Case Study Template
Kenya

KEMSA after the devolution: Financial sustainability through the definition of the supply chain strategy and a strong focus on the human resources and leadership components

ABSTRACT

The case study describes the transition of the public health supply chain for medical commodities in Kenya. In 2004 there were 11 parallel supply chains operating in the country. Since then, the country has gone through a significant restructuring, which started with the devolution of healthcare to the 47 counties established with the new Constitution in 2010. The devolution has also seen the rise of the Kenya Medical Supplies Authority (KEMSA) as a leading actor, which has increased the efficiency and effectiveness of the supply chain in the country.
KEMSA has been transformed, from being an agency to being an authority, which means it is now completely independent from the Government. KEMSA has developed a business model under which its customers are no longer solely the Government and the donor community, but also the 47 counties. KEMSA has gone through significant operational changes, involving both human resources (HR) and information technology (IT) initiatives. Over the years, political and technical supply chain champions have laid the ground for increasing performance and availability at the last mile of the health commodities supply chain.

BACKGROUND

KEMSA was created in 2000 as an agency of the Ministry of Health (MoH), to replace the previous Medical Supplies Coordinating Unit. KEMSA became an autonomous authority in 2013, through an Act of Parliament, though it remains anchored under the MoH. KEMSA's mission is 'to provide reliable, affordable and quality health products and supply chain solutions to improve healthcare in Kenya and beyond' (KEMSA website). KEMSA is state-owned corporation responsible for procurement, warehousing and distribution of medicines and medical supplies, which are supplied to public sector health facilities. Between 2000 and 2008 the challenges KEMSA was facing were: a lack of funding or erratic flow, poor data visibility, a lack of infrastructure capacity, a lack of public confidence in the agency, the existence of 11 parallel supply chains for different commodities, a weak legal framework and a lack of leadership and a governance structure within KEMSA (a representation of the parallel supply chain is given in Appendix 1, while the organisational structure pre- and post-devolution can be found in Appendix 2). Starting in 2008, KEMSA began a more comprehensive process of reform. This process was accelerated in 2010 by the new Constitution of Kenya, which mandated the devolution of healthcare to 47 county governments. This devolution took effect in 2013.

During this process, KEMSA underwent a complete overhaul. KEMSA now operates on a 'supermarket model', selling medical supply services to county governments and faith-based institutions using a not for profit self-sustaining model (Appendix 3). The sale of medical supplies to county governments funds the procurement of further medical supplies, similar to a revolving drug fund system. This transition was accompanied by substantial changes to the legal framework (KEMSA Act 2013) and organisational structure of KEMSA, as well as streamlining of the procurement and distribution processes. KEMSA's mandate can be summarised as follows:

1. Procure, warehouse and distribute essential medicines and medical supplies
2. Establish a network for storage, packaging and distribution to county facilities
3. Enter into partnerships with county governments and other relevant strategic partners
4. Collect relevant information and provide regular reports to the national and county governments on medical commodities supply status
5. Support county governments to establish and maintain appropriate supply chain systems for essential medicines and medical supplies.

The devolution of health services propelled KEMSA to identify strategies to realise an optimum health supply chain that is aligned with the devolved system of government and to ensure that public health facilities have an

uninterrupted access to health commodities. The change in the legal framework allowed KEMSA to enter into strategic partnerships with development partners with a view to strengthening the national health supply chain mechanism, whereby the authority has been championing the integration of health supply chains in Kenya. Notable development partners using KEMSA's supply chain system are the Global Fund to Fight AIDS, Tuberculosis and Malaria, the United States Agency for International Development (USAID), the United Nations Children's Fund (UNICEF), the World Food Programme, the United Nations Population Fund (UNFPA), the World Bank, Danida, and KfW Development Bank, among others. KEMSA has been spearheading integration of health supply chain in Kenya which has seen the national strategic programmes leveraging on its operations enhancing effectiveness and efficiency of the health supply chain.

STRATEGY AND IMPLEMENTATION – TURNING KEMSA INTO A FINANCIALLY SUSTAINABLE MODEL

Kenya's public health supply chain was known for its inefficiencies and ineffectiveness, and for its very intricate structure, as represented in the 'spaghetti public health supply chain' diagram in Appendix 1. The objective of the Government's process of devolution, and of the Health Bill in 2015, was to reform this failing system by devolving the government of the health system to the 47 counties in order to respect the rights of 'every person (…) to the highest attainable standard of health which shall include progressive access for provision of promotive, preventive, curative and rehabilitative services' (Health Bill, 2015, pg. 229).

Prior to the 2008–2013 reforms, KEMSA was an agency under the MoH. It carried out supply chain services on behalf of the MoH by following the instructions it received. However, KEMSA now operates on a 'supermarket model', in which KEMSA must compete with other distributors for the medical supply business of county governments. This encourages a customer-oriented business model, and KEMSA's customers are now the county governments, and, ultimately, the health facilities. The figure to the right represents the improvement areas identified, and the related strategy, to facilitate the improvement of healthcare, as defined by KEMSA.

Improvement Areas	Strategy
Supply Chain Visibility	Introduction of ICT tools to enhance real-time information access across all facilities
Commodity Management	Enhancement in collaborative planning, forecasting and replenishment to increase on-shelf availability
Parallel Supply Chains	Integration into one national supply chain
System Strengthening	Improvement of infrastructure, process and systems at facilities

In post-devolution Kenya, KEMSA's funding is derived from selling medical supply services to the county governments. This encourages KEMSA to offer competitive prices, which in turn encourages KEMSA to streamline its procurement and distribution processes. Despite substantial donor support in the last seven years, quantifiable as being approximately $900 million, the KEMSA business model is based on a revolving drug fund, with the intent of becoming self-sustaining through user fees. However, KEMSA's revolving drug fund differs from those of other countries: the counties pay the user fees, rather than the patients. KEMSA operates like a revolving drug fund, but the county healthcare system does not. The Government of Kenya abolished user fees for primary healthcare in 2013 (Okech and Lelegwe 2015). Now, 66% of the national budget for healthcare has been devolved to the counties, and some of this devolved budget is intended to pay KEMSA (Gandham et al. 2013; World Bank 2014a; Yadav 2014; KEMSA website).

PROGRESS & RESULTS

A thorough data collection was carried out to understand KEMSA's progress and results in recent years. Two focus groups and individual interviews were conducted in May 2017. More details on the informants are available in Appendix 4. In the picture on the side, Pamela Steele led the focus group discussions with the KEMSA Directors and CEO, in which the maturity model was run (see below). Another focus group discussion was carried out with 21 sales team members, alongside individual interviews with Mr. Philip Omondi (acting KEMSA CEO) and Ms. Agnetta Mufutu (KEMSA Assistant HR and Administration Manager), to provide

information about the components of the Theory of Change: leadership, capacity development, performance measurement, organisational structure, and coordination and collaboration..

The availability of health commodities at health facility is estimated at 80% for essential medicines, and 95% for specific programmes. The two streams have been evaluated according to the maturity model developed by the Bill and Melinda Gates Foundation in 2016. The model is a tool for facilitating discussion in order to understand the level of maturity of a health supply chain. The supply chain for essential medicines reveals how most of the components have been addressed by KEMSA to the level of 'accredited supply chain' (Figure 1). This clearly explains how they managed to guarantee an 80% availability of commodities at health facilities. The supply chain is based on a 'pull system', where the counties quantify their needs and communicate them to KEMSA. In contrast, before devolution the MoH would push commodities down to the health facilities. On the other hand, the model also clarifies the main shortcomings of the supply chain: visibility and inventory management at facility level, procurement, and governance. However, KEMSA is not responsible for managing the health facilities, which are under the governance of the counties. From 2013, counties have bought 40%–50% more commodities from KEMSA (from Kenya shillings (Kshs) 2.212 B in 2012/2013 to Kshs 6.000 B forecast in 2016/2017).

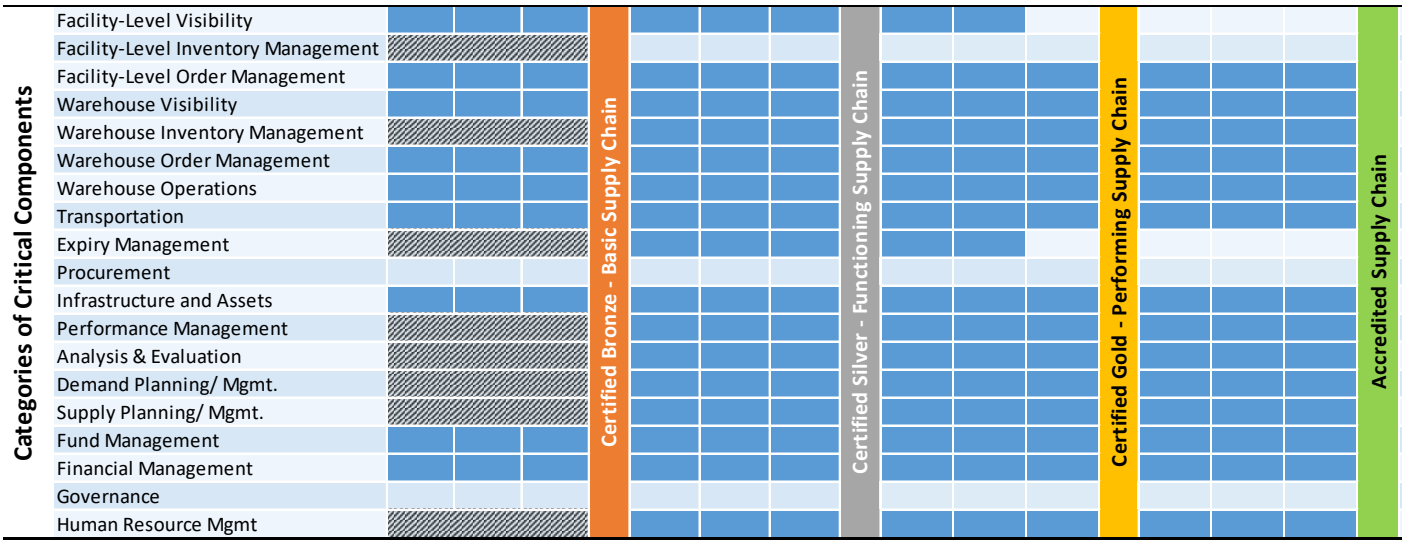


Fig. 1 Maturity model for essential medicines

Warehousing has been one of the key areas of focus for KEMSA and it has established appropriate warehousing systems and structures, including: a warehouse management system (WMS); modern infrastructure for fast order processing, such as racking and mechanical handling equipment (MHE); cold-chain storage capabilities; well trained and skilled staff for warehouse operations; storage and security.

In terms of distribution:

- KEMSA distributes to over 6,000 facilities and 5047 HIV/AIDS testing sites; these are mapped and geocodes established;
- the distribution services and activities are integrated under a distribution module in the enterprise resource planning (ERP) system; and
- KEMSA uses outsourced transport – a distribution fleet is tracked through a global positioning system (GPS) within the ERP.

Area	Improvement
Supply Chain Strategies	▪ A strategic Plan in place that embodies leading edge supply chain management ▪ Strategic Investment
Supply Chain Visibility	▪ Improve end to end visibility ▪ Use Enterprise Resource Planning tools (ERPs) ▪ Strategic Network Optimization
Risk Management	▪ Strong governance structures ▪ Stringent policies and Standard Operating Procedures
Benchmarking	▪ Benchmarking against industry standards ▪ Market and environmental scanning on best practices
Collaboration and Partnerships	▪ Working with development partners in supply chain improvements
Performance Management	▪ Enhanced Monitoring and Evaluation ▪ Implementing improvement methodologies and international standards e.g ISO. ▪ A Strong culture that promotes excellence

The Table clarifies which improvements have been carried out to reach the strategic imperatives.

Donor programme sponsored medicines are also increasingly being distributed through KEMSA. USAID, UNICEF and Global

Fund have each given funds directly to KEMSA to distribute specific medicines. Unifying the distribution of donor-funded medicines is a significant step towards sustainable healthcare, and it is a sign that international donors trust KEMSA to manage this distribution effectively (Serem 2014; Godec 2015; Amoth 2016).

The success of KEMSA's business model after devolution can be linked to the following areas, in accordance with the USAID Theory of Change Model (2016):

Leadership: There is a clear leadership line in Kenya for public health supply chains. The Minister of Health is a permanent member of the KEMSA Board and in charge of ensuring the health system functions. In terms of technical leadership, this is spread across 400 staff members, who have adequate supply chain qualification and training. The Board has a mixture of supply chain and pharmaceutical knowledge.

Capacity development: An assessment based on the Pamela Steele Associates Ltd. Health Supply Chain Skills Competence Assessment tool has provided insights regarding the capacity of the KEMSA supply chain and logistics department (it was delivered to approximately 70 people – response rate 98%). Respondents were generally more confident about their generic management skills than their technical skills (selecting, procuring, storing, using). Respondents were most confident about their personal and professional management abilities and least confident about their technical abilities in aspects of selection and procurement. 25% of the respondents were part of the sales team – this should be taken into account when evaluating this result. On average, managerial skills were rated 'high', while technical skills were rated 'average', which shows the results of the efforts made in professionalising KEMSA staff (more details on the competence assessment results are provided in Appendix 5). This is a continuous effort, as staff are provided with training where needed. KEMSA has graduated from its previous dependence on the MoH and they now fund their own training, with a preference for local providers.

Performance management: Logistics management information systems (LMIS) and ERP systems are the systems used by KEMSA to collect data and performance indicators are based on these data for each employee. The counties are tracked by the sales team and the sales team are rewarded based on their performance. There are key performance indicators (KPIs) in place to ensure alignment to the strategic plan.

Organisational structure: Meetings are regularly scheduled at different levels and data are the backbone of the conversations. The professionalisation of the supply chain occurs through job evaluation and access to training. Performance appraisal takes place bi-annually and adjustments to job descriptions follow where needed.

Coordination: There is coordination at national and regional level through stakeholder fora, county fora, and technical working groups. Donors outsourcing distribution to KEMSA are supporting a more collaborative environment within the country.

CHALLENGES

The main challenges KEMSA faces relate to visibility and inventory management at health facility level, and procurement. As regards the procurement function, this requires attention from KEMSA itself. As regards issues at the facility level, these are affected by the relations between KEMSA and the counties. KEMSA is making some efforts to support counties by building their capacities. For instance, orders to the warehouses previously came through customer services, for quality checks – now orders go straight to the warehouse, as the capability has been created. However, there are elements that are not in KEMSA's control, such as the poor quality infrastructure at facility level. The main challenge is related to the structure of the country's model, whereby the counties pay KEMSA for their services – there have been numerous instances of cases where counties were not paying KEMSA for shortage/mismanagement of funding. This specific funding structure can create frictions between KEMSA and the counties, and can reduce its financial stability.

LESSONS LEARNED

KEMSA's business model needs strengthening in procurement and in the relationship with countries. The vast majority (95%) of procurement is done through public and competitive open tenders, to ensure the lowest possible price. The medicines and supply list was last updated by the Government in 2016. The Public Procurement and Asset Disposal Act, 2015, lacks updated regulations to guide procuring entities.

The relationship with the 47 counties also requires significantly greater attention, in order to tackle the challenges on the ground – including stock-keeping, training, county-level planning, and the efficiency of the distribution system, among others. This case study has clarified that the priority for KEMSA in the near future will be building the supply chain capacity in the counties.

INNOVATION

A strong focus on the HR component has supported KEMSA transition after the devolution: '*KEMSA has a fully-fledged human resource department, including a training officer whose role is identifying the skills gap and ensuring employees access the appropriate training*' (Philip Omondi, acting KEMSA CEO).
KEMSA put in place an electronic LMIS (eLMIS) system, developed internally, which has proven crucial in regard to engaging with the health facilities and increasing their logistics and supply chain competencies. KEMSA can rely on accurate data on their supply chain and this has proven beneficial for the whole country, not only for their own operations. In fact, the MoH carries out its forecasting and quantification with KEMSA's support on the basis of monthly meetings. In turn, this leads to reduced duplication and a centralised approach.

POTENTIAL APPLICATION (AS NEEDED)

The public health supply chain in Kenya transitioned from a 'push system' from the MoH to a demand-driven pull system where counties quantify their needs and allocate funds for procurement of medical commodities. KEMSA has facilitated this transition and has developed a ratio-based pricing model for its supply chain services grounded on cost drivers in core functions, including cost of inventory acquisition, cost of warehousing, and cost of distribution as an outsourced service. The margins applicable are: procurement – 2%; warehouse – 3%; and distribution – 5%. However, this system, based on the 'pull system', is no longer appropriate. KEMSA is planning to review the cost structure of their offering to modify it in accordance with the demand-driven model used.

NEXT STEPS

Leadership within KEMSA has proven to be crucial in order to guarantee the success of the organisation, both at the political and technical levels. However, some members of KEMSA's Board of Directors are appointees. This is clearly a result of the political climate. KEMSA should start planning the development of a new generation of leaders who can guarantee continuity regardless of political events. Also, KEMSA's leaders should enrol in South-to-South knowledge exchange by sharing their journey within the organisation, with the aim of other countries benefitting from learning about KEMSA's experience.

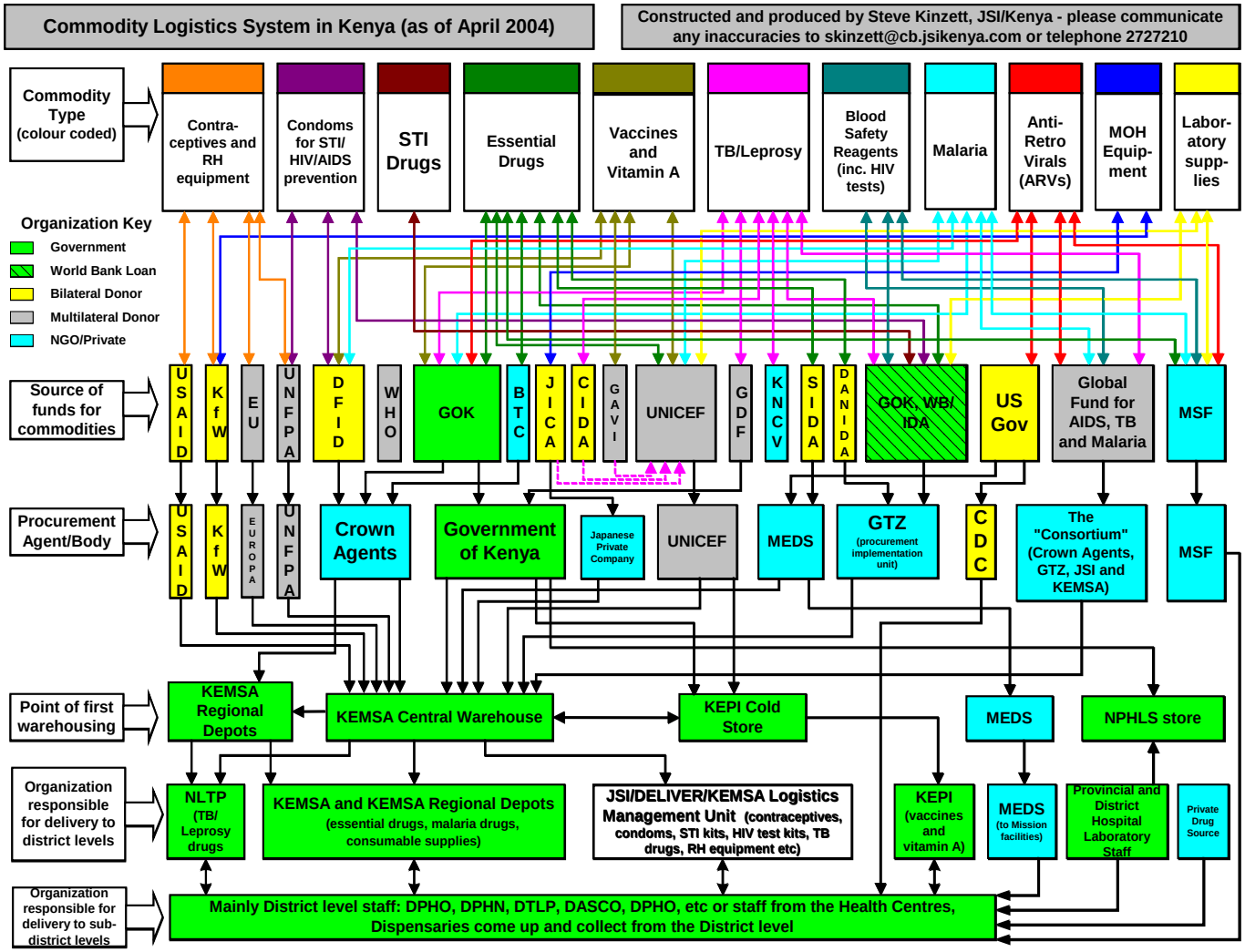
RELATED LINKS

Kenya Health Bill, 2015
KEMSA website
Public Health Supply Chain Maturity Model
Pamela Steele Associates Ltd. Health Supply Chain Skills Profile

REFERENCES

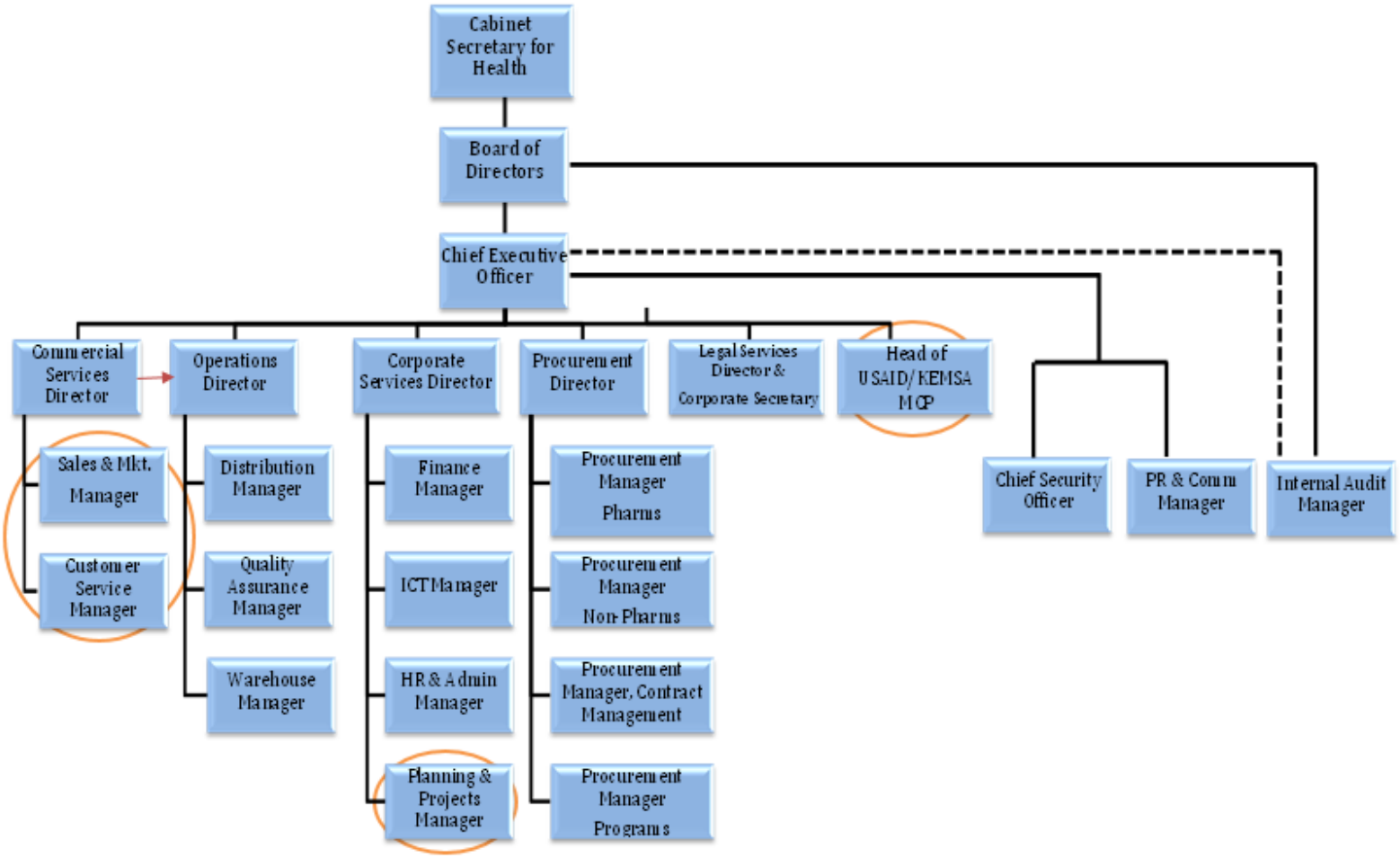
Amoth, Patrick. 2016. 'Nutrition Supply Chain Workshop: Kenya Experience'.
Gandham, Ramana, Rose Chepkoech, and Netsanet Walelign Workie. 2013. 'Improving universal primary health care by Kenya: a case study of the Health Sector Services Fund'. UNICO Studies Series 5. The World Bank.
Godec, Robert (US Ambassador to Kenya). 2015. <https://ke.usembassy.gov/remarks-for-ambassador-robert-f-godec-launch-of-kemsa-medical-commodities-program/>.
Okech, Timothy and Steve Lelegwe. 2015. 'Analysis of universal health coverage and equity on health care in Kenya'. *Global Journal of Health Science* 8(7): 218.
Serem, Daisy. 2014. 'Strategic partnership to make the supply chain work for children and women in Kenya'. UNICEF.
USAID. 2016. 'Linking Human Resource Investments to the Global Health Supply Chain: Lessons from the USAID|DELIVER Project and Other USAID Investments'.
World Bank. 2014b. 'Kenya achieves significant results in health services delivery'.
Yadav, Prashant. 2014. 'Kenya Medical Supplies Authority (KEMSA): a case study of the ongoing transition from an ungainly bureaucracy to a competitive and customer focused medical logistics organization'. Study conducted by the World Bank.

Annex 1 – The spaghetti supply chain, 2014



The diagram represents the public health supply chain in Kenya in 2004. An updated version does not yet exist. However, the case has clarified KEMSA's role in the procurement, warehousing and distribution of essential medicines. In regard to programme medicines, donors continue to procure these, but KEMSA carries out the storage and distribution and is compensated for its services in this regard.

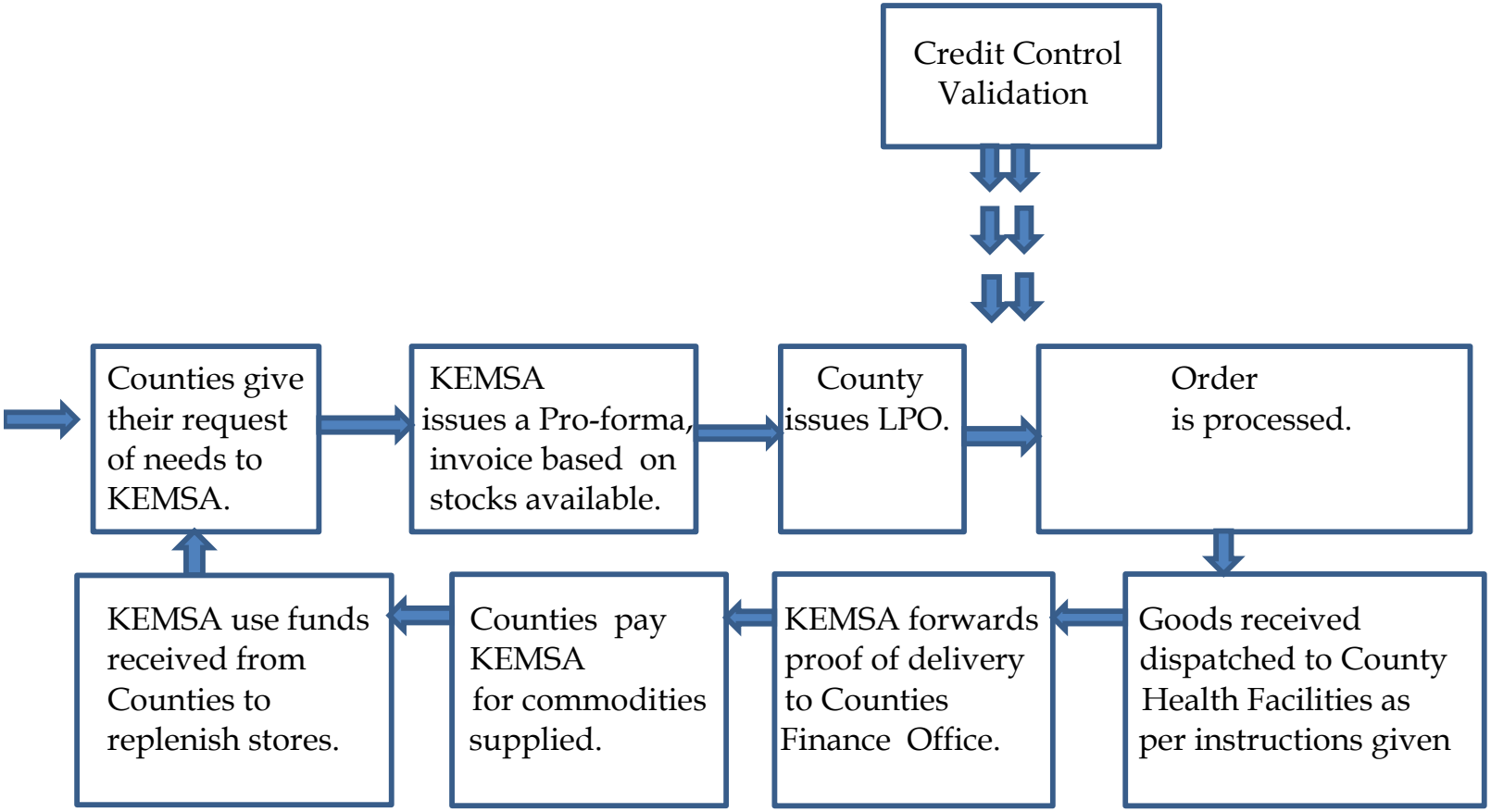
Appendix 2 – KEMSA organisational chart with changes after devolution



Changes post-devolution circled in red:

1. The Sales and Marketing Manager was introduced after devolution
2. The Customer Service Manager was introduced after devolution
3. The Commercial services Director reported to the Operations Director before devolution
4. The Head of USAID/KEMSA MCP was introduced after devolution
5. Planning and Projects Manager was introduced after devolution.

Appendix 3 - KEMSA business model



Appendix 4 – List of informants

Focus group no. 1: Maturity model workshop

Title
Programme Officer – MCP
Assistant Warehouse Manager
Programme Officer - MCP
Distribution Officer
ICT Manager
Customer Services Manager
Lab Specialist
Distribution Officer
Supply Chain Planner
Procurement Manager
Director, Commercial

Focus group no. 2: Theory of Change sales team, plus individual interviews

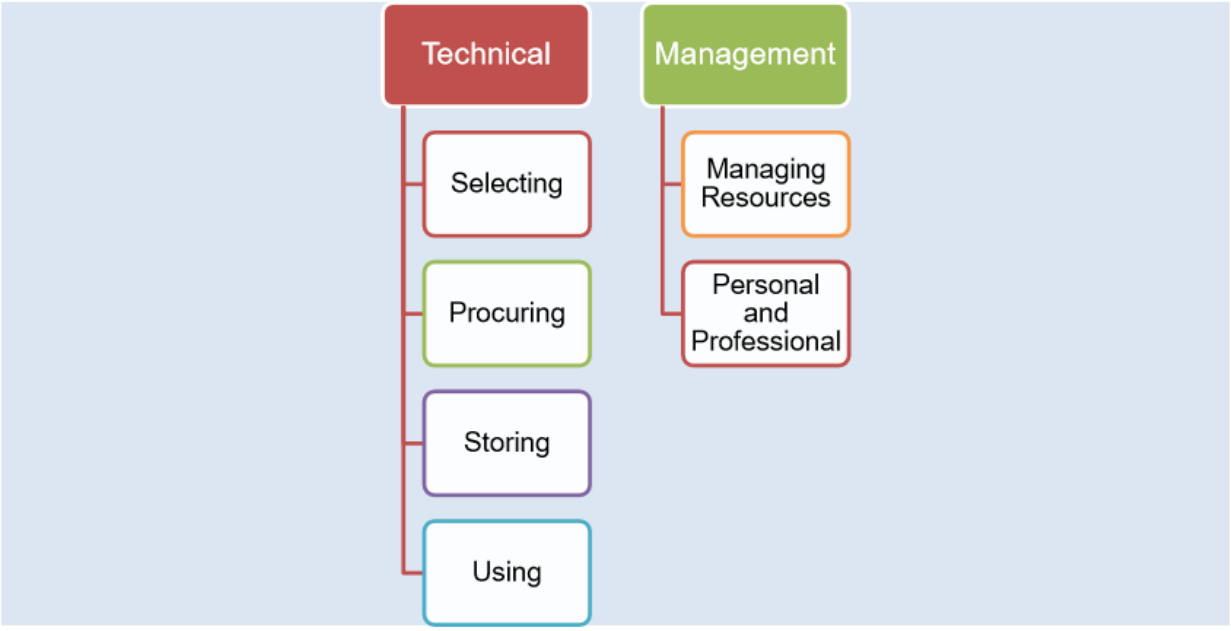
Individual interviews:
Mr. Philip Omondi – Acting CEO
Ms. Agnetta Mufutu - Assistant HR and Administration Manager

Focus group with sales team – 21 team members

The questions that were asked follow the Theory of Change model developed by USAID, in collaboration with Pamela Steele Associates, available in the references section (USAID, 2016).

Appendix 5 – Health Supply Chain Leader Questionnaire

Health Supply Chain Competency Model



Score Interpretation

SCORE	PERCENTILE MEANING	PROFICIENCY	DEVELOPMENT PRIORITY
9-10	9 is higher than about 95% of the comparison group	Very high proficiency	Very low
7-8	7 is higher than about 75% of the comparison group	High proficiency	Low
5-6	6 is higher than about 60% of the comparison group	Average proficiency	Average
3-4	4 is higher than 25% of the comparison group	Basic proficiency	High
1-2	2 is higher than 5% of the comparison group	Very basic proficiency	Very high

Key Area Competency Scores

TECHNICAL	MEAN	PROFICIENCY
Selecting	6.0	Average
Procuring	5.7	Average
Storing	6.9	High
Using	6.5	High
MANAGEMENT	**MEAN**	**PROFICIENCY**
Managing Resources	7.0	High
Personal and Professional	7.8	High

Technical Competencies

SCALE	SELECTING	STEN (PROFICIENCY)
1	Selecting	5.6 (Average)
2	Specifying	5.5 (Average)
3	Special cases	6.3 (Average)
4	Forecasting	6.7 (High)

SCALE	PROCURING	STEN (PROFICIENCY)
5	Costing	5.3 (Average)
6	Relating	6.4 (Average)
7	Tendering	5.4 (Average)
8	Contracting	5.7 (Average)
9	Monitoring	6.0 (Average)
10	Importing and exporting	5.7 (Average)
11	Donating	5.4 (Average)
12	Preparing	5.3 (Average)
13	Manufacturing	6.0 (Average)
14	Repackaging	5.7 (Average)

Technical Competencies

SCALE	STORING AND USING	STEN (PROFICIENCY)
15	Storing	6.8 (High)
16	Supplying	6.8 (High)
17	Transporting	6.3 (Average)
18	Disposing	7.5 (High)
19	Dispensing	7.0 (High)
20	Understanding	6.5 (High)