KHYBER PAKHTUNKHWA PUBLIC HEALTH FORECASTING AND SUPPLY CHAIN STRATEGY

2017-2022

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CONTENTS

ACRONYMS

ADP	Annual Development Plan
BHU	Basic Health Unit
CPR	Contraceptive Prevalence Rate
CW&S	Central Warehouse and Supplies
DHIS	District Health Information System
DHQ	District Head Quarters
DoH	Department of Health
EPI	Expanded Program on Immunization
FASP	Forecasting and Supply Planning
FP	Family Planning
GHSC-PSM	Global Health Supply Program Chain-Procurement and Supply Management
GMP	Good Manufacturing Practices
GOP	Government of Pakistan
HR	Human Resource
HRD	Human Resource Development
IHP	Integrated Health Project
IMR	Infant Mortality Rate
IMU	Independent Monitoring Unit
ISCMIS	Integrated Supply Chain Management Information System
ISCM&CC	Integrated Supply Chain Management and Coordination Cell
KP	Khyber Pakhtunkhwa
LHW	Lady Health Worker
LMIS	Logistics Management Information System
M&E	Monitoring and Evaluation
MAPS	Methodology for Assessing Procurement Systems
MIS	Management Information System
MMR	Maternal Mortality Ratio
MNCH	Maternal, Newborn, and Child Health
NGO	Non-Governmental Organization
PC-1	Planning Commission Performa-1
PROMISH	Procurement Management Information System
P&SHC	Primary and Secondary Healthcare
PWD	Population Welfare Department
RHC	Rural Health Centre
SCMIS	Supply Chain Management Information System
SDG	Sustainable Development Goals
SHF	Static Health Facility
SNE	Statement of New Expenditure
THQ	Tehsil Head Quarter
TORs	Terms of References
TWG	Technical Working Group
U5MR	Under 5 years Mortality Rate
UHS	University of Health Sciences
USAID	U.S. Agency for International Development
VEML	Very Essential Medicines List

VISION

To ensure uninterrupted supplies of health commodities to prevent suffering, save lives, and create a brighter future for the people of Khyber Pakhtunkhwa province.

OBJECTIVE

A fully integrated, functional, optimized, interlinked, and robust public health supply chain for Khyber Pakhtunkhwa province with complete data visibility at each level aimed at availability of quality products at the last mile, with no stock outs. To develop supply chain systems in a manner that system components compliment and can be leveraged by larger landscape of health services.

FOREWORD

Access to equitable and quality healthcare is a fundamental right of the men, women, and children of Pakistan. To achieve this objective and align with the National Health Vision 2025, FP2020 commitments, and vision of the honorable Chief Minister; Mr. Pervez Khattak; quality health care for all is one of the highest priorities for the Government of Khyber Pakhtunkhwa. The notion of quality healthcare encompasses all components that govern the landscape of public health structures, including systems, quality of services, products, infrastructure, and human resources.

The Khyber Pakhtunkhwa Government has focused its resources and energies in recent years on the health sector, which has resulted in gradual but clearly visible improvements in the provision of quality healthcare for the people of province. These reforms include numerous initiatives by the government in terms of increased financing, integration of latest technology with health systems, enhanced accountability, recruitment of quality human resources, and system strengthening in all spheres of primary and secondary healthcare. One of the biggest achievements of the present government is increased accountability and transparency in the health sector that has been ensured through the approaches described above.

We take this opportunity to congratulate the Departments of Health and Population Welfare, Government of Khyber Pakhtunkhwa for devising this comprehensive, well-thought out, holistic, and documented provincial public health forecasting and supply chain strategy. This is a unique achievement, as it is the first ever supply chain management strategy, inclusive of a costed roadmap and implementation plan, for both the departments.

The Government of Khyber Pakhtunkhwa stands committed to fully support both the departments in the adoption and implementation of this strategy which will go a long way towards ensuring availability of quality products at health facilities for the people of Khyber Pakhtunkhwa.

Muhammad Abid Majeed
Secretary, Department of Health Government of Khyber Pakhtunkhwa

Secretary Health,
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ACKNOWLEDGEMENT

The Health Department and Population Welfare Department, Government of Khyber Pakhtunkhwa aim 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. Both departments strive for and contribute to the realization of the government's obligations towards its people and internal and global commitments toward increased contraceptive prevalence rate (CPR) and reduction in maternal mortality ratio (MMR), infant mortality rate (IMR), and under 5 mortality rate (U5MR).

As part of their primary function on health management planning and policy, both departments have jointly developed this important and much needed provincial supply chain strategy with a focus on maternal and child health; catering to the ever-growing needs of supply chain management around family planning (FP) and maternal, neonatal, and child health (MNCH) very essential medicines list (VEML) products. This important strategy paves the way for improving health indicators through commodity security, ensuring the right quantity, efficient and transparent procurements, quality storage, availability at the last mile, and logistics data visibility. It also establishes a framework for monitoring and evaluation and human resource development.

Both departments would like to express deepest appreciation to all relevant public-sector stakeholders, development partners, and health managers who evaluated the current provincial FP and MNCH supply chain landscape and for reviewing, contributing to, guiding, and supporting the finalization of this strategy.

We highly appreciate the support of USAID/Pakistan towards strengthening the health sector of the province. We also wish to thank Dr. Muhammad Tariq, Country Director, USAID GHSC-PSM Project Pakistan for his leadership role and dedicated team for their devoted efforts and support provided in the formulation of this strategy.

"Together we strive to make Khyber Pakhtunkhwa better and healthier."

Dr. Shabina Raza
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Government of Khyber Pakhtunkhwa

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OVERVIEW

Health and Family Planning (FP) indicators in Pakistan have made escalating progress in recent decades[1]. The public sector's performance in promoting accessibility to equitable health care to its population largely relates to a broader policy environment, including the government's priorities, commitment, security situation, and financing (Figure-1). However, improving maternal and child health remains a challenge, attributable to the overall environment impacting the health of the people which includes accessibility, quality of services, infrastructure, availability of appropriate human resource (HR), demand creation, and individual behavior.

Figure 1: Access to Equitable Healthcare

From a logistics perspective, product availability lies at the heart of the entire health care environment. The health sector stands out as a major priority for the government of Khyber Pakhtunkhwa, but there are certain challenges with timely availability of quality health commodities at the community level, which can be overcome by system strengthening.

Public health supply chains have historically been a complex and fragmented system within multiple public health programs running parallel to one another. Recently, supply chain reforms has emerged as a priority, due to growing realization of its significance for commodity security.

This strategy primarily focuses on two supply chains that have far reaching implications on maternal, infant, and under 5 mortality rates which are directly linked to Pakistan's commitments per FP 2020[2] and SDG-3[3], however the recommendations are similarly applicable to other health programs as well.

SDG Target by 2030	Current Standing
MMR: < 70 /100,000 live births	MMR: 170/100,000
IMR: < 12 / 1,000 live births	IMR 62/1000
U5MR: < 25/1,000 live births	U5MR 81/1000
FP2020 Target	
CPR: 50 %	35 %

The Khyber Pakhtunkhwa Government's commitment to provision of improved health facilities for the people of the province is manifested in the bold initiatives and massive reforms that this strategy envisages, to repair these supply chains (i.e. improved systems, restructuring, outsourcing, data visibility, capacity building and financing around supply chain functions by two major stakeholders: the Department of Health and Population Welfare Department). The DOH prioritized 22 MNCH VEML

[1] *PDHS reports (http://www.nips.org.pk)*
[2] *Economic Survey of Pakistan 2016-17*
[3] *FP2020: http://www.familyplanning2020.org/*

products in 2017, considering low costs and high impact and disease burden considerations with a commitment to ensure full supplies.

It is an opportune time to transform, integrate, optimize, and promote the provincial policy environment towards sustainable and strengthened public health supply chain management systems in Khyber Pakhtunkhwa. The strategic and policy environment will help to ensure the timely and uninterrupted availability of good quality health commodities for the men, women, and children of the province. With this ultimate goal, this document developed by the Departments of Health and Population Welfare, with technical assistance from the USAID funded GHSC-PSM Project, aims to outline a five-year strategy for public health supply chain improvement.

The strategic vision presented here is the result of an in-depth current supply chain system analysis, focusing on each component of the supply chain in the shape of concept notes which identified the gaps and proposed strategies for sustainable strengthening of the supply chain system in an integrated and optimized manner. These concept notes were based on a series of consultations with relevant stakeholders and development partners.

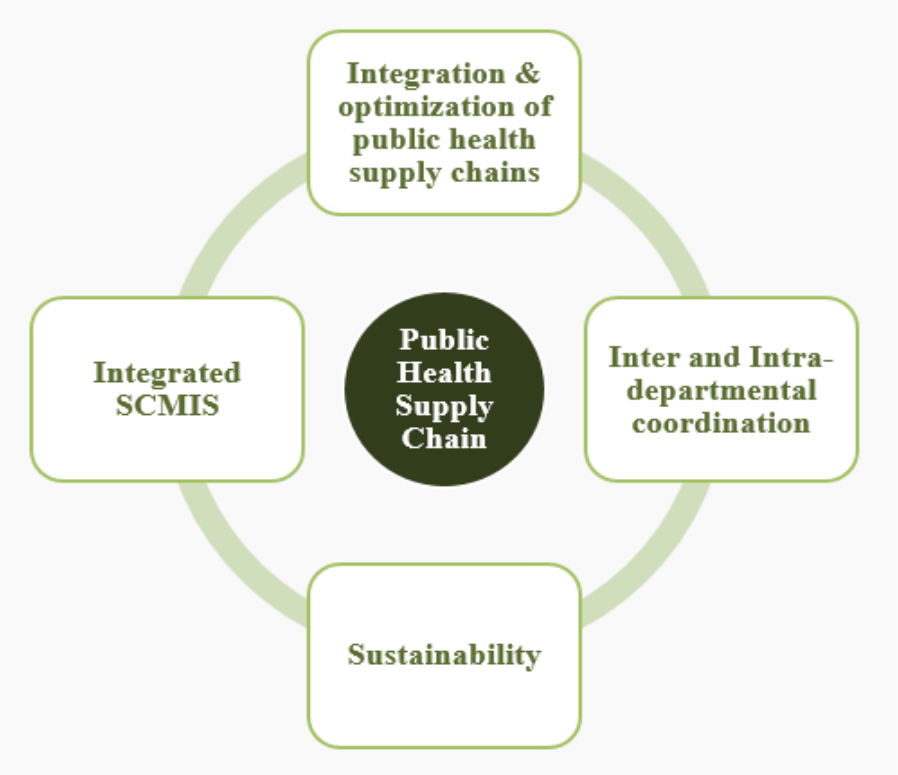

Figure 2: Public Health Supply Chain Pillars

The strategic vision in Khyber Pakhtunkhwa can be described as having four main pillars: emphasis on integration/ optimization of public health supply chains, focus on creating a world-class integrated supply chain management information system (MIS), inter-and intradepartmental engagement, and sustainability *(Figure 2)*. This vision will be carried out through the implementation of systems that enable both departments to manage forecasting and supply planning, procurement, warehousing, distribution, monitoring functions, human resource development, and high-quality MIS data *(Figure 3)*.

It is imperative to align and integrate each supply chain function to achieve cost efficiencies and ensure quality and stock sufficiency. Improving a given area of supply chain management as a single component in isolation will not achieve the desired, sustainable impact. The system must be taken as a whole, where all components facilitate and complement each other. This is a living document and is subject to change to respond to important developments in the policy environment, governance, and financing. The first review of the strategy by the government and other stake holders including GHSC-PSM is expected to be undertaken by the end of June 2018 and thereafter on an annual basis. At the end of FY 2021-22, government will engage a third-party for assessment to gauge the impact of supply chain strategy.

Figure 3: Public Health Supply Chain Components

An investment of approximately PKR 3390 million by Khyber Pakhtunkhwa government in public health SCM interventions over the next five years will result in overall savings of an estimated PKR 1698 million (Refer to Section 8-Table-6)

The following section outlines a brief strategy developed for each supply chain function in Khyber Pakhtunkhwa province.

INTEGRATED SUPPLY CHAIN MANAGEMENT AND COORDINATION CELL

Objective: To create an organized body at the provincial level responsible for supply chain functions in an integrated manner, ensuring synergy, efficiency, and inter and intra departmental coordination.

Rationale: Currently, the supply chain functions of DOH and PWD are fragmented resulting not only in duplication of efforts but also in wastage of resources.

Strategy: The strategy will propose a supply chain management cell, its composition and roadmap to ensure that DOH and PWD look after their supply chain needs in an integrated and efficient manner.

FORECASTING AND SUPPLY PLANNING

Objective: To improve and strengthen forecasting and supply planning (FASP) functions systematically to determine provincial health commodity requirements, estimate financial costs, and coordinate fulfillment of projected needs to support the continuous availability of commodities.

Rationale: Forecasting and supply planning requires unique resources and skill sets. Room for improvement in terms of qualified and experienced human resources, structures, and tools to improve accuracy and timeliness of FASP for all medicines, particularly for FP and MNCH commodities, was identified by the Government.

PROCUREMENT

Objective: To develop a fully integrated, responsive, efficient, transparent, and functional procurement management system ensuring availability of high quality health commodities.

Rationale: Challenges around procurement are significant with increases both in provincial commodity financing and volumes of procurement.

Strategy: The strategy will streamline procurement processes while building institutional capacity for a lasting change.

WAREHOUSING AND DISTRIBUTION

Objective: To establish a fully integrated, functional, optimized, interlinked, and robust storage and transportation mechanism for the province with complete data visibility at each level of the supply chain.

Rational: Current storage facilities at provincial and district levels are nonexistent/inadequate in terms of space and infrastructure to cater to storage needs vis-à-vis volumes of commodities being procured. Inventory management at all levels of the supply chain can be improved using technology.

Strategy: The strategy will take these supply chain functions to the next level, ensuring a rationalized storage and transportation network to cater to provincial needs in the most efficient and cost-effective manner.

INTEGRATED SUPPLY CHAIN MANAGEMENT INFORMATION SYSTEM

Objective: Enable decision makers at all levels make evidence based, informed decisions for all supply chain functions.

Rational: Different health programs maintain standalone MIS systems, most of which do not cover logistics functions, including: forecasting and supply planning, warehousing, and stock requisitioning. The LHW, MNCH, EPI, and Nutrition program MIS have very limited logistics information which is not sufficient to measure overall supply chain performance.

Strategy: The strategy envisages development of an integrated health information system policy framework, moving towards integration to achieve synergies and data sharing, while building governmental capacity in this area.

MONITORING AND EVALUATION

Objective: To develop a comprehensive and sustainable supply chain M&E system linked with an overall provincial M&E framework for cost efficiency, data triangulation, and sustainable improvements.

Rational: Although there are quite a few information systems operative in the health sector, the current supply chain system lacks measurement and improvement of performance, transparency, accountability, and cost effectiveness as relevant information is either fragmented or absent in the system.

Strategy: The M&E strategy will harness the strengths of the existing M&E initiatives of Khyber Pakhtunkhwa and go beyond by increasing its scope, operational and financial reforms for sustainability, and use of technology for transforming business intelligence and improving data use.

HUMAN RESOURCE CAPACITY DEVELOPMENT

Objective: To have a fully developed human resource capacity and institutionalized supply chain system that ensures a high performing professional and consumer-centered workforce capable of effectively and efficiently delivering health services and products.

Rational: The public health supply chain network does not have adequately trained professionals and technical human resources and lacks an appropriate service structure. This has led to an inherent and systemic weakness in the system.

Strategy: The province will develop a human resource strategy focused on the creation of a fully-functioning supply chain professional cadre supported by service structure in Khyber Pakhtunkhwa. To create and foster a cadre of supply chain professionals within the province, activities carried out in this area will seek to integrate formal supply chain training at the University of Peshawar, Institute of Business Studies (IBS) as well as other interested universities.

SECTION 1

INTEGRATED SUPPLY CHAIN MANAGEMENT AND COORDINATION CELL

SECTION 1: INTEGRATED SUPPLY CHAIN MANAGEMENT AND COORDINATION CELL

CURRENT LANDSCAPE

Currently, there is no formalized structure within the DOH and PWD to evaluate functions pertaining to various supply chain activities. This deficiency results in duplication of efforts and wastage of resources at all levels and has a negative impact on commodity security at the last mile. Both departments realize and acknowledge the need or a structured mechanism to implement supply chain protocols as part of health system strengthening.

Priority areas for improvement

- **Integrated management of supply chain functions to include FASP, Procurement, Warehousing & Distribution, MIS, M&E, and HR Capacity building**
- **Greater inter and intradepartmental coordination**

The idea for the establishment of an integrated supply chain management and coordination cell (ISCM&CC) under the auspices of the DOH was discussed during a consultative meeting on 17 May, 2017, which was attended by senior leadership from both the departments.

It was further agreed that the existing Procurement Cell and Medicine Coordination Cell (MCC) within the DOH would expand horizontally and vertically to form the envisioned ISCM&CC to holistically oversee all functions falling under the umbrella of SCM in an integrated fashion[4].

ISCM&CC ROADMAP

The objective of the roadmap is to establish a fully functional and structured ISCM&CC that systematically implements and oversees all functions around supply chain management needs at the provincial and district levels in an integrated and coordinated manner including MIS and HRCD. The transition of the responsibility for SCM related activities to this new entity will be achieved through incrementally task shifting from current arrangements to the cell until its mandate is fully operational.

- Development of terms of reference (TORs), organizational structure of ISCM&CC, and HR need assessment.
- Notification of terms of reference by DOH and PWD including nomination of officials from both the departments
- Revision of existing PC-1 of Procurement Cell at DOH to include costs related to establishment of ISCM&CC
- Hiring of additional staff and capacity building

[4] *DGHS Khyber Pakhtunkhwa letter number 191-100/ADGHS dated 6 June 2017*

Outcome

A fully functional integrated supply chain management and coordination cell established and managing all supply chain related functions for province and sub-provincial levels.

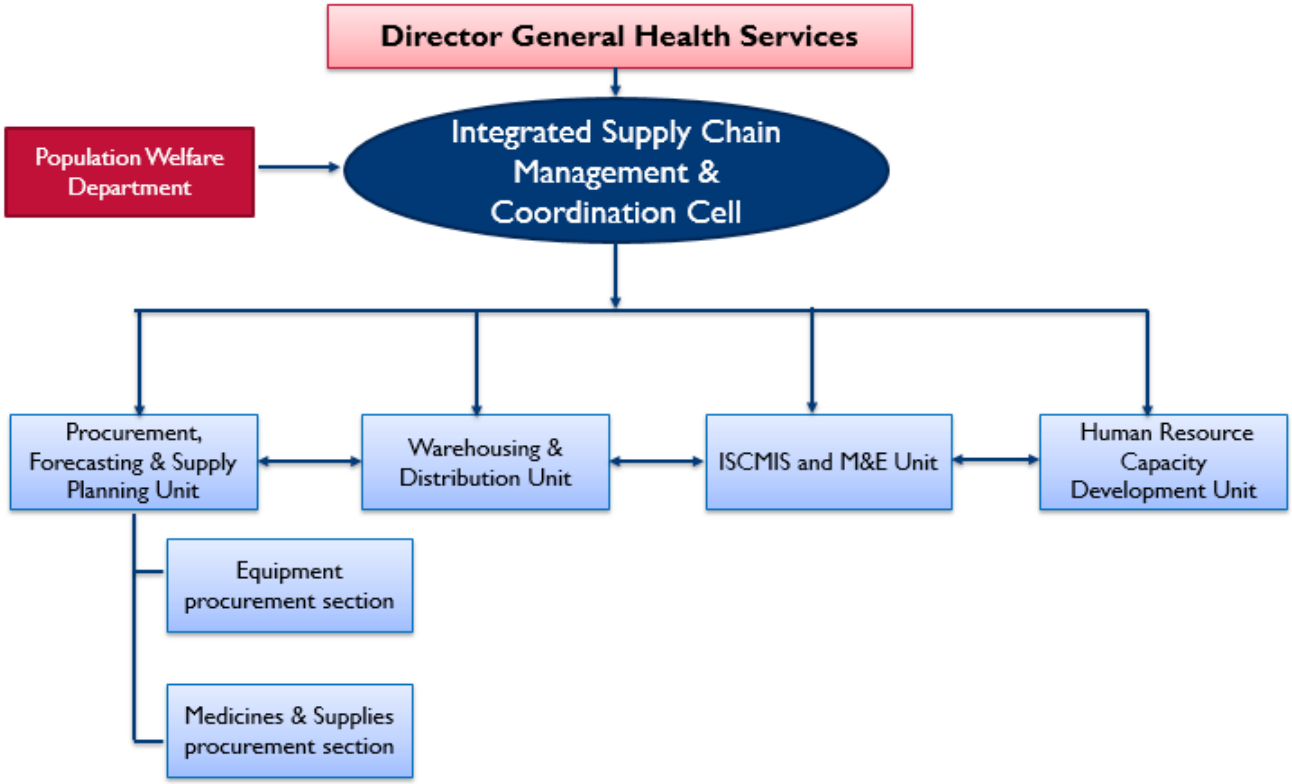

Figure 4: Integrated Supply Chain Management and Coordination Cell

SECTION 2

FORECASTING AND QUANTIFICATION

SECTION 2: FORECASTING AND QUANTIFICATION

CURRENT LANDSCAPE

Priority areas for improvement

- **Reliable and quality data sets (demographic, disease prevalence/ morbidity, and logistics) for accurate forecasting**
- **Dedicated resources (financial & trained HR) for FASP**

Forecasting and supply planning (FASP) is the foundation for all other functions further down the supply chain as over estimation or underestimation of commodities can have serious implications on health delivery systems. It is a highly scientific and complex process, wherein numerous factors must be considered including demographics, morbidity rates, service data sets, and logistics data and requires a specialized skill set. Currently, FASP for a complete range of FP products and 22 MNCH Very Essential Medicines List (VEML) (Annexure-I) for both departments is being undertaken with technical assistance from the GHSC-PSM project on the basis of logistics indicators and enhancement in service delivery. The Integrated Health Project (IHP) also exercises quota/target based forecasting and quantification for both FP and MNCH commodities. Availability of qualified and experienced human resources, structures, and tools remains a challenge for improved accuracy and timeliness of forecasting and supply planning for all medicines and supplies. Due to gaps identified in FASP projections, serious anomalies persist in district demand (mainly in FP and MNCH products). Both departments realize the need for having a structured mechanism for accurate FASP with dedicated trained staff as part of the Integrated Supply Chain Management and Coordination Cell at DOH.

FASP ROADMAP

The objective of this roadmap is to establish a fully functional and structured FASP mechanism that systematically determines province specific FP and MNCH commodity requirements, estimates their financial costs, and coordinates fulfillment of projected needs to support the continuous availability of commodities.

- Institutionalization of FASP through capacity building of the provincial departments on accurate and timely forecasting and quantification of FP & MNCH commodities and identification of champions to form technical working groups under the ISCM&CC. As FP supply chain has higher maturity than MNCH with respect to procurement planning and monitoring functions, it is expected that, modelling FASP for MNCH supply chain will help in attaining departmental capacity within 2-3 years.
- Three data sets: logistics, services, and morbidity[5] will be considered for forecasting and quantification of MNCH commodities depending upon availability of data and its quality. Knowledge and information of health departments' programmatic strategies will be important for accurate forecast and quantification of MNCH commodities. This needs to be ensured through document review and consultations with key stakeholders and / or focal points within the department.

[5] *Upon publication of Population Census 2017 report, quantification will be based on updated demographic data*

- A forecasting exercise for FP and MNCH VEML will be done for three to five years and reviewed annually for adjustments, as per recommended models *(Figure 5&6)*.

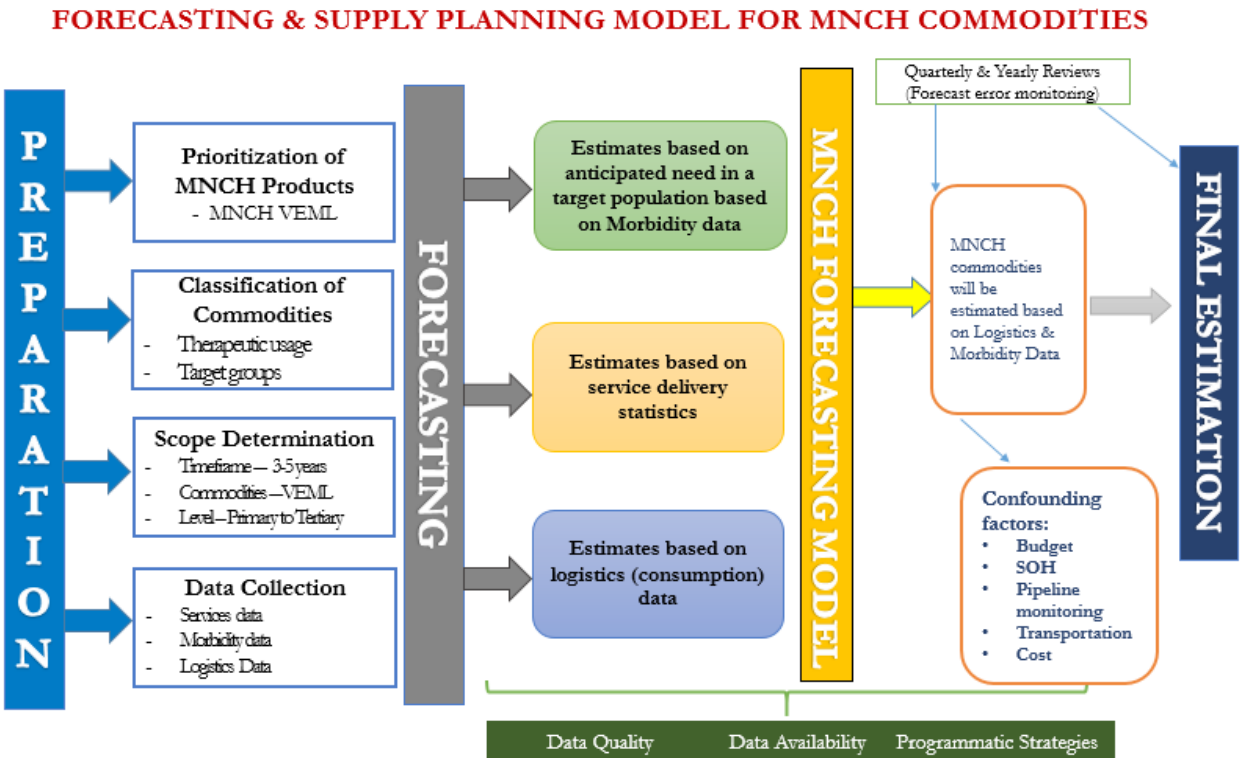

Figure 5: FASP Model for MNCH Commodities

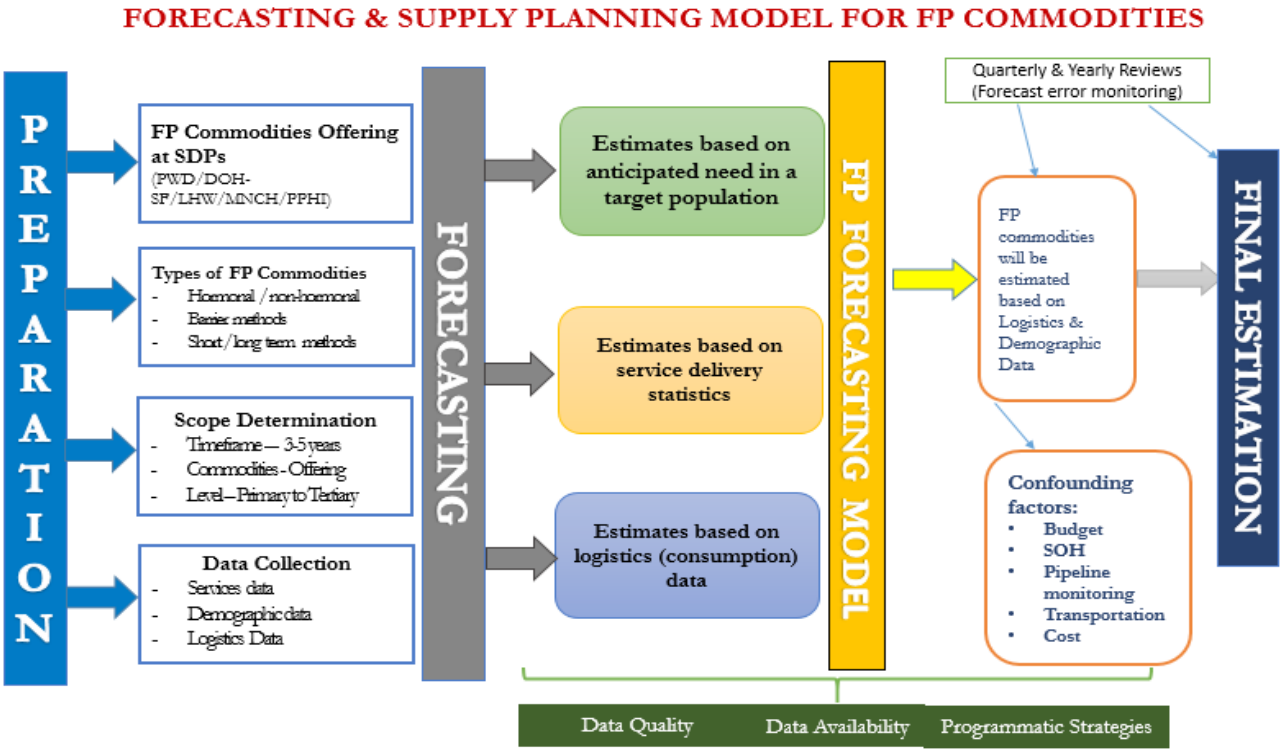

Figure 6: FASP Model for FP commodities

IMPLEMENTATION PLAN

The health and population welfare departments of the Government of Khyber Pakhtunkhwa will carry out following activities to achieve articulated objectives.

i. Formation of Forecasting & Quantification Technical Working Group (TWG) at Provincial Level

Both health and population welfare departments will establish and notify a forecasting and quantification TWG at the provincial level under Procurement and FASP unit of ISCM&CC (refer to figure 4). The TWG will systematically determine provincial FP and MNCH commodity requirements, estimate their financial costs, and coordinate fulfillment of projected needs to support the continuous availability of commodities. The TWG will also analyze quantification figures related to MNCH commodity security issues and improve provincial capacity to perform this task independently. Improved inter-departmental coordination will facilitate consensus building on scope and assumptions for forecasting and quantification. It will also minimize duplication of efforts and wastage of resources.

ii. Create Professionalized and Trained Human Resources at the Provincial and District Levels

At the provincial level, the capacity of the Procurement and FASP unit of the ISCM&CC will be trained in forecasting and quantification of FP and MNCH commodities. Pre-and in-service training courses will be organized / arranged that will contribute and ultimately lead to building of institutional capacity on forecasting and quantification within the provincial government.

iii. Automation of Forecasting and Quantification Function into Integrated Web-based MIS

To reduce the likelihood of computational inaccuracies, forecasting and supply planning functions will be automated incrementally and made part of the integrated supply chain management information system. The province will design a EML forecasting and supply planning module in the web-based integrated MIS and will train users on the module. Thus, forecasting and supply planning will be graduated from manual to automated computation. The automation will help in timely and accurate forecasting and supply planning, which will, in turn, assist in procurement and commodity security.

Outcome

Fully structured, established, and functional FASP mechanism for timely and accurate forecasting and supply planning of provincial FP and MNCH commodity requirements as part of ISCM&CC.

SECTION 3

PROCUREMENT

SECTION 3: PROCUREMENT

CURRENT LANDSCAPE

Priority areas for improvement

- **Procurement performance management automation**
- **A professionalization and human resource capacity building plan for sustainability**

PWD and DOH, KP procure contraceptives jointly under the lead of the DOH. The DOH procures medicines, including MNCH commodities, through a Medicines Coordination Cell (MCC), a provincial level procurement body for primary and secondary healthcare facilities using a rate contract mechanism. The MCC notifies approved rate list of medicines every year and districts have the obligation to procure medicines as per an MCC approved list of firms. However, the IHP and other vertical health programs procure health commodities on their own wherein efficiencies in procurement and economies of scale cannot be achieved. Different funding mechanisms further fragment the procurement environment within the province.

With technical assistance from the GHSC-PSM Program, both the departments have recently undertaken an Organization of Economic Co-operation and Development (OECD), Methodology for Assessing Procurement Systems (MAPS) affording an opportunity to Khyber Pakhtunkhwa Government to evaluate and assess procurement processes per international best practices and improve performance of the procurement staff. The assessment aimed at increasing visibility into the procurement process to create a baseline for simplifying and streamlining this work by developing a procurement performance management tool. The recommendations from this assessment are expected to be shared by the Program with government in October 2017, which might entail some significant policy decisions at the senior provincial level for full implementation. The existing Procurement Management Information System for Health (PROMISH) within the KP Health Department would also be reviewed and revisions/add-on features would be incorporated in line with the performance management tool developed.

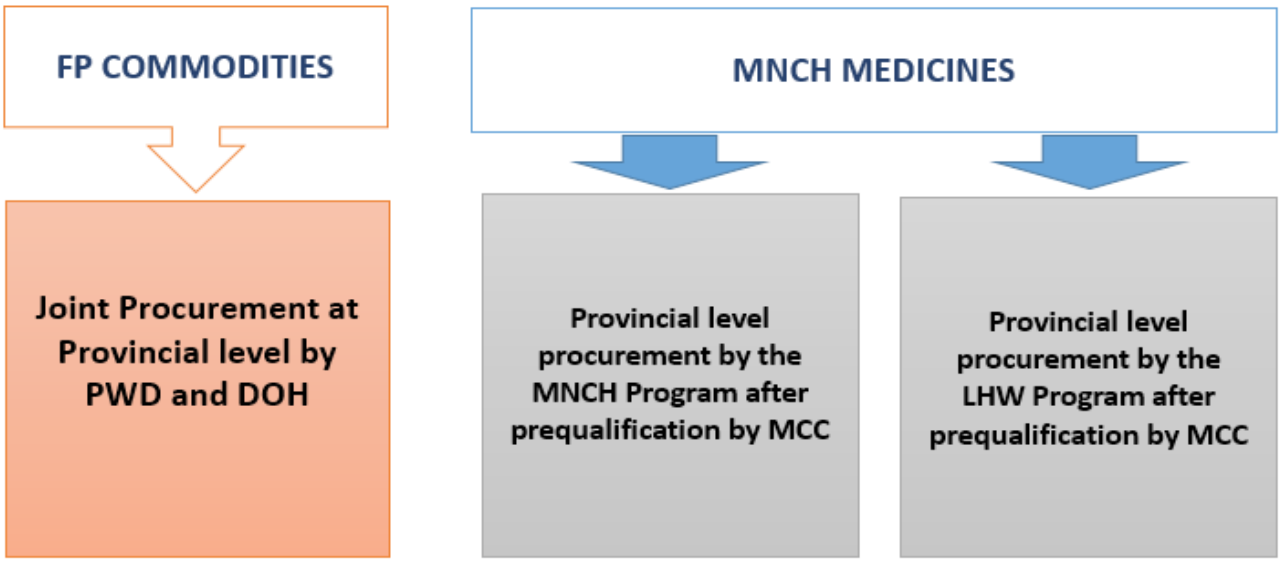

Figure 7: Current Procurement Environment

PROCUREMENT ROADMAP

The objective of this roadmap is to improve and make the current procurement systems more efficient and transparent through sustainable solutions of integrated procurement models and automation that can cost effectively satisfy the mounting demands of public health programs with ensured availability of high quality health commodities at the last mile.

- Procurement processes and procedures are to be made more visible through implementation of the OECD- MAPS recommendations including introduction of procurement performance management tool, and linking the tool with an integrated supply chain MIS.
- The ISCM&CC will devise and implement a medium to long term human resource capacity building plan for both the departments.
- Considering changes in procurement related policy environment in the province, both departments will review and update procurement documentation, including standard bidding documents, evaluation criteria, and procurement manuals to align with the applicable, updated rules.

IMPLEMENTATION PLAN

The following interventions are proposed to be carried out by the health and population welfare departments of the Government of Khyber Pakhtunkhwa for an efficient and sustainable procurement system:

i. Implement OECD MAPS-Indicators Based Assessment / Recommendations including Procurement Performance Management Tool

In order to avoid delays and create visibility into the procurement process of FP and MNCH commodities, the available standard procurement recommendations of OECD MAPS will be adopted within provincial procurement mechanisms and a performance management tool will be adapted according to the needs of DOH and PWD. DOH and PWD will build a consensus and may engage relevant development partners for technical support to identify the tool and help for adaptation and implementation. The finalized tool will further be linked with web based Integrated Supply Chain Management Information System (ISCMIS) to make it accessible and user friendly.

ii. Develop and Implement a Comprehensive Medium to Long-term Procurement related Human Resource Capacity Development Plan

Procurement related HR issues in terms of capacity and strength prevail in both health and population welfare departments. Both departments will coordinate with ISCM&CC to overcome HR issues through joint efforts which include; developing procurement professionalization plan through consultative process and nomination of relevant procurement staff at provincial and district levels for in-service training on procurement procedures.

Outcome

Efficient and transparent procurement systems within the health and population welfare departments implemented with sustainable solutions for integrated procurement models and automation as part of ISCM&CC within the DOH.

SECTION 4

WAREHOUSING AND DISTRIBUTION

SECTION 4: WAREHOUSING AND DISTRIBUTION

CURRENT LANDSCAPE

In Khyber Pakhtunkhwa, there is a pressing need to create warehousing and storage capacities to seamlessly link each of the supply chain functions in a manner that ensures evidence based actions at each level. Both departments fully realize the need to focus on developing storage capacities which are identified as the weakest link in the entire supply chain. The Integrated Health Project (IHP) PC-1 also recognizes that transportation and storage of medicines and supplies is an issue at the provincial as well as district levels.

Priority areas for improvement

- **Purpose built storage facilities at provincial/sub provincial and district levels to ensure availability of quality health commodities for end users**
- **A structured mechanism for the storage and transportation of commodities from stores to health facilities**

FP commodities for both the departments (PWD and DOH) are jointly procured/imported by the DOH and are stored in the Central Warehouse (CW&S), Karachi, while some locally purchased commodities are stored in Peshawar. Both departments maintain close cooperation with CW&S for storage needs and distribution. Until the financing becomes available for construction of a full-fledged provincial warehouse in Peshawar and other hubs to cater for district needs, PWD intends to utilize the basement of a newly acquired office building as a stopgap measure. The IHP has no integrated provincial storage facility and its commodity inflow occurs at various tiers. Both provincial and district procurements are delivered directly to districts from the manufacturer in most instances.[6] This causes serious storage issues at district levels and below. Figure 8 shows the current distribution mechanism for FP and MNCH products.

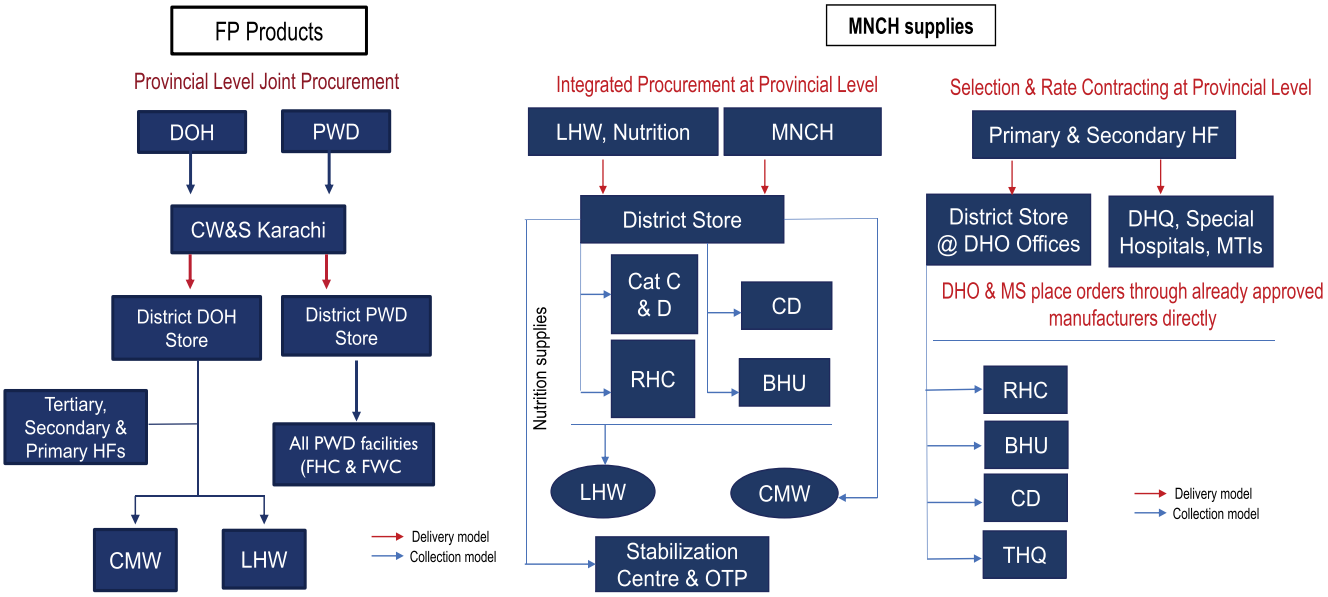

Figure 8: Current Distribution Mechanism for FP and MNCH Products

[6] *Costed Implementation Plan (CIP) on Family Planning for Khyber Pakhtunkhwa (2017-21)*

Thirty five percent of the total Budget Costed Implementation Plan(CIP) has been allocated for both DOH and PWD departments under Strategy-2 with the aim of ensuring contraceptive security to the last mile including distribution and availability of the full range of contraceptives through multiple Service Delivery Points (SDPs).[7]

In IHP's PC-1, there is no budgetary allocation under warehousing or storage for any program to cater to storage needs. However, PKR 10 million has been allocated for transportation and distribution for all programs for FY 2016-17 and 2017-18[8]. The district strengthening budget has seen a considerable increase from 2016-17 as compared to allocations in previous years. The transportation means used by the manufacturer for deliveries to districts are the cheapest available in the market for cost saving interests and often expose medicines to unwanted temperatures with an obvious impact on quality. In certain instances, where the quantity of products ordered by the district is low, the contractor avoids delivery by quoting prohibitive transportation costs.

Each program focused on FP and MNCH products has a marked lack of structure and trained professional staff to ensure storage of supplies per need and onward distribution from higher tier to client and patient level. Currently, one procurement officer is charged with supply chain management for all IHP programs. Civil employees at district and sub district levels lack logistics knowledge and have been managing health commodities in conventional ways, not adopting to latest trends and technology.

WAREHOUSING AND DISTRIBUTION ROADMAP

The overall objective of the warehousing and distribution roadmap is to instill cost effective, efficient, and integrated storage at provincial and sub-provincial levels along with corresponding transportation/ distribution mechanisms, enabling the government to adopt best international practices for inventory

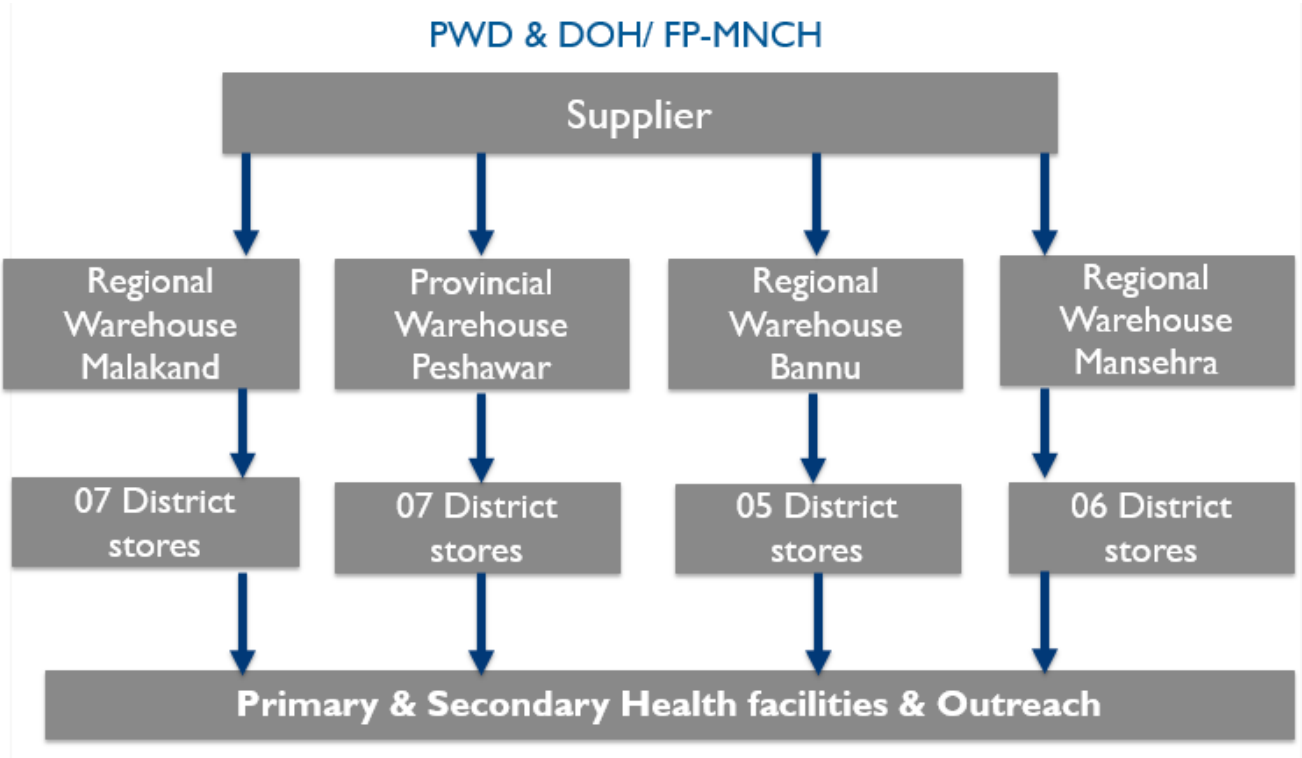

Figure 9: Warehousing Model

[7] *Costed Implementation Plan (CIP) on Family Planning for Khyber Pakhtunkhwa (2017-21)*
[8] *Revised Integrated PC-1, Integration of Health Services Delivery with Special focus on MNCH, LHW, EPI & Nutrition Program*

management. This would require structural changes, infrastructure development, recruitment of trained personnel, and financing as per the suggested model depicted in Figure 9 below.

There will be four provincial warehouses under the direct supervision of the DOH ISCM&CC. These warehouses will look after the bulk storage needs of dependent districts per the following:

- Provincial warehouse Peshawar: Peshawar, Charsadda, Mardan, Nowshera, Kohat, Hangu, and Swabi
- Regional warehouse Malakand: Malakand, Dir Lower, Dir Upper, Chitral, Buner, Swat, and Shangla
- Regional warehouse Bannu: Bannu, Karak, Lakki Marwat, Dera Ismail Khan, and Tank
- Regional warehouse Mansehra: Mansehra, Haripur, Abbottabad, Battagram, Kohistan, and Torghar

The commodities of dependent districts will be stored at respective provincial warehouses while each district will have a district store with min-max levels clearly defined. Inventory management functions will be automated and distribution will be based on requisitions shifting from push to pull system following a delivery model rather than the current collection model.

IMPLEMENTATION PLAN

The warehousing and distribution strategy will be implemented through the joint efforts of the health and population welfare departments under the supervision of the ISCM&CC Warehousing and Distribution Unit.

i. Determine Storage and Space Requirements of Provincial and District Stores

The storage space needs for provincial and district warehouses/stores will be assessed to correspond to the needs of dependent districts (primary and secondary healthcare facilities). For district stores, the storage space will be determined to cater for determined stock levels to prevent stock outs. The new provincial storage infrastructures proposed will be purpose built as per international warehousing standards, including automated inventory management through integrated SCMIS. Minimum and maximum stock levels also need to be determined for provincial and district storage facilities.

ii. Determine Transportation Needs and Resources ncluding Outsourcing

Distribution planning and transportation will be re-configured and implemented to complement warehousing and storage model being adopted. Provincial warehouses and district stores will develop efficient and robust district specific distribution plans and transportation down to facility level.

iii. Allocation of Funds for New Warehouses and Transportation

Based on the storage and space assessment, PC-1s/ Annual Development Plan (ADP) schemes/ Statements of New Expenditures (SNE) will be developed to ensure adequate financing for construction/rehabilitation, equipment, and additional HR capacity.

iv. Human Resource Hiring and Capacity Building

A professionalization plan will be developed and implemented including recruitment of staff needed for provincial and district stores. Capacity building around warehousing and distribution

planning at all levels will be focused for in-service staff, based on current/ adapted warehousing guidelines.

Outcome

Warehousing infrastructure at provincial and sub-provincial levels established and supported by technically qualified HR; best international practices for inventory management and integrated transportation mechanisms implemented.

SECTION 5

INTEGRATED SUPPLY CHAIN MANAGEMENT INFORMATION SYSTEM

SECTION 5: INTEGRATED SUPPLY CHAIN MANAGEMENT INFORMATION SYSTEM

CURRENT LANDSCAPE

In Khyber Pakhtunkhwa province, various vertical MIS are in use by both the health and population welfare departments. These MIS were developed using government core funding as well as technical assistance from development partners. However, there is room for improvement in terms of integration of various systems and developing dashboards that serve as decision making tools at different levels of health management. The quality of data and reporting rates also need attention. Data management in PWD is quite satisfactory, while indicators around MNCH supply chain need improvement.

Priority areas for improvement

- **Health information systems policy**
- **Integration of various vertical MIS for developing provincial supply chain indicators**
- **Sustainability of donor supported MIS in terms of hosting, maintenance, and enhancement**
- **Data utilization for evidence based decision making**
- **Increased data quality/reliability**

Table 1: MIS Availability Matrix

PROGRAM	DOMAIN SPECIFIC MIS	FASP	PROCUREMENT MIS	WAREHOUSING MIS	M&E MIS	HRM-MIS	TRANSPORT-MIS
DOH							
MNCH	√				√	√	
LHW	√				√	√	
STATIC HEALTH FACILITIES	√		√		√	√	
NUTRITION					√	√	
EPI	√			√	√	√	
PWD							
PWD	√			√	√	√	

These MIS are focused on services data, however, reporting of few logistics indictors are present in some systems (LHW, MNCH, EPI, and Nutrition). DOH is using PROMISH for monitoring procurement related activities for static health facilities only which will be expanded further to cover procurements of all health programs.

An Independent Monitoring Unit (IMU) is collecting data on daily basis from all the health facilities across the province. The IMU has its own MIS system developed by private consultants. This system is currently standalone. PWD is using a Logistic Management Information System (LMIS) for FP commodities monitoring logistics related indicators. Figure 10 outlines the existing MIS configuration in KP province.

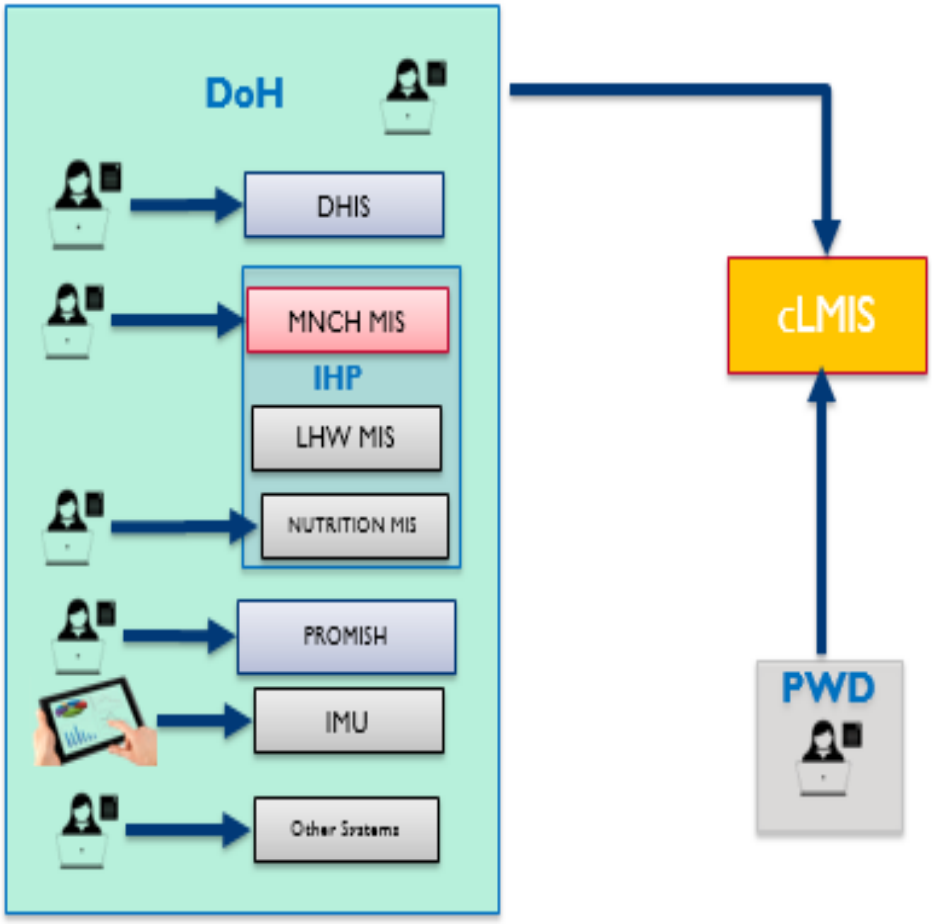

Figure 10: Current situation of contraceptive and MNCH Supply Chain Data Flow

INTEGRATED SUPPLY CHAIN MANAGEMENT INFORMATION SYSTEM ROADMAP

The objective of an integrated supply chain MIS is the availability and across the board accessibility of quality and accurate logistics information as the basis for informed decision making and to improve visibility, efficiency, accuracy, and timeliness of supply chain functions under the DOH ISCM&CC.

For sustainability of Integrated Supply Chain Management Information System (ISCMIS), the government will focus on three areas: ownership, hosting /maintenance, and use of data. ISCM&CC will have the ownership to update MIS vision, scope, plan enhancements and change management, and protect data by hosting in government data center. MIS owners must coordinate with a software development team (i.e. government in-house developers or outsourced entities) to make it more user friendly, responsive, and complete.

IMPLEMENTATION PLAN

The approach for an Integrated SCMIS (ISCMIS) is to interface, connect, and integrate all supply chain data into a single platform. In order to achieve the overall objective of the supply chain integrated MIS, the following activities should be carried out:

i. Creation of an ISCMIS to Embed Indigenous MIS into One SCM Platform

Build synergies amongst all stakeholders, to remove duplications and overlapping work related to MIS development. Use of integration bus (an optional technique used for integrating different MIS) is one of the recommended data sharing methods. The proposed method is to isolate/ identify logistical functionalities in various and disparate applications with the stakeholders and match those functionalities with the LMIS either through a data sharing mechanism or through hard coded interfaces. An integrated supply chain MIS will encompass not only logistics data, but all functions around supply chain management (i.e. FASP, procurement, warehousing, distribution planning, M&E, and HR development) providing end to end visibility for provincial decision makers and district level health managers. For integration of logistics data streams being reported in various MIS into SCMIS, collaborative efforts incorporating development partners and public sector organizations will be undertaken. MNCH VEML commodities reporting and visibility will be ensured through interfacing of the MNCH-MIS with the current LMIS. In this regard, the DOH will collaborate with the USAID GHSC-PSM Program for LMIS enhancement. ISCMIS will, however, cover a complete range of MNCH VEML products.

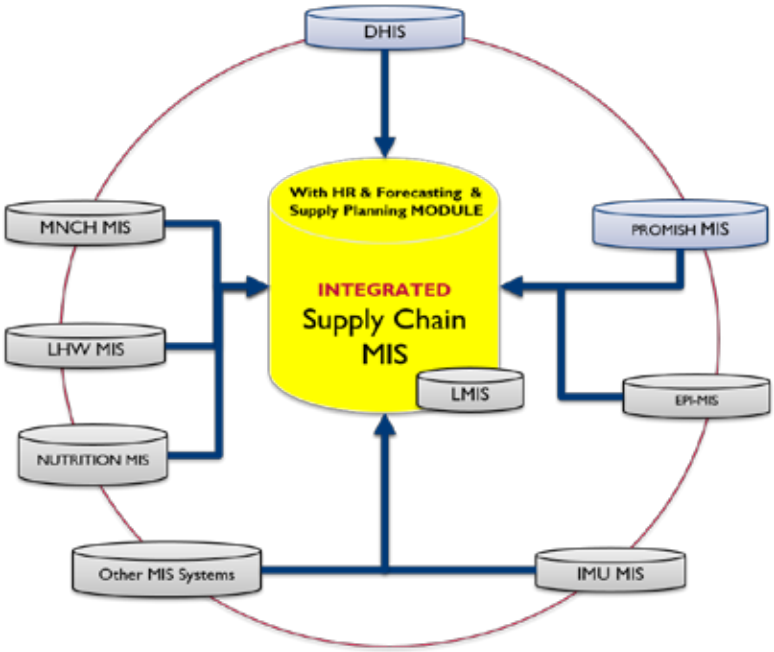

Figure 11: ISMIS Model

ii. Sustainability of ISCMIS

To strengthen government's in-house capacity for future hosting, maintenance, and change management of SCMIS, ISCM&CC will have the ownership of the system while DHIS cell will gradually take on responsibility for maintenance and technical aspects related to software and hardware. Strengthen integrated MIS efforts through research, technical assistance, on the job trainings, and capacity building workforce.

iii. Development of a Provincial Health Management Information System Policy

Development of a policy to define different procedures regulating all functions related to MIS currently utilized within the DOH and its implementation across the province with the assistance of all stakeholders.

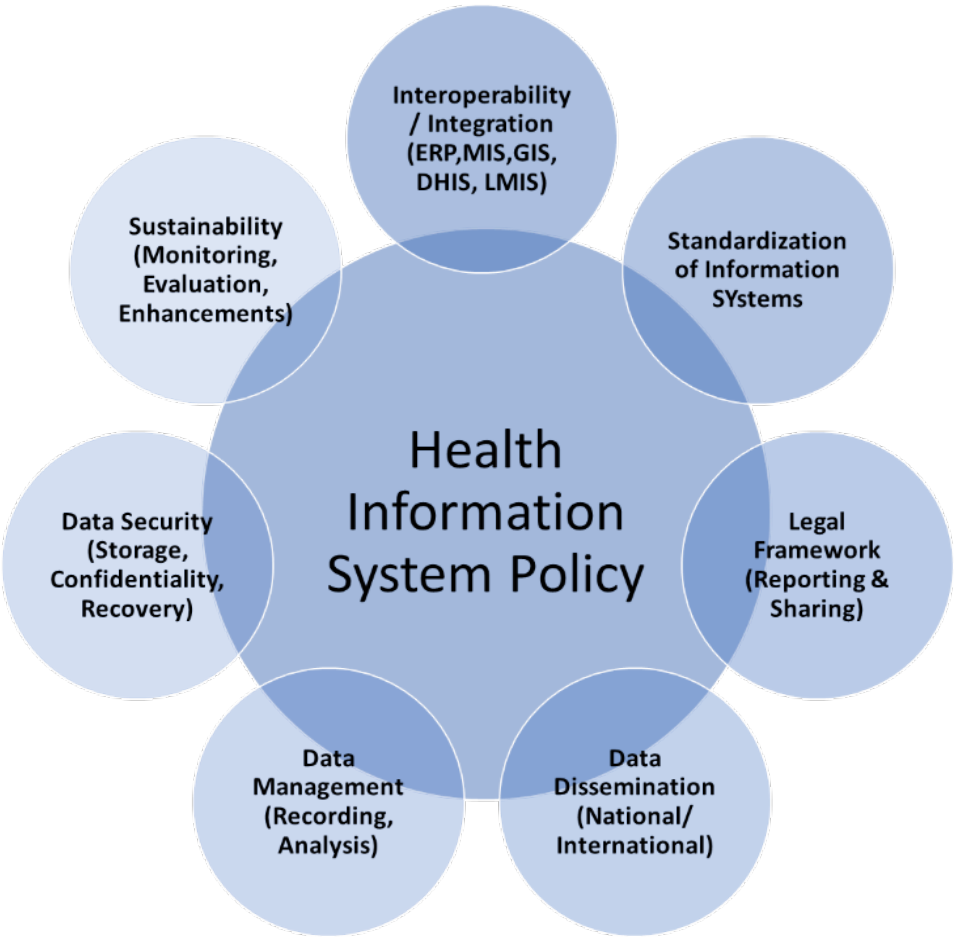

Figure 12: Components of Health Information System Policy

Outcome

Quality and accurate logistics information data is consolidated into a single, sustainable platform (ISCMIS) that is visible, forming the basis for informed decision making for all supply chain functions at the provincial and sub-provincial levels.

SECTION 6

MONITORING AND EVALUATION

SECTION 6: MONITORING AND EVALUATION

CURRENT LANDSCAPE

Priority area for improvement
M&E framework for enhanced logistics data quality and subsequent usage for evidence-based decisions around SCM functions as part of ISCMIS and M&E unit of ISCM&CC

Monitoring and Evaluation is the cornerstone for improving performance in supply chains. While there are significant costs in setting up and implementing a M&E system, these are offset by the gains in commodity availability and reduced wastages, expiries, and pilferage. A comprehensive M&E system covers all levels of the supply chain and all technical areas from procurement to facility level distribution.

There is significant variability in supply chain systems integrity, depth, and efficiency across stakeholders and across various supply chains in Khyber Pakhtunkhwa. Population Welfare Officers regularly visit SDPs randomly to monitor stock and MIS reporting on structured checklists. However, visibility of Supply Chain M&E data and follow-up through actions is limited. Apart from monitoring efforts conducted by the Government of Khyber Pakhtunkhwa in shape of Independent Monitoring Unit the current supply chain monitoring system of DOH (MNCH) is limited.

SUPPLY CHAIN MONITORING AND EVALUATION ROADMAP

The objective of this strategy is to have a comprehensive, sustainable, and cost-efficient supply chain M&E system for the Khyber Pakhtunkhwa health and population welfare departments. While the M&E strategy is focused on the supply chain, it is also designed to establish important linkages with the overall M&E system for cost efficiency, data triangulation, and sustainable improvements. The M&E strategy also rests on the existing M&E initiatives like IMU and their linkages with ISCMIS and M&E Unit. However, it goes many steps beyond by increasing length and breadth of scope (province to district and across various technical areas), conducive policy, operational and financial reforms for sustainability, and use of technology linking with existing information systems for transforming business intelligence and improving data use.

IMPLEMENTATION PLAN

The following interventions will be carried out for developing sustainable supply chain M&E systems:

i. **Strengthen ISCMIS and M&E Unit through Regular Review & Use of Data**
At the provincial level, ISCMIS and M&E Unit will strengthen monitoring activities, through regular review and use of supply chain data. M&E staff at both departments in close coordination with IMU and ISCMIS and M&E Unit will review ISCMIS data every quarter in order to identify gaps, validate data quality and recommend corrective actions. Follow-up will be done every month for implementation of action points. Capacity building/trainings will also be conducted for nominated staff members to increase their use of data for decision making. Wherever possible, all M&E activities will be integrated with existing government health supply chain M&E systems and planned interventions; in order to optimize strategic planning for supply chains in Khyber Pakhtunkhwa.

ii. Develop a Comprehensive Supply Chain M&E Framework

A comprehensive supply chain results framework will be developed in consultation and coordination with all relevant stakeholders. The framework will first identify overall goal of all supply chain health and population programs (initially focusing on FP and MNCH) and then link all activities and outputs with program goals in a logical manner. Key performance indicators will be laid out and agreed to by all stakeholders to measure the progression from outputs to goals. For each of the identified indicators, the elements to be analyzed and documented are indicator definition, data collection, compilation and analysis, disaggregation, reporting frequency, data validation, baseline and targets and cost of data collection and reporting. The performance indicators will aim to gauge outputs from key technical areas e.g. forecasting and supply planning, procurement, warehousing, distribution, and facility level availability of health products.

iii. Create Integrated M&E Strategy for Health and Population Welfare Departments and NGOs with Harmonized and Uniform Key Performance Indicators

The strategy will propose a model of integrated supply chain M&E for health and population welfare departments. The design will harmonize key performance indicators across all supply chains and stakeholders. This will enable not only performance management but will also provide a comparison amongst various stakeholders and ensure the establishment up of common goals.

Outcome

A comprehensive, sustainable, and cost-efficient supply chain M&E system incorporated into the Integrated Supply Chain Management Information System and M&E Unit of Integrated Supply Chain Management & Coordination Cell.

SECTION 7

HUMAN RESOURCES CAPACITY DEVELOPMENT

SECTION 7: HUMAN RESOURCES CAPACITY DEVELOPMENT

CURRENT LANDSCAPE

Priority areas for improvement

- **Induction of skilled supply chain human resources at all tiers of public health supply chains based on scientific situational analysis**
- **A supply chain professionalization and human resource capacity building plan for both pre-service and in-service professionals**

Although there are many healthcare professionals working in the health and population sectors of Khyber Pakhtunkhwa, there is a definite need for professionalization of a logistics cadre, with well-defined skill mix at all levels of supply chain. Currently SCM oriented training is not part of health managers' professional development plan which needs to be introduced through this strategy. In public sector universities, absence of public health supply chain certification and degree courses hampers availability of health supply chain specialists both in public and private sectors. To address this, recently the DOH and PWD collaborated with the GHSC-PSM Project for introduction of a three-credit hour SCM course as part of degree programs offered at the prestigious University of Peshawar. There is a need to analyze current supply chain workforce trends and conduct a future needs assessment in order for the health and population welfare departments to effectively and systematically manage human resource development needs around the health supply chain. In addition, there is also a need to create a competent cadre of health supply chain professionals for managing/ providing services efficiently, through human resource development and capacity building of service providers.

SUPPLY CHAIN HUMAN RESOURCE DEVELOPMENT ROAD MAP

The objective of the road map is to create and foster a cadre of supply chain professionals for health and population welfare departments. In order to develop this cadre of professionals, the HRD interventions will seek to evaluate human resource in Khyber Pakhtunkhwa to articulate supply chain personnel needs at all levels of supply chain while also expanding supply chain pre-service and in-service coursework options through increasing the number and depth of supply chain offerings at the university.

IMPLEMENTATION PLAN

The following activities will be undertaken to achieve objective outlined in SC HRD road map:

i. **Needs Assessment of Current Human Resource Capacity of Health and Population Departments**
   Evaluate current human resources in order to develop a professionalization plan for the development of a cadre of supply chain professionals. This activity will involve working with both departments to map current human resource levels in the area of supply chain management.

ii. **Development and Implementation of Professionalization Plan**
   Both health and population welfare departments, based on needs assessment results, will develop a comprehensive SCM professionalization plan for each level of the supply chain. Develop/ introduce government policies which emphasize and accentuate the critical role of the supply

chain workforce in the health system, in addition to introducing policies which make supply chain training a mandatory requirement for entry into certain public health jobs and/or promotions. Develop a conducive financing environment for sustaining regular SCM trainings, both for pre-service and in-service trainings. In order to establish a sustainable supply chain workforce in the health sector, and to expand the supply chain curriculum in line with best practices, work with different stakeholders to foster partnerships and create linkages with public and private sector universities. This will also increase the number of supply chain course offerings at public sector institutions in the province.

Outcome

Establishment of a fully functional system for the creation of a cadre of supply chain professionals for improved supply chain efficiency on sustainable basis.

SECTION 8

FINANCING ENVIRONMENT - FP AND MNCH SUPPLY CHAINS

SECTION 8: FINANCING ENVIRONMENT - FP AND MNCH SUPPLY CHAINS

Traditionally, supply chain management has received comparatively less financing than other systems of healthcare, hence, there is a need to dedicate funds for implementation of a SCM strategy through PC-1s, ADPs, and SNEs. Simultaneous efforts in designing the detailed deployment plan and consequent identification of financial gaps will be undertaken in 2018. An implementation and deployment plan will be disseminated with a wider audience including development partners to explore the avenues of co-financing.

FASP, M&E, and HR capacity building around supply chain management are high priority areas as currently there is no or very little budgetary support. This section analyses annual prospective funds availability, recommends funds needed for implementation of strategies outlined above and identifies gaps for each component for the DOH and PWD from FY 2017-18 to FY 2021-22.

Table 2: Costed Roadmap- Implementation of Khyber Pakhtunkhwa Public Health Supply Chain Strategy

S. No	PKR in Millions	2017-18		2018-19		2019-20		2020-21		2021-22	
		DOH	PWD	DOH	PWD	DOH	PWD	DOH	PWD	DOH	PWD
	Formation of Integrated Supply Chain Management & Coordination Cell										
1	Terms of Reference (ToRs) for ISCMC and notification	0.3	0.2								
2	Approval of ISCMC PC-I/ special summary *(costs mentioned below for implementation of each component of SCM strategy will form part of PC-1 less warehousing & distribution for which separate PC-1 will be developed)*	4.0	2.0								
3	Establishment of cell including hiring of additional staff			20.0							
4	Cell fully functional					10.0		10.0		10.0	
	Year wise Budget	**4.3**	**2.2**	**20.0**	**0.0**	**10.0**	**0.0**	**10.0**	**0.0**	**10.0**	**0.0**
	Total										**56.5**
I	**Procurement, Forecasting and Supply Planning Unit**										
	Forecasting and Supply Planning										
a	Formation of forecasting & quantification Technical Working Group (TWG) at provincial level, including design and development of implementation plan			0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.2
b	Create professionalized trained human resource at provincial and district level *(cost is covered under HRD)*			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
c	Automation of Forecasting and Quantification Function *(cost is covered under MIS)*			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Procurement										
d	Implement OECD MAPS Recommendations including Procurement Performance Management tool *(Cost for automation of performance management tool is covered under MIS)*			0.4	0.2	0.4	0.2	0.4	0.2	0.4	0.2
e	Develop and implement comprehensive medium to long term procurement related human resource capacity development plan *(cost is covered under HRD)*			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

S. No	PKR in Millions	2017-18		2018-19		2019-20		2020-21		2021-22	
		DOH	PWD	DOH	PWD	DOH	PWD	DOH	PWD	DOH	PWD
	Year wise Budget	0	0	0.7	0.4	0.7	0.4	0.7	0.4	0.7	0.4
	Total										4.4
II	**Warehousing & Distribution Unit**										
1	Determine Storage and Space Requirements of Provincial and District Stores	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	Determine Transportation Needs and Resources including Outsourcing	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	Allocation of Funds for New Warehouses and Transportation (will be revised after determining of storage space requirement)	0.0	0.0	1210.0	71.0	500.0	10.0	500.0	10.0	500.0	10.0
4	Allocation of Funds for Transportation (will be revised after determining of transportation requirement)	0.0	0.0	50.0	10.0	50.0	10.0	50.0	10.0	50.0	10.0
5	Human Resource Hiring and Capacity Building ***(Capacity building cost is covered under HRD)***	0.0	0.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	5.0
	Year wise Budget	**4.0**	**2.0**	**1270.0**	**86.0**	**560.0**	**25.0**	**560.0**	**25.0**	**560.0**	**25.0**
	Total										**3117.0**
III	**ISCMIS & M&E Unit**										
	Management Information System										
a	ISCMIS; embedding indigenous MISes as one SCM platform (integration, enhancements to include FASP, procurement, inventory management and M&E modules, including capacity building of operators, managers at provincial, district and sub-district level)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
b	Sustenance of ISCMIS ***(includes cost of the server and hosting)***	1.0	1.0	10.0	1.0	10.0	1.0	10.0	1.0	10.0	1.0
c	Development of Provincial Health Management Information Systems' Policy	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Monitoring and Evaluation										
d	Strengthen ISCMIS and M&E Unit through Regular Review & Use of Data	8.0	4.0	9.0	5.0	10.0	6.0	13.0	7.0	16.0	8.0
e	Develop a Comprehensive Supply Chain M&E Framework	0.8	0.5	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.2
f	Create Integrated M&E Strategy for Health and Population Welfare Departments and NGOs with Harmonized and Uniform Key Performance Indicators	2.0	1.0	0.5	0.2	0.5	0.2	0.5	0.2	0.5	0.2
	Year wise Budget	**14.8**	**8.5**	**21.8**	**8.4**	**22.8**	**9.4**	**25.8**	**10.4**	**28.8**	**11.4**
	Total										**162.1**
IV	**Human Resource Capacity Development Unit**										
1	Needs Assessment of Current Human Resource Capacity of Health and Population Departments	0.75	0.5	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0
2	Development and Implementation of HRD and professionalization plan			10.0	2.0	10.0	2.0	10.0	2.0	10.0	2.0
	Year wise Budget	**0.75**	**0.5**	**10.3**	**2.2**	**10**	**2**	**10**	**2**	**10**	**2**
	Total										**49.8**
	Year wise Grand Total	**23.8**	**13.2**	**1322.8**	**97.0**	**603.5**	**36.8**	**606.5**	**37.8**	**609.5**	**38.8**
	Grand Total - FY 2018-22										**3389.7**

FINANCIAL LANDSCAPE - KHYBER PAKHTUNKHWA INTEGRATED SUPPLY CHAIN STRATEGY (MNCH & FP)

The table below summarizes total anticipated investment requirements from FY 2017-18 to FY 2021-22, associated with implementation of strategy, prospective funds availability, and gaps that needs to be filled through PC-1s, ADP, SNEs and/or technical and financial support by development partners.

An investment of approximately PKR 3166 million by DOH and PKR 224 million by PWD in SCM interventions over the next five years will result in overall estimated savings of PKR 1546 million and PKR 152 million respectively.

Table 3: Khyber Pakhtunkhwa Integrated Supply Chain Strategy (MNCH & FP) financial landscape

Khyber Pakhtunkhwa Integrated Supply Chain Strategy (MNCH & FP) Financial Landscape						
Cost (PKR in millions)	DOH			PWD		
	Strategy Implementation Cost	Prospective Funds availability	Gaps	Strategy Implementation Cost	Prospective Funds availability	Gaps
Establishment of ISCM&CC	54.30	34.85	19.45	2.20	0.00	2.20
Forecasting and Supply Planning	1.20	0.00	1.20	0.80	0.00	0.80
Procurement	1.60	0.00	1.60	0.80	0.00	0.80
Warehousing & Distribution	2954.00	0.00	2954.00	163.00	0.00	163.00
ISCMIS	52.00	0.00	52.00	15.00	0.00	15.00
Monitoring & Evaluation	61.95	0.00	61.95	33.10	0.00	33.10
Human Resource Capacity Development	41.05	1.20	39.85	8.70	0.00	8.70
Total	**3166.10**	**36.05**	**3130.05**	**223.60**	**0.00**	**223.60**

Table 4: Projected FP Commodities procurement and transportation costs and prospective financing

Projected FP Commodities procurement and transportation costs and prospective financing											
S. No	Cost (PKR in millions)	2017-18		2018-19		2019-20		2020-21		2021-22	
		DOH	PWD	DOH	PWD	DOH	PWD	DOH	PWD	DOH	PWD
1	FP Commodities procurement estimate	131	110	139	115	147	121	155.8	127	165	133.4
2	FP Commodities transportation	13	11	14	12	15	12	15.6	13	17	13.3
	Year wise Required Budget	**144**	**121**	**153**	**127**	**162**	**133**	**171**	**140**	**182**	**147**
	Prospective Funds availability	**150.8***	**199****	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Gap	**-7**	**-78**	**153**	**127**	**162**	**133**	**171**	**140**	**182**	**147**
	***Allocation for procurement and transportation of Medicines and Contraceptives in IHP ** Allocation of procurement of FP commodities**										

Table 5: MNCH VEML Commodities procurement and transportation costs and prospective financing

MNCH VEML Commodities procurement and transportation costs and prospective financing						
S. No	Cost (PKR in millions)	2017-18	2018-19	2019-20	2020-21	2021-22
		DOH	DOH	DOH	DOH	DOH
1	MNCH Commodities procurement estimate	892	981	1079	1187	1306
2	MNCH Commodities transportation	89	98	108	119	131
	Year wise Budget	**981**	**1079**	**1187**	**1306**	**1437**
	Prospective Funds availability	**50***	**0**	**0**	**0**	**0**
	Gap	**931**	**1079**	**1187**	**1306**	**1437**
	*** Allocation for Procurement of FP Commodities and CMWs Kits**					

Table 6: Cost Savings Analysis

Cost (PKR in millions)	DOH					PWD			
	Strategy Implementation Cost	Prospective Funds availability	Gaps	Potential Cost Saving in FP Commodities	Potential Cost Saving in MNCH Commodities	Strategy Implementation Cost	Prospective Funds availability	Gaps	Potential Cost Saving in FP Commodities
Establishment of ISCM&CC	54.30	34.85	19.45	0.00	0.00	2.20	0.00	2.20	0.00
Forecasting & Supply Planning	1.20	0.00	1.20	110.67	816.86	0.80	0.00	0.80	90.94
Procurement	1.60	0.00	1.60	0.00	0.00	0.80	0.00	0.80	0.00
Warehousing & Distribution	2954.00	0.00	2954.00	36.89	272.29	163.00	0.00	163.00	30.31
Integrated Supply Chain MIS	52.00	0.00	52.00	0.00	0.00	15.00	0.00	15.00	0.00
Monitoring & Evaluation	61.95	0.00	61.95	36.89	272.29	33.10	0.00	33.10	30.31
Human Resource development	41.05	1.20	39.85	0.00	0.00	8.70	0.00	8.70	0.00
Total	**3166.10**	**36.05**	**3130.05**	**184.45**	**1361.44**	**223.60**	**0.00**	**223.60**	**151.56**

Note:
Forecasting & Supply Planning: Estimated 15% saving out of all commodity cost in terms of over or under ordering because of inaccurate forecast & quantification
Warehousing & transportation: Estimated 5% saving out of all commodity cost in terms of efficient warehousing and transportation which leads to decreased wastages, expiries etc.
M&E: Estimated 5% saving out of all commodity cost in terms of effective M&E which ensures smooth supply chain function and minimizes pilferage

** The FP commodities cost has been revised in consultation with DOH and PWD*

KHYBER PAKHTUNKHWA PUBLIC HEALTH SUPPLY CHAIN – STRATEGIC PLAN

Table 7: Strategy Overview

Sections	Priority Areas for Improvement	Proposed Strategy	Expected Outcome
Integrated Supply Chain Management and Coordination Cell	• Integrated management of supply chain functions to include FASP, Procurement, Warehousing & Distribution, MIS, M&E and HR Capacity building • Greater inter and intradepartmental coordination	• Development of Terms of reference (TORs), organizational structure of ISCM&CC and HR need assessment. • Notification by DOH and PWD including nomination of officials from both the departments • Revision of existing PC-1 of Procurement Cell at DOH to include costs related to establishment of ISCM&CC • Hiring of additional staff and capacity building	• A fully functional integrated supply chain management & coordination cell established and managing all supply chain related functions for province and sub-provincial levels
Forecasting and Supply Planning	• Reliable and quality data sets (demographic, disease prevalence/morbidity, and logistics) for accurate forecasting • Dedicated resources (financial & trained HR) for FASP	• Formation of Forecasting & Quantification Technical Working Group (TWG) at Provincial Level • Create Professionalized and Trained Human Resources at The Provincial and District Levels • Automation of Forecasting and Quantification Function into Integrated Web-based MIS	• Fully structured, established and functional FASP mechanism for timely and accurate forecasting and supply planning of provincial FP and MNCH commodity requirements as part of ISCM&CC
Procurement	• Procurement performance management automation • A professionalization and human resource capacity building plan for sustainability	• Implement OECD MAPS Recommendations including Procurement Performance Management Tool • Develop and Implement Comprehensive Medium to Long-term Procurement related Human Resource Capacity Development Plan	• Efficient and transparent procurement systems within the health and population welfare departments implemented with sustainable solutions for integrated procurement models and automation as part of ISCM&CC at DOH
Warehousing and Distribution	• Purpose built storage facilities at provincial/sub provincial and district levels to ensure availability of quality health commodities for end users • A structured mechanism for the storage and transportation of commodities from stores to health facilities	• Determine Storage and Space Requirements of Provincial and District Stores • Determine Transportation Needs and Resources including Outsourcing • Allocation of Funds for New Warehouses and Transportation • Human Resource Hiring and Capacity Building	• Warehousing infrastructure at provincial and sub-provincial levels established backed up by technically qualified HR; best international practices for inventory management and integrated transportation mechanism implemented

Sections	Priority Areas for Improvement	Proposed Strategy	Expected Outcome
Integrated Supply Chain Management Information System	• Health information systems policy • Integration of various vertical MIS for developing provincial supply chain indicators • Sustainability of donor supported MIS in terms of hosting, maintenance and enhancement • Data utilization for evidence based decision making • Data quality	• ISCMIS; embedding indigenous MISes as one SCM platform • Sustenance of ISCMIS • Development of Provincial Health Management Information Systems' Policy	• Quality and accurate logistics information data is consolidated into a single, sustainable platform (ISCMIS) that is visible, forming the basis for informed decision making for all supply chain functions at the provincial and sub-provincial levels.
Monitoring and Evaluation	• M&E framework for enhanced logistics data quality and subsequent usage for evidence based decisions around SCM functions	• Strengthen M&E and MIS Cells through regular review & use of data • Develop a comprehensive supply chain M&E framework • Integrated M&E strategy for health and population welfare departments and NGOs with harmonized and uniform key performance indicators	• A comprehensive, sustainable, and cost-efficient supply chain M&E system incorporated in Integrated Supply Chain Management Information System and M&E Unit of Integrated Supply Chain Management & Coordination Cell
Human Resources Capacity Development	• Induction of skilled supply chain human resource at all tiers of public health supply chain based on the scientific situational analysis. • A supply chain Professionalization and human resource capacity building plan for both pre-service and in-service professionals.	• Need assessment of current human resource capacity of health and population welfare departments • Development and implementation of Professionalization plan	• Establishment of a fully functional system for the creation of a cadre of supply chain professionals for improved supply chain efficiency on sustainable basis

ANNEXURE FP AND MNCH VEML PRODUCT LIST

Table 8- FP Products List

Sr.#	FP Products List
1	Male Condoms
2	Implantable Contraceptives – Etonogestrel 68 mg/rod (1 rod Implant) and Levonorgestrel 75mg/rod (2 rod Implant)
3	Copper-bearing Intrauterine devices
4	Injectable Contraceptives - Depot Medroxyprogesterone Acetate 150 mg Vial, SR
5	Combined Oral Contraceptives - Levonorgestrel/Ethinyl Estradiol 150/30 mcg + Fe 75 mg, 28 Tablets/Cycle
6	Emergency oral contraceptives - Levonorgestrel 0.75 mg Tablet
7	Progestin Only Pills - Levonorgestrel 30 mcg 35 Tablets/Cycle

Table 9: MNCH VEML- 2017

MNCH Very Essential List – 2017				
Sr. #	**Generic Drug Name**	**Form**	**Strength**	**Indication**
1	misoprostol	tablets	200 mcg	prevention of PPH
2	oxytocin	injection	10 IU in 1-ml	treatment of PPH (post-partum hemorrhage)
3	tranexamic acid	injection	100 mg / ml in 5 ml	
4	sodium lactate compound solution (ringer's lactate)	infusion	infusion,1000ml contains calcium chloride 0.2gm; potassium chloride 0.3gm; sodium chloride 6 gm; sodium lactate 3.1gm U.S.P.; sterile water for injection	
5	plasma expander / substitutes	infusion	polygeline 3.5/4 % + dextran 6 % w/v,	treatment of PPH & hypovolemic shock
6	magnesium sulphate	injection	500mg/ml	severe pre-eclampsia and eclampsia
7	calcium gluconate	injection	100 mg/ml in 10-ml	
8	diazepam*	injection	10 mg in 2ml injection	
9	hydralazine* (hydrochloride)	injection	powder for injection 20 mg	management of severe hypertension
		tablets	25 & 50 mg	
10	ampicillin (as sodium salt)	injection	500 mg	maternal sepsis; neonatal pneumonia
11	cefotaxime	injection	500 mg	
12	metronidazole	injection	500 mg in 100-ml	maternal sepsis
13	nifedipine	capsule (immediate release)	10 mg	inhibition of uterine contractions
14	dexamethasone (disodium phosphate)	injection	4 mg (as disodium salt) in 1-ml	improvement of fetal lung maturity
15	adrenaline*	injection	1mg/ml	septic shock and anaphylactic reactions
16	low osmolarity oral rehydration salts	dry mixture (low osmolarity formula) in sachet for 1 liter of solution	each sachet contains glucose anhydrous 13.5gm, trisodium citrate dihydrate 2.9 gm, potassium chloride1.5gm, sodium chloride 2.6gm B.P.	diarrhea
17	zinc sulphate	dispersible tablets	20 mg	
18	amoxicillin (preferably dispersible tablet)	powder for suspension ©	125mg & 250mg /5ml	pneumonia
		injection	250 mg, 500 mg	
19	vitamin K1* (phytonadione)	injection	10 mg	premature neonates
20	paracetamol	syrup	120 mg / 5 ml	palliative care and pain
		suppository	100 mg	
21	chlorhexidine digluconate (7.1%)	gel	equivalent to 4 % chlorhexidine	antiseptics for cord care
22	ferrous salt + folic acid	tablets	equivalent to 60 mg iron + 400 mcg folic acid	anemia

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KEY CONTRIBUTORS

The Department of Health and Population Welfare Department, Government of Khyber Pakhtunkhwa embarked upon the development of first ever Public Health Supply Chain Strategy in August/ September 2017. In this regard an expert group of logisticians from Global Health Supply Chain Program – Procurement and Supply Management (GHSC-PSM) Project and Government officials from both the departments jointly worked to formulate this strategy aligned with the National Health Vision 2025, FP2020 commitments, and vision of the honorable Chief Minister; Mr. Pervez Khattak; quality health care for all. This group includes the following:

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- Dr. Shabina Raza, Director General Health Services
- Dr. Ayub Rose, Additional Director General Health Services
- Mr. Noor Afzal, Director General, Population Welfare Department
- Dr. Najma Sultana, Director (Technical), Population Welfare Department
- Ms. Ayesha Ihsan, Director PME, Population Welfare Department

GHSC-PSM Project staff:

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- Dr. Muhammad Tariq, Country Director
- Mr. Inamullah Khan, Deputy Country Director
- Mr. Zafar Jamil, Director Systems Strengthening and Field Operations
- Dr. Khurram Shahzad, Director Monitoring & Evaluation
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