

District Health Commodities Transportation and Distribution Guidelines



2020

District Health Commodities Transportation and Distribution Guidelines

Disclaimer:

This publication was prepared by the USAID funded, Global Health Supply Chain Program – Procurement and Supply Management (GHSC-PSM) project, managed by Chemonics International Inc. The authors' views expressed in this publication do not necessarily reflect the views of the U.S. Agency for International Development or the United States Government.

CONTENTS

ACRONYMS.....v

ACKNOWLEDGEMENT..... vii

PREFACE..... I

PREAMBLE.....2

OBJECTIVE.....2

STANDARD GUIDELINES..... 3

 I. General Principles.....3

 II Determine Transportation Needs and Resources..... 3

 III Transportation Optimization..... 4

 IV Push and Pull System..... 5

 V Health Commodities Transportation and Distribution Models..... 5

DISTRIBUTION GUIDELINES AT GLANCE..... 8

ACRONYMS

DHO	District Health Officer
EML	Essential Medicines List
GHSC-PSM	Global Health Supply Chain Program-Procurement and Supply Management
KP	Khyber Pakhtunkhwa
LMIS	Logistics Management Information System
MCC	Medicines Coordination Cell
TB	Tuberculosis
USAID	U.S. Agency for International Development
WHO	World Health Organization

ACKNOWLEDGEMENT

The key challenge encountered by the districts is the uninterrupted and timely supply of health commodities at all levels of supply chain, most critically the last mile. Admittedly, the outcome of ensuring commodity security at the last mile could only be effectively accomplished through cascading of the fundamental supply chain functions at the district and sub-district levels.

We proudly put forward the completed version of the District Level Supply Chain Package, which was prepared after months of effort. The package containing supply chain guidelines will help the district staff to ensure best supply chain practices at the district and below levels, contributing towards improved access of health commodities to the people.

The Health Department, Government of Khyber Pakhtunkhwa is committed to improve the health and quality of life for all, particularly women, children and marginalized communities, through access to essential quality health services which are accessible, equitable, culturally acceptable, affordable, and sustainable.

We acknowledge the invaluable leadership and technical assistance of Dr. Han Kang, Director, Health Office, USAID Pakistan, Mr. Khalid Mahmood, Project Management Specialist, USAID Pakistan, Dr. Muhammad Tariq, Country Director, USAID Global Health Supply Chain Program – Procurement and Supply Management (GHSC-PSM) project, Chemonics International and especially Mr. Babar Khisro of USAID Office, Khyber Pakhtunkhwa; and Mr. Muhammad Abbas Khan, Supply Chain Team Lead KP, Mr. Nabeel Ahmed Maqbool, Director, Vaccine Preventable Infectious Diseases, and Ms. Ambreen Khan, Director, Basic Health Services of GHSC-PSM project for their devoted efforts and support provided in the formulation of this package.



Dr. Niaz Muhammad

Director General Health Services

Government of Khyber Pakhtunkhwa, Peshawar

PREFACE

The District Health Commodities Transportation and Distribution Guidelines will serve as a key document for the officials working in the health department at the district level who are involved directly or indirectly in the transportation and distribution of health commodities, including the district health officer, district storekeepers, service providers at the health facilities and vertical program coordinators. The aim of these guidelines is to document the existing transportation and distribution practices that are based on international best practices so that the distribution mechanics, particularly those catering to Basic Health Services, could be catered. Some of these services include but are not limited to; essential drugs, vaccines, contraceptives, antimalarial and typhoid medicines, and malaria rapid diagnostic tests, tuberculosis (TB) medicines.

PREAMBLE

For decades the transportation and distribution of health commodities from the district stores to health facilities has remained a challenge for policy makers and operational staff, contributing to facility level stock outs. The health facilities themselves do not have any budgetary allocations to arrange transportation of health commodities from the district store to their facilities. Likewise, the scores of competing health priorities strain the district health budget, preventing effective transportation and distribution planning at the district level. Effective health policies, treatment of illnesses, good family planning practices, and other essential health services all depend on timely availability of health commodities for end users. When a patient travels to the health facility but cannot receive the requisite commodity, it represents a failure of the health system – resulting in prolonged illnesses, the spread of infections, unnecessary deaths, and unplanned pregnancies. Ensuring last mile product delivery is generally wrought with significant challenges in low-resource settings, with limited financing to cover transportation and distribution operating costs.

OBJECTIVE

The objective of these guidelines is to establish a practical reference for those responsible for decision making about the distribution of health commodities to the last mile by sharing innovative models of distribution that could be adopted to ensure product availability. The aim of the distribution roadmap is to instill cost-effective, efficient, and integrated sub-district level distribution by guiding the government to adopt these best international practices. These guidelines would also enable districts to develop integrated plans for improving the transportation and distribution mechanisms by establishing synergies, seeking finances, and optimizing resources with the aim to ensure stock availability at the facilities. By adopting the models suggested herein, the district authorities will be able to determine the financial implications of the commodity caseload and the modes of transport that best suit their needs.

STANDARD GUIDELINES

I. GENERAL PRINCIPLES

- a. The personnel involved in the distribution of health commodities have a responsibility to ensure that the quality of health commodities and the integrity of the distribution chain is maintained throughout the distribution process from the district store to the health facilities.
- b. The principles of good distribution practices should be followed at the district level as the means of establishing minimum standards.

II. DETERMINE TRANSPORTATION NEEDS AND RESOURCES

Distribution planning and transportation needs should be re-configured and implemented to complement the adopted storage model. District stores will develop efficient and robust district specific distribution and transportation plans down to the facility level.

When designing a new transportation and distribution network, or redesigning an existing one, the following questions need to be answered:

- What is the ideal distribution network given current resources?
- Will it provide a satisfactory service level, without stockouts, at dispensing facilities?
- What would be the ideal distribution network if more resources were available?

The points listed below are essential for any design, regardless of size or complexity. By analyzing this information, officials in charge will be able to determine suitable transportation and distribution methods for delivery sequence and frequency to each facility. They can then use this information to identify the efforts and resources to build an ideal distribution system.

These points include:

- Monthly demand of products supplied to each health facility (total quantity, weight, and packaged volume)
- Location and distance of facilities from their supplying facilities, with information projected on maps for easier viewing (hard copy or in electronic form)
- Fleet details including: list of vehicles in use, their type, load capacity, and length of time (in days) the vehicles are available for health product delivery. In some cases, vehicles may not be solely for delivering health products (such as vehicles assigned to Lady Health Supervisors (LHS of LHW Program))
- Staff trained in activities relating to transportation, including proper equipment operation, safety, delivery schedule planning and execution, material handling, and reporting

Distribution Planning:

- Arrange a cutoff date (such as the 1st of every month) for receipt of requisitions and demands from health facilities

- Introduce the requisitioning system covering lead time, safety stock¹ and review period² to ensure stock availability, and avoid any under or over stocking
- Chalk out the distribution plan for all health facilities. Considerations should be given to capacity of vehicles used, distance from distribution store, and vicinity of other recipient facilities

III. TRANSPORTATION OPTIMIZATION

Transportation optimization enables public health supply chain systems to improve routine transportation in the most cost-efficient manner by consolidating their monthly deliveries to different health facilities by volume, weight, quantity and carton. This is achieved by converting the quantities for different health facilities into one complete shipment within a district to adopt the most cost effective and appropriate mode of transport per shipment volume.

Key Features

1. Shipment conversion by volume

This tool provides complete information for a single or multiple health facilities' deliveries into shipment volume. It provides the most cost-effective mode of transport per the planned deliveries volume for a single or multiple health facilities.

2. Shipment conversion by carton

This tool converts the products' quantities into number of cartons.

3. Shipment conversion by weight

This tool demonstrates the complete weight of shipments for the planned deliveries of particular district health facilities.

4. Shipment conversion by pallet

This tool will convert planned quantities of a single or multiple health facilities' deliveries of districts into pallets.

Benefits

- Shipment information by cost for kg per carton, appropriate vehicle, or truck volume
- Cost effective transport planning of routes
- Integration and optimization of resources (vehicles and HR)

Direct supply from the manufacturer, central, or provincial warehouse to facility and health workers

Based on the deduction that unstructured sub-district level distribution mechanisms are responsible for low or no stock availability at the last mile, the proposed model eliminates district stores altogether and necessitates direct delivery from the manufacturer, provincial repository/ warehouse,

¹Safety stock is an additional quantity of an item held in inventory in order to reduce the risk that the item will be out of stock

² Time between the current stock analysis and the previous one to determine whether to reorder.

to the health facilities in the district. The stocks to be delivered are determined based on supply orders placed by the DHO. These supply orders are based on the MCC list received and on contraceptives, average monthly consumption, coverage area, and program targets.

IV. PUSH AND PULL SYSTEMS

In a pull system, the quantity ordered is determined by demand-based catering to consumption trends at the service delivery point. In a push system, product selection and quantities are determined by allocations from a higher level within the supply chain management structure. Both push and pull approaches can be used in one system but it is usually inefficient to combine the two systems between facilities at the same level. A pull system can be used from the provincial level to the district level, and a push system can be used from the district store to facility level. It can be cumbersome for store staff if some facilities are pulling health commodities while other facilities want the health commodities to be pushed towards them. Proper quantities must be ordered and dispatched in the shortest possible time and deploying two systems at one level adds to confusion and delays.

V. HEALTH COMMODITIES TRANSPORTATION AND DISTRIBUTION MODELS

I. Facility managed distribution through cluster approach

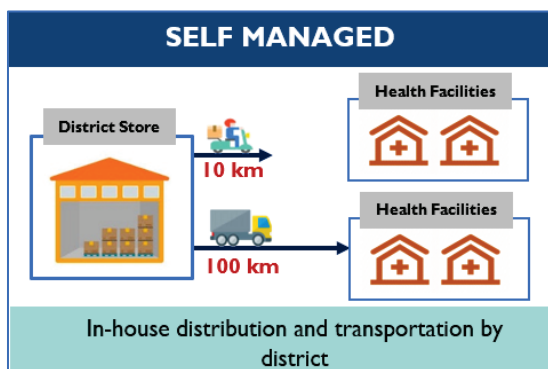


Figure 1

Facility managed distribution is the most common distribution model, whereby the facilities clustering approach is adopted. In this model, the facilities are mapped based on their geography and distances. The type of vehicle is arranged according to geographical location and distance of health facility from the district store. This enables optimal utilization of vehicles for distribution of health commodities, contributing to cost savings and timely distribution. As explained in the

Figure 1, the geographical proximity of certain facilities has enabled clustering which allows the contracting of the most appropriate vehicle to deliver all the commodities needed for these clustered facilities in one shipment. At the district store they are accounted for separately.

2. Outsourcing Transportation

Through this mechanism, the delivery of health commodities to health facilities is outsourced to a 3rd party contractor who manages the delivery of all supplies from the district store to the service delivery point or health facility. This process can be resource intensive and might encounter certain structural and political barriers. The 3rd party determines how to reduce costs and optimize the transportation and distribution of health commodities from a given location to the intended destination as shown in figure 2.

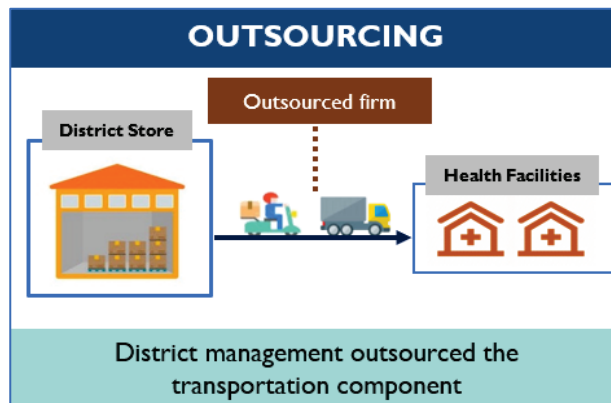


Figure 2

3. Framework contracts – system driven replenishments (topping up approach)

The existing province-wide deployed online Logistics Management Information System (www.lmis.gov.pk) can serve as a tool for system driven continuous replenishment. The district health department can establish a framework contract with a 3rd party transporter or contractor and provide them with the online log-in credentials for the LMIS, where it is assumed that product visibility is 100% for commodities until the last mile. The contractor would be responsible for ensuring acceptable stock levels in any facility and should immediately replenish any facility running out of stock or requisition supplies through an online continuous replenishment system. The contract should specify that in the case of late delivery for a product, the contractor will have to bear the prescribed penalty.

The following could be potential recommendations:

1. Incorporation of facilities' distances and min-max stock levels in the system
2. Provision of LMIS login and password to 3rd party contractor
3. Generation of stock-out auto-alerts to be sent to contractor
4. Contractor to review the stock situation through LMIS and generate requests for products to district store
5. District staff to respond to the facility requests and issue the health commodities to facilities
6. The distributor will use a weight or volumetric system for the distribution of products. This will be pre-determined in the contract and invoicing would take place within the same parameters
7. The district stores personnel at dispatch will hand over the health commodities and the accompanying documents (2 copies of waybills or demand and issuance vouchers) to the driver responsible for delivering the health commodities to the health facilities.

8. Health commodities must be handed over to facility staff and the facility staff will verify the items against the issuance voucher and provide a receipt voucher.
9. One copy of the voucher should be handed to the driver and the second copy should be retained by facility staff for record purposes.

Figure 3 depicts the system-driven replenishment model.

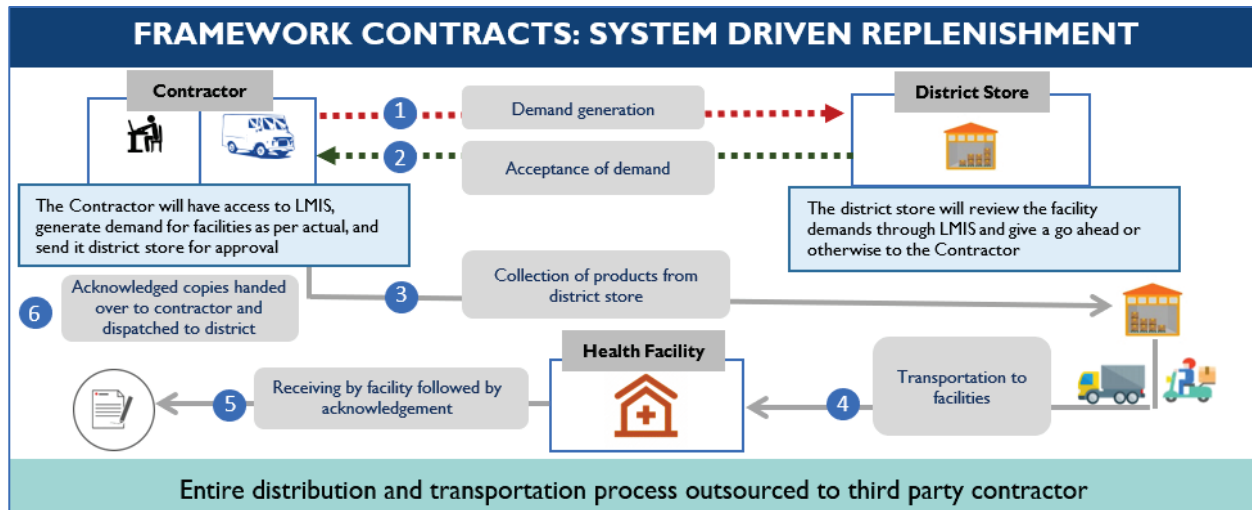


Figure 3

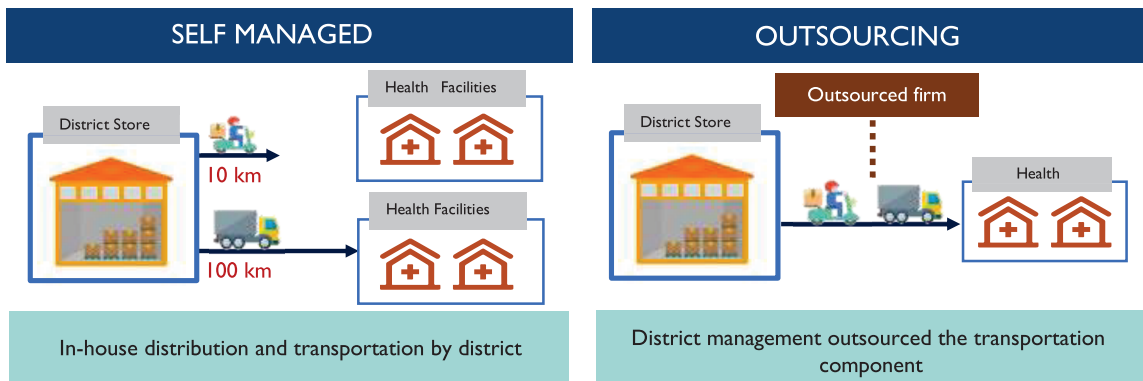
DISTRIBUTION GUIDELINES AT GLANCE

HEALTH COMMODITIES DISTRIBUTION GUIDELINES

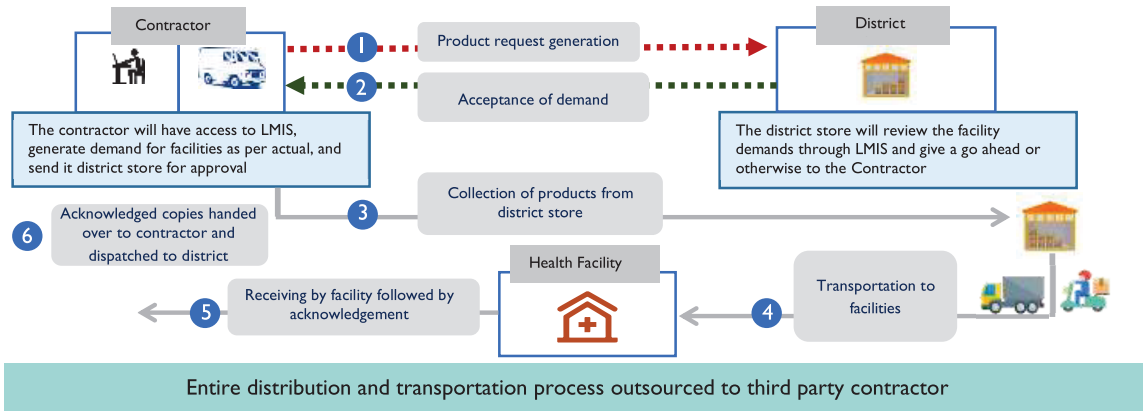
- 1 Finalize distribution plan based on health facilities mapping
- 2 Select viable and economical transportation model
- 3 Ensure timely distribution of health commodities to health facilities
- 4 Confirm acknowledgement receipt by health facilities

← Ensure compliance to Good Distribution Practices →

HEALTH COMMODITIES TRANSPORTATION MODELS



FRAMEWORK CONTRACTS : SYSTEM DRIVEN REPLENISHMENT





USAID
FROM THE AMERICAN PEOPLE

USAID GLOBAL HEALTH SUPPLY CHAIN PROGRAM
Procurement and Supply Management