KEMSA Support Program

Distribution Analysis Report

March 2012

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Kenya Medical Supplies Agency (KEMSA) Support Program

Contract Number: AID-623-C-11-00010

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ACRONYMS

ESP	Economic Stimulus Program
ERP	Enterprise Resource Planning
GPS	Global Positioning System
KEMSA	Kenya Medical Supplies Agency
LPO	Local Purchase Order
M&E	Monitoring and Evaluation
POD	Proof of Delivery
RFID	Radio Frequency Identification
RHF	Rural Health Facility
SKU	Stock-keeping Unit
SOP	Standard Operating Procedure
TMS	Transportation Management System
WMS	Warehouse Management System

EXECUTIVE SUMMARY

This report provides an end-to-end view of current distribution operations, identifies gaps in execution, and recommends solutions to address these gaps and mitigate risk of sub-optimal performance for the Kenya Medical Supplies Agency (KEMSA). KEMSA delivers health commodities to over 3,938 health facilities throughout Kenya, to include provincial hospitals, district hospitals, sub-district hospitals, health centers, and dispensaries. Of the 2,031 stock-keeping units (SKU) that are distributed, 18% are pharmaceutical, 21% is equipment, and 60% are non-pharmaceutical items[1]. This analysis examines KEMSA's primary distribution functions of planning, dispatch, and transport to identify the catalysts for low performance against planned commodity shipment and delivery dates to these health facilities.

Deloitte conducted this analysis by leveraging our methodology, based on industry leading supply chain practices, and applying the unique requirements of KEMSA's public health supply chain operations to tailor the approach. Both qualitative and quantitative analysis was performed to examine each distribution function - planning, dispatch, and transport.

The current planning function is reactive and requires significant overhaul as evidenced by cycle planning accuracy results of less than 20 percent. Coordination of parallel distribution channels appears to be a challenge while synchronized planning of commodity shipments from various locations is not well-planned, resulting in less than adequate loading. The dispatch function is adequate in moving commodities from warehouse to carriers, but synchronization with the warehouse can be improved. For example, movement from warehouse to shipment currently consumes four days when ideally it should take a day or less. Dispatch also experiences blockages and slowdowns due to door size and space constraints, delivery note generation issues, and truck unavailability. Lastly, the transport function is lacking in performance monitoring, process management, and contract enforcement. Due to ineffective fleet management, carrier capacity and responsiveness is low with the majority of carriers adhering to pick up requests less than 80 percent of the time.

Based on findings of this analysis, key opportunities were identified to improve and enhance the planning, dispatch and transport functions. The following are highlights of key recommendations for each function. Detailed corrective actions are listed in the Recommendations section of this report.

- Planning: Implement formal tracking mechanisms for cycle and weekly planning activities, and establish working groups to assist with parallel distribution and commodity movement from warehouse to distribution. In addition, automate manual planning and data capture procedures via the ERP system, a Warehouse Management System (WMS), or separate Monitoring and Evaluation (M&E) system.
- Dispatch: Procure additional information technology hardware and forklifts, appoint additional KEMSA distribution staff, to include a data entry clerk and three additional loaders, and establish new processes for delivery note creation and transfer. Perform layout analysis and space planning of dispatch and surrounding warehouse areas to optimize commodity and material handling equipment movement and flow. Automate manual processes and data capture via implementation of ERP/WMS functionality.
- Transport: Establish transportation contract monitoring processes, execute transport carrier performance audits, and implement a Transportation Management System (TMS) with enhanced tracking via Global Positioning System (GPS) / Radio Frequency Identification (RFID) capabilities. Review and streamline reverse logistics processes with penalties for non-adherence, including delivery time/duration expectations as well as driver/loader roles and responsibilities.

[1] Source: KEMSA Quality Assurance Department

1. INTRODUCTION

In May 2011, USAID awarded the two-year KEMSA Support Program to Deloitte Consulting LLP as the lead implementing partner. The goal of the project is to strengthen KEMSA's ability to provide client sites throughout the country with the right quantity of quality commodities, in a timely manner, for effective service provision. This is achieved through execution of the following five tasks, which are aimed at improving KEMSA's business operations.

1. Review KEMSA's Legal Status (KEMSA Act) and make recommendations to strengthen its operational mandate
2. Strengthen KEMSA's governance architecture and practice
3. Strengthen KEMSA's inventory management and tracking
4. Strengthen KEMSA's warehouse and distribution
5. Support for KEMSA to develop, implement and monitor a PMP

The distribution analysis activity supports task four, specifically in the area of distribution operations where the primary functions of planning, dispatch, and transport aim to address the key challenges of low performance against planned shipment and delivery dates. The following distribution analysis provides a comprehensive picture of current distribution processes and procedures, identified gaps in execution, and key recommendations to address gaps and mitigate risk of sub-optimal performance. The subsequent corrective actions will help KEMSA move further toward the improvement of the health of Kenyans through efficient and effective procurement, warehousing and distribution of health commodities to public health facilities throughout Kenya.

2. SCOPE

The scope of the analysis centers on KEMSA's three primary distribution functions - planning, dispatch, and transport. Each function is examined in-depth for bottlenecks in performance and improvement opportunities in operations. Optimized execution in each of these areas is critical for KEMSA's distribution organization as supply chain complexity, delivery volumes, and the number of health facilities continually increase due to evolving push-to-pull distribution mechanisms and other external pressures.

Figure 1: Primary Distribution Functions at KEMSA

Planning	Dispatch	Transport
• Cycle planning • Weekly planning • Daily planning	• Rack positioning • Load picking • Staging • Loading	• Fleet management • Transport • Delivery • Return processes • Freight payment

The distribution planning function is comprised of all activities from plan development for cycle and/or quarterly distribution through notification to required transport carriers. This includes:

- Cycle planning: A spreadsheet-based planning process where facilities are allocated planned shipment and delivery dates for the next distribution cycle. For Rural Health Facilities (RHFs), this is performed quarterly with planned shipment and delivery dates that are allocated on a district basis. For hospitals, this is performed bi-monthly with planned shipment and delivery dates that are allocated to each hospital.
- Weekly planning: A spreadsheet-based planning process, which uses the cycle plan as the starting point for revision of planned shipment and delivery dates for the following week's distribution, based on latest progress. The plan is discussed in the weekly KEMSA operations meeting amongst the various functions including customer service, warehousing, and distribution.
- Daily planning: A manual process that determines the number of trucks required based on commodities ready for dispatch on a specific day.

The dispatch function comprises all activities that follow completion of warehouse picking consolidation through departure of transport carriers. This includes:

- Rack positioning, which involves the movement of commodities from consolidation to distribution racks;
- Load picking, which involves commodity identification and collection from distribution racks;
- Staging, or the movement of commodities from racks to staging/loading areas; and
- Loading of commodities onto trucks for transport.

The transport function, arguably the most critical of all the three functions, encompasses all activities required to manage and move carriers from KEMSA warehouse departure to health facility delivery and a return back to KEMSA. This includes:

- Fleet management, or the management of transport carrier contracts, processes, and performance;
- Transport, or the movement of goods from origin to destination;
- Delivery and acceptance of commodities at destination including receipt confirmation via Proof of Delivery (POD) documentation;
- Return processes, which include the return of POD documentation to KEMSA and all reverse logistics (e.g., defective equipment, expired drugs); and
- Freight payment of outsourced transport carrier services.

In late October 2011, KEMSA's Operations Director reorganized the distribution organization to streamline activities and reduce unnecessary layers of management. The resulting structure aligned the department under three groups: Planning, Dispatch and Administration.

3. APPROACH

The project team conducted the analysis by leveraging the Deloitte Integrated Supply Chain (DISC) toolkit, a methodical approach that incorporates leading public and private sector supply chain practices. The DISC toolkit was applied to the unique requirements of KEMSA's public health operations.

Steps executed as part of the distribution analysis completed using the DISC approach include:

- Understanding the as-is/baseline, capturing the current state for people, process, and technology;
- Gathering best practices and benchmarks leveraging and injecting leading practices;

- Conducting gap analysis to identify gaps between the current and desired future state;
- Developing improvement opportunities, or identifying and developing solutions to fill aforementioned gaps; and
- Building a roadmap by recommending and prioritizing solutions to continue momentum for continuous improvement.

Qualitative observations were captured through physical walkthroughs of distribution operations, interviews with stakeholders, working sessions with process owners, and examination of Standard Operating Procedures (SOP) and other relevant documents. Process flows were identified prior to and during the analysis, with validation occurring throughout.

Quantitative analysis was conducted through performance monitoring and evaluation (M&E). Prior to distribution analysis, there was no data, metrics or M&E procedures in place. Accordingly, M&E for the distribution organization was proactively implemented as part of the project approach. Implementing this process allowed for a more thorough analysis. The main data collection method for distribution metrics was a manual data capture exercise performed by KEMSA distribution staff. Once metrics were captured, the team analyzed the data and associated trends to investigate overall performance. When deficiencies were uncovered, root causes were identified and potential solutions were determined. The metrics in Figure 2 (below) are planned for future capture. Metrics not calculated due to lack of data availability are indicated with an asterisk (*).

Figure 2: Proposed Distribution Metrics

Category	Metric	Definition	KPI
Planning	Cycle Plan Accuracy	Accuracy of cycle/quarter plan to shipment date window of one week	Y
	Weekly Plan Accuracy	Accuracy of weekly plan to actual shipment date	Y
	Reason for Shipment Accuracy Variance *	Reason for shipment accuracy variance (i.e., delivery note)	N
Dispatch	Average Number of Days Facility Shipments in Dispatch	Average number of days facility shipments in dispatch department	Y
	Truck Availability	Percentage of trucks delivered vs. requested	Y
	% of Trucks Arriving Prior to Required Appointment Time *	% of Trucks Arriving before requested appointment time	N
	Average Loading Time	Amount of time (hours) taken to load vehicles for shipment	N
	Missing / Late Delivery Notes *	Number of late / missing delivery notes per day	N
Transport	Transporter On-Time Delivery	Delivery of commodities to destination equal or less than two days for hospitals, and five days for Rural Health Facilities (RHFs)	Y
	Transit Time	Number of days in-transit from shipment to facility receipt	N
	Number of Facilities per Truck	Number of facility shipments per truck	N
	Truck Capacity Utilization *	Approximate percentage of truck filled per outbound shipment	N
	Weight per Truck *	Weight per shipment	N
	Number of Complaints	Number of complaints pertaining to distribution	Y
	Damage *	# of instances of damage	N
	POD Turnaround *	Number of days duration from delivery to receipt of POD back at KEMSA	N
	Freight Cost	Total freight cost by carrier	Y
	Freight Payment Turnaround	Duration (days) from carrier invoice to payment by KEMSA	N

4. FINDINGS

The findings of this report were captured and documented for each distribution function and in summary, span the areas of organization, process, technology, infrastructure, and performance management.

Planning in KEMSA should be a driving force where the customer service, warehousing, and distribution organizations work together toward achieving the cycle and quarterly distribution plan. Unfortunately, weekly execution is reactive and not always driven by the plan, while planning accuracy audits remain non-existent. Dispatch is identified as a critical risk area due to increased output that is absent of any forklifts for dedicated use during loading operations. Transport fleet management is severely lacking,

resulting in little to no carrier adherence to prescribed processes and contract provisions. Across all three functions, speed and efficiency of operations are impacted by the absence of technology systems to support key distribution activities. Though analysis uncovers a diverse set of findings, the root causes are few, as described in the following sections.

4.1 PLANNING

4.1.1 Qualitative Observations

Distribution planning is continually hampered by delays in receiving customer orders, drawing rights, carrier responses, and delivery notes. This translates into delayed shipments to customers.

The largest challenges in cycle planning are the delays experienced with receipt of standard order forms from RHFs. If orders are not received at least one week prior to scheduled distribution shipment dates, shipments are likely to be postponed, as picking cannot start until all orders for a district are received. This is due to a regional load consolidation principle stating that a truckload consists of all RHFs in a district. The rule, however, is inconsistently applied and during daily planning, it is often discovered that some health facilities are missing from the planned district load. All three aspects of planning are impacted by this late arrival of standard order forms in some way, shape, or form.

Drawing rights delays and lack of synchronization with parallel distribution requirements also create barriers to efficient planning. Delays with drawing rights delay and push distribution cycle/quarter planning, which in turn delays the physical distribution of commodities. In addition, ineffective distribution coordination from the three KEMSA storage locations of Embakasi, Economic Stimulus Program (ESP), and Commercial Street warehouses creates sub-optimal planning and coordination between facilities. This lack of coordination has the ability to convolute seamless pickup, intra-location transfer and load maximization.

Carrier capacity issues and paperwork delays are the two key barriers in daily planning. On a nightly basis, KEMSA distribution staff contacts carrier representatives to verify next day shipment arrangements. However, it is common for carriers to “under-deliver” on capacity the next day, leading to a lack of available trucks. In addition, delays in delivery notes contribute to unnecessary delays in shipment. Delivery notes are required in order to communicate shipment information and capture the required POD on deliveries.

4.1.2 Quantitative Analysis

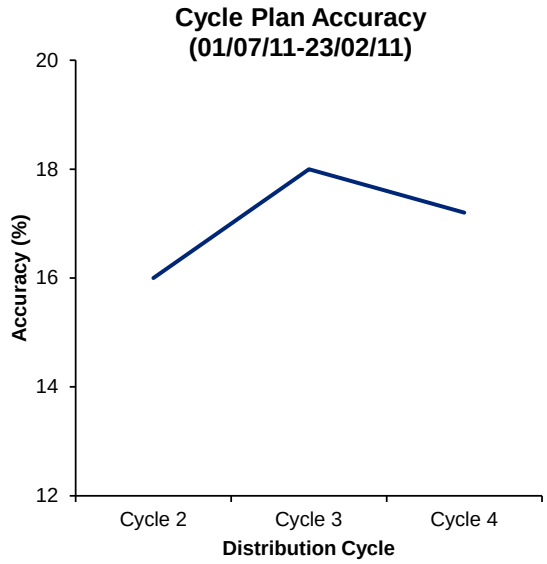
Cycle Plan Accuracy

Cycle planning performance is improving but remains low, negatively impacting health facilities that expect shipments to arrive on the specified date. This is a contributing factor to stock-outs at facilities.

Cycle Plan Accuracy measures the accuracy of the cycle/quarter plan to the shipment date window of one week. As shown, cycle plan accuracy for hospitals has suffered with an average of 17 percent.

Root cause analysis has uncovered various contributing factors to this performance, including power outages, lack of trucks, inconsistent delivery note generation, less than full truckloads, and inconsistent order patterns from health facilities.

Figure 3: Cycle Plan Accuracy



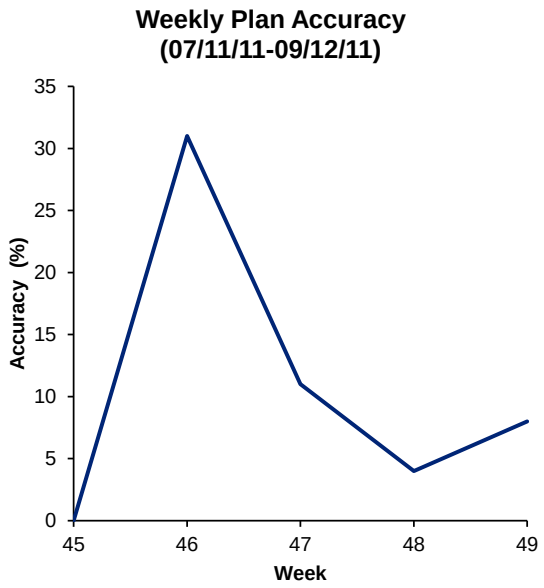
Weekly Plan Accuracy

Weekly planning figures are trending downward. This impacts timely deliveries and inventory levels at health facilities, as well as transport carrier planning.

Weekly plan accuracy measures the accuracy of the weekly plan to actual shipment date. Transport carriers are notified of expected daily quantities one week in advance of shipment. Recent weekly planning accuracy for hospital and RHF shipments has proven to be a challenge for KEMSA, ranging from zero to 31 percent during the last two months of 2011. The expectation is for accuracy to increase as the planning window moves from a cycle/quarter to a weekly plan.

The declining performance of weekly planning can be attributed to the same reasons that impede cycle plan accuracy.

Figure 4: Weekly Plan Accuracy



4.2 DISPATCH

4.2.1 Qualitative Observations

Dispatch throughput is constrained by inadequate space planning, inconsistent ICT performance, and limited material handling equipment. This decreases productivity in the dispatch area, which inversely increases distribution cycle time.

Space restrictions of the current dispatch area create loading challenges and an inefficient flow of commodities. Movement of forklifts and other material-handling equipment are severely hampered by facility design and construction limitations. When all three bays are full with loading trucks, it is not possible for personnel or forklifts to move in or out of the dispatch area, though entry can be gained to the warehouse via the receipts area. Secondary egress area doors must be constructed to facilitate movement to/from the loading bays or movements must be timed to take advantage of unutilized loading bays.

Rack positioning accuracy appears less than desirable due to lack of barcoding usage. Warehouse forklift drivers were frequently observed misplacing pallets in incorrect rack locations designated by the distribution department. Frequent delays in delivery note generation due to ICT issues and duplicate delivery note generation are common, which also contributes to inefficient rack positioning.

Staging productivity is low due to a lack of material handling equipment (i.e., pallet jacks, forklifts) and carrier-driven blockages. A lack of available forklifts, automation, and associated rack locators contributes to excessive delays in the load picking process for staging commodities. In addition, significant blockages in the staging area are often caused by carriers who do not arrive as planned with the agreed upon truck capacity; driving unnecessary staging activity and disruptive blockages in the dispatch area.

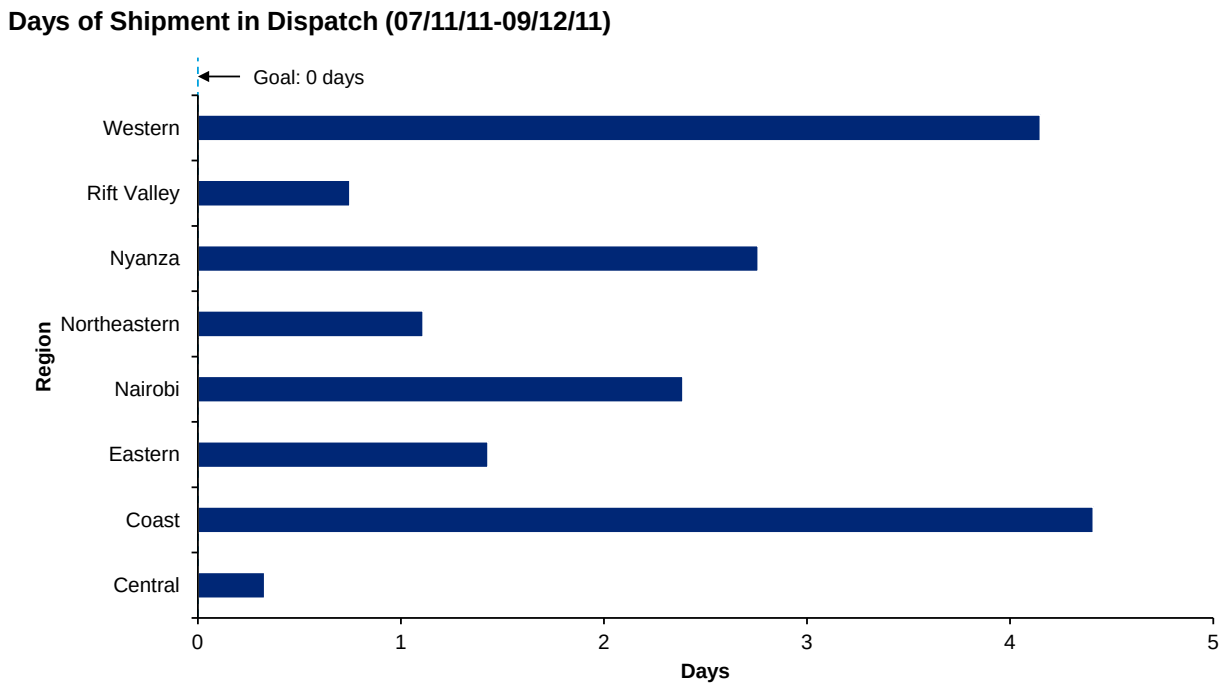
4.2.2 Quantitative Analysis

Days of Shipments in Dispatch

Throughput in the dispatch area is challenged. Days in dispatch should be minimized to enable seamless flow from warehouse consolidation to distribution to shipment, all in the same day. The more time the commodities sit idle in dispatch, the longer the facilities have to wait for their shipments to arrive.

Days of shipments in dispatch measures the average number of days that commodity shipments reside in distribution (on dispatch racks). Standard practice is to consolidate shipments in the morning and ship during the day, rendering an average result of zero days. The number of days that shipments were kept in racks varies by region, as shown below. Root cause analysis uncovered various contributing factors to this abnormally high data, including lack of trucks (capacity issues) and inconsistent delivery note generation.

Figure 5: Days of Shipments in Dispatch

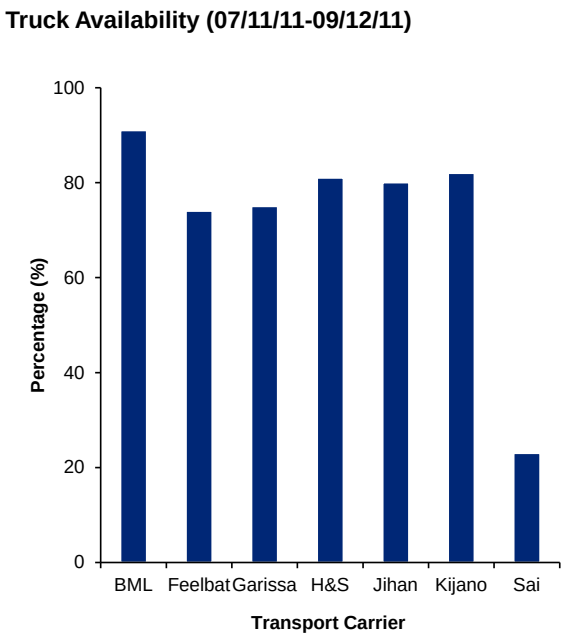


Truck Availability

As previously mentioned, truck availability has been somewhat underwhelming, leading to an inability to deliver shipments to facilities in a timely manner. At KEMSA, it is common for shipments to be delayed a day or two due to inadequate fleet capacity.

Truck availability measures the percentage of trucks actually delivered versus the number requested. Recently, truck availability has struggled with certain carriers such as Sai Cargo, only fulfilling 20 percent of KEMSA's daily requests. Despite heavy rains in the region for which Sai Cargo is responsible, an unacceptable amount of time was required for Sai Cargo to recommit resources to that area once the weather improved. The only transport carrier to achieve availability greater than 90 percent was BML. Root cause analysis uncovered fleet capacity as the core issue. Some carriers currently engaged with KEMSA have less than ten trucks at their disposal.

Figure 6: Truck Availability

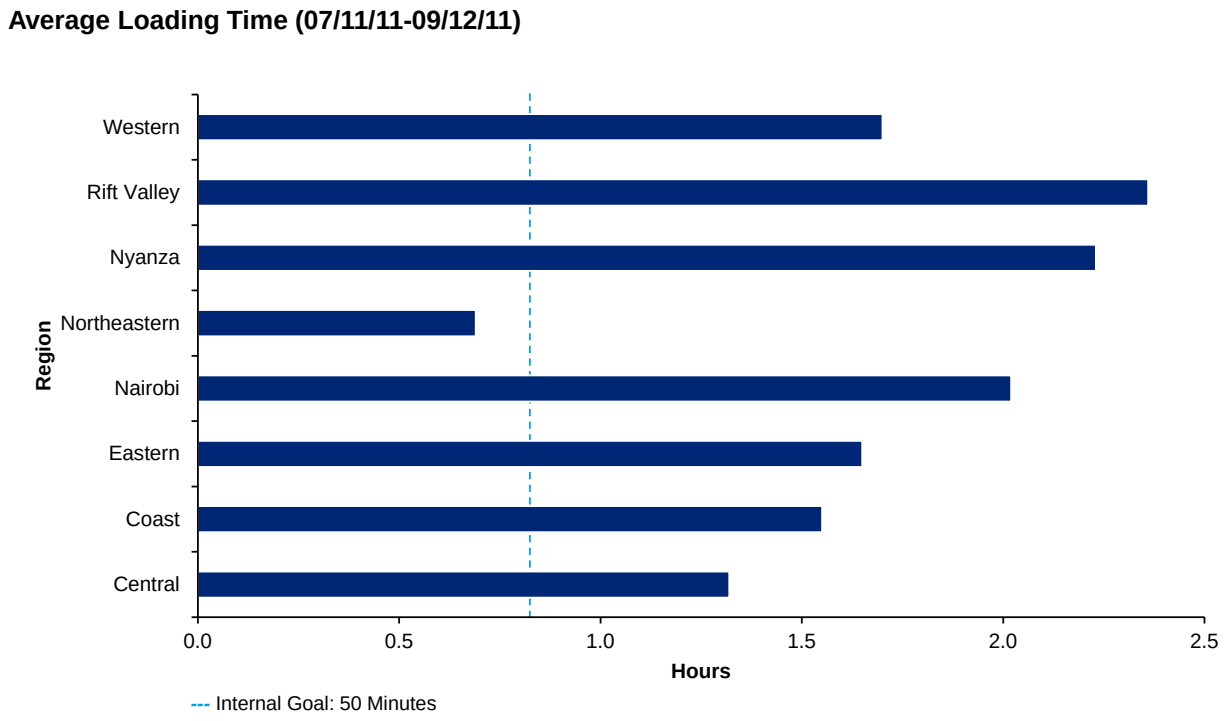


Average Load Time

Truck loading times are high, averaging over 1.5 hours across all regions. A high load time increases truck standby time, which has the potential to further delay facility shipments.

Average load time measures the amount of time required to load vehicles for shipment. As shown below, load times for KEMSA loading staff across most regions exceed the internal goal of 50 minutes. Contributing factors to these inefficiencies include lack of forklifts and late delivery note arrivals from the warehouse department.

Figure 7: Average-Loading Time



4.3 TRANSPORTATION

4.3.1 Qualitative Observations

In transportation, adherence to processes, policies, and contractual agreements is not practiced, and carrier performance monitoring is not performed. This tends to drive inefficient customer delivery times and ineffective freight costs.

KEMSA distribution employees are expected to review carrier performance at the end of every cycle, but to date this has not been done. In addition, delayed creation of Local Purchase Orders (LPOs) causes delayed freight payment to carriers, and contract management processes to drive carrier compliance are almost non-existent.

Prescribed transport processes for carriers are not followed. As an example, it is common for carriers to transfer commodities to their “cross dock” facilities for storage until other trucks are available for pickup. This action is in direct violation of current contractual agreements.

Finally, SOPs with clearly defined driver and loader roles and responsibilities are lacking. This has the potential to contribute to significant challenges during delivery. Delivery and unloading procedures vary

based on location and transport carrier. Depending on location, drivers may secure loaders en route and pay individuals with per diem funds, with other locations providing unloading assistance. SOPs for return shipments and PODs are vague and not enforced, resulting in carriers performing their own procedures.

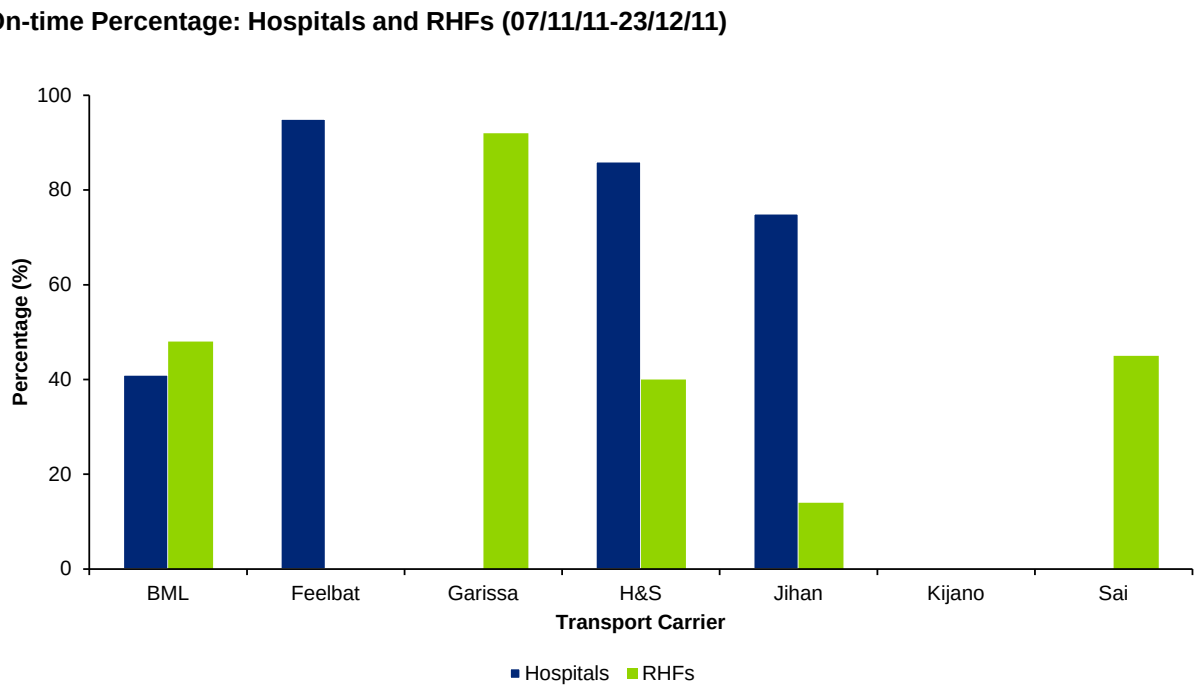
4.3.2 Quantitative Analysis

Transporter On-Time Delivery

Transporter on-time delivery performance is inconsistent and often troubling with regards to RHF deliveries. The impacts timeliness of facility shipment arrivals and inventory planning for those same rural facilities.

Transporter on-time delivery measures the carrier's ability to deliver a load within two days for hospitals and within five days for RHFs (consolidated load consisting of commodities for up to 30 facilities). Average on-time delivery is 72 percent for hospitals and 44 percent for RHFs.

Figure 8: On-Time Delivery (Hospitals / RHFs)



Note: Carriers marked with 0% did not return PoDs, presenting an inability to calculate percentages for these particular carriers.

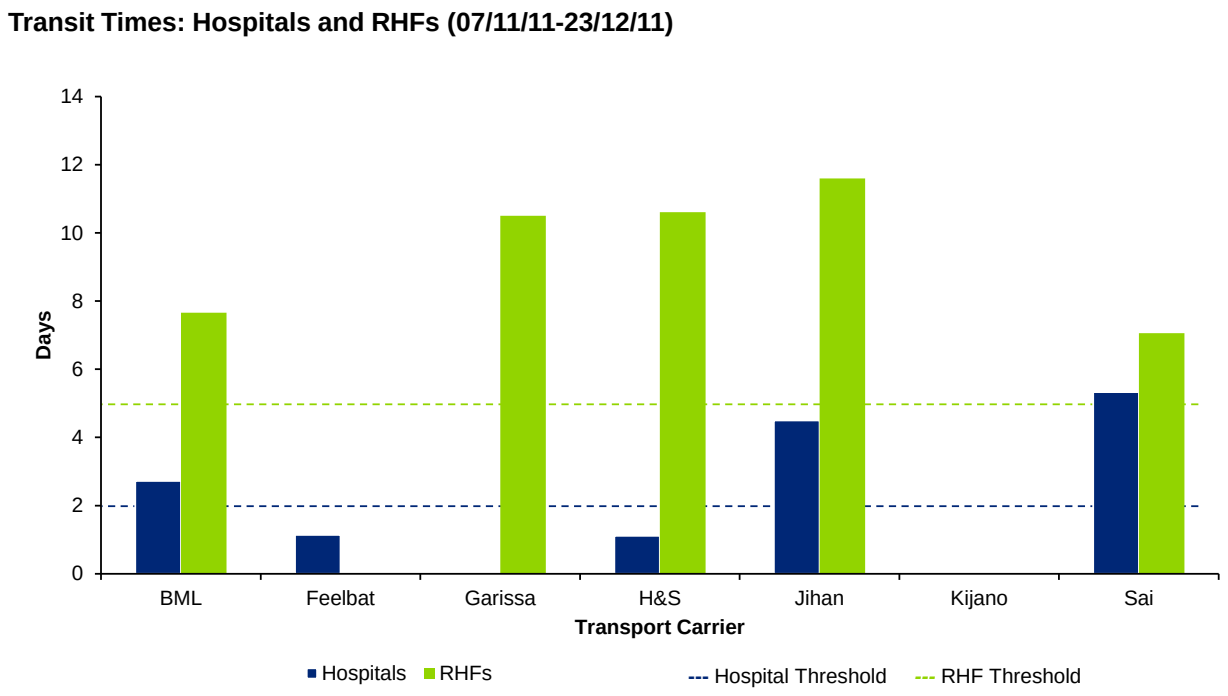
Root cause analysis uncovered a number of contributing factors, including an unsanctioned practice in which the carrier uses one truck for KEMSA pick-up and stores at their own facility, awaiting arrival of other trucks to deliver the load to the field. Low truck availability, weather constraints, and coordination with private (and local) security teams further contribute to delinquent delivery. In some instances, private security teams, in addition to local police, are required to escort deliveries in certain locations.

Transit Time

Transit time performance is exceeding thresholds on most levels. As in the case of on-time delivery, this impacts timeliness of deliveries to health facilities.

Transit time measures the amount of time that shipments spend en route from KEMSA to the health facility. Average transit time for hospital delivery is 2.65 days, which is 33 percent higher than the two-day threshold requirement. Transit time for RHF delivery is 8.88 days, which is a 78 percent deviation from the five-day threshold requirement for rural facilities.

Figure 9: Transit Time (Hospitals / RHFs)



Note: Carriers marked with zero days did not return PoDs, presenting an inability to calculate transit-times for these particular carriers.

Extensive transit times can be attributed to the same reasons that impede on-time delivery performance. It is important to note that delivery for certain locations was not possible due to distance and topography. This was uncovered during analysis of transportation routes.

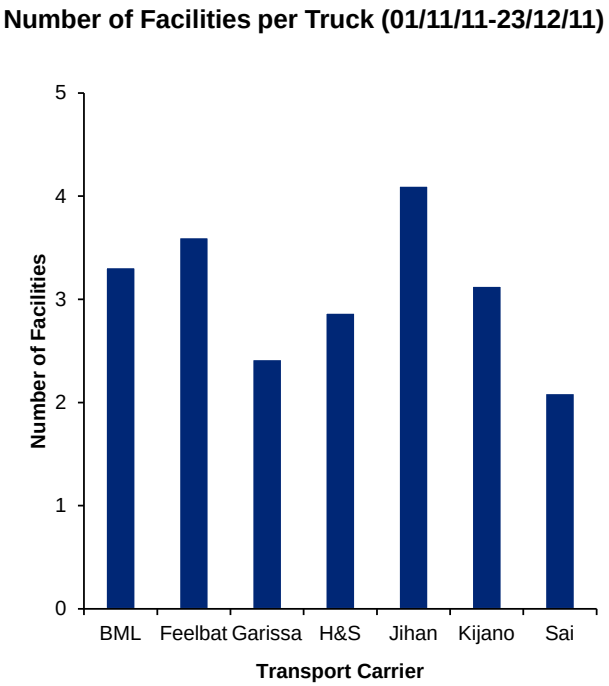
Number of Facilities per Truck

Carriers deliver to an average low number of three hospital facilities per truck. Based on current fill rate percentages, the number of facilities per truck metric is projected to be four to five facilities per truck. This under-utilization of carrier capacity increases transportation cost.

The number of facilities per truck measures the amount of facility shipments enclosed in each truck for departure. During the data collection period of November 1 to December 23, 2011, the average number of facility shipments per truck was three.

Prior to December 2011, KEMSA operated under an ineffective policy of limiting carriers to a maximum of three hospital shipments per truck. Once identified, the issue was rectified and subsequent shipments per truck increased from a 3.11 to 3.3 average. RHFs were not affected by this constraint.

Figure 10: Number of Facilities per Truck



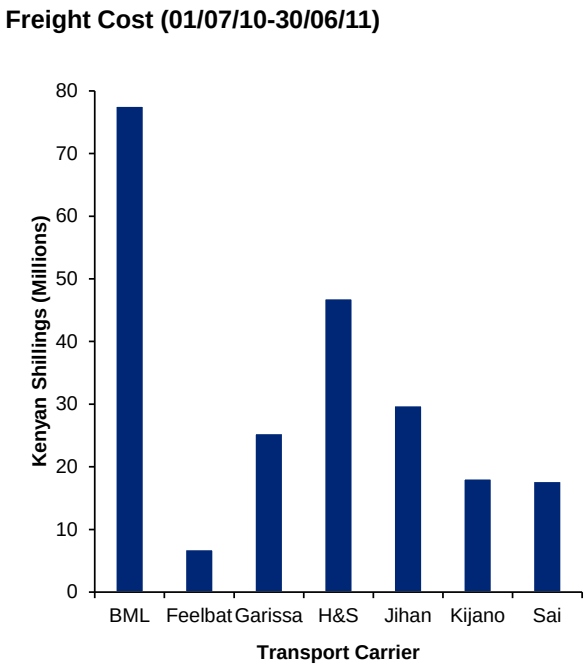
Freight Cost

Freight cost analysis highlights a bias in spend across the current seven transport carriers that support KEMSA. Because of this bias, KEMSA overcommits itself to certain carriers and exposes itself to added risk in the event of inadequate carrier performance.

Freight cost measures total spend for each transport carrier. For the period examined (July 1, 2010 through June 30, 2011), 225,866,544 Kenyan Shillings were paid to carriers. BML received the largest amount at 77,601,561 Kenyan Shillings.

The main reason for the BML cost spike is uneven workload allocation, which was primarily due to BML's bid coming in at the lowest proposed cost for four separate regions, the largest number of regions across all carriers. Their revenue is the largest compared to all other carriers.

Figure 11: Freight Cost



Freight Payment Turnaround

Freight payments, on average, are within the prescribed payment terms of less than 30 days.

Freight payment turnaround measures the amount of time from carrier invoice to payment. On the date the analysis was performed (November 30, 2011), the majority of carriers were operating under less than 30 day payment terms. Carriers Jihan and Sai were not paid in full within the 30 day period, but payments did not exceed the 60 day payment terms.

Figure 12: Freight Payment Turnaround

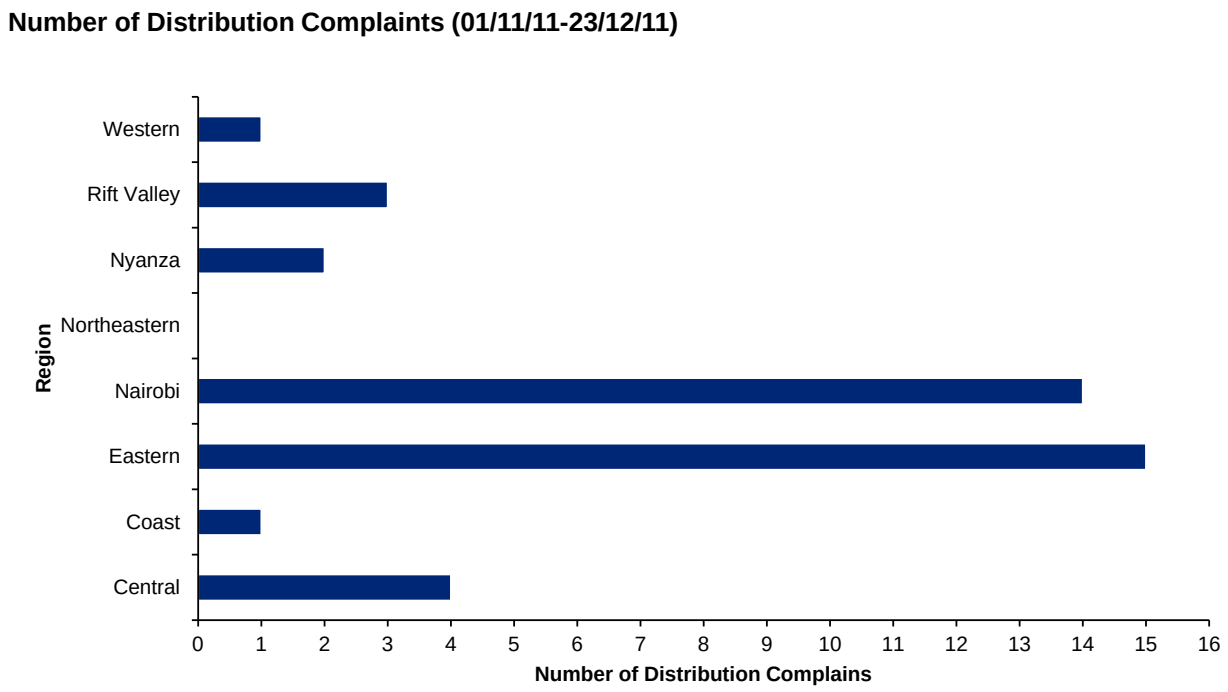
Freight Payment Turnaround		
Carrier	Amount (KES)	
Creditor Days	0-30	31-60
BML	12,207,984.20	-
Feelbat	860,025.30	-
Garissa	1,087,495.20	-
H&S	2,260,000.00	-
Jihan	3,271,153.60	284,200.00
Kijano	2,901,100.00	-
Sai	-	608,740.00
Total (KES)	12,207,984.20	284,200.00

Number of Distribution Complaints

Customer distribution complaints were captured with high numbers in the Eastern region and Nairobi.

This metric measures the total number of complaints by region. Forty distribution related complaints were captured from November 1 to December 23, 2011, all of which were focused on delivery issues at facilities. Regional spikes caused by the early delivery of Nairobi kits (before cycle start). North Eastern shipments were significantly delayed due to heavy rains and poor roads, further contributing to regional spikes.

Figure 13: Number of Complaints



5. RECOMMENDATIONS

Improvement areas were identified based on the findings of this analysis. In summary, key opportunities to improve and enhance current distribution operations exist within each distribution function. The following is a summary of the key recommendations for each function.

- Planning: Implement formal tracking mechanisms for cycle and weekly planning activities, and establish working groups to assist with parallel distribution and commodity movement from warehouse to distribution. In addition, automate manual planning and data capture procedures via the ERP system, a Warehouse Management System (WMS), or separate Monitoring and Evaluation (M&E) system.
- Dispatch: Procure additional information technology hardware, review total forklift requirements to ensure dispatch has continuous access to a forklift, appoint additional KEMSA distribution staff to include a data entry clerk and three additional loaders, and establish new processes for delivery note creation and transfer. Perform layout analysis and space planning of dispatch and surrounding warehouse areas to optimize commodity and material handling equipment movement and flow. Automate manual processes and data capture via implementation of ERP/WMS functionality.
- Transport: Establish transportation contract monitoring processes, execute transport carrier performance audits, and implement a Transportation Management System (TMS) with enhanced tracking via Global Positioning System (GPS) / Radio Frequency Identification (RFID) capabilities. Review and streamline reverse logistics processes with penalties for non-adherence, including delivery time/duration expectations as well as driver/loader roles and responsibilities.

Detailed corrective actions for each of these functions are listed in the tables that follow. Corrective actions are identified by type (monitoring & evaluation, process improvement, and technology implementation), and prioritized by value/impact to the organization.

5.1 PLANNING

Figure 14: Recommendations for Planning Function

	Type			Value/ Impact	Responsibility		
Description	M&E	Process	ICT		Project	KEMSA Dist	KEMSA ICT
Implement a formal cycle planning tracking mechanism	X	X		MEDIUM		X	
Implement a formal weekly planning tracking mechanism	X	X		MEDIUM		X	
Establish a working group to address parallel distribution		X		MEDIUM		X	
Establish and sustain a consolidation/distribution team working group		X		MEDIUM		X	
Establish an early delivery note cutoff time for consolidation / distribution transfer		X	X	HIGH		X	X
Automate manual planning processes and data point capture via ERP/WMS		X	X	HIGH		X	X

5.2 DISPATCH

Figure 15: Recommendations for Dispatch Function

	Type			Value/ Impact	Responsibility		
Description	M&E	Process	ICT		Project	KEMSA Dist	KEMSA ICT
Implement barcode scanners		X	X	HIGH			X
Implement delivery note transfer policy		X	X	HIGH		X	
Review total forklift requirements to ensure dispatch has continuous access to a forklift		X		HIGH	X		
Initiate new policy of transporter "in-yard" prior to movement of commodities from rack to staging	X	X		LOW		X	
Hire additional data clerk and three (3) loaders		X		HIGH		X	
Engage owners of leased warehouse for additional entry/exit options		X		MEDIUM	X		
Procure loading tents for "surge" loading capacity		X		LOW		X	
Procure additional business hardware (e.g., copiers, printers, computers)		X		LOW	X		
Establish automated shipment notification (via SMS or email)			X	MEDIUM			X
Review rack positioning and dispatch layout		X		HIGH	X	X	
Automate manual dispatch processes and data point capture via ERP/WMS		X	X	HIGH		X	X

5.3 TRANSPORTATION

Figure 16: Recommendations for Transport Function

	Type			Value/ Impact	Responsibility		
Description	M&E	Process	ICT		Project	KEMSA Dist	KEMSA ICT
Establish cycle/quarter performance audit for transport carriers	X	X		HIGH	X	X	
Establish transport carrier contractual monitoring process	X	X		HIGH		X	
Establish Transportation Management System (TMS)			X	HIGH			X
Establish enhanced tracking capability (GPS/RFID)		X	X	HIGH		X	X
Create strict adherence with facility mapping / master routing, which includes review of destinations and delivery times	X	X		MEDIUM		X	
Perform investigation into enhanced security options (e.g., seals)		X		MEDIUM	X	X	
Establish strict driver/loader roles and responsibilities	X	X		MEDIUM		X	
Establish time/duration expectations and requirements for offload processes		X		LOW		X	
Establish formalized process of POD where ensures legibility		X	X	MEDIUM		X	X
Refine SOPs for both return processes and POD return		X		HIGH		X	
Establish return performance expectations and penalties for transport carriers	X	X		HIGH		X	
Establish LPO earlier in process		X		LOW		X	
Establish freight cost performance tracking monitoring program	X	X		LOW		X	
Review and streamline reverse logistics processes		X		MEDIUM	X		

APPENDIX: CARRIER/REGION CROSS-REFERENCE

Region	RHFs	Hospitals
Central	Sai	Sai
Coast	Jihan	Jihan
Eastern	H&S	H&S
Nairobi	Sai	H&S
North Rift Valley	BML	BML
Northeastern	Garissa	Garissa
Nyanza	BML	Feelbat
South Rift Valley	H&S	BML
Western	Kijano	Kijano