burkina Faso. PLAMAHS is available in English and French with the option for further translation and script variation.

For more information: http://healthpartners-int.co.uk/toolkit/asset-management-software/

4. Example RFP Document

[Note:** this example is based on a publicly available RFP published by the JSI Deliver programme**]

REQUEST FOR PROPOSAL NO: [Enter RFP Reference Number]

FIXED UNIT PRICE GOODS OR SERVICES

PART A: COVER PAGE

SUBJECT: **Request for Proposal to Provide Transportation Services for Distribution of Medicines/Vaccines**

[Enter name of CMS] is soliciting proposals for the provision of services as described in the attached Statement of Work.

Please submit your most competitive proposal in accordance with the attached instructions, with all required certifications. Any subcontract issued as a result of this RFP will be subject to all instructions, certifications, terms and conditions, and specifications included in this RFP. This solicitation document includes the following parts:

PART A: COVER PAGE

PART B: INSTRUCTIONS

a) DEFINITIONS
b) PROPOSAL DEADLINE AND REQUIREMENTS
c) OFFER VALIDITY
d) FINANCIAL RESPONSIBILITY
e) NEGOTIATIONS
f) REJECTION OF PROPOSALS
g) INCURRING COSTS
h) CANCELLATION
i) SUBCONTRACT AWARD
j) REPRESENTATIONS AND CERTIFICATIONS

PART C: STATEMENT OF WORK

a) BACKGROUND
b) OBJECTIVES OF THIS WORK
c) DUTIES AND RESPONSIBILITIES OF THE SUBCONTRACTOR(S):
d) TERMS OF PAYMENT

PART D: ATTACHMENTS TO THE RFP

a) Product Details: Volumes, Values, and Delivery Locations

b) Estimation for Last Mile Distribution of Malaria Medicines

c) Delivery Locations

d) BUSINESS PROPOSAL Quote Sheet

e) TECHNICAL PROPOSAL - Offeror Routing Plan

This document is a request for proposals only, and in no way obligates the [Enter name of CMS] to make any award. Award(s) made subsequent to this solicitation will be subject to the terms and conditions described herein.

All proposals, inquiries, and correspondence pertaining to this solicitation must include the RFP number and are to be directed electronically to the attention of: [Enter name of appropriate contact person and contact details]

PART B: INSTRUCTIONS

a) DEFINITIONS

Offeror: The individual or firm providing proposals for the services requested under this RFP.

Subcontractor: The individual or firm awarded the services requested under the RFP in the form of a subcontract.

b) PROPOSAL DEADLINE AND REQUIREMENTS

The Offeror shall submit a proposal addressing the terms and conditions of this RFP by [Enter a time and date] to the email address as provided in Part A. Please submit all questions by [Enter a time and date] to the email address provided in Part A. All questions and answers will be listed on the [Enter name of CMS] Website [Enter a time and date]. The Offeror should submit the proposals electronically in two separate and clearly identified emails (one with Technical Proposal attached, the other with Business Proposal attached). The [Enter name of CMS] maintains the right to make an award to a single Offeror or to multiple Offerors, should such an award be advantageous to the CMS, to ensure the best value is provided for the transportation services requested in the RFP. The Company reserves the right not to award a contract in response to this RFP.

The written **Technical Proposal** should not be of excessive length and must contain the following information:

i) Technical Volume

- A concise technical proposal on how the Offeror will carry out the activity with a detailed work plan and schedule of tasks. This description is to include provision of security measures, staffing plans, route planning, route durations, and planned use of transportation assets (either owned or to be leased by the Offeror to conduct the work).

- Also provide past performance references for the last three years, including the following: name of firm, name of contact, address of firm, telephone number of firm, email for firm, dollar amount of contract for each reference.
- A set of relevant attachments to the proposal (optional) which further document or explain the Offeror's approach and qualification, e.g. institutional brochure, etc.
- A description of the Offeror's capability and experience in undertaking this task. This capacity statement should include a list and description of transportation vehicles owned or otherwise available to the Offeror, and previous experience in distributing public health commodities in [Enter name of country/region].

The written **Business Proposal** is to consist of the Cost Proposal (Attachment d). It must contain the following information:

ii) Cost Proposal

The Offeror is to provide quotes for delivering the specified volumes of products to health facilities within certain provinces/states/districts. This information is to be completed and submitted in the format as set out in the attachments which also provide the shipment volume information for Offerors' convenience. Quotes are to be provided in [Enter name of currency] and must include all costs for delivering the shipments to final destinations, including: loading, transportation, offloading, labor, fuel, management, administration, and insurance as specified in the scope of work below.

[ENTER NAME OF CMS], IN ITS SOLE DISCRETION, TO MODIFY THE REQUEST, TO ALTER THE SELECTION PROCESS IN ANY WAY, TO ASK FOR ADDITIONAL INFORMATION FROM OFFERORS, TO REJECT ANY AND ALL QUOTES AND/OR TO MODIFY OR AMEND THE SCOPE OF THE PROPOSALS SUBMITTED. THE RELEASE OF THIS RFP IS NOT A COMMITMENT TO AWARD A CONTRACT.

Each Offeror acknowledges and agrees that the preparation of all materials for submittal to [Enter name of CMS] and all presentations made by the Offeror are at the Offeror's sole cost and expense, and [Enter name of CMS] shall not, under any circumstances, be responsible for any cost or expense incurred by an Offeror. All documentation and/or materials submitted with a proposal shall become and remain the property of [Enter name of CMS].

c) OFFER VALIDITY

The Offeror's Technical and Business proposals must remain valid for not less than 60 calendar days after the deadline specified above. Both proposals must be signed by an official authorized to bind the Offeror to its provisions.

d) FINANCIAL RESPONSIBILITY

Offerors which are firms and not individuals, must certify in the proposal submitted to the Company that they have the financial viability and resources to complete the proposed activities within the period of performance and under the terms of payment outlined in the Statement of Work.

e) NEGOTIATIONS

The Offeror's most competitive proposal is requested. It is anticipated that any award issued will be made solely on the basis of an Offeror's proposal. However, the Company reserves the right to request responses to additional technical, management and cost questions which would help in negotiating and awarding a subcontract. The Company also reserves the right to conduct negotiations on technical, management, or cost issues prior to the award of a subcontract. In the event that an agreement cannot be reached with an Offeror, the Company will enter into negotiations with alternate Offerors for the purpose of awarding a subcontract without any obligation to previously considered Offerors.

f) REJECTION OF PROPOSALS

The [Enter name of CMS] reserves the right to reject any and all proposals received, or to negotiate separately with any and all competing Offerors. Offerors whose proposals are not selected will be notified in writing.

g) INCURRING COSTS

The Company is not liable for any cost incurred by Offerors during preparation, submission, or negotiation of an award for this RFP. The costs are solely the responsibility of the Offeror.

h) CANCELLATION

The [Enter name of CMS] may cancel this RFP without any cost or obligation at any time until issuance of a subcontract.

i) SUBCONTRACT AWARD

Selection Criteria

Proposals will be evaluated first to ensure that they meet all mandatory requirements (as detailed in Section b). Proposals that fail to meet these requirements will receive no further consideration. A non-responsive proposal to any element may be eliminated from consideration. Technical proposals will then be evaluated on their Technical Qualifications, and Other criteria. The highest ranking technical proposals will then be shortlisted and respective business proposals compared for the final evaluation, ranking, and selection.

- Responsiveness to the RFP.
    a. Proposal submitted on time and responsive to all specifications provided in the Scope of Work.

- Technical capability and expertise in distributing public health commodities
    a. Provide records of previous distributions of public health commodities and past performance references. Demonstrate awareness of the particular considerations necessary when handling public health commodities.
    b. Indicate security measures in place or envisioned to protect goods from all loss, theft, and damages.

- Efficiency and robustness of the proposed operational plan. The list of health facilities, their locations, and expected delivery quantities of all products for each delivery have been provided to Offerors for their consideration (Attachments a, b and c) and to solicit their feedback on proposed routing and delivery transit times.
    a. Facility routing efficiency (number of runs, sites serviced, and duration of routes).
    b. Appropriate tonnage/cubic capacity of trucks for routes.

- Equipment capabilities, including:
    a. Details of fleet or vehicles owned or to be leased by an Offeror.
    b. Supporting information or documentation on fleet management, insurance, and quality control.

- Business status certification.

- Recognition/provision of the specified required insurance coverage.

- Ability to meet the deliverables requirements.

- Cost

j) REPRESENTATIONS AND CERTIFICATIONS

The proposal shall be accompanied by any requested representations or certifications signed by an authorized official of the Offeror.

PART C: STATEMENT OF WORK

The Statement of Work for this RFP is as described below:

a) BACKGROUND

The [Enter name of CMS] seeks the ability to distribute public health commodities in [Enter name of country] through distribution systems.

- The Offeror shall carry out distribution of medicines from the government owned central medical store to the health facilities in the lists in Attachment c.
    - The Offeror shall submit separate quotes for this activity for each of the provinces/states/districts using the lists attached; taking into consideration the total average number of packs, total average volume per delivery cycle per state, average volume of commodities to be delivered per health facility and total value of commodities to be distributed each cycle. The list of health facilities and their locations are attached. The commodity list is also attached.

b) OBJECTIVES OF THIS WORK

Specific activity objectives of the Offeror(s) include the following:

i) Provide delivery trucks and drivers: The selected subcontractor(s) will be required to provide delivery trucks and drivers to distribute the health commodities to the designated health facilities.

ii) The company requires that all commodities stored or transported be covered under an insurance policy payable to [Enter name of CMS]. [Enter name of CMS] can be included through a rider on an existing policy or this can be done through a new policy. Proof of access to insurance and insurance costs along with insurance agent contact information must be presented in the qualification section of the Technical Proposal. Insurance coverage must provide for the following conditions:

- Valuation: 110% CIF (cost in freight),
- Coverage: All risks including Fire, Theft, Dishonest Acts, Quake, Flood, and Wind as well as War Clauses and Strikes clauses as applicable,
- Deductibles and exclusions: Please provide details of any deductibles or exclusions applicable and who would pay those.
- Beneficiary: [Enter name of CMS] or its designate is the sole beneficiary of the insurance policy.

c) DUTIES AND RESPONSIBILITIES OF THE SUBCONTRACTOR(S):

i) Provide fully enclosed and sealed delivery trucks for the transportation of health commodities. If the Offeror does not own the vehicle(s) to be used, provide detailed information on the vehicles and company they will be rented from / leased through to carry out the activities. (Describe security measures within the Technical Capacity Statement in your Proposal.)

ii) Drivers should be literate.

iii) The subcontractor will be responsible for loading and offloading commodities at all delivery sites, ensuring that consignments loaded and offloaded correspond to required and approved shipment documentation

iv) The subcontractor is required to maintain the trucks in optimal working conditions throughout the duration of the projects and the awarded subcontract.

v) Trucks must be temperature controlled, not to exceed a temperature of 25° Celsius.

vi) The maintenance (mechanical, electrical and otherwise) including the fueling of the truck(s) will be entirely the responsibility of the subcontractor.

vii) The subcontractor will be legally and financially responsible for the commodities during the transportation process and is required to provide insurance against all loss or damage to products (as specified in Part C. Section b) iii).

viii) Truck(s) to be used for the work will be subject to a visual inspection prior to award of the subcontract. Prior to any transportation activity, truck make and model, and plate numbers of truck(s) to be used and any parking locations should be provided. All drivers must be appropriately licensed.

ix) Subcontractor will provide written confirmation, i.e. Proof of Delivery (PODs) to [Enter name of CMS] staff for all delivered shipments. These PODs must include: Consignee name and physical address, delivery location; date of departure; list and description of commodities delivered; quantity of items delivered; date and time of delivery; name and signature of driver, conveyor, and Consignee at destination; remarks or notation of any loss or damages. PODs should be submitted with the invoice. The transporter's PODs to be used are to be printed according to the following specifications

- printed exactly as sample provided
- co-branding is not allowed.
- must be printed on A4 paper
- self-carbonating, in quadruplicate,
- uniquely numbered and colours for the duplicate for respective parties must be as stated in the bottom corner (White - Transporter; Blue - Final Delivery Destination; Green - [Enter name of CMS] rep.; Yellow - Originating Warehouse).

d) TERMS OF PAYMENT

The Subcontractor shall, upon receipt of a fully executed Work Order, commence and complete the work specified therein. Subcontractor will submit invoices at the completion of each Work Order separately. The subcontractor shall be paid within thirty (30) days after receipt and acceptance of an invoice by [Enter name of CMS]. All invoices must be accompanied by associated original signed PODs.

PART D: ATTACHMENTS TO THE RFP

[Note: all of the details provided below are examples taken from a sample RFP]

a) Product Details: Volumes, Values, Delivery Locations

b) Estimation for Last Mile Distribution of Malaria Medicines

c) Delivery Locations

d) BUSINESS PROPOSAL, Quote Sheet

e) TECHNICAL PROPOSAL Routing Plans

a) Product Details: Volumes, Values, and Delivery Locations

Malaria Commodities	Abbreviation	No of units per pack/bale (in case of LLINs)	Value per pack	Estimated weight per carton or bale (kg)	Estimated Volume per carton or bale (m3)	No of packs per carton
Artemether/Lumefantrine 20mg/120mg, Pill, 6x1 Blister (AL1)	AL 1	30	$12.60	6.24	0.0367	16 packs per carton
Artemether/Lumefantrine 20mg/120mg, Pill, 6x2 Blister (AL2)	AL 2	30	$25.20	6.88	0.0367	16 packs per carton
Artemether/Lumefantrine 20mg/120mg, Pill, 6x3 Blister (AL3)	AL 3	30	$37.50	9.66	0.0555	16 packs per carton
Artemether/Lumefantrine 20mg/120mg, Pill, 6x4 Blister (AL4)	AL 4	30	$47.70	10.28	0.0555	16 packs per carton

b) Estimation for Last Mile Distribution of Malaria Medicines

Estimation for Distribution of Malaria Medicines						
		Average Units (packs) per cycle per state	Number of Health Facilities per cycle per state	Average Volume per cycle (CBM) per state	Average Volume per Health Facility per Delivery Cycle (CBM)	Total Estimated Value of Commodities distributed per cycle (USD) per state
1	Akwa Ibom	3,820	479	11.02	0.02	$72,139.25
2	Benue	7,238	247	16.23	0.07	$146,392.43
3	Cross River	3,270	215	18.64	0.09	$63,688.07
4	Kebbi	1,423	165	4.89	0.03	$27,389.11
5	Kogi	2,855	167	6.41	0.04	$50,886.17
6	Nasarawa	4,243	186	10.84	0.06	$72,554.61
7	Oyo	3,892	178	9.09	0.05	$71,925.14

c) Delivery Locations

S/N	S/N per District/State	Name of District/State	Name of Facility
1	1	ABAK	H/C Ediene Abak
	2	ABAK	H/C Ukpom
	3	ABAK	General hospital Ukpon Abak
	4	ABAK	H/C Itung Villiage
	5	ABAK	M/C Igbawa
	6	ABAK	PHC,Ebom Avenue
	7	ABAK	Mercy Hospital ,43 Hospital Road
	8	ABAK	H/C Afaha Obong
	9	ABAK	H/C Ikot Okuok - Midim
	10	ABAK	H/P Ikot Edong
	11	ABAK	H/C Abiakpor
	12	ABAK	H/P Ikot Obioko
	13	ABAK	H/C Ibong Otoro I
	14	ABAK	H/C Ikot Etukudo
	15	ABAK	H/P Ikot Ebak
	16	ABAK	H/P Abak Itenge
	17	ABAK	H/C Ibanang Ediene
	18	ABAK	H/P Ikot Osom
	19	ABAK	PHC Operational Base, Abak
	20	ABAK	PHC Ibong Otoro
	21	ABAK	H/C Ikot Akpan Ikong
	22	ABAK	H/P Utu Abak

d) BUSINESS PROPOSAL Quote Sheet

Location	Facility Type	Expected Shipment Volume (CCM)	Offeror's Quote

e) TECHNICAL PROPOSAL - Offeror Routing Plan

Route Designation	Number of Facilities	Truck(s) Utilized (Tonnage and Cubic Capacity	Route Duration in Days

5. Example Financial Response Templates

The following are basic examples of formats for financial response, they will need to be adapted and extended to deal with specific projects[13].

Open Book – Budget for Fixed Delivery Schedule for Last Mile Distribution

Overheads	**Annualised Cost**	**Subtotals**
Salaries – Management, Admin & Clerical	100,000	
Insurances	2,500	
Training	5,000	
Communications, printing and stationery	8,000	
Other misc.	3,200	
		118,700
Transport		
Salaries – Drivers	420,000	
Vehicle leases	120,000	
Vehicle depreciation (owned vehicles)	98,000	
Vehicle insurance	15,000	
Vehicle licenses	12,000	
Vehicle maintenance	87,000	
Vehicle hire	6,500	
Tyres	18,000	
Fuel	375,000	
Road tolls	1,800	
Subcontracted transport	45,000	
		1,198,300
Management Fee	70,000	
		70,000
Grand Total		**1,387,000**

Closed Book – Ad Hoc Lane Rates for transport from CMS to Regional Store

Regional Store	**Distance (Kms)**	**Lane Rate (one way)**
A	223	290
B	50	180
C	467	450

[13] Values are for illustrative purposes only, they do not reflect actuals and are not in any specific currency

Closed Book – Rates for Fixed Delivery Schedule for Last Mile Distribution

District	Number of Health Facilities	Delivery Frequency	Cost per Delivery Cycle	Total Cost per Annum
A	26	Monthly	2,000	24,000
B	17	Monthly	1,900	22,800
C	12	Monthly	970	11,640
D	6	Monthly	640	7,680
etc.				
Grand Total				**66,120**

6. Example of a Tender Evaluation Matrix

Bidder	Technical Quality of Offer	Cost	Payment Terms and Conditions	Additional Services	Experience with Public Health Programs	Weighted Total Score
Weighting of Total Score	**35%**	**40%**	**10%**	**5%**	**10%**	
A	5	3	3	3	2	3.6
B	2	4	5	4	5	3.5
C	5	4	4	5	3	4.3
D	3	3	3	5	1	2.9

Source: USAID | DELIVER PROJECT, Task Order 4. (2014)

This matrix is provided as a template, the evaluation criteria and weighting should be updated to reflect the specific requirements of each outsourcing, based on the examples provided in this report.

7. Example Terms of Reference

These TORs have been extracted from a current contract between a government CMS and a private sector LSP in sub-Saharan Africa.

CMS Terms of Reference (TOR)
The service provider should be prepared to receive supplies from CMS staff at the district headquarters of about 20ft container or more. The provider should deliver the supplies to lower government health centre levels IV, III & II have supplies verified with the beneficiaries to their satisfaction and return signed off delivery notes to CMS Entebbe
Provider's quotation should cater for all modes of transport in view of the nature of roads and volumes involved by district
All vehicles to be used in distribution of supplies on behalf of CMS should always be covered with a canvas that bears the contractor's logo
All deliveries made by contractor in the district should be accompanied by armed security (police officers) to secure the medicines in transit, and help in confirmation of receipt by facilities. The cost of this accompanying armed security officer to be borne by the Last Mile Distribution Contractor at all times
Provider should not subcontract Last Mile Distribution services
All vehicles used should be branded and the staff involved in execution of Last Mile Distribution should have uniforms and name tags
No government vehicles should be used in execution of Last Mile Distribution
Service providers of Last Mile Distribution should possess at least two 7 tonne trucks for execution of Last Mile Distribution service
Bidder to confirm the number of cartons delivered against the available documentation on receipt from the TMS Driver and shall not open boxes before reaching final destination (Health Centre)
Bidder to seek a district representative to help identify the health facilities and also witness the entire delivery process from the District Health Officer
Bidder to load consignments on to a vehicle that will not expose supplies to heat or water and proceed for delivery to the health centres
Verify and confirm delivery of supplies against delivery documentation with the Health Centre official in the presence of the district representative until he/she is satisfied
Last Mile Delivery to be done once for each district for every delivery cycle of two months. Emergency deliveries may also be made by the provider direct from CMS to the health facilities by special arrangement
Ensure completed delivery documentation is distributed through the value chain as below: **Delivery Notes** • White, pink & blue copies are returned to CMS on completion of the entire delivery process • Yellow is left at the receiving facility • Green is submitted to the DHO's office to ease follow up on deliveries made to lower health facilities (handed over to the district representative on completion of the last mile distribution process) **Invoices** • White, yellow and green copies are retained by CMS • Pink is left at the receiving facility • Blue is handed over to the DHO's office before the start of the last mile distribution process to help monitor facility account balances **Shipment Manifest** • White copy is returned to CMS by last mile service provider representative on completion of assigned jobs (must have signatures of the people who participated in the verification exercise at the district) • Green is retained by the last mile service provider representative for reference purposes • Yellow is left at the DHO's office after the verification of number of packages delivered by the CMS driver in the presence of the last mile distribution service provider representative **Job card & certificate of completion** • White & yellow copies are returned to CMS by last mile service provider representative on completion of assigned jobs (must be endorsed by the DHO or his designate as proof of job closure)

• Green is retained by the CMS driver after the handover of supplies at the district health stores to the last mile service provider representative Blue is retained by the service provider as proof of job assignment and closure (should have endorsement through the value chain)
The service provider must provide CMS with a weekly status report on deliveries in progress and those completed for all assigned jobs
The service provider must ensure delivery to all facilities in the district is executed within seven days and delivery documentation returned to CMS not exceeding 10 days after receipt of supplies from CMS' representative at the District Health Stores
The service provider must furnish CMS with names and cell phone contacts of a Key Accounts Manager & field staff responsible for co-coordinating all distribution activities. It is the responsibility of the service provider to verify and update the contacts from time to time
The service provider must ensure all staff to be used in last mile distribution exercise is given training in CMS delivery procedure, customer expectations and document interpretation by CMS Transport and Logistics Officer. The bidder should provide a technical report on how distribution, verification and reporting to CMS shall be accomplished
The service provider must endorse (stamp) all delivery documentation used in last mile distribution process as proof of having performed the assigned job to completion
The service provider shall assign an Accounts Manager, responsible for coordinating all activities between the facilities, provider and CMS
Avail at least two key staff for training in CMS procedures, customer expectations and document interpretation
Service provider shall only seek payment after all assigned deliveries for each designated zone have been completed and delivery documentation returned to and acknowledged by CMS as proof of delivery, based on the health facilities to which delivery has been made
The bidder should comply to the 'Procedure for supplies hand over, delivery execution and document return'
If during the contract period a facility is upgraded or downgraded in the level of care, the price charged per delivery shall be prorated to that of similar health centre in the district or any similar health facility in another district
Every after a delivery cycle, (2 months) CMS shall assess the quality of the service provided by the supplier based on these deliverables. The results of the service quality assessment shall be forwarded to the provider, based on which any problem raised should be addressed before the next assessment. If any poor quality service complaint is not resolved by the next assessment, the contract shall be terminated
If during the contract period, a new health centre is established, the price charged per delivery shall be pro-rated to that of a similar facility in the district
The number of deliveries per zone shall be as per the CMS gazetted delivery schedules, see the copy of the delivery schedule attached as Annex. ***Suppliers should be in a position of adjust to the delivery schedules issued by CMS from time to time***
Every after 4 month, CMS shall assess the quality of the service provided by the supplier, based in international parameters for quality services, using a 360 degree approach. Results of the service quality assessment shall be for forwarded to the provider, based on which any problem raised should be addressed before the next assessment. If any poor quality issue is not resolved over 2 assessments, the contract shall be terminated.
Once in a while the provider shall be required to collect supplies directly from CMS and deliver them to a given health facility, but the cost of such a service shall be agreed upon on a case by case basis
All the costs due to or incidental to the service provided shall be borne by the provider

These TORs have been extracted from a current government outsourced contract for vaccine transport.

Terms of Reference	
i.	Your organization will transport/distribute vaccine to HFs with equipped CCEs in 30 areas, including physical delivery of vaccine up to facility site for the next (3) cycles bi-weekly basis then to proceed on monthly basis up to the end of the year.
ii.	You agree to deliver vaccines to HFs at an appropriate temperature of +2 to +8 degree Celsius.
iii.	You will bear the cost of any damage to vaccines in the course of transportation.
iv.	Contract price is […] per HF payable upon your submission of monthly invoice
v.	[…] will pay (iv) above based on work done within 30 days of receipt of your invoice.
vi.	The […] is to supervise the execution of the project.
vii.	Your organization shall agree on the deduction of appropriate tax.
viii.	Your organization shall not change its bank account after submitting the name and address of its account at the inception of the project.
ix.	Your organization must produce valid registration as contractor in […] and evidence of tax payment to […].
x.	Your organization must produce evidence of appropriate payment of tender fees to the […].
xi.	Completion period for the execution of the project is […] effective from […], or when the contract is signed or the date of acceptance and not later than one week from the date of this offer.
xii.	The 30 areas are: […]

8. Transaid 3PL Management Capacity Assessment Tool

Survey Title: 3PL Management Assessment
Purpose of Survey: To determine the ability of a public sector organisation to manage a third party logistics contract

Date:	
State:	
LGA:	
Organisation Name:	
Data Collector:	

Interviewee details:	
Name:	
Mobile:	
Email:	

S/N	Question	Answer Format	Answer
1	How many staff do you have at this location?	Number	
2	How many of the staff at this location have received training in logistics?	Number	
3 (a)	Has anyone at this location had any experience in managing 3rd Party Logistics contracts?	Yes/No	
3 (b)	If Yes to question 3(a), how many people have experience?	Number	
4 (a)	How many years has this organisation been utilising the services of 3PLs for distribution?		
4 (b)	What proportion of the organsiation's distribution is currently undertaken by 3PLs?		
5	If the answer to question 4 (a) is zero, how many years has this organisation been utilising the services of other organisations on an outsourced/contracting basis?		
6	Are there any policies/guidelines for information sharing for 3PLs?	Yes/No	
7	Are there any policies/guidelines in place to deal with 3PLs?	Yes/No	
8	Is there any specific management structure in place to deal/manage with 3PLs?	Yes/No	
9	Can the accounting/finance department adequately deal with a 3PL?	Yes/No	
10	Is there an ability (manpower) to review and randomly audit the 3PL?	Yes/No	
11	Are there legal capabilities in dealing with possible financial or contractual disagreements?	Yes/No	
12	Are there any policies/guidelines in place to monitor productivity of a 3PL?	Yes/No	
13	Are there any regulations/policies on vehicles being used (ie cold chain) by the 3PL?	Yes/No	
14	Dispute escalation forums		

15	Regular forum for strategic management of 3PL		
16	Regular forum for operational management of 3PL		
17	Single POC in 3PL for Project Management		
18	Single POC in Client(public sector) for Contract Management		
19	Dedicated staff		
20	How many 3PL providers do you manage offering this service?		
21	Could you provide 3 refences from 3PLs if asked?		
22	Does a documented SOP for identification and selection exist?		
23	Prior to identifying and selecting 3PL provider are qualifying criteria identified for a suitable 3PL provider?		
24	Are all key stakeholders involved in the identification of these quantifying criteria??		
25	Is 3PL experience a strong qualifying criteria?		
26	Are prior references a strong qualifying criteria?		
27	Are requests for bids publicly advertised?		
28	Are references checked for each 3PL?		
29	Are 3PL operations visited and assessed according to standard warehousing requirements?		
30	Are all key stakeholders involved in the final selection of 3PL?		
31	Are back up/contingency 3PLs contracted in case of failure of the primary 3PL?		
32	Are random audits undertaken on 3PL operations?		